## ZAMG

**Conrad Observatory** Magnetic Results 2017

# GMO Bulletin 4

# Contents

# Chapter 1

# Introduction

The Conrad Observatory, a geophysical observatory, monitors the physical parameters of our planet. It is named after the Austrian geophysicist Victor Conrad (1876 - 1962), who for many years worked at the Zentralanstalt für Meteorologie und Geodynamik (ZAMG) in Vienna. The observatory is almost entirely underground and guarantees constant temperature for all applied techniques. With its range of supported measurement techniques, instrumentation and the layout of the underground facilities, the Conrad Observatory represents a unique research and development location for earth scientists of all disciplines. The Conrad Observatory includes two main facilities: (1) The seismo-gravimetric observatory (SGO), which was opened in 2002, and (2) the geomagnetic observatory (GMO), officially opened in 2014. The basic task for earth observatories is the observation of temporal and spatial variations of physically relevant parameters, which are crucial to our understanding of processes on earth. At the Conrad Observatory, earthquake activity (seismology), changes in gravity and mass distribution, geomagnetic field variations, geodetic parameters, atmospheric conditions and meteorological data are all continuously monitored.

This yearbook provides an overview of geomagnetic measurements performed at the Conrad Observatory. It also contains detailed descriptions of data treatment, analytical methods, quality assessment and results. Long- and short-term variations of the geomagnetic field, e.g, secular variation and geomagnetic activity, are analysed and discussed. The yearbook of the Conrad Observatory is published every year and made available online following the links provided on the title page. The printed version comes along with a DVD containing the electronic appendix which includes all data products. The electronic data from the Conrad Observatory can also be requested online.

# Chapter 2

# Location and Instrumentation

The geomagnetic part of the Conrad Observatory is located at Trafelberg, Lower Austria, about 50 km south-west of Vienna. Three different geological formations are found in the vicinity of the Conrad Observatory: the Gutenstein Formation, Reifling Formation, and Wetterstein Limestone. All of them are dominated by very weakly magnetic limestones and dolomites of predominantly Middle Triassic age (247.1 - 237 Ma) [*Wessely*, 2006]. The observatory is part of a large underground installation covering the full geophysical monitoring program including seismology, gravity, meteorology and geomagnetism. The geomagnetic section consists of a 1 km long tunnel system, which includes several adits dedicated to electric and magnetic measurement systems. A location map indicating the positions of various instruments described below is shown in Figure 2.1. Absolute determinations, also referred to as DI measurements, are conducted within the absolute area at the northern end of the main tunnel. The main azimuth mark is located at the southern end of the main tunnel in a distance of 380 m. A further azimuth mark is located northwards (not shown) on a mountain at a distance of $\approx$ 2.5 km.

The following instruments are deployed at the Observatory for magnetic measurements: 4 Fluxgate sensors, 3 Overhauser sensors, and several other magnetic sensors. Auxiliary temperature measurements have been performed at all Fluxgate sensor positions, at their electronics and at several other positions in the tunnel. As will be shown below, temperature variations and magnetic gradients are extremely small throughout the observatory. Details on instrumentation are provided in Table 2.1. The instruments used in determination of the definitive data are printed in bold. Beside the above mentioned permanently running instruments, the Conrad Observatory additionally operates several DI Theodolite/Fluxgate combinations including an automated version (AutoDIF) for base value determination. There are several measurement systems for magnetic remanence measurements and rock magnetism as well as mobile sensors for field work and prospection.

Table 2.1. Instruments and their parameters.

| Name | Type | Serial Number | Dynamic Range | Timestep Accuracy | Passband | Spectral Noise | Absolute Error | Orthogonality | Resolution | Setup | Operational |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FGE | Fluxgate | S0252 | 3200nT | <10ms | 1Hz | 60pT/$\sqrt{Hz}$ | | <2mrad | 100 pT | HEZ | 2012-09 |
| GP20S3 | Potassium | 111201 | | | | | | | | | 2015-07 |
| GP20S3NSS2 | Potassium | 012201 | | | | | | | | | 2015-07 |
| GP20S3 | Potassium | 012201 | | | | | | | | | 2015-07 |
| GP20S3 | Potassium | 911005 | | | | | | | | | 2015-07 |
| **GSM90** | Overhauzer | 14245 | 100000nT | | | 22pT/$\sqrt{Hz}$ | 0.2nT | | 10 pT | | 2014-12 |
| GSM90 | Overhauzer | 31968 | | | | | | | | | 2015-04 |
| LEMI025 | Fluxgate | 22 | 3000nT | <10ms | 3.5Hz | <10pT/$\sqrt{Hz}$ | | <30min of arc | 1 pT | HEZ | 2015-08 |
| LEMI025 | Fluxgate | 22 | 3000nT | <10ms | 3.5Hz | <10pT/$\sqrt{Hz}$ | | <30min of arc | 1 pT | HEZ | 2017-12 |
| **LEMI036** | Fluxgate | 1 | 4000nT | <10ms | 3.5Hz | <10pT/$\sqrt{Hz}$ | | <30min of arc | 1 pT | HEZ | 2015-12 |
| POS1 | Overhauzer | N432 | 80000nT | | | | 0.5nT | | 1 pT | | 2013-06 |

Note. — Spectral noise is determined at 0.3 Hz. Bold printed instruments are the primary source of high resolution data.
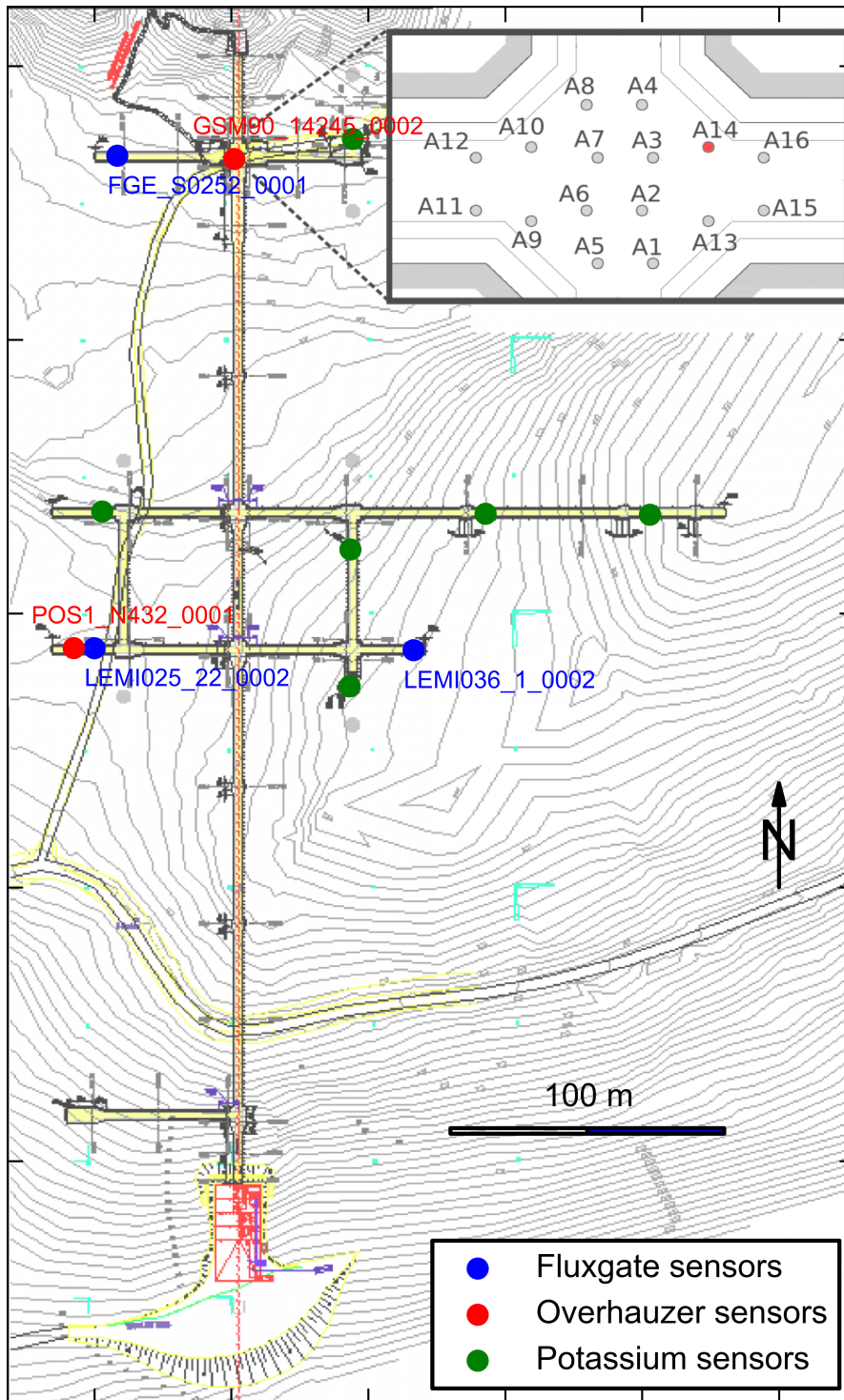
Figure 2.1 Location map of the Conrad Observatory with instrumentation

# Chapter 3

# Methods

## 3.1 Acquisition and data transmission

Variations in directional components of the Earth's magnetic field at the Conrad Observatory for year 2017 are mainly based on measurements from a LEMI036 sensor. This instrument is installed in hdz orientation within the tunnel system of the geomagnetic observatory (Figure 2.1). It fullly satisfies the current 1 second INTERMAGNET minimum requirements. The LEMI036 vector magnetometer samples the magnetic field and its data is digitally filtered to 10 Hz. 1 second and 1 minute values are produced using the standard INTERMAGNET Gaussian filter [*St-Louis*, 2012]. A GSM90 scalar magnetometer, which samples the field at 3 Hz, is used to determine the geomagnetic field intensity. As with vector measurements, filtered values are produced using a Gaussian filter. Most measurement systems at the Conrad Observatory are connected to a *Magpy Automated Realtime Acquisition System* (MARTAS) [*Leonhardt et al.*, 2013], which reads e.g. serial communication data and buffers field records. Any data is then continuously streamed on a WebSocket port. A *Magpy Automated Realtime Collection and Organisation System* (MARCOS) registers on ports of several MARTAS and collects all data and the related metadata within a MySQL database. An independent analysis process frequently checks the contents of the database and produces all data products. Preliminary data sets are then forwarded on to our FTP server and the INTERMAGNET gins every 5 minutes. GPS signals are used to ensure exact timestamps. As all measurements are performed underground, the GPS signal is transferred by optical fibres to the cabinets in the tunnel, which house the sensor electronics and the MARTAS. The time delay, conservatively estimated making use of the manufacturer's data as well as distance considerations between outside GPS antenna and cabinet, is about $10^{-6}$ seconds. Each setup of sensor and acquisition unit is equipped with an independent lightning protection system and a local uninterruptible power supply facilitating approximately 72 hours of service after power loss. An observatory wide uninterruptible power supply with roughly 40 hours of power adds to this two-step protection system and primarily secures data transfer towards the two redundant MARCOS servers. Data acquisition is therefore safe for about 5 days in the case of a full power loss. Data acquisition as well as all analyses including filtering procedures, baseline calculations, format conversions, and others discussed here, are performed using MagPy packages [*Leonhardt et al.*, 2016]. Version v0.3.99rc2 is available at *https://github.com/geomagpy/magpy*.

Table 3.1.  Fluxgate theodolites and serial numbers

| Theodolite (SN) | Fluxgate (SN) |
| --- | --- |
| MinGeo-9043-2414 | DI0146 |
| MinGeo-6814-5255 | DTU-D0I146 |
| MinGeo-6814-5255 | DTU-DI0146 |
| MinGeo-107702 | |
| T10B-160391 | MAG01H-504-0619H |
| MinGeo-9043-2414 | |

## 3.2   Baseline adoption

Magnetic observatories record the geomagnetic field from very high frequencies, which is of particular interest for the study of externally triggered field variations such as pulsations and geomagnetic storms, up to long term variations covering months and years, which mainly have internal sources and are required to analyse secular variation over decades and centuries. However, vector magnetometers tend to drift over such long time scales, due in part to temperature variation, ageing of the device and slow pillar movements. The drift of the instruments deployed at the Conrad Observatory is rather small (less than 0.53 nT per year for 2017), nevertheless it is necessary to perform DI measurements, which precisely determine the declination and inclination using a fluxgate theodolite [*Jankowski and Sucksdorff*, 1996]. The vector value is then reconstructed by additionally using independent measurements of a scalar magnetometer. Their drift, which is usually assumed to be negligible, is tested by comparing independent records of several instruments.            For absolute measurements we use several different types of fluxgate theodolites. The primary instrument is a MinGeo (-SN:6814-5255) equipped with a DTU-DI0146 fluxgate magnetometer. In addition, we also perform frequent measurements with other fluxgate theodolites as listed in table 3.1. All measurements are conducted on the absolute pier A2. The primary azimuth mark is 380 m away at the southern end of the tunnel, which ensures the absence of any thermal fluctuations when aiming. Magnetic field differences between all absolute piers are regularly measured by an additional scalar magnetometer, which is moved every two weeks on another of the 16 piers. The primary, permanently recording F instrument, located on pier A14, is 2.65 m distant from the main absolute pier A2 and shows a total constant F difference of 0.26 nT. Table 3.2 summarizes all delta values within the absolute area of the Conrad Observatory. Overall the horizontal gradients within this area of the tunnel system at pier height are on average less than 0.11 nT/m (maximum: 0.39 nT/m), indicating perfect measurement conditions by international standards [*Jankowski and Sucksdorff*, 1996]. Since the opening of the observatory, absolute measurements have been made on average every 7.0 days, which is sufficient to monitor expected variation/drift signals at this location. Measurements make use of the 'residual' technique [*Lauridson*, 1985]. DI values are measured, typed into an online form, automatically analysed using MagPy and stored within the observatory databases. It should be noted here that the analysis algorithm requires variation data in a magnetic coordinate system (HDZ, HEZ). Beside routine measurements on pier A2, automatic measurements are periodically performed on pier A16 using an AutoDIF system [*Rasson and Gonsette*, 2011]. Furthermore, DI measurements are conducted once a month in a wooden hut (pier H1) outside the tunnel approximately 350 m south-west of A2 using a mire perpendicular to the two main azimuth marks of A2 for stability control. These measurements are available in the electronic appendix.

Table 3.2. Delta values for all piers with respect to A2. Please note that the delta value for D and I of A8, A10 and A16 are only preliminary due to the small amount of measurements.

| Pier | Distance to A2 [m] | $\delta$F [nT] | Epoch (F) | $\delta$D [ArcSec] | $\delta$I [ArcSec] | Epoch (Dir) |
|------|------|------|------|------|------|------|
| A1 | 1.75 | -0.03 | 2017 | | | 2017 |
| A10 | 4.38 | -0.85 | 2017 | | | 2017 |
| A11 | 7.38 | -0.51 | 2017 | | | 2017 |
| A12 | 7.47 | -0.35 | 2016 | | | 2016 |
| A13 | 2.38 | -0.19 | 2017 | | | 2017 |
| A14 | 2.65 | 0.47 | 2016 | | | 2016 |
| A15 | 5.56 | -0.11 | 2015 | | | 2015 |
| A16 | 5.73 | 0.07 | 2015 | 92.6 | -15.3 | 2017 |
| A3 | 2.2 | -0.03 | 2017 | | | 2017 |
| A4 | 3.96 | 0.87 | 2017 | -5.2 | -8.0 | 2017 |
| A5 | 2.41 | -0.42 | 2017 | 0.0 | 5.6 | 2017 |
| A6 | 1.75 | -0.68 | 2017 | | | 2017 |
| A7 | 2.69 | 0.07 | 2017 | 0.0 | -5.4 | 2017 |
| A8 | 4.39 | 0.55 | 2017 | 33.9 | 0.0 | 2017 |
| A9 | 4.22 | -1.05 | 2017 | | | 2017 |
| H1 | 353.89 | | 2015 | 0.0 | 0.0 | 2017 |

## 3.3 Data analysis and products

Principally we publish and submit three types of data sets, which are distinguished by their information content and speed of availability: preliminary data, quasi-definitive data and definitive data. Preliminary data sets are calculated and published in real-time, which means that the time delay is only affected by calculation time (seconds) and type of data provision (FTP: minutes, WebSocket: seconds). Preliminary data is already baseline corrected by applying a median value of baseline parameters from the past 100 days. As the baseline is very stable at the Conrad Observatory, this is a very good approximation of the definitive values (Figure 4.1. An automated outlier identification method based on median absolute deviations provided by MagPy is applied to this data in order to mark prominent outliers. Some outliers and artificial disturbances are, however, eventually still present in this data set. Quasi-definitive data sets are determined approximately once a week. For this purpose, the raw data set is subjected to a flagging procedure. All data sets are visually inspected by an observer and suspicious, disturbed and biased records are marked using MagPy's flagging routine. For quasi-definitive submission, flagged data is removed and the remaining data is baseline corrected using the same function as for definitive data. The baseline is calculated always for one year going backwards from the last measurement. If extrapolation towards the current date is required, then the last measurement is duplicated one day ahead before fitting the basevalues. Definitive data is almost determined in an almost identical manner as the quasi-definitive data with one difference: the angular difference between the current sensor orientation and the true magnetic coordinate system is analysed and corrected for. Such quasi-definitive data has been available since December 2015. Details are depicted in chapter 5.

K values are calculated according to the FMI approach [*Sucksdorff et al.*, 1991], which is one of the IAGA recommended routines [*Menvielle et al.*, 1995]. The method uses three major steps: in the first run, K values are calculated by simply determining the maximum-minimum difference of the minute variation data within three hour segments. This is done for both horizontal components and the maximum difference is selected. Using a transformation table related to the

Niemegk scale and a $K9$ level of 500 nT, the $K$ values are then calculated. Based on this step, a first estimate of the quiet daily variation ($S_r$) is obtained. Finally, hourly means with extended time ranges ($30\text{min} + m + n$) are obtained for each half hour. $m$ refers to 120 minutes (0-3a.m., 21-24p.m.), 60 minutes (3-6, 18-21) or 0 minutes. $n$ is determined by $K^{3.3}$. Using these newly obtained hourly means, the final $K$ values are calculated.

Preliminary data are made publicly available on the ZAMG data distribution server (ftp://www.zamg.ac.at) within 5 minutes. Quasi-definitive data are usually provided within one week after acquisition on the same servers. Definitive data for each year are prepared within a couple of months after the end of the year. They can be retrieved from the website of the Conrad Observatory, Zentralanstalt fuer Meteorologie und Geodynamik (http://www.conrad-observatory.at).

# Chapter 4

# Accuracy and Coverage

## 4.1 Basevalues and Baseline

### 4.1.1 Primary baseline adoption

One measure of the accuracy of geomagnetic data is the quality of the baseline, i.e. the calibration curves that are used to correct the slow drift in time of the vector magnetometer in order to produce definitive data. Baselines for the Conrad Observatory are obtained for H (horizontal), D (declination) and Z (downward vertical) components by fitting a cubic spline curve to the correction values deduced from the absolute measurements. Each year the spline curve is calculated using data from mid-December of the previous year to mid-January of the following year in order to avoid discontinuities from one year to the next.

Base values and the corresponding best fitting baseline are shown in Figure 4.1. 0 absolute measurements were conducted on pier A2 in 2017 by the WIC observers (each one represented by a coloured point). On average, DI measurements were performed with a period of 7 days. The baseline was determined using MagPy's fitting function with a spline fit (knot parameter = 0.3, which is the normalized distance between spline knots). For each component, a measure of quality of the absolute measurements was assessed by calculating the standard deviation of the residuals between all measurements and the baseline curve. The obtained standard deviations are 0.48 nT for H, 0.23 nT for Z and 5.0 arcsec for D, which are well within INTERMAGNET requirements. Calculated baseline curves have a maximum amplitude of 1.83 nT in the X and Z components, and 8.5 arcsec in the declination. Base values indicate a long term variation of the baseline with signal periods larger than half a year, therefore the typical frequency of one absolute measurement per week is sufficient to observe and correct these trends. Baseline variations are very limited throughout 2017. A notable jump appears to be present in H at the end of February. This jump, however, is not visible on any other pier of the observatory which are routinely measured, nor at the AutoDIF system, which is only a few meters apart. The reason for the jump remains elusive. The chosen baseline is the best estimate to aproximate basevalues of all piers obtained at the observatory. Baseline and all basevalues are shown in Figure 4.1 (A2 only) and Figure 4.3. The resulting $\delta$F (see section 4.2) and and variometer differences after baseline correction are virtually zero.
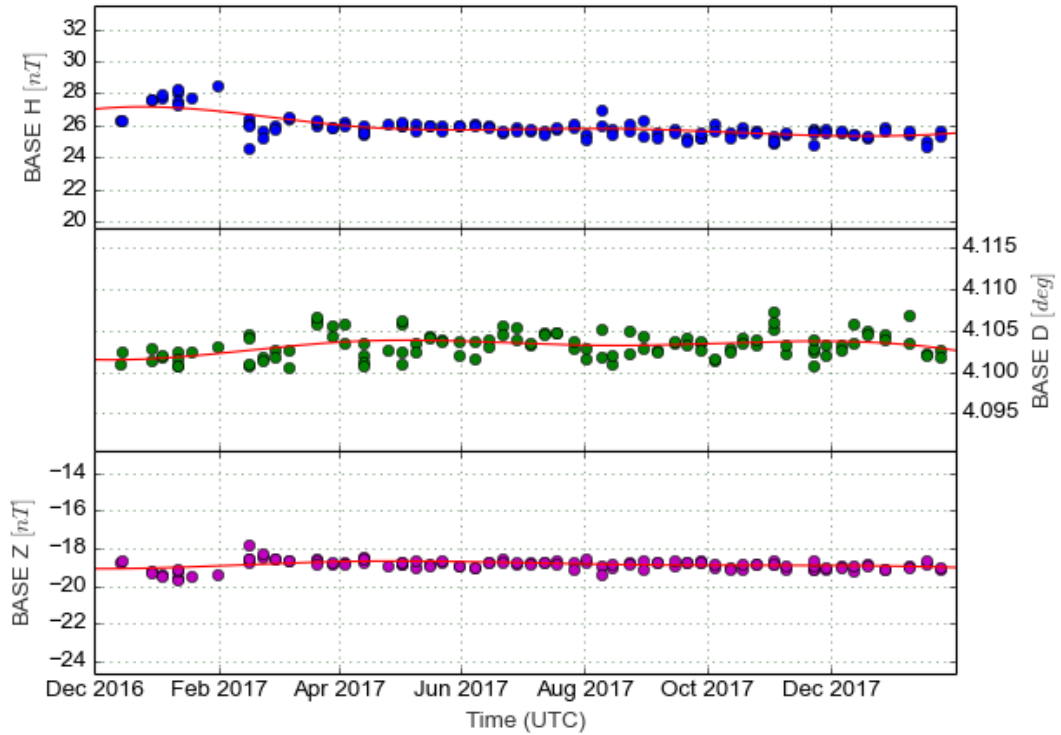
Figure 4.1 Baseline for the primary vectorial system LEMI036

### 4.1.2 Consistency between measurement piers

Beside manual DI determination, an automatic DI measurement system (AutoDIF) [*Rasson and Gonsette*, 2011] is in operation at Conrad Observatory. The system is located on pier A16 (Figure 2.1). This automatic unit is configured to measure base values every 60 minutes. For analysis of this data, the site differences between A16 and the main pier A2, as listed in Table 3.2, are accounted for. As done for the manual measurements at pier A2 we also calculated the standard deviation of the residuals as a measure of quality. The obtained standard deviations are 0.64 nT for H, 0.31 nT for Z and 9.3 arcsec for D. A maximum amplitude of 1.10 nT in the X and Z components, and 9.1 arcsec in the declination is obtained. In 2017 DI measurements have been performed on seven piers, A2, A4, A5, A7, A8, A16, and H1. Beside the main pier A2, where most manual measurements were done, we do monthly manual determinations on piers A7, A8, H1 and non-periodical measurements on A1, A4, A5. Automatic AutoDIF measurements on pier A16 are performed every hour and are available throughout the year. Figure 4.3 shows the average daily basevalues of all piers analysed for the main variometer. All basevalues are almost identical and exhibit a very similar almost linear trend which underlines the high quality and stability of the chosen adopted baseline shown as red line in Figure 4.3. Please note that for this plot the piers delta values as given in table ?? have been taken into account. AutoDIF data is continuously available since August 2016. The quality of these measurements is very good. Two week maintanance of the system and reactivation in May 2018 will further show the absolute
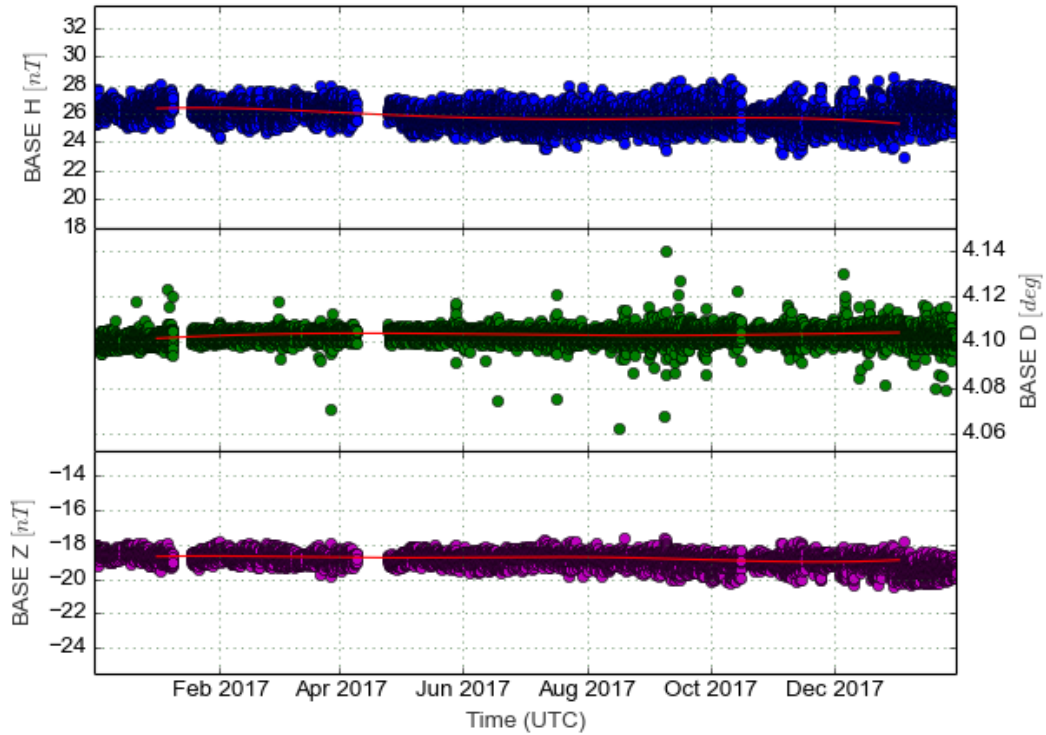
Figure 4.2 Baseline for the primary vectorial system LEMI036 based on AutoDIF measurements. Please note that AutoDIF measurements refer to pier A16.

accuracy of the system. In summary all tests support the high quality of the baseline of the Conrad Observatory.

## 4.2   Delta F

The quality of the measurements can further be assessed by looking at the scalar residual, which is the difference between the field strength directly measured by a scalar magnetometer and the field strength derived from the vector measurement after drift correction with the baseline curve. As can be seen in Figure 4.4, the scalar residual of minute mean values corresponds to an average of 0.01 nT with a standard deviation of 0.04 nT. The maximum amplitude remains below 1.12 nT for the year 2017. Taking baseline and delta F uncertainty estimates into consideration by combining the scalar residual and statistical variation of absolute measurements results in a 2-$\sigma$ uncertainty scenario with maximum values of $\pm$ 0.53 nT for all components in 2017. This is well within INTERMAGNET's requirement of a 5 nT accuracy for definitive data [*St-Louis*, 2012].
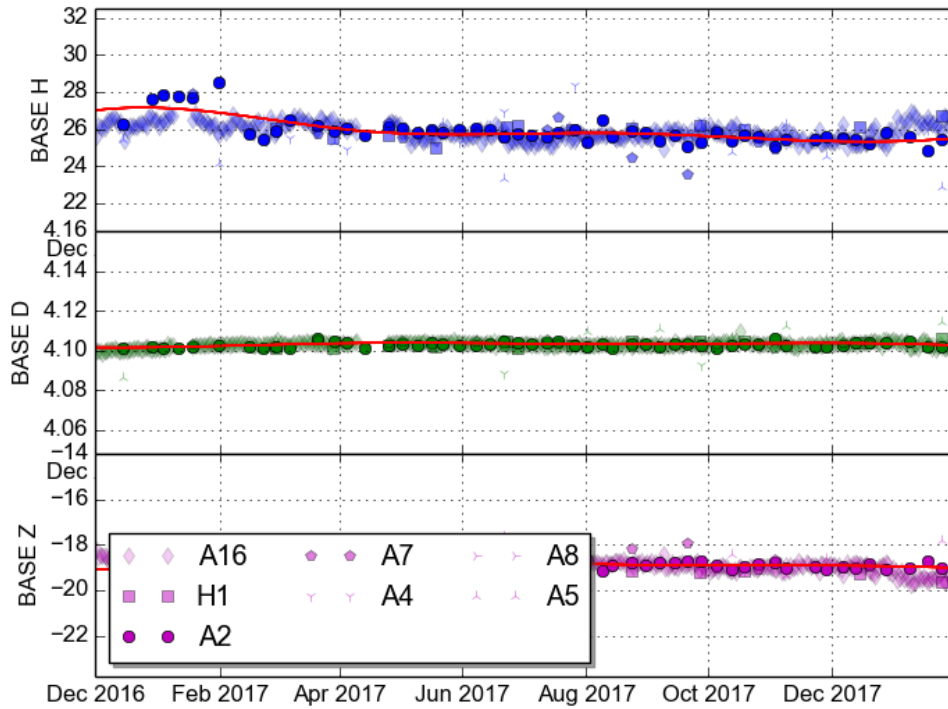
Figure 4.3 Combined plot of all basevalues for the LEMI036 variometer as determined on the piers given in the legend. Average pier differences as listed in Table 3.2 have been regarded for.

## 4.3 Variometer differences

A third measure of quality comes from the comparison of records from different nearby variometer after baseline correction. Additionally this test also provides an independent check of correctness of adopted baseline algorithms, especially if the the two instruments are not identically oriented. For difference analysis, the orthogonal X, Y, and Z components of available variometer records after baseline correction are subtracted from each other. In 2017, variometer data from 3 independent systems is compared. In Figure 4.5, we depict these differences for each component and for each variometer relative to the primary variometer LEMI036. The scale of the figure is again related to the INTERMAGNET 5 nT criteria, and the analysis makes use of filtered one minute data. The average residual of the X component and its standard deviation is -0.02±0.06 nT. For the Y and Z component values of 0.04±0.09 nT and 0.02±0.05 nT are obtained. Variation data of three instruments is available for 2017, full records from a LEMI036 and a LEMI025, and a incomplete record until June 2017 for a FGE. All variometers were set up in HDZ orientation. As secular variation changes the magnetic reference system with time, all systems slightly deviate from "perfect" orientation of Y towards magnetic east by angles between 0.3 to 0.7 degrees. These angular differences are considered in basevalue determination and a detailed manuscript on significance and application is in preparation. After baseline adoption,

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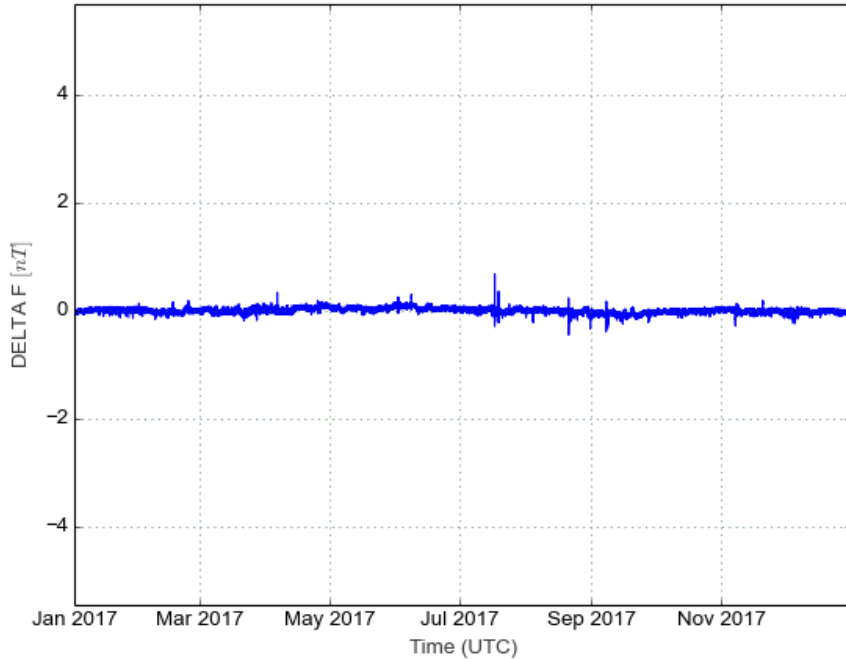
Figure 4.4 Delta F values between the scalar magnetometer and the field strength calculated from the baseline corrected vectorial data set. The scale of the figure is related to the INTERMAGNET 5 nT criteria.

the differences of all instruments is negligibly small, supporting the following three conclusions: 1) the algorithms and the calculation of adopted baselines, as depicted in section 3.2, are correct; 2) all instruments record an identical geomagnetic field at all periods; and 3) the combination of all accuracy tests underlines the very high quality of the geomagnetic field record.

## 4.4   Data coverage

A data coverage of 99.7 % of vectorial data in minute resolution was established for 2017. For filtering we use the recommended approach: minute means are only calculated if at least 90 % of 1 second data is available within the filtering window. Therefore the relative recovery rate for one second data is eventually higher. For scalar minute data, a data coverage of 99.6 % was obtained. One second definitive data provided within the electronic appendix consists solely of variation data from LEMI036 and scalar data from GSM90 (see table 2.1). For minute data, gaps within the variation sequence were filled using secondary variometers. The scalar one minute record corresponds to an average value of all available scalar data. For 2017 the composite minute data set consists of contributions from all instruments shown in figure 4.6. Yellow shaded regions indicate variation data used from respective instruments, green shaded regions indicate scalar data used to calculate average intensity. The lowermost plot indicates average differences between the contributing scalar values. The basic reason for only using single instrument records for our definitive one second data is to maintain the frequency characteristics

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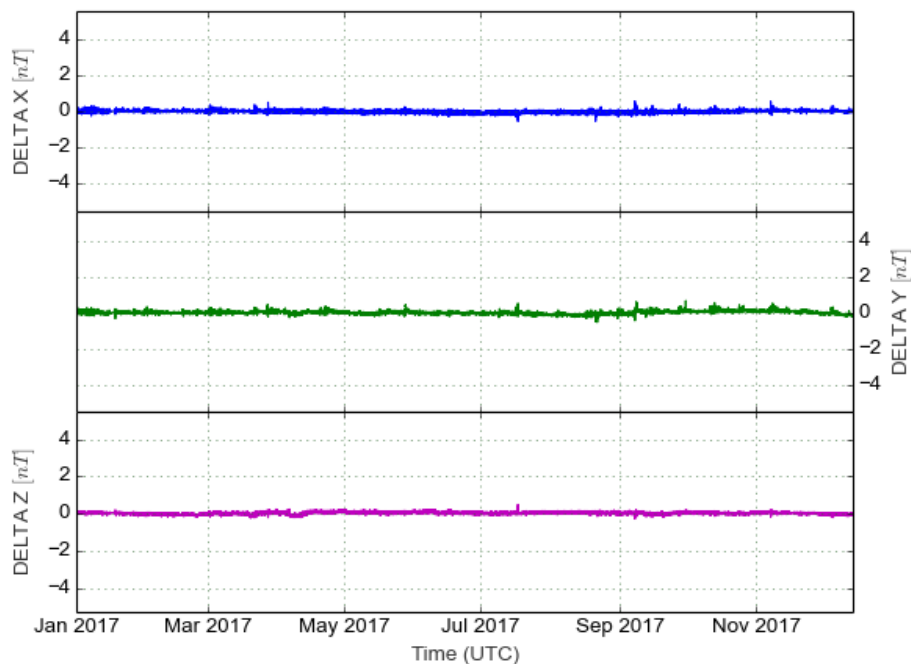
Figure 4.5 Delta values of vectorial components of baseline corrected variometer data.

of the underlying instruments. For filtered one minute data and longer periods, all instruments have widely similar characteristics within the frequency domain, which means an averaging and gap filling procedure is justified. Variation data is available almost continuously for 2017. Minor gaps are mainly related to disturbances due to wood work in the vicinity and thunderstorms. The one second data record consists solely from data of LEMI036. For minute values, the LEMI025 record was merged into LEMI036 data to fill gaps, a procedure which is abolutely valid looking at the similarity of both records after baseline correction. Scalar data was mainly recorded with two instruments in 2017. One second data is based solely on GP20S3. For minute data, the averaging procedure of both systems fills gaps. The differences of all scalar instruments are very small, supporting the validity of the averaging process. Minor gaps in the scalar record have the same reasons as listed above for the variometer.
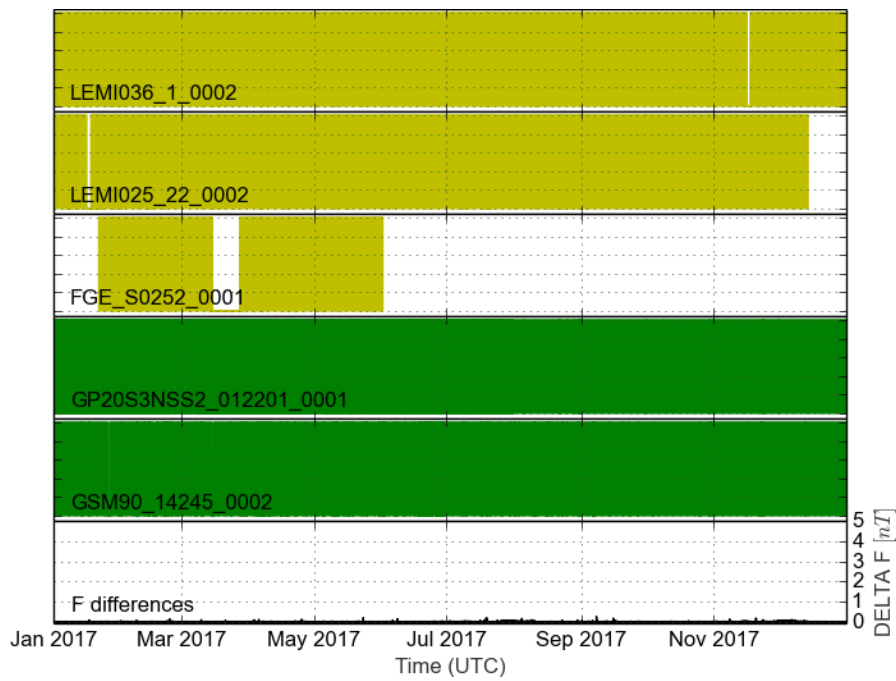
Figure 4.6 Contributions of each sensor for the analysis of 2017. Yellow shaded regions indicate time ranges of respective variometer data, green shaded regions mark scalar data which has been averaged for the composite one minute record. The lowermost plot depicts the average difference between all scalar data.

# Chapter 5

# Definitive Data

## 5.1 Definitive data production

A compilation of all results is shown in Figure 5.1. Vectorial components, after baseline correction, comprise the upper three plots. An independently measured value of the field strength F is shown below. Temperature variation is very small. The average temperature corresponds to $5.96 \pm 0.03 \,^{\circ}C$. Please note that the absolute value of temperature is not accurately known; its variation, however, is very precise and almost negligible. The lower two plots show the locally determined $K$ value and the global index $K_p$ provided by the GFZ Potsdam, which show very similar characteristics. For definitive data preparation, variation data is analysed slightly differently in comparison to quasi-definitive values. All variometers located at the Conrad Observatory were set up in HEZ direction at the time of installation. Due to secular variation, the magnetic coordinate system is slowly moving in time. This will lead to growing deviations from a perfect HEZ orientation for all variometers, however the baseline correction technique of *Lauridson* [1985] requires HEZ orientation. Even slight deviations from this boundary condition will lead to an improper variation correction which can result in slight offsets of $\delta$F, as an example. The LEMI036 variometer was set up in December 2015. Since then, the east component has moved by an angle of -0.437 degrees, which can be easily tested with reasonable accuracy by rotating the yearly average HEZ so that the average E component results in zero. For definitive data production, all calculations are performed on such coordinate-transformed data. This transformation is not used for quasi-definitive data (see section 5.2 for differences). A few magnetic events are visible in 2017 (Figure 5.1), marked by large vectorial deviations and high $K$ indices. The events correspond to geomagnetic storms, in particular to coronal-mass ejections hitting earth. Throughout the year a gradual increase of $Z$ and a west-ward trend in declination is visible, as also found in the long-term trend in central Europa (see next chapter).

## 5.2 Comparison to preliminary and quasi-definitive data

Preliminary and quasi-definitive (QD) data is available from December 2015 onwards. These data sets will, as well as future definitive data, be primarily based on LEMI036 data as this instrument is characterized by the smallest noise level. For 2017 quasi-definitive data has not been created regularly. Generally, quasi-definitive data and definitive data show very good aggreements in particular for the first half of 2017, when data checking was intensive. Before, a number of spikes went undetected into the QD data set. Overall, both data sets agree very well with average

differences of less than 0 nT in x, less than 0 nT in y and less than 0 nT in z. Please note that Definitive and QD data originate from different instruments. The differences are well within the 5 nT range for suitable quasi-definitive data. Nevertheless, there is room for improvements in particular using the same instrument and more accurate data checking.
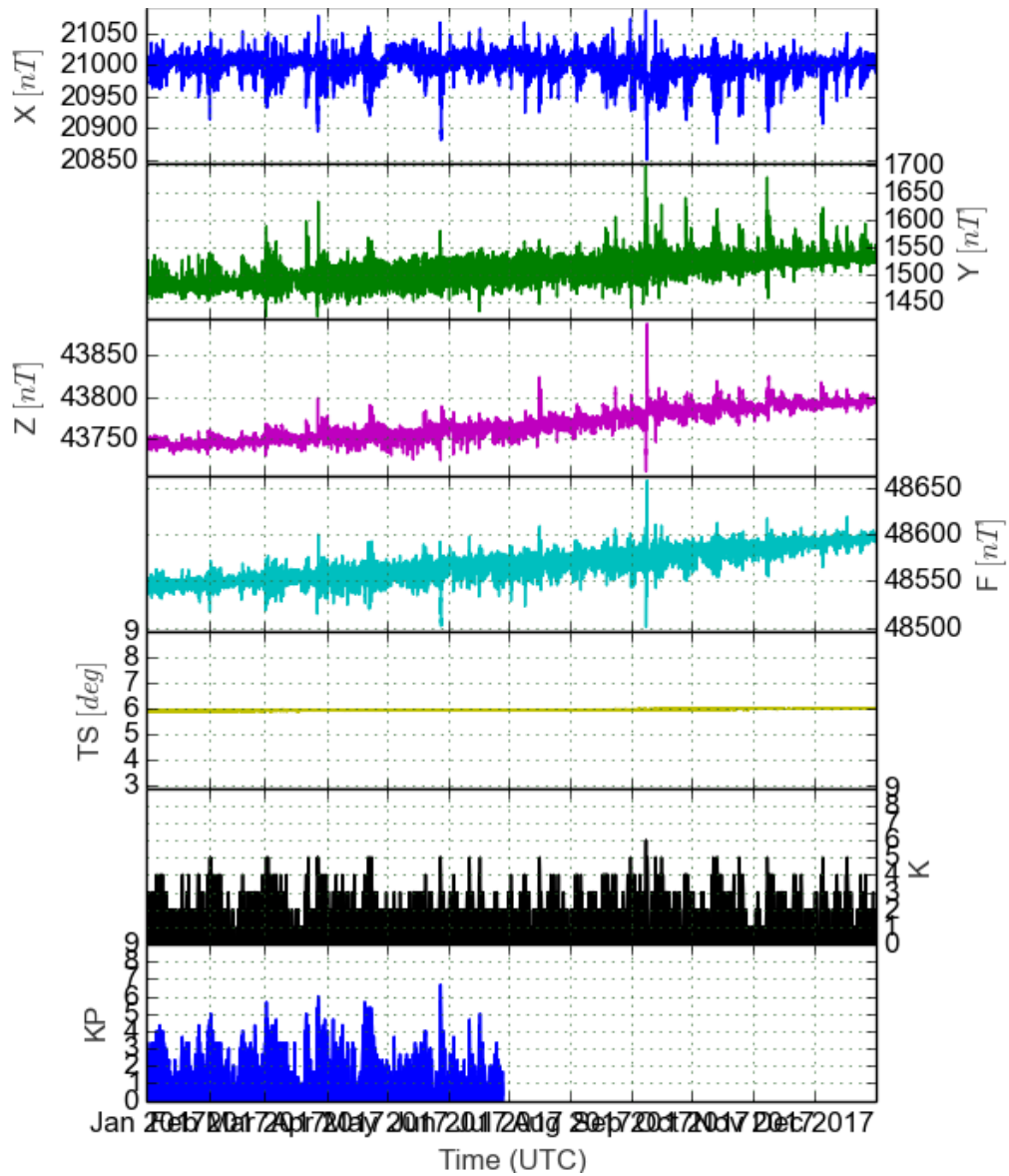
Figure 5.1 Definitive 1 minute data of WIC. Shown are the three baseline corrected vectorial components, the independently determined F value and the temperature variation at the sensor position, as well as local $K$ and global $K_p$ indices.

# Chapter 6

# Geomagnetic Characteristics

## 6.1 Secular Variation

Geomagnetic secular variation originates in the dynamo processes of the Earth's outer core, where fluid flows generate the main magnetic field. In order to reduce geomagnetic contributions of external origin such as the interaction of the Sun's magnetic field with the Earth's magnetosphere, monthly and annual means are calculated. It should be mentioned that this procedure does not completely remove external field contributions. The monthly and yearly mean data for Conrad Observatory are provided in tables 6.1 and 6.2, respectively. After combining yearly means of the two Vienna observatories Cobenzl, WIK (running from 1955 to 2015), and the Conrad Observatory, WIC (from 2014 onwards), a secular variation diagram as shown in Figure 6.1 has been obtained. In the combination of both data sets, the Cobenzl annual means have been corrected towards the Conrad Observatory values using the average differences of years 2014 and 2015. Fortunately, the location difference ($\approx$ 50 km) and thus the averaged difference in each component is not large and constant in time between the two years of overlapping records (diff X = 169 $\pm$ 2 nT, diff Y = -30 $\pm$ 1 nT, diff Z = -272 $\pm$ 1 nT).

As can be seen in Figure 6.1, field strength F and vertical component Z have been gradually increasing since 1955. Declination has been monotonously moving westwards and the magnetic meridian (Declination = 0 deg) passed the Conrad Observatory in 1973. The H component has also increased since the beginning of observation, but has shown minimal variation since 1980. Considering the last two years, a secular variation rate of dX = 10.0 nT/year, dY = 106.0 nT/year and dZ = 90.0 nT/year is obtained. Fitting and extrapolating an average annual derivative curve using cubic splines results in the following predicted average field values for 2018: H = 21076 nT, D = 4.43 deg, Z = 43869 nT. Please note that for this approximation it is assumed that the 50 km distant locations WIK and WIC have exhibited the same secular variation pattern in the past, as the WIK data has been corrected using constant offsets.

## 6.2 Geomagnetic Activity

### 6.2.1 Local $K$ values and $K_p$

The K-index ($K$) and the planetary K-index ($K_p$) are used to characterize the magnitude of geomagnetic activity. $K_p$ is an excellent indicator of disturbances in the Earth's magnetic field and is used by many space weather prediction centres. Geomagnetic storms typically result in DC fluctuations in power grids, interruptions to spacecraft operations and GNSS due to

Table 6.1. Monthly arithmetic means at the Conrad Observatory. These mean values are deduced from minute data sets. If less then 90% of data is available then averages are not calculated.

| Date | X [nT] | Y [nT] | Z [nT] | F [nT] |
|------|--------|--------|--------|--------|
| 2017-01 | 21000.459 | 1480.230 | 43743.971 | 48546.304 |
| 2017-02 | 21001.003 | 1485.044 | 43746.670 | 48549.145 |
| 2017-03 | 20996.525 | 1491.098 | 43752.251 | 48552.471 |
| 2017-04 | 20996.817 | 1495.823 | 43756.408 | 48556.462 |
| 2017-05 | 21006.718 | 1497.928 | 43757.037 | 48561.361 |
| 2017-06 | 21008.769 | 1502.416 | 43762.226 | 48566.995 |
| 2017-07 | 21004.362 | 1508.498 | 43767.333 | 48569.932 |
| 2017-08 | 21000.834 | 1512.428 | 43773.816 | 48574.380 |
| 2017-09 | 20985.127 | 1521.446 | 43784.699 | 48577.734 |
| 2017-10 | 20992.162 | 1523.228 | 43787.940 | 48583.673 |
| 2017-11 | 20993.695 | 1528.281 | 43792.236 | 48588.389 |
| 2017-12 | 20999.816 | 1531.146 | 43794.541 | 48593.219 |

Table 6.2. Yearly arithmetic means at the Conrad Observatory. These mid-year mean values are deduced from the yearly hourly data sets and therefore are not necessarily exactly equal to an average of the monthly means.

| Date | x [nT] | y [nT] | z [nT] | f [nT] |
|------|--------|--------|--------|--------|
| 2017-06-01T00:00:00.000000 | 20999.000 | 1507.000 | 43768.000 | 48568.000 |
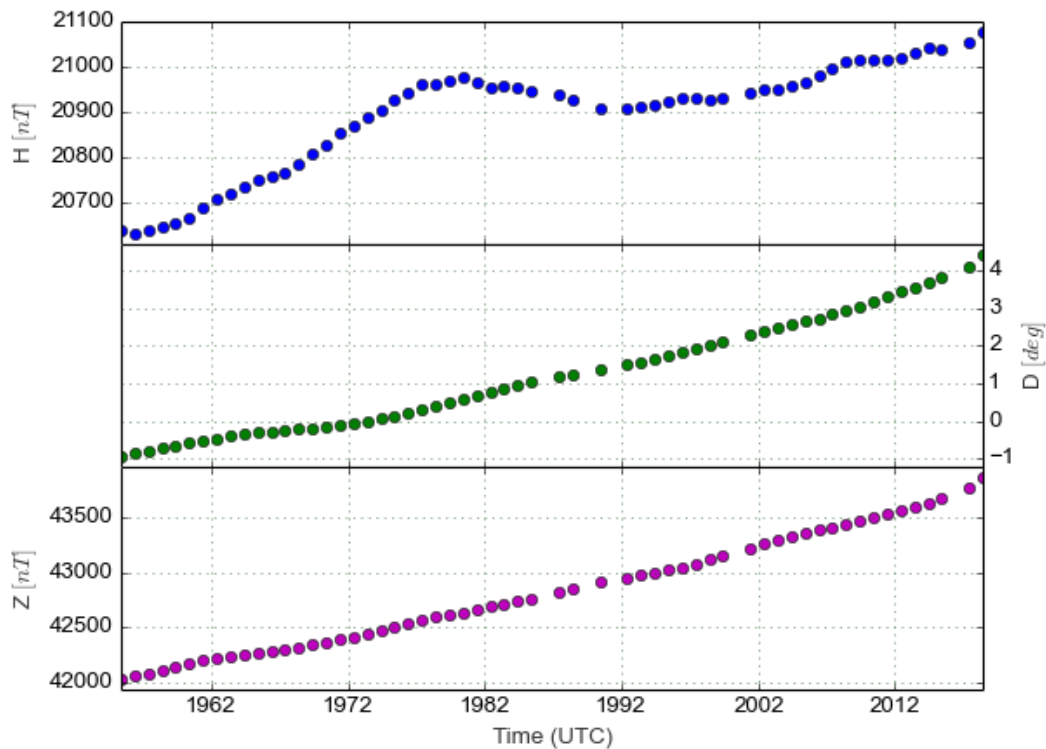
Figure 6.1 Yearly means since 1955. Data from 1955 until 2015 was obtained at the Cobenzl Observatory and corrected for the average offset of years 2014 and 2015 to the Conrad Observatory. Shown is also a predicted value for 2018.

ionospheric radio signal disturbances, and visible aurorae. The average local $K$ for 2017 at Conrad Observatory corresponds to 1.7, which is in perfect agreement with the yearly average $K_p$ of 1.8 provided by the GFZ Potsdam (http://www.gfz-potsdam.de/kp-index/). Figure 6.2 depicts the yearly and seasonal distribution of K values. As to be expected because of the orbital distance, the summer term is characterized by slightly higher average activity. A table with all K values can be found in the electronic appendix (file: /IAF/WIC17K.DKA).

### 6.2.2 Quiet and disturbed days

On a global scale, quiet and disturbed days are identified based on three characteristics which each are used to define a single yearly or monthly ordering number (see http://www.gfz-potsdam.de/sektion/erdmagnetfeld/daten-produkte-dienste/kp-index/erklaerung/qd-days/). These parameters include (a) the sum of all $K_p$ values of one day, (b) the sum of squares of all $K_p$, and (c) the maximum values of $K_p$. The three ordering numbers are then averaged and lowest and highest averages are selected. Is has to be noted that this measure is purely relative and is not representative for classifying and comparing disturbance levels of different time periods. Therefore additional notes and codes are used based
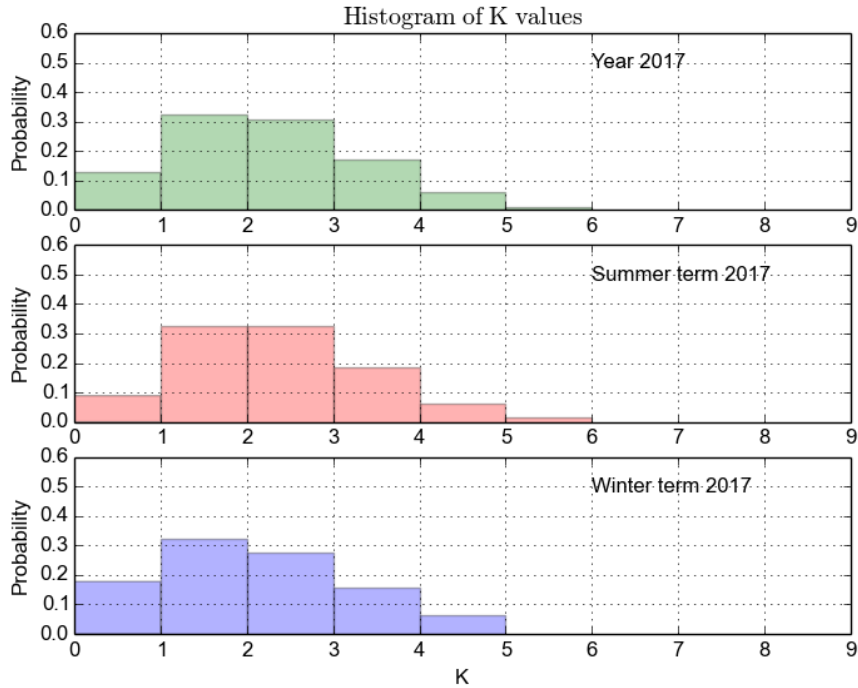
Figure 6.2 Distribution of K values.

on the average daily $A_p$ index, originating from eight $a_p$ values which are the nT thresholds for each $K_p$. Detail can be found in the link above. For describing quiet and disturbed days at the Conrad Observatory, and to assure that data from all time periods is comparable, we prefer to use solely the average daily $K$ index. Disturbed days are defined as days in which the average daily $K$ index exceeds a value of 3.0. Such values were found for the following 31 days: 2017-01-07, 2017-02-01, 2017-03-02, 2017-03-22, 2017-03-27, 2017-03-28, 2017-03-31, 2017-04-22, 2017-04-23, 2017-05-20, 2017-05-28, 2017-07-16, 2017-08-04, 2017-08-17, 2017-08-19, 2017-08-23, 2017-08-31, 2017-09-08, 2017-09-15, 2017-09-16, 2017-09-27, 2017-09-28, 2017-10-11, 2017-10-12, 2017-10-13, 2017-10-14, 2017-11-08, 2017-11-10, 2017-11-21, 2017-12-05, 2017-12-17.

For quiet days the average daily $K$ index needs to be below 0.5, and this was found for 11 days: 2017-01-16, 2017-02-14, 2017-02-26, 2017-03-19, 2017-03-20, 2017-07-31, 2017-10-30, 2017-11-06, 2017-12-03, 2017-12-21, 2017-12-22.

### 6.2.3 Geomagnetic Storms

Using an automated storm detection method [*Bailey and Leonhardt*, 2016], which aims to detect storms likely to cause geomagnetically induced currents, 6 storm alerts were issued in the year 2017. In the previous year, a total of 15 storms were detected, showing a decline in solar activity. All detections have been published on the Conrad Observatory website (www.conrad-observatory.at). The technique makes use of a combination of DSCOVR and ACE satellite data [*Stone et al.*, 1990] along with geomagnetic recordings from the Observatory. An example of an automated storm detection using both sets of data is shown in Figure 6.3.

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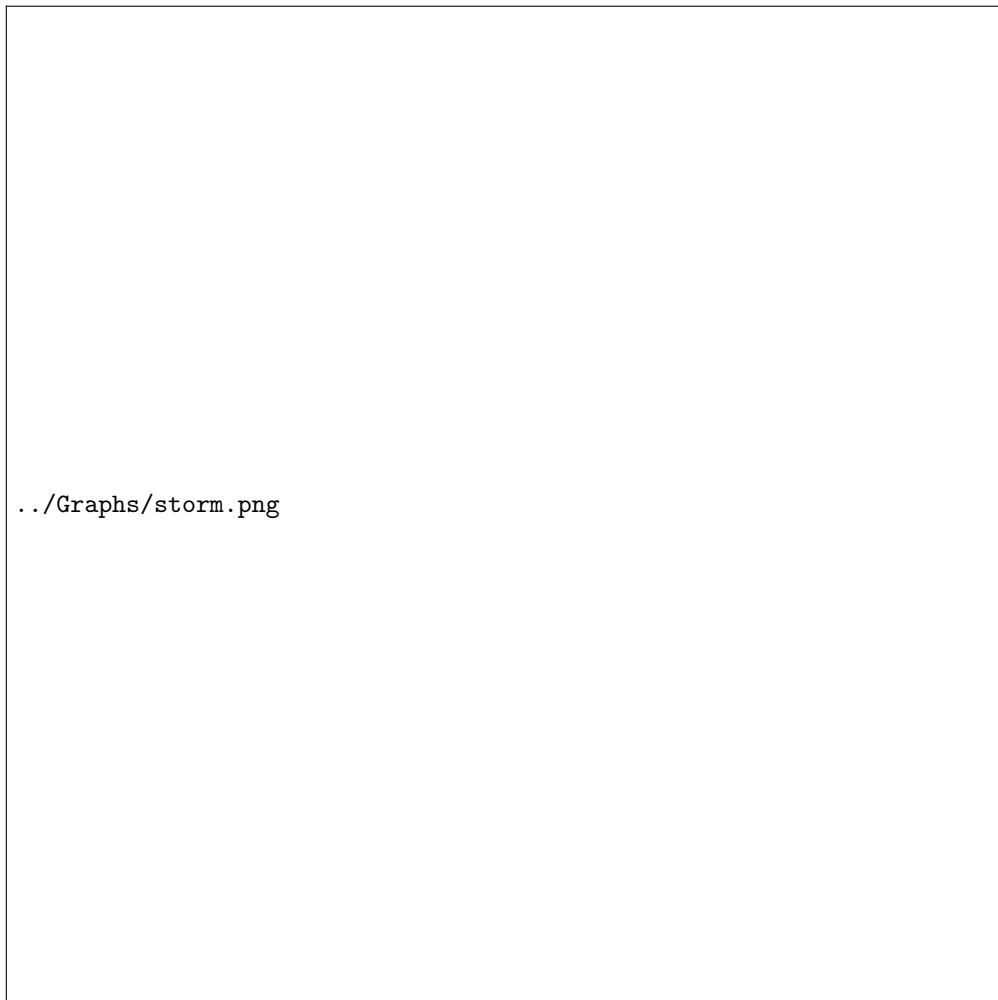
Figure 6.3 Most prominent geomagnetic storm in 2017. Shown are solar wind speed as determined by the ACE satellite and the horizontal component (H) of the geomagnetic field. Denoted are the times when shock front of the coronal mass ejection (CME) passed the satellite and initiated the sudden storm commencement (SSC) on earth.

# Chapter 7

# Publications and Presentations

In 2017 the geomagnetism group contributed to the following presentations and publications:

- Arneitz, P. and Egli, R. and Leonhardt, R. *Analyzing the reliability of volcanic and archeo-magnetic data by comparison with historical records*, EGU General Assembly (invited), *2017*

- Arneitz, P. and Leonhardt, R. and Schnepp, E. and Heilig, B. and Mayrhofer, F. and Kovacs, P. and Hejda, P. and Valach, F., Vadasz, G. and Hammerl, C. and Egli, R. and Fabian, K. and Kompein, N., *The HISTMAG database: Combining historical, ar-chaeomagnetic and volcanic data*, Geophysical Journal International, 210, 1347-1359, https://doi.org/10.1093/gji/ggx245, *2017*

- Arneitz, P. and Leonhardt R. and Fabian, K., and Egli, R., *Towards a fully self-consistent inversion combining historical and paleomagnetic data for geomagnetic field reconstructions*, AGU Fall meeting, *2017*

- Bailey, R.L. and Halbedl, T. S. and Schattauer, I. and Römer, A. and Achleitner, G. and Beggan, C. D. and Wesztergom, V. and Egli, R. and Leonhardt, R., *Modelling geomagnet-ically induced currents in mid-latitude Central Europe using a thin-sheet approach*, Ann. Geophysicae, 5, 751-761, *2017*

- Bailey, R. and Leichter, B., and Leonhardt, R., *Sparkling Geomagnetic Field*, IUGG con-ference, *2017*

- Bailey, R. and Leonhardt, R. and Achleitner, G., *Solar winds and power blackouts, IWI Workshop*, *2017*

- Bailey, R. and Leonhardt, R. and Achleitner, G. and Halbedl, T. and Schattauer, I., *Mod-elling geomagnetically induced currents in Austria*, IUGG Metting, *2017*

- Bailey, R. and Leonhardt, R. and Achleitner, G. and Halbedl, T. and Schattauer, I. *Mod-elling geomagnetically induced currents in Austria*, European Space Weather Week, *2017*

- Leonhardt, R., *Magnetfeldbeobachtungen am Conrad Observatorium*, AGS Annual meeting, *2017*

- Schattauer I. and Römer, A. and Bailey, R.L. and Leonhardt, R. and Bieber, G. and Motschka, K. and Supper, R. and Schiller, A., *Laterale Verteilung des elektrischen Widerstandes in Österreich*, AT2017, Wien, *2017*

- Shah J. and Koppers, A.A.P. and Leitner, M. and Leonhardt R. and Muxworthy A.R. and Heunemann, C. and Bachtadse, V. and Ashley, J.A.D. and Matzka, J. *Palaeomagnetic evidence for the persistence or recurrence of geomagnetic main field anomalies in the South Atlantic*, EGU General Assembly (invited), *2017*

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# Chapter 8

# Appendix

Table 8.1. Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory. Please note: if data is missing within one hour/day, then means are not calculated.

2017, Field component: X, Base: 20900.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan01 | 90 | 91 | 97 | 99 | 93 | 104 | 107 | 110 | 109 | 97 | 91 | 95 | 91 | 96 | 96 | 97 | 91 | 93 | 104 | 98 | 97 | 100 | 100 | 108 | 98 |
| Jan02 | 100 | 98 | 96 | 98 | 102 | 106 | 111 | 111 | 131 | 99 | 100 | 99 | 96 | 88 | 75 | 72 | 78 | 84 | 88 | 93 | 95 | 97 | 99 | 102 | 96 |
| Jan03 | 99 | 99 | 96 | 100 | 105 | 110 | 115 | 128 | 121 | 113 | 97 | 79 | 90 | 98 | 102 | 92 | 95 | 78 | 78 | 93 | 93 | 98 | 94 | 95 | 100 |
| Jan04 | 95 | 96 | 98 | 101 | 111 | 112 | 112 | 112 | 106 | 100 | 99 | 102 | 106 | 102 | 108 | 106 | 96 | 103 | 89 | 76 | 77 | 80 | 102 | 100 | 100 |
| Jan05 | 93 | 109 | 101 | 95 | 95 | 106 | 107 | 106 | 100 | 98 | 98 | 103 | 100 | 90 | 97 | 85 | 77 | 83 | 99 | 106 | 104 | 92 | 91 | 114 | 98 |
| Jan06 | 93 | 87 | 91 | 87 | 90 | 95 | 101 | 100 | 90 | 88 | 96 | 93 | 85 | 72 | 82 | 95 | 87 | 89 | 97 | 92 | 101 | 111 | 105 | 97 | 93 |
| Jan07 | 98 | 112 | 104 | 98 | 99 | 96 | 105 | 101 | 95 | 96 | 101 | 107 | 79 | ... | 96 | 93 | 92 | 104 | 100 | ... | 111 | 100 | 88 | 87 | ... |
| Jan08 | 89 | 95 | 99 | 101 | 101 | 99 | 101 | 98 | 91 | 83 | 79 | 90 | 96 | 94 | 96 | 87 | 84 | 92 | 98 | 103 | 83 | 100 | 124 | 93 | 95 |
| Jan09 | 87 | 91 | 99 | 93 | 96 | 95 | 96 | 101 | 95 | 96 | 98 | 102 | 105 | 89 | 85 | 89 | 91 | 91 | 93 | 95 | 97 | 94 | 96 | 102 | 95 |
| Jan10 | 100 | 97 | 92 | 95 | 99 | 100 | 103 | 104 | 101 | 100 | 101 | 101 | 99 | 99 | 104 | 102 | 94 | 85 | 80 | 88 | 100 | 100 | 102 | 96 | 96 |
| Jan11 | 91 | 97 | 97 | 99 | 99 | 103 | 105 | 107 | 104 | 90 | 91 | 93 | 96 | 96 | 98 | 96 | 99 | 93 | 103 | 95 | 94 | 97 | 105 | 100 | 98 |
| Jan12 | 99 | 99 | 98 | 105 | 104 | 105 | 109 | 108 | ... | 99 | 96 | 99 | 105 | 110 | 111 | 108 | 109 | 109 | 105 | 95 | 94 | 97 | ... | 101 | ... |
| Jan13 | 99 | 97 | 101 | 102 | 105 | 110 | 111 | 109 | 105 | 104 | 107 | 111 | 112 | 113 | 109 | 114 | 104 | 106 | 105 | 108 | 107 | 109 | 109 | 107 | 107 |
| Jan14 | ... | 104 | 104 | 103 | 106 | 116 | 116 | 120 | 115 | 111 | 110 | 115 | 115 | 111 | 111 | 109 | 107 | 106 | 95 | 99 | 112 | 111 | 109 | 106 | ... |
| Jan15 | 114 | 110 | 107 | 108 | 112 | 116 | 114 | 115 | 113 | 111 | 110 | 115 | 106 | 107 | 108 | 109 | 109 | 95 | 99 | 102 | 104 | 104 | 104 | 109 | 109 |
| Jan16 | 103 | 106 | 107 | 110 | 112 | 114 | 114 | 113 | 109 | 109 | 107 | 106 | 106 | 107 | 108 | 109 | 107 | 106 | 101 | 103 | 107 | 106 | 105 | 105 | 108 |
| Jan17 | 105 | 106 | 109 | 109 | 110 | 112 | 114 | 112 | 105 | 103 | 103 | 105 | 106 | 106 | 113 | 108 | 100 | 99 | 109 | 114 | 113 | 113 | 113 | 115 | 109 |
| Jan18 | 113 | 115 | 119 | 125 | 125 | 120 | 120 | 117 | 110 | 100 | 94 | 94 | 87 | 80 | 71 | 84 | 89 | 70 | 83 | 84 | 97 | 113 | 91 | 93 | 100 |
| Jan19 | 96 | 97 | 100 | 98 | 99 | 101 | 99 | 95 | 82 | 74 | 74 | 86 | 92 | 97 | 101 | 91 | 89 | 96 | 93 | 97 | 97 | 100 | 91 | 93 | 94 |
| Jan20 | 107 | 99 | 100 | 104 | 109 | 110 | 106 | 99 | 95 | 93 | 93 | 97 | 94 | 90 | 96 | 99 | 104 | 101 | 97 | 97 | 101 | 101 | 100 | 102 | 100 |
| Jan21 | 113 | 101 | 103 | 104 | 108 | 113 | 110 | 109 | 99 | 91 | 93 | 99 | 98 | 98 | 98 | 97 | 105 | 95 | 97 | 84 | 92 | 112 | 92 | 102 | 100 |
| Jan22 | 99 | 106 | 114 | 102 | 101 | 105 | 106 | 103 | 97 | 96 | 94 | 91 | 89 | 85 | 100 | 92 | 95 | 101 | 103 | 98 | 98 | 101 | 107 | 103 | 99 |
| Jan23 | 101 | 102 | 101 | 103 | 105 | 105 | 102 | 105 | 98 | 91 | 94 | 94 | 94 | 96 | 100 | 103 | 106 | 105 | 103 | 106 | 108 | 99 | 96 | 101 | 101 |
| Jan24 | 100 | 100 | 100 | 101 | 100 | 103 | 103 | 103 | 111 | 98 | 87 | 90 | 95 | 98 | 101 | 103 | 104 | 102 | 98 | 100 | 98 | 101 | 103 | 103 | 99 |
| Jan25 | 106 | 114 | 109 | 109 | 113 | 118 | 117 | 111 | 105 | 96 | 89 | 92 | 96 | 99 | 102 | 106 | 108 | 109 | 109 | 107 | 107 | 105 | 106 | 106 | 106 |
| Jan26 | 106 | 107 | 109 | 111 | 113 | 114 | 117 | 118 | 119 | 114 | 112 | 117 | 113 | 101 | 90 | 100 | 104 | 109 | 60 | 55 | 85 | 98 | 101 | 100 | 102 |
| Jan27 | 89 | 116 | 95 | 107 | 111 | 107 | 99 | 96 | 91 | 84 | 74 | 71 | 61 | 84 | 90 | 92 | 100 | 97 | 98 | 94 | 99 | 96 | 103 | 102 | 94 |
| Jan28 | 100 | 102 | 104 | 110 | 118 | 113 | 113 | 108 | 106 | 99 | 98 | 99 | 100 | 102 | 103 | 102 | 100 | 98 | 94 | 97 | 97 | 101 | 99 | 101 | 103 |
| Jan29 | 100 | ... | 108 | 107 | 110 | 105 | 104 | 107 | 104 | 97 | 93 | 94 | 95 | 96 | 100 | 99 | 97 | 96 | 100 | 100 | 101 | 103 | 102 | 103 | ... |
| Jan30 | 103 | 104 | 108 | 110 | 112 | 110 | 116 | 124 | 123 | 119 | 117 | 111 | 111 | 102 | 100 | 89 | 96 | 100 | 101 | 100 | 96 | 98 | 99 | 119 | 107 |
| Jan31 | 110 | 106 | 102 | 101 | 101 | 110 | 117 | 117 | 125 | 100 | 100 | 109 | 104 | 107 | 101 | 81 | 82 | 83 | 70 | 91 | 77 | 113 | 97 | 74 | 99 |

2017, Field component: Y, Base: 1400.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan01 | 84 | 70 | 70 | 71 | 75 | 76 | 72 | 76 | 75 | 78 | 77 | 67 | 70 | 77 | 73 | 77 | 77 | 98 | 89 | 81 | 84 | 85 | 87 | 82 | 78 |
| Jan02 | 83 | 81 | 80 | 74 | 68 | 72 | 72 | 73 | 76 | 74 | 66 | 66 | 68 | 68 | 70 | 71 | 80 | 87 | 80 | 83 | 85 | 85 | 85 | 82 | 76 |
| Jan03 | 79 | 78 | 75 | 72 | 71 | 71 | 70 | 69 | 75 | 74 | 74 | 64 | 57 | 68 | 77 | 81 | 82 | 77 | 86 | 87 | 94 | 106 | 87 | 87 | 77 |

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Table 8.1 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan04 | 86 | 83 | 83 | 80 | 71 | 73 | 75 | 78 | 80 | 74 | 72 | 68 | 65 | 65 | 71 | 69 | 70 | 74 | 85 | 124 | 99 | 92 | 86 | 97 | 80 |
| Jan05 | 94 | 91 | 98 | 92 | 83 | 81 | 77 | 75 | 80 | 78 | 76 | 66 | 62 | 70 | 68 | 80 | 68 | 74 | 92 | 89 | 91 | 85 | 100 | 93 | 82 |
| Jan06 | 94 | 92 | 80 | 79 | 82 | 76 | 75 | 79 | 75 | 77 | 71 | 66 | 72 | 72 | 75 | 76 | 72 | 86 | 86 | 78 | 88 | 86 | 82 | 85 | 79 |
| Jan07 | 90 | 95 | 83 | 83 | 80 | 75 | 70 | 74 | 76 | 75 | 71 | 67 | 82 | : | 79 | 76 | 80 | 105 | 97 | : | 93 | 100 | 95 | 87 | : |
| Jan08 | 82 | 83 | 78 | 83 | 86 | 80 | 79 | 78 | 72 | 74 | 75 | 65 | 66 | 76 | 84 | 78 | 77 | 81 | 101 | 89 | 88 | 93 | 96 | 89 | 81 |
| Jan09 | 90 | 80 | 84 | 84 | 88 | 84 | 81 | 82 | 81 | 81 | 74 | 70 | 71 | 90 | 83 | 75 | 86 | 73 | 76 | 81 | 83 | 85 | 86 | 86 | 81 |
| Jan10 | 82 | 81 | 81 | 79 | 82 | 79 | 80 | 85 | 83 | 80 | 74 | 68 | 68 | 73 | 75 | 72 | 73 | 95 | 91 | 85 | 87 | 84 | 85 | 86 | 80 |
| Jan11 | 82 | 78 | 78 | 84 | 81 | 79 | 80 | 85 | 88 | 89 | 87 | 77 | 71 | 73 | 75 | 78 | 76 | 80 | 91 | 80 | 85 | 87 | 82 | 84 | 81 |
| Jan12 | 81 | 82 | 81 | 83 | 82 | 77 | 80 | 88 | : | 80 | 85 | 71 | 66 | 69 | 75 | 75 | 75 | 80 | 77 | 80 | : | 85 | 92 | 81 | : |
| Jan13 | 86 | 84 | 81 | 78 | 76 | 79 | 81 | 85 | 84 | 80 | 75 | 70 | 69 | 71 | 72 | 70 | 72 | 75 | 78 | 80 | 84 | 81 | 81 | 82 | 78 |
| Jan14 | : | 81 | 77 | 77 | 74 | 79 | 80 | 89 | 93 | 92 | 83 | 69 | 67 | 70 | 73 | 75 | 76 | 79 | 80 | 80 | 82 | 81 | 81 | 81 | : |
| Jan15 | 75 | 77 | 78 | 77 | 75 | 75 | 78 | 83 | 85 | 81 | 77 | 72 | 66 | 73 | 75 | 76 | 77 | 77 | 89 | 84 | 82 | 81 | 80 | 81 | 78 |
| Jan16 | 79 | 76 | 76 | 75 | 75 | 76 | 78 | 83 | 85 | 87 | 83 | 75 | 71 | 73 | 76 | 76 | 76 | 77 | 76 | 82 | 81 | 82 | 82 | 80 | 78 |
| Jan17 | 79 | 76 | 76 | 77 | 76 | 77 | 80 | 86 | 86 | 81 | 73 | 65 | 63 | 68 | 71 | 73 | 75 | 79 | 77 | 79 | 80 | 81 | 80 | 78 | 76 |
| Jan18 | 76 | 73 | 69 | 66 | 69 | 71 | 75 | 76 | 73 | 75 | 72 | 65 | 57 | 62 | 79 | 76 | 82 | 93 | 89 | 95 | 113 | 91 | 92 | 87 | 78 |
| Jan19 | 78 | 68 | 75 | 73 | 76 | 79 | 85 | 87 | 87 | 86 | 81 | 72 | 69 | 70 | 77 | 83 | 77 | 81 | 88 | 88 | 86 | 84 | 82 | 81 | 80 |
| Jan20 | 69 | 78 | 77 | 65 | 72 | 75 | 78 | 81 | 86 | 85 | 82 | 78 | 71 | 81 | 77 | 80 | 82 | 78 | 86 | 94 | 84 | 83 | 85 | 86 | 80 |
| Jan21 | 90 | 76 | 80 | 76 | 72 | 75 | 76 | 84 | 83 | 81 | 80 | 74 | 68 | 70 | 76 | 79 | 77 | 82 | 79 | 95 | 107 | 92 | 95 | 85 | 82 |
| Jan22 | 84 | 93 | 92 | 87 | 81 | 81 | 83 | 88 | 89 | 92 | 74 | 73 | 71 | 81 | 83 | 76 | 81 | 87 | 82 | 82 | 90 | 97 | 84 | 81 | 82 |
| Jan23 | 80 | 79 | 79 | 80 | 79 | 82 | 85 | 88 | 83 | 83 | 76 | 73 | 71 | 72 | 75 | 79 | 85 | 82 | 81 | 99 | 96 | 97 | 82 | 81 | 82 |
| Jan24 | 82 | 79 | 79 | 82 | 81 | 82 | 86 | 92 | 94 | 86 | 78 | 72 | 67 | 69 | 74 | 78 | 80 | 81 | 82 | 86 | 86 | 83 | 82 | 82 | 81 |
| Jan25 | 79 | 74 | 78 | 73 | 75 | 81 | 83 | 88 | 90 | 85 | 77 | 71 | 67 | 69 | 73 | 76 | 80 | 80 | 80 | 80 | 80 | 86 | 86 | 81 | 79 |
| Jan26 | 79 | 77 | 77 | 78 | 78 | 78 | 81 | 84 | 84 | 82 | 78 | 68 | 63 | 67 | 69 | 74 | 73 | 84 | 122 | 119 | 90 | 88 | 85 | 89 | 82 |
| Jan27 | 91 | 92 | 78 | 61 | 75 | 75 | 78 | 91 | 98 | 93 | 86 | 76 | 82 | 76 | 74 | 99 | 81 | 81 | 87 | 89 | 89 | 91 | 89 | 85 | 84 |
| Jan28 | 83 | 78 | 75 | 68 | 77 | 79 | 82 | 85 | 84 | 82 | 77 | 69 | 66 | 70 | 75 | 77 | 78 | 80 | 86 | 87 | 89 | 110 | 105 | 88 | 81 |
| Jan29 | : | 74 | 71 | 68 | 77 | 81 | 82 | 83 | 95 | 84 | 82 | 77 | 71 | 73 | 75 | 76 | 77 | 83 | 85 | 86 | 85 | 85 | 105 | 88 | : |
| Jan30 | 80 | 78 | 76 | 75 | 76 | 77 | 79 | 83 | 85 | 87 | 81 | 73 | 64 | 64 | 65 | 70 | 79 | 78 | 81 | 81 | 85 | 91 | 88 | 89 | 79 |
| Jan31 | 100 | 93 | 92 | 93 | 86 | 83 | 78 | 82 | 86 | 96 | 87 | 73 | 68 | 69 | 62 | 63 | 60 | 98 | 88 | 103 | 89 | 119 | 109 | 122 | 87 |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan01 | 45 | 46 | 42 | 40 | 41 | 41 | 40 | 41 | 40 | 40 | 43 | 43 | 40 | 42 | 45 | 45 | 45 | 46 | 46 | 45 | 44 | 44 | 43 | 42 | 43 |
| Jan02 | 42 | 42 | 43 | 43 | 43 | 42 | 41 | 42 | 38 | 37 | 38 | 41 | 45 | 48 | 51 | 52 | 51 | 51 | 50 | 48 | 47 | 46 | 45 | 44 | 45 |
| Jan03 | 44 | 43 | 43 | 43 | 43 | 42 | 40 | 40 | 39 | 37 | 38 | 43 | 47 | 48 | 48 | 47 | 48 | 48 | 51 | 49 | 48 | 47 | 46 | 46 | 45 |
| Jan04 | 45 | 44 | 44 | 43 | 42 | 40 | 40 | 42 | 43 | 45 | 46 | 44 | 43 | 44 | 44 | 44 | 45 | 46 | 47 | 52 | 53 | 52 | 48 | 44 | 45 |
| Jan05 | 45 | 42 | 41 | 42 | 42 | 42 | 41 | 42 | 40 | 38 | 40 | 38 | 41 | 44 | 47 | 47 | 51 | 52 | 51 | 47 | 46 | 47 | 46 | 41 | 44 |
| Jan06 | 41 | 42 | 43 | 44 | 44 | 42 | 44 | 45 | 42 | 41 | 42 | 41 | 44 | 48 | 48 | 46 | 48 | 48 | 49 | 48 | 43 | 44 | 41 | 43 | 44 |
| Jan07 | 43 | 42 | 41 | 42 | 42 | 43 | 42 | 43 | 44 | 46 | 44 | 42 | 44 | 51 | 49 | 49 | 48 | 47 | 46 | 46 | 43 | 41 | 44 | 46 | 45 |

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Table 8.1 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan08 | 45 | 45 | 44 | 42 | 43 | 44 | 43 | 44 | 47 | 47 | 45 | 46 | 48 | 47 | 47 | 47 | 49 | 49 | 48 | 47 | 47 | 46 | 42 | 41 | 46 |
| Jan09 | 44 | 44 | 44 | 44 | 44 | 45 | 45 | 45 | 47 | 48 | 44 | 40 | 45 | 48 | 50 | 48 | 48 | 49 | 48 | 48 | 47 | 47 | 47 | 45 | 46 |
| Jan10 | 44 | 44 | 45 | 45 | 45 | 45 | 45 | 44 | 44 | 43 | 41 | 41 | 46 | 47 | 45 | 46 | 46 | 48 | 52 | 51 | 51 | 48 | 46 | 46 | 46 |
| Jan11 | 47 | 46 | 45 | 45 | 45 | 44 | 45 | 45 | 45 | 45 | 43 | 42 | 44 | 47 | 46 | 46 | 46 | 46 | 47 | 47 | 47 | 47 | 45 | 45 | 45 |
| Jan12 | 45 | 44 | 45 | 44 | 44 | 44 | 44 | 43 | .. | 40 | 37 | 37 | 41 | 41 | 42 | 42 | 42 | 42 | 43 | 43 | 43 | 44 | 43 | 43 | .. |
| Jan13 | 43 | 44 | 44 | 42 | 44 | 43 | 43 | 43 | 44 | 42 | 38 | 38 | 39 | 42 | 42 | 43 | 44 | 44 | 44 | 44 | 44 | 43 | 42 | 41 | 43 |
| Jan14 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 41 | 42 | 42 | 38 | 32 | 36 | 40 | 42 | 41 | 42 | 42 | 43 | 43 | 42 | 41 | 41 | 42 | 41 |
| Jan15 | 40 | 40 | 40 | 41 | 41 | 41 | 40 | 40 | 38 | 38 | 36 | 36 | 39 | 43 | 44 | 43 | 43 | 44 | 45 | 44 | 45 | 43 | 43 | 43 | 41 |
| Jan16 | 43 | 42 | 42 | 42 | 42 | 42 | 42 | 41 | 38 | 44 | 42 | 37 | 39 | 42 | 43 | 42 | 42 | 42 | 43 | 44 | 45 | 43 | 42 | 42 | 42 |
| Jan17 | 42 | 41 | 41 | 41 | 42 | 42 | 42 | 39 | 38 | 40 | 40 | 37 | 38 | 41 | 42 | 41 | 42 | 44 | 43 | 42 | 42 | 41 | 41 | 40 | 41 |
| Jan18 | 39 | 39 | 38 | 37 | 37 | 39 | 40 | 41 | 43 | 44 | 48 | 44 | 45 | 49 | 53 | 52 | 50 | 52 | 53 | 50 | 47 | 42 | 43 | 44 | 44 |
| Jan19 | 43 | 41 | 39 | 40 | 42 | 44 | 46 | 47 | 48 | 48 | 48 | 45 | 43 | 44 | 45 | 45 | 46 | 47 | 47 | 47 | 46 | 46 | 45 | 44 | 45 |
| Jan20 | 42 | 42 | 44 | 43 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 46 | 47 | 49 | 48 | 47 | 46 | 45 | 46 | 48 | 46 | 46 | 45 | 45 | 45 |
| Jan21 | 40 | 42 | 42 | 43 | 43 | 43 | 44 | 43 | 42 | 42 | 41 | 41 | 42 | 45 | 44 | 45 | 45 | 45 | 46 | 49 | 49 | 44 | 44 | 43 | 44 |
| Jan22 | 43 | 42 | 39 | 40 | 42 | 44 | 45 | 45 | 44 | 45 | 47 | 45 | 46 | 50 | 50 | 49 | 48 | 47 | 47 | 47 | 46 | 45 | 45 | 44 | 45 |
| Jan23 | 44 | 44 | 45 | 45 | 44 | 44 | 44 | 43 | 38 | 38 | 41 | 41 | 42 | 44 | 45 | 45 | 45 | 45 | 45 | 44 | 43 | 43 | 44 | 44 | 43 |
| Jan24 | 44 | 42 | 43 | 43 | 44 | 44 | 44 | 44 | 44 | 43 | 45 | 45 | 44 | 46 | 47 | 47 | 46 | 43 | 43 | 46 | 46 | 46 | 45 | 44 | 45 |
| Jan25 | 44 | 43 | 42 | 43 | 42 | 42 | 42 | 44 | 42 | 39 | 40 | 38 | 40 | 43 | 45 | 44 | 44 | 43 | 43 | 44 | 43 | 43 | 43 | 43 | 42 |
| Jan26 | 43 | 43 | 43 | 42 | 42 | 42 | 41 | 41 | 42 | 42 | 39 | 37 | 38 | 44 | 47 | 47 | 46 | 48 | 55 | 57 | 55 | 50 | 47 | 45 | 45 |
| Jan27 | 45 | 39 | 42 | 41 | 40 | 41 | 44 | 47 | 45 | 44 | 43 | 43 | 46 | 47 | 47 | 48 | 48 | 47 | 47 | 47 | 47 | 46 | 45 | 44 | 45 |
| Jan28 | 44 | 44 | 44 | 42 | 40 | 41 | 42 | 43 | 42 | 41 | 40 | 40 | 43 | 45 | 45 | 44 | 45 | 46 | 46 | 47 | 47 | 44 | 45 | 44 | 44 |
| Jan29 | .. | 45 | 43 | 43 | 43 | 44 | 45 | 46 | 45 | 43 | 41 | 41 | 44 | 47 | 45 | 45 | 46 | 47 | 47 | 47 | 46 | 46 | 45 | 45 | .. |
| Jan30 | 45 | 44 | 44 | 43 | 43 | 43 | 42 | 41 | 42 | 42 | 40 | 37 | 39 | 43 | 45 | 46 | 47 | 47 | 47 | 47 | 47 | 48 | 48 | 44 | 44 |
| Jan31 | 42 | 43 | 42 | 42 | 43 | 41 | 45 | 41 | 39 | 37 | 37 | 33 | 37 | 42 | 43 | 44 | 54 | 57 | 57 | 55 | 54 | 48 | 43 | 46 | 44 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan01 | 43 | 44 | 43 | 42 | 40 | 46 | 46 | 48 | 46 | 41 | 42 | 43 | 38 | 43 | 45 | 46 | 44 | 45 | 50 | 46 | 45 | 46 | 45 | 48 | 44 |
| Jan02 | 44 | 43 | 43 | 44 | 45 | 47 | 48 | 49 | 43 | 39 | 41 | 43 | 45 | 45 | 42 | 41 | 43 | 45 | 46 | 47 | 47 | 46 | 46 | 47 | 45 |
| Jan03 | 45 | 45 | 46 | 47 | 49 | 51 | 55 | 55 | 51 | 45 | 39 | 36 | 44 | 48 | 51 | 45 | 47 | 41 | 43 | 48 | 47 | 48 | 46 | 46 | 47 |
| Jan04 | 45 | 45 | 45 | 46 | 48 | 48 | 47 | 50 | 48 | 47 | 48 | 46 | 47 | 47 | 50 | 48 | 45 | 49 | 44 | 44 | 44 | 45 | 51 | 47 | 47 |
| Jan05 | 44 | 48 | 44 | 42 | 43 | 47 | 47 | 47 | 42 | 40 | 41 | 42 | 43 | 42 | 47 | 43 | 42 | 46 | 53 | 52 | 50 | 46 | 45 | 50 | 45 |
| Jan06 | 41 | 39 | 41 | 40 | 42 | 44 | 47 | 47 | 40 | 39 | 42 | 40 | 40 | 37 | 42 | 46 | 44 | 45 | 49 | 47 | 49 | 51 | 46 | 44 | 43 |
| Jan07 | 45 | 50 | 45 | 43 | 44 | 44 | 47 | 45 | 44 | 46 | 46 | 47 | 37 | 44 | 48 | 47 | 46 | 51 | 49 | 48 | 50 | 51 | 42 | 42 | 46 |
| Jan08 | 43 | 45 | 46 | 45 | 45 | 45 | 46 | 45 | 44 | 41 | 38 | 43 | 47 | 46 | 47 | 43 | 44 | 48 | 49 | 50 | 42 | 49 | 55 | 41 | 45 |
| Jan09 | 41 | 45 | 45 | 44 | 45 | 44 | 45 | 46 | 47 | 48 | 45 | 43 | 49 | 45 | 45 | 45 | 47 | 46 | 46 | 47 | 48 | 47 | 47 | 48 | 46 |
| Jan10 | 46 | 45 | 44 | 45 | 47 | 47 | 48 | 47 | 46 | 45 | 44 | 44 | 47 | 49 | 49 | 48 | 46 | 44 | 41 | 46 | 46 | 50 | 49 | 46 | 46 |
| Jan11 | 45 | 46 | 46 | 47 | 48 | 48 | 50 | 49 | 46 | 43 | 41 | 41 | 44 | 47 | 47 | 46 | 48 | 45 | 50 | 46 | 46 | 48 | 50 | 47 | 46 |

Table 8.1 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan12 | 46 | 46 | 47 | 48 | 47 | 49 | 50 | 49 | 46 | 42 | 38 | 39 | 45 | 47 | 49 | 48 | 48 | 49 | 49 | 48 | 48 | 48 | 49 | 46 | 47 |
| Jan13 | 45 | 45 | 46 | 47 | 48 | 49 | 50 | 49 | 48 | 46 | 44 | 45 | 47 | 50 | 50 | 48 | 47 | 48 | 48 | 49 | 49 | 49 | 48 | 48 | 48 |
| Jan14 | 46 | 46 | 46 | 46 | 47 | 48 | 50 | 48 | 47 | 46 | 41 | 37 | 43 | 46 | 48 | 47 | 47 | 47 | 48 | 49 | 50 | 49 | 48 | 47 | 46 |
| Jan15 | 49 | 47 | 46 | 47 | 49 | 50 | 50 | 51 | 48 | 46 | 43 | 45 | 48 | 50 | 50 | 48 | 47 | 46 | 45 | 48 | 48 | 48 | 47 | 46 | 48 |
| Jan16 | 46 | 47 | 47 | 48 | 49 | 49 | 50 | 50 | 50 | 51 | 48 | 43 | 44 | 47 | 48 | 48 | 47 | 47 | 48 | 46 | 47 | 48 | 47 | 46 | 48 |
| Jan17 | 46 | 46 | 47 | 48 | 48 | 49 | 50 | 47 | 43 | 44 | 47 | 42 | 43 | 49 | 50 | 47 | 44 | 46 | 49 | 50 | 50 | 49 | 47 | 49 | 47 |
| Jan18 | 47 | 48 | 49 | 50 | 50 | 49 | 51 | 50 | 49 | 46 | 47 | 43 | 41 | 41 | 41 | 46 | 47 | 41 | 47 | 45 | 56 | 51 | 49 | 43 | 47 |
| Jan19 | 44 | 42 | 41 | 42 | 44 | 47 | 48 | 47 | 42 | 39 | 39 | 41 | 42 | 45 | 47 | 43 | 44 | 47 | 46 | 48 | 47 | 48 | 41 | 47 | 44 |
| Jan20 | 47 | 44 | 46 | 46 | 48 | 49 | 49 | 47 | 46 | 45 | 46 | 46 | 46 | 46 | 48 | 48 | 49 | 48 | 46 | 49 | 49 | 48 | 47 | 48 | 47 |
| Jan21 | 49 | 44 | 46 | 47 | 49 | 49 | 50 | 50 | 44 | 40 | 40 | 43 | 43 | 46 | 46 | 46 | 49 | 45 | 47 | 44 | 48 | 52 | 43 | 47 | 46 |
| Jan22 | 45 | 47 | 48 | 44 | 45 | 47 | 48 | 48 | 45 | 46 | 45 | 43 | 43 | 45 | 50 | 48 | 47 | 50 | 49 | 48 | 47 | 48 | 50 | 47 | 47 |
| Jan23 | 47 | 47 | 47 | 48 | 48 | 48 | 47 | 47 | 43 | 39 | 40 | 41 | 42 | 44 | 47 | 49 | 50 | 49 | 48 | 49 | 50 | 45 | 45 | 47 | 46 |
| Jan24 | 46 | 46 | 46 | 46 | 46 | 48 | 48 | 49 | 46 | 41 | 42 | 42 | 44 | 47 | 49 | 50 | 49 | 48 | 47 | 48 | 47 | 48 | 48 | 48 | 47 |
| Jan25 | 49 | 50 | 48 | 49 | 50 | 52 | 52 | 51 | 53 | 40 | 38 | 37 | 40 | 44 | 48 | 49 | 49 | 49 | 49 | 49 | 48 | 47 | 48 | 48 | 47 |
| Jan26 | 48 | ... | ... | 49 | 50 | 51 | 51 | 51 | 53 | 50 | 47 | 46 | 46 | 46 | ... | ... | 50 | 40 | 40 | 40 | 50 | 51 | 49 | 48 | ... |
| Jan27 | 42 | 49 | 42 | 46 | 47 | 47 | 45 | 47 | 44 | 39 | 34 | 33 | 32 | 42 | 44 | 46 | 50 | 48 | 48 | 48 | 48 | 47 | 49 | 47 | 44 |
| Jan28 | 46 | 47 | 48 | 48 | 50 | 49 | 50 | 49 | 47 | 44 | 42 | 42 | 45 | 47 | 48 | 47 | 47 | 47 | 46 | 48 | 47 | 48 | 47 | 47 | 47 |
| Jan29 | 45 | 47 | 49 | 48 | 50 | 49 | 49 | 51 | 49 | 44 | 41 | 40 | 44 | 45 | 47 | 43 | 46 | 47 | 49 | 49 | 49 | 49 | 48 | 48 | 47 |
| Jan30 | 48 | 48 | 49 | 50 | 50 | 49 | 51 | 54 | 54 | 53 | 50 | 45 | 45 | 47 | 46 | 43 | 47 | 48 | 49 | 53 | 48 | 49 | 49 | 55 | 49 |
| Jan31 | 49 | 48 | 45 | 46 | 45 | 48 | 51 | 55 | 52 | 40 | 40 | ... | ... | 47 | 45 | 39 | 39 | 51 | 45 | 53 | 46 | 57 | 45 | 38 | ... |

Table 8.2. Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory. Please note: if data is missing within one hour/day, then means are not calculated.

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017, Field component: X, Base: 20900.0, Unit: nT | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb01 | 104 | 100 | ... | ... | 87 | 91 | 91 | 96 | 97 | 94 | 88 | 93 | 71 | 77 | 80 | 44 | 87 | 80 | 98 | 96 | 87 | 130 | 108 | 85 | ... |
| Feb02 | 87 | 91 | 83 | 88 | 89 | 86 | 97 | 80 | 91 | 90 | 97 | 95 | 87 | 87 | 87 | 91 | 91 | 80 | 80 | 102 | 93 | 85 | 84 | 89 | 90 |
| Feb03 | 88 | 89 | 89 | 110 | 99 | 96 | 100 | 80 | 91 | 85 | 89 | 88 | 84 | 91 | 90 | 74 | 74 | 89 | 94 | 93 | 104 | 102 | 99 | 90 | 91 |
| Feb04 | 95 | 93 | 95 | 99 | 96 | 95 | 104 | 104 | 93 | 93 | 94 | 97 | 95 | 98 | 97 | 94 | 95 | 92 | 89 | 103 | 104 | 102 | 107 | 99 | 97 |
| Feb05 | 89 | 93 | 93 | 90 | 97 | 94 | 96 | 110 | 119 | 119 | 116 | 108 | 94 | 96 | 96 | 95 | 89 | 79 | 86 | 104 | 94 | 95 | 96 | 99 | 98 |
| Feb06 | 97 | 104 | 105 | 103 | 97 | 93 | 95 | 98 | 98 | 96 | 96 | 97 | 91 | 98 | 103 | 93 | 92 | 83 | 85 | 83 | 91 | 96 | 114 | 128 | 97 |
| Feb07 | 94 | 95 | 91 | 93 | 96 | 95 | 102 | 107 | 106 | 101 | 100 | 98 | 103 | 104 | 95 | 99 | 100 | 97 | 96 | 91 | 95 | 102 | 102 | 106 | 98 |
| Feb08 | 102 | 100 | 100 | 102 | 102 | 103 | 104 | 105 | 104 | 102 | 99 | 99 | 103 | 103 | 101 | 101 | 107 | 107 | 107 | 106 | 106 | 104 | 105 | 108 | 103 |
| Feb09 | 107 | 106 | 106 | 106 | 107 | 108 | 110 | 111 | 112 | 110 | 102 | 103 | 103 | 107 | 108 | 106 | 107 | 99 | 101 | 101 | 100 | 99 | 94 | 96 | 104 |
| Feb10 | 99 | 101 | 102 | 102 | 101 | 106 | 112 | 111 | 112 | 110 | 103 | 106 | 107 | 102 | 90 | 85 | 91 | 94 | 96 | 98 | 101 | 100 | 104 | 116 | 102 |
| Feb11 | 100 | 101 | 110 | 105 | 104 | 107 | 109 | 116 | 113 | 111 | 107 | 105 | 102 | 101 | 101 | 103 | 101 | 101 | 102 | 104 | 107 | 106 | 104 | 105 | 105 |
| Feb12 | 105 | 107 | 108 | 110 | 111 | 106 | 116 | 116 | 116 | 115 | 116 | 117 | 118 | 117 | 112 | 107 | 103 | 103 | 106 | 107 | 105 | 104 | 105 | 105 | 110 |
| Feb13 | ... | 110 | 110 | 104 | 103 | 106 | 116 | 114 | 116 | 111 | 108 | 107 | 109 | 112 | 112 | 111 | 108 | 103 | 101 | 101 | 103 | 104 | 104 | 106 | ... |
| Feb14 | 108 | 108 | 108 | 109 | 108 | 109 | 112 | 112 | 111 | 108 | 110 | 112 | 111 | 113 | 113 | 112 | 111 | 109 | 110 | 110 | 108 | 107 | 106 | 107 | 110 |
| Feb15 | 106 | 108 | 108 | 111 | 115 | 115 | 119 | 119 | 116 | 114 | 109 | 106 | 110 | 115 | 113 | 112 | 109 | 106 | 100 | 94 | 100 | 105 | 108 | 113 | 109 |
| Feb16 | 113 | 114 | 117 | 117 | 116 | 116 | 121 | 123 | 112 | 104 | 99 | 98 | 97 | 98 | 85 | 74 | 87 | 104 | 100 | 95 | 99 | 106 | 105 | 106 | 104 |
| Feb17 | 106 | 107 | 107 | 112 | 108 | 116 | 112 | 109 | 95 | 69 | 85 | 89 | 81 | 85 | 80 | 72 | 79 | 67 | 81 | 94 | 91 | 85 | 91 | 114 | 93 |
| Feb18 | 123 | 103 | 103 | 89 | 93 | 104 | 97 | 97 | 95 | 90 | 91 | 92 | 98 | 94 | 94 | 96 | 95 | 97 | 93 | 95 | 112 | 106 | 99 | 113 | 99 |
| Feb19 | 110 | 96 | 96 | 96 | 94 | 105 | 114 | 111 | 102 | 99 | 97 | 93 | 92 | 91 | 89 | 93 | 97 | 95 | 103 | 95 | 94 | 102 | 104 | 105 | 99 |
| Feb20 | 105 | 105 | 105 | 104 | 106 | 111 | 109 | 109 | 103 | 99 | 94 | 94 | 95 | 96 | 96 | 96 | 91 | 94 | 99 | 112 | 94 | 98 | 102 | 102 | 101 |
| Feb21 | 110 | 106 | 105 | 107 | 108 | 111 | 118 | 113 | 108 | 105 | 100 | 101 | 102 | 100 | 102 | 102 | 106 | 109 | 112 | 114 | 116 | 115 | 111 | 113 | 108 |
| Feb22 | 104 | 105 | 104 | 103 | 108 | 111 | 110 | 115 | 108 | 94 | 91 | 93 | 103 | 107 | 104 | 101 | 93 | 86 | 96 | 102 | 100 | 101 | 103 | 103 | 102 |
| Feb23 | 104 | 101 | 104 | 109 | 104 | 111 | 115 | 114 | 104 | 100 | 110 | 112 | 111 | 113 | 113 | 104 | 72 | 69 | 89 | 93 | 99 | 109 | 105 | 103 | 103 |
| Feb24 | 132 | 118 | 112 | 106 | 105 | 99 | 98 | 104 | 102 | 90 | 73 | 75 | 94 | 88 | 88 | 97 | 93 | 92 | 100 | 102 | 108 | 108 | 106 | 117 | 100 |
| Feb25 | 105 | 97 | 107 | 99 | 100 | 100 | 100 | 97 | 89 | 91 | 88 | 93 | 94 | 97 | 101 | 102 | 100 | 100 | 100 | 100 | 101 | 114 | 107 | 112 | 100 |
| Feb26 | 105 | 102 | 103 | 105 | 104 | 107 | 108 | 106 | 100 | 96 | 96 | 99 | 104 | 110 | 111 | 110 | 106 | 105 | 105 | 105 | 107 | 108 | 109 | 105 | 105 |
| Feb27 | 109 | 109 | 110 | 110 | 107 | 112 | 112 | 109 | 102 | 100 | 102 | 102 | 108 | 117 | 119 | 112 | 104 | 107 | 104 | 95 | 104 | 88 | 90 | 92 | 105 |
| Feb28 | 93 | 93 | 107 | 103 | 97 | 101 | 101 | 99 | 93 | 85 | 87 | 83 | 87 | 93 | 98 | 101 | 99 | 97 | 93 | 87 | 86 | 92 | 100 | 106 | 95 |
| 2017, Field component: Y, Base: 1400.0, Unit: nT | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb01 | 109 | 133 | ... | ... | 84 | 82 | 81 | 88 | 90 | 82 | 83 | 84 | 83 | 85 | 72 | 96 | 73 | 76 | 103 | 90 | 88 | 87 | 113 | 114 | ... |
| Feb02 | 98 | 103 | 88 | 87 | 87 | 79 | 82 | 80 | 87 | 88 | 78 | 78 | 75 | 85 | 81 | 75 | 74 | 109 | 90 | 101 | 99 | 102 | 88 | 95 | 88 |
| Feb03 | 89 | 90 | 83 | 85 | 87 | 84 | 85 | 86 | 71 | 78 | 75 | 73 | 67 | 75 | 77 | 76 | 92 | 88 | 87 | 98 | 97 | 97 | 105 | 93 | 85 |
| Feb04 | 84 | 81 | 83 | 85 | 85 | 74 | 86 | 89 | 93 | 89 | 80 | 73 | 75 | 79 | 78 | 81 | 78 | 83 | 82 | 88 | 92 | 96 | 103 | 111 | 85 |
| Feb05 | 116 | 94 | 92 | 85 | 82 | 85 | 79 | 84 | 78 | 82 | 79 | 65 | 72 | 72 | 70 | 73 | 74 | 97 | 92 | 94 | 92 | 89 | 92 | 93 | 85 |
| Feb06 | 89 | 85 | 79 | 85 | 89 | 87 | 87 | 86 | 85 | 82 | 76 | 71 | 68 | 76 | 77 | 85 | 95 | 75 | 92 | 86 | 90 | 89 | 100 | 104 | 85 |

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## Table 8.2 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Feb07 | 104 | 96 | 94 | 87 | 90 | 88 | 87 | 85 | 85 | 83 | 79 | 76 | 75 | 74 | 83 | 84 | 78 | 80 | 86 | 90 | 87 | 85 | 87 | 88 | 85 |
| Feb08 | 86 | 84 | 83 | 84 | 84 | 85 | 87 | 91 | 91 | 84 | 77 | 75 | 72 | 73 | 77 | 80 | 77 | 78 | 80 | 82 | 84 | 85 | 86 | 88 | 82 |
| Feb09 | 86 | 85 | 82 | 82 | 83 | 86 | 86 | 89 | 89 | 84 | 82 | 74 | 72 | 69 | 70 | 75 | 78 | 77 | 84 | 82 | 90 | 98 | 100 | 88 | 83 |
| Feb10 | 89 | 89 | 84 | 88 | 86 | 87 | 88 | 91 | 93 | 86 | 82 | 78 | 71 | 69 | 72 | 74 | 74 | 82 | 85 | 84 | 90 | 90 | 90 | 94 | 84 |
| Feb11 | 92 | 87 | 86 | 89 | 89 | 87 | 85 | 86 | 90 | 90 | 82 | 77 | 74 | 75 | 78 | 81 | 83 | 81 | 82 | 84 | 85 | 86 | 87 | 87 | 84 |
| Feb12 | 86 | 83 | 82 | 82 | 83 | 83 | 83 | 85 | 88 | 87 | 83 | 73 | 70 | 75 | 79 | 80 | 77 | 80 | 88 | 82 | 85 | 89 | 90 | 88 | 83 |
| Feb13 | .. | 86 | 94 | 91 | 86 | 84 | 83 | 85 | 88 | 88 | 81 | 79 | 76 | 71 | 74 | 74 | 80 | 94 | 90 | 84 | 85 | 88 | 87 | 85 | .. |
| Feb14 | 84 | 84 | 83 | 84 | 86 | 84 | 84 | 85 | 87 | 86 | 83 | 79 | 76 | 74 | 78 | 80 | 79 | 81 | 83 | 82 | 85 | 88 | 88 | 86 | 83 |
| Feb15 | 85 | 84 | 83 | 83 | 83 | 84 | 84 | 87 | 90 | 82 | 75 | 69 | 64 | 64 | 72 | 77 | 78 | 79 | 84 | 82 | 85 | 88 | 87 | 86 | 81 |
| Feb16 | 86 | 83 | 82 | 84 | 84 | 83 | 82 | 88 | 90 | 89 | 83 | 77 | 76 | 72 | 73 | 68 | 71 | 78 | 82 | 86 | 87 | 94 | 89 | 87 | 82 |
| Feb17 | 86 | 84 | 81 | 85 | 74 | 78 | 80 | 90 | 87 | 76 | 70 | 63 | 73 | 70 | 74 | 104 | 84 | 94 | 90 | 87 | 93 | 123 | 97 | 102 | 85 |
| Feb18 | 125 | 103 | 115 | 96 | 76 | 94 | 94 | 93 | 90 | 84 | 79 | 77 | 78 | 79 | 81 | 83 | 83 | 83 | 85 | 116 | 96 | 85 | 90 | 85 | 90 |
| Feb19 | 102 | 92 | 89 | 88 | 86 | 80 | 89 | 84 | 88 | 87 | 79 | 77 | 73 | 72 | 78 | 86 | 91 | 93 | 112 | 92 | 89 | 86 | 86 | 86 | 87 |
| Feb20 | 86 | 86 | 84 | 85 | 78 | 88 | 91 | 90 | 94 | 90 | 82 | 78 | 75 | 73 | 78 | 81 | 88 | 97 | 93 | 96 | 93 | 86 | 87 | 88 | 86 |
| Feb21 | 86 | 86 | 85 | 83 | 82 | 79 | 84 | 89 | 94 | 89 | 79 | 79 | 74 | 74 | 79 | 82 | 80 | 80 | 81 | 82 | 83 | 84 | 84 | 91 | 83 |
| Feb22 | 102 | 83 | 100 | 96 | 92 | 86 | 83 | 89 | 94 | 86 | 79 | 79 | 74 | 74 | 67 | 72 | 83 | 84 | 82 | 84 | 93 | 93 | 89 | 88 | 86 |
| Feb23 | 89 | 90 | 86 | 89 | 85 | 84 | 84 | 88 | 89 | 85 | 78 | 79 | 71 | 67 | 95 | 83 | 77 | 90 | 82 | 87 | 108 | 90 | 96 | 86 | 84 |
| Feb24 | 69 | 101 | 92 | 86 | 86 | 91 | 88 | 91 | 87 | 82 | 78 | 79 | 73 | 71 | 76 | 81 | 83 | 93 | 89 | 88 | 90 | 91 | 87 | 89 | 86 |
| Feb25 | 97 | 89 | 93 | 92 | 89 | 90 | 94 | 97 | 98 | 90 | 80 | 70 | 66 | 69 | 81 | 81 | 82 | 84 | 84 | 88 | 94 | 90 | 85 | 85 | 85 |
| Feb26 | 85 | 88 | 88 | 89 | 89 | 90 | 94 | 99 | 98 | 88 | 76 | 70 | 70 | 75 | 76 | 85 | 82 | 82 | 83 | 84 | 87 | 85 | 85 | 85 | 85 |
| Feb27 | 84 | 85 | 84 | 90 | 89 | 91 | 94 | 96 | 95 | 84 | 71 | 63 | 64 | 68 | 76 | 82 | 78 | 81 | 82 | 86 | 104 | 114 | 104 | 99 | 86 |
| Feb28 | 98 | 97 | 90 | 103 | 95 | 94 | 99 | 104 | 101 | 91 | 73 | 64 | 61 | 61 | 68 | 77 | 78 | 77 | 95 | 86 | 98 | 98 | 96 | 92 | 87 |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Feb01 | 43 | 38 | .. | .. | 44 | 44 | 45 | 44 | 45 | 45 | 43 | 44 | 49 | 52 | 51 | 57 | 56 | 53 | 52 | 51 | 52 | 47 | 39 | 44 | .. |
| Feb02 | 46 | 45 | 46 | 46 | 47 | 48 | 48 | 46 | 44 | 45 | 44 | 44 | 48 | 52 | 52 | 50 | 50 | 52 | 56 | 52 | 50 | 50 | 51 | 48 | 48 |
| Feb03 | 49 | 49 | 49 | 44 | 47 | 45 | 45 | 44 | 44 | 46 | 49 | 48 | 50 | 53 | 52 | 52 | 54 | 54 | 53 | 52 | 50 | 47 | 46 | 48 | 49 |
| Feb04 | 47 | 47 | 47 | 47 | 47 | 48 | 45 | 45 | 44 | 44 | 42 | 44 | 47 | 49 | 48 | 47 | 49 | 49 | 51 | 50 | 49 | 48 | 48 | 46 | 47 |
| Feb05 | 46 | 46 | 45 | 46 | 46 | 46 | 45 | 41 | 40 | 38 | 38 | 40 | 43 | 46 | 46 | 46 | 49 | 53 | 54 | 51 | 50 | 51 | 50 | 49 | 46 |
| Feb06 | 48 | 47 | 44 | 43 | 44 | 46 | 45 | 42 | 43 | 45 | 43 | 40 | 43 | 47 | 47 | 47 | 49 | 51 | 51 | 53 | 52 | 51 | 48 | 42 | 46 |
| Feb07 | 43 | 44 | 46 | 46 | 44 | 47 | 45 | 44 | 43 | 44 | 45 | 46 | 48 | 51 | 49 | 48 | 47 | 48 | 49 | 50 | 51 | 50 | 49 | 48 | 47 |
| Feb08 | 47 | 47 | 47 | 47 | 47 | 47 | 46 | 45 | 43 | 41 | 42 | 42 | 40 | 43 | 48 | 48 | 47 | 46 | 46 | 46 | 47 | 47 | 47 | 46 | 46 |
| Feb09 | 46 | 45 | 45 | 45 | 47 | 44 | 43 | 44 | 43 | 41 | 41 | 42 | 43 | 45 | 45 | 44 | 45 | 47 | 48 | 48 | 49 | 49 | 49 | 49 | 45 |
| Feb10 | 48 | 47 | 47 | 46 | 46 | 45 | 44 | 43 | 40 | 38 | 40 | 40 | 43 | 45 | 48 | 48 | 49 | 49 | 51 | 50 | 49 | 49 | 48 | 44 | 46 |
| Feb11 | 45 | 47 | 44 | 45 | 46 | 45 | 43 | 45 | 46 | 42 | 41 | 45 | 48 | 49 | 48 | 48 | 46 | 46 | 48 | 48 | 47 | 47 | 47 | 47 | 46 |
| Feb12 | 47 | 46 | 44 | 46 | 45 | 45 | 43 | 45 | 46 | 41 | 36 | 34 | 36 | 39 | 41 | 43 | 45 | 46 | 47 | 47 | 47 | 47 | 47 | 47 | 44 |
| Feb13 | 47 | 46 | 44 | 45 | 45 | 45 | 43 | 45 | 46 | 43 | 39 | 39 | 39 | 42 | 44 | 44 | 44 | 45 | 47 | 47 | 47 | 46 | 46 | 46 | 44 |

Table 8.2 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Feb14 | 45 | 45 | 45 | 45 | 45 | 45 | 44 | 45 | 44 | 43 | 40 | 40 | 39 | 40 | 42 | 42 | 43 | 44 | 44 | 45 | 45 | 45 | 45 | 45 | 44 |
| Feb15 | 45 | 45 | 45 | 45 | 44 | 43 | 43 | 44 | 44 | 45 | 45 | 44 | 42 | 41 | 43 | 43 | 45 | 46 | 46 | 49 | 48 | 47 | 46 | 45 | 45 |
| Feb16 | 44 | 44 | 43 | 43 | 44 | 44 | 44 | 45 | 46 | 44 | 43 | 43 | 42 | 44 | 48 | 51 | 50 | 50 | 49 | 50 | 50 | 48 | 48 | 47 | 46 |
| Feb17 | 47 | 46 | 45 | 45 | 45 | 42 | 43 | 44 | 43 | 43 | 41 | 46 | 48 | 49 | 51 | 54 | 55 | 57 | 57 | 54 | 53 | 53 | 54 | 48 | 48 |
| Feb18 | 39 | 42 | 45 | 43 | 44 | 43 | 46 | 48 | 50 | 48 | 49 | 51 | 49 | 48 | 49 | 48 | 49 | 50 | 50 | 49 | 48 | 48 | 48 | 46 | 47 |
| Feb19 | 43 | 46 | 47 | 47 | 47 | 46 | 44 | 46 | 46 | 45 | 46 | 47 | 48 | 48 | 51 | 51 | 52 | 50 | 50 | 50 | 50 | 50 | 49 | 48 | 48 |
| Feb20 | 48 | 48 | 47 | 47 | 47 | 44 | 45 | 46 | 47 | 46 | 47 | 48 | 46 | 47 | 48 | 48 | 49 | 51 | 50 | 48 | 49 | 50 | 49 | 49 | 48 |
| Feb21 | 47 | 48 | 47 | 45 | 47 | 47 | 48 | 50 | 48 | 41 | 42 | 48 | 48 | 49 | 49 | 47 | 48 | 47 | 47 | 46 | 49 | 49 | 46 | 45 | 47 |
| Feb22 | 45 | 45 | 43 | 45 | 45 | 47 | 46 | 48 | 45 | 47 | 48 | 48 | 45 | 45 | 47 | 47 | 48 | 50 | 51 | 50 | 49 | 49 | 50 | 49 | 47 |
| Feb23 | 48 | 48 | 47 | 46 | 46 | 46 | 46 | 48 | 48 | 45 | 44 | 41 | 38 | 41 | 42 | 43 | 48 | 55 | 54 | 53 | 52 | 51 | 50 | 50 | 47 |
| Feb24 | 41 | 38 | 42 | 43 | 44 | 45 | 47 | 47 | 45 | 48 | 51 | 54 | 52 | 53 | 56 | 53 | 52 | 55 | 54 | 53 | 49 | 48 | 48 | 45 | 48 |
| Feb25 | 45 | 48 | 46 | 48 | 48 | 48 | 49 | 48 | 47 | 48 | 49 | 50 | 47 | 49 | 50 | 48 | 47 | 49 | 52 | 50 | 49 | 47 | 47 | 46 | 48 |
| Feb26 | 46 | 47 | 48 | 48 | 47 | 46 | 47 | 48 | 45 | 41 | 43 | 44 | 42 | 43 | 45 | 45 | 45 | 47 | 48 | 47 | 48 | 47 | 47 | 47 | 46 |
| Feb27 | 47 | 47 | 47 | 47 | 49 | 50 | 48 | 50 | 48 | 43 | 44 | 47 | 45 | 43 | 44 | 44 | 44 | 46 | 48 | 50 | 50 | 50 | 52 | 52 | 47 |
| Feb28 | 51 | 51 | 50 | 49 | 49 | 50 | 52 | 51 | 48 | 45 | 45 | 47 | 49 | 49 | 51 | 51 | 50 | 52 | 53 | 55 | 55 | 56 | 54 | 51 | 50 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Feb01 | 48 | 42 | 42 | 40 | 41 | 42 | 43 | 45 | 46 | 44 | 40 | 43 | 38 | 43 | 44 | 34 | 51 | 46 | 53 | 51 | 48 | 62 | 46 | 40 | 45 |
| Feb02 | 42 | 44 | 41 | 43 | 44 | 43 | 48 | 51 | 42 | 43 | 45 | 44 | 44 | 48 | 47 | 48 | 48 | 45 | 48 | 54 | 49 | 46 | 45 | 45 | 46 |
| Feb03 | 46 | 46 | 46 | 51 | 46 | 46 | 47 | 38 | 39 | 41 | 46 | 44 | 44 | 50 | 49 | 42 | 45 | 51 | 52 | 51 | 57 | 52 | 48 | 46 | 47 |
| Feb04 | 47 | 46 | 47 | 49 | 47 | 47 | 49 | 49 | 44 | 43 | 42 | 44 | 46 | 50 | 48 | 46 | 48 | 47 | 47 | 53 | 53 | 51 | 51 | 48 | 48 |
| Feb05 | 44 | 45 | 45 | 44 | 47 | 46 | 45 | 48 | 50 | 49 | 48 | 46 | 42 | 46 | 46 | 46 | 46 | 46 | 50 | 55 | 49 | 50 | 50 | 50 | 47 |
| Feb06 | 49 | 51 | 48 | 47 | 45 | 45 | 45 | 44 | 45 | 46 | 44 | 41 | 41 | 48 | 50 | 46 | 48 | 44 | 46 | 47 | 50 | 51 | 56 | 57 | 47 |
| Feb07 | 44 | 45 | 44 | 45 | 46 | 47 | 48 | 49 | 48 | 46 | 47 | 47 | 51 | 54 | 49 | 49 | 49 | 49 | 49 | 48 | 50 | 51 | 51 | 52 | 48 |
| Feb08 | 50 | 49 | 49 | 50 | 50 | 50 | 50 | 50 | 47 | 45 | 44 | 44 | 44 | 47 | 50 | 50 | 51 | 51 | 51 | 51 | 50 | 51 | 51 | 52 | 49 |
| Feb09 | 51 | 50 | 50 | 50 | 50 | 50 | 50 | 51 | 51 | 47 | 44 | 45 | 46 | 50 | 51 | 49 | 47 | 49 | 50 | 51 | 52 | 49 | 49 | 49 | 49 |
| Feb10 | 50 | 50 | 50 | 49 | 49 | 50 | 51 | 54 | 54 | 47 | 44 | 45 | 46 | 48 | 45 | 43 | 50 | 49 | 50 | 51 | 52 | 51 | 52 | 54 | 49 |
| Feb11 | 48 | 49 | 51 | 49 | 50 | 50 | 51 | 54 | 54 | 49 | 47 | 49 | 48 | 51 | 50 | 51 | 50 | 49 | 50 | 52 | 52 | 52 | 51 | 51 | 50 |
| Feb12 | 51 | 51 | 51 | 52 | 52 | 52 | 52 | 54 | 55 | 51 | 46 | 44 | 50 | 49 | 49 | 48 | 49 | 50 | 52 | 52 | 51 | 51 | 51 | 51 | 50 |
| Feb13 | 50 | 52 | 51 | 49 | 49 | 50 | 50 | 53 | 55 | 50 | 45 | 44 | 45 | 49 | 51 | 50 | 50 | 49 | 50 | 49 | 50 | 50 | 50 | 51 | 50 |
| Feb14 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 52 | 51 | 49 | 47 | 47 | 46 | 48 | 50 | 50 | 51 | 50 | 51 | 51 | 51 | 50 | 50 | 50 | 50 |
| Feb15 | 50 | 50 | 51 | 51 | 52 | 52 | 53 | 54 | 53 | 53 | 51 | 49 | 48 | 49 | 50 | 50 | 51 | 50 | 48 | 48 | 50 | 51 | 52 | 53 | 51 |
| Feb16 | 52 | 52 | 52 | 53 | 53 | 53 | 55 | 57 | 53 | 48 | 45 | 44 | 42 | 44 | 44 | : | 46 | 53 | 51 | 50 | 51 | 53 | 52 | 52 | : |
| Feb17 | 51 | 51 | 52 | 52 | 51 | 52 | 49 | 50 | 53 | 48 | 36 | 42 | 41 | 44 | : | 44 | 47 | 45 | 50 | 53 | 55 | 49 | 52 | 57 | 47 |
| Feb18 | 53 | 46 | 45 | 41 | 43 | 47 | 47 | 53 | 49 | 31 | 46 | 49 | 50 | 46 | 48 | 48 | 49 | 50 | 50 | 56 | 55 | 49 | 49 | 54 | 49 |
| Feb19 | 51 | 47 | 48 | 46 | 46 | 50 | 53 | 53 | 49 | 45 | 46 | 46 | 50 | 46 | 47 | 49 | 52 | 50 | 54 | 56 | 49 | 52 | 52 | 52 | 49 |
| Feb20 | 52 | 52 | 51 | 51 | 52 | 51 | 51 | 52 | 51 | 48 | 47 | 47 | 46 | 47 | 48 | 48 | 47 | 51 | 52 | 55 | 49 | 51 | 52 | 52 | 50 |

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Table 8.2 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Feb21 | 54 | 51 | 51 | 52 | 52 | 53 | 57 | 57 | 54 | 46 | 45 | 50 | 50 | 51 | 51 | .. | .. | .. | 54 | 54 | 55 | 55 | 53 | 53 | .. |
| Feb22 | 50 | 49 | 49 | 49 | 51 | 50 | 53 | 59 | 53 | 46 | 46 | 47 | 48 | 50 | 51 | 49 | 47 | 46 | 50 | 52 | 51 | 52 | 52 | 52 | 50 |
| Feb23 | 52 | 51 | 51 | 52 | 50 | 52 | 55 | 56 | 50 | 47 | 51 | 48 | 46 | 49 | 50 | 46 | 38 | 43 | 51 | 52 | 53 | 57 | 54 | 53 | 50 |
| Feb24 | 57 | 49 | 50 | 48 | 49 | 47 | 48 | 51 | 50 | 46 | 41 | 45 | 51 | 49 | 52 | 53 | 50 | 51 | 53 | 53 | 54 | 54 | 52 | 55 | 50 |
| Feb25 | 50 | 48 | 52 | 49 | 50 | 51 | 52 | 50 | 45 | 46 | 46 | 48 | 46 | 49 | 51 | 51 | 49 | 50 | 50 | 51 | 51 | 55 | 52 | 53 | 50 |
| Feb26 | 51 | 50 | 51 | 52 | 52 | 53 | 53 | 53 | 47 | 42 | 44 | 45 | 46 | 50 | 52 | 51 | 49 | 51 | 51 | 52 | 53 | 53 | 53 | 53 | 50 |
| Feb27 | 53 | 53 | 53 | 53 | 52 | 54 | 56 | 56 | 51 | 46 | 47 | 50 | 50 | 52 | 54 | 51 | 48 | 51 | 51 | 50 | 54 | 47 | 50 | 50 | 51 |
| Feb28 | 50 | 50 | 55 | 51 | 50 | 52 | 54 | 53 | 47 | 41 | 41 | 41 | 44 | 48 | 51 | 52 | 51 | 52 | 51 | 50 | 51 | 54 | 55 | 55 | 50 |

Table 8.3. Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory. Please note: if data is missing within one hour/day, then means are not calculated.

**2017, Field component: X, Base: 20900.0, Unit: nT**

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mar01 | 110 | 109 | 109 | 109 | 116 | 116 | 115 | 122 | 114 | 104 | 79 | 80 | 94 | 76 | 102 | 66 | 56 | 81 | 93 | 122 | 125 | 76 | .. | 81 | .. |
| Mar02 | 94 | 71 | 73 | .. | 90 | 84 | 79 | 85 | 86 | 83 | 52 | 55 | 75 | 61 | 75 | 79 | 81 | 88 | 81 | 122 | 104 | 79 | 91 | 96 | 82 |
| Mar03 | 98 | 91 | 87 | .. | 90 | 91 | 86 | 94 | 85 | 80 | 56 | 60 | 79 | 77 | 87 | 90 | 86 | 82 | 85 | 91 | 95 | 96 | 97 | 95 | 85 |
| Mar04 | 95 | 103 | 104 | 101 | 97 | 89 | 94 | 85 | 88 | 84 | 72 | 69 | 81 | 97 | 94 | 91 | 97 | 94 | 104 | 96 | 89 | 105 | 110 | 83 | 92 |
| Mar05 | 88 | 90 | 88 | 92 | 93 | 94 | 95 | 93 | 87 | 76 | 64 | 61 | 81 | 80 | 98 | 95 | 92 | 84 | 96 | 91 | 122 | 115 | 103 | 86 | 90 |
| Mar06 | 94 | 95 | 111 | 97 | 93 | 96 | 95 | 103 | 96 | 78 | 85 | 87 | 73 | 84 | 71 | 82 | 78 | 87 | 97 | 123 | 107 | 80 | 112 | 90 | 89 |
| Mar07 | 87 | 87 | 89 | 87 | 92 | 93 | 96 | 96 | 90 | 91 | 94 | 100 | 90 | 91 | 82 | 81 | 80 | 86 | 98 | 82 | 87 | 101 | 99 | 106 | 90 |
| Mar08 | 106 | 104 | 95 | 92 | 94 | 94 | 95 | 96 | 96 | 91 | 94 | 100 | 91 | 100 | 103 | 100 | 98 | 103 | 96 | 95 | 106 | 94 | 117 | 99 | 98 |
| Mar09 | 104 | 95 | 89 | 90 | 94 | 97 | 100 | 97 | 90 | 61 | 67 | 80 | 84 | 77 | 80 | 76 | 71 | 76 | 85 | 98 | 112 | 104 | 96 | 96 | 88 |
| Mar10 | 98 | .. | 102 | .. | 99 | 98 | 102 | 87 | 73 | 76 | 69 | 77 | 84 | 96 | 95 | 93 | 94 | 96 | 98 | 100 | 101 | 100 | 99 | 104 | .. |
| Mar11 | 99 | 95 | 97 | 98 | 101 | 103 | 103 | 98 | 96 | 95 | 96 | 99 | 103 | 105 | 104 | 99 | 94 | 92 | 89 | 87 | 88 | 92 | 105 | 125 | 98 |
| Mar12 | 109 | 98 | 97 | 93 | 104 | 107 | 109 | 108 | 100 | 97 | 96 | 97 | 98 | 86 | 93 | 90 | 92 | 94 | 96 | 97 | 98 | 98 | 101 | 101 | 98 |
| Mar13 | 100 | 100 | 102 | 103 | 107 | 112 | 114 | 112 | 110 | 107 | 107 | 108 | 112 | 117 | 114 | 111 | 107 | 105 | 105 | 105 | 105 | 106 | 106 | 105 | 108 |
| Mar14 | 105 | 105 | 102 | 103 | 101 | 105 | 109 | 111 | 109 | 104 | 104 | 107 | 115 | 116 | 104 | 101 | 103 | 102 | 98 | 96 | 100 | 102 | 102 | 109 | 105 |
| Mar15 | 111 | 108 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mar16 | .. | 107 | 107 | 105 | 106 | 106 | 104 | 102 | 99 | 97 | 100 | 105 | 106 | 99 | 99 | 102 | 104 | 106 | 107 | 90 | 104 | 106 | 104 | 104 | .. |
| Mar17 | 104 | 106 | 107 | 106 | 106 | 109 | 113 | 108 | 109 | 111 | 111 | 112 | 113 | 112 | 110 | 108 | 107 | 107 | 108 | 109 | 107 | 109 | 103 | 103 | 108 |
| Mar18 | 103 | 106 | 107 | 107 | 107 | 110 | 114 | 117 | 120 | 119 | 117 | 119 | 119 | 120 | 122 | 117 | 111 | 109 | 109 | 103 | 103 | 105 | .. | 110 | .. |
| Mar19 | 109 | 110 | 109 | 109 | 110 | 109 | 107 | 106 | 103 | 101 | 102 | 107 | 113 | 119 | 118 | 113 | 105 | 101 | 101 | 99 | 105 | 108 | 105 | 111 | 108 |
| Mar20 | 108 | 109 | 111 | 109 | 112 | 112 | 110 | 108 | 106 | 102 | 102 | 106 | 110 | 114 | 115 | 112 | 109 | 105 | 108 | 106 | 109 | 110 | 111 | 114 | 109 |
| Mar21 | 115 | 120 | 125 | 127 | 127 | 137 | 132 | 113 | 99 | 99 | 100 | 99 | 103 | 104 | 95 | 81 | 40 | 60 | 67 | 85 | 88 | 88 | 97 | 106 | 100 |
| Mar22 | 100 | 98 | 98 | 104 | 100 | 100 | 97 | 89 | 95 | 84 | 69 | 67 | 80 | 92 | 81 | 90 | 81 | 64 | 70 | 90 | 92 | 135 | 114 | 95 | 91 |
| Mar23 | 87 | 85 | 95 | 103 | 88 | 88 | 90 | 81 | 95 | 84 | 94 | 103 | 106 | 107 | 106 | 105 | 98 | 97 | 102 | 109 | 109 | 109 | .. | 108 | 98 |
| Mar24 | 108 | 105 | 106 | 103 | 107 | 106 | 106 | 101 | 93 | 93 | 95 | 98 | 96 | 100 | 98 | 99 | 106 | 107 | 102 | 106 | 106 | 106 | 105 | 106 | 103 |
| Mar25 | 106 | 106 | 106 | 106 | 105 | 105 | 106 | 104 | 101 | 97 | 95 | 92 | 98 | 103 | 105 | 106 | 100 | 102 | 106 | 108 | 108 | 108 | 108 | 109 | 104 |
| Mar26 | 111 | 104 | 104 | 106 | 107 | 107 | 106 | 106 | 106 | 105 | 101 | 100 | 107 | 112 | 114 | 110 | 106 | 107 | 109 | 112 | 114 | 121 | 120 | 118 | 109 |
| Mar27 | 121 | 118 | 124 | 77 | 128 | 124 | 105 | 112 | 104 | 86 | 42 | 71 | 73 | 49 | 32 | 26 | 12 | 52 | 69 | 93 | 114 | 66 | 90 | 108 | 85 |
| Mar28 | 86 | 83 | 94 | 77 | 101 | 82 | 79 | 72 | 74 | 65 | 71 | 86 | 94 | 90 | 73 | 73 | 75 | 81 | 99 | 75 | 89 | 98 | 102 | 109 | 84 |
| Mar29 | 95 | 93 | 83 | 86 | 95 | 88 | 80 | 83 | 68 | 60 | 72 | 84 | 89 | 88 | 69 | 59 | 82 | 76 | 89 | 94 | 97 | 97 | 107 | 110 | 85 |
| Mar30 | 105 | 101 | 93 | 91 | 107 | 108 | 97 | 81 | 72 | 77 | 84 | 87 | 83 | 77 | 90 | 80 | 92 | 87 | 104 | 88 | 120 | 87 | 95 | 98 | 92 |
| Mar31 | 92 | 108 | 105 | 90 | 105 | 89 | 82 | 88 | 77 | 59 | 70 | 72 | 75 | 77 | 82 | 82 | 80 | 83 | 102 | 97 | 93 | 119 | 99 | 90 | 88 |

**2017, Field component: Y, Base: 1400.0, Unit: nT**

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mar01 | 85 | 78 | 84 | 87 | 91 | 91 | 96 | 102 | 99 | 85 | 69 | 53 | 35 | 50 | 54 | 43 | 83 | 77 | 93 | 131 | 162 | 155 | .. | 117 | .. |
| Mar02 | 120 | 126 | 105 | 95 | 99 | 94 | 99 | 99 | 100 | 82 | 74 | 72 | 69 | 77 | 99 | 81 | 97 | 105 | 93 | 122 | 107 | 96 | 87 | 87 | 95 |
| Mar03 | 98 | 99 | 108 | 91 | 98 | 99 | 93 | 90 | 89 | 80 | 74 | 78 | 71 | 85 | 85 | 93 | 99 | 108 | 88 | 87 | 88 | 89 | 91 | 92 | 91 |

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Table 8.3 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mar04 | 91 | 90 | 68 | 92 | 92 | 97 | 99 | 103 | 101 | 89 | 81 | 74 | 77 | 77 | 76 | 109 | 90 | 94 | 103 | 92 | 93 | 115 | 113 | 99 | 92 |
| Mar05 | 85 | 91 | 90 | 91 | 94 | 99 | 96 | 96 | 95 | 83 | 73 | 68 | 67 | 71 | 80 | 83 | 104 | 105 | 133 | 103 | 108 | 117 | 105 | 98 | 93 |
| Mar06 | 102 | 94 | 76 | 98 | 99 | 100 | 100 | 101 | 98 | 88 | 78 | 69 | 60 | 73 | 77 | 110 | 92 | 91 | 106 | 122 | 120 | 105 | 108 | 103 | 95 |
| Mar07 | 94 | 94 | 89 | 90 | 95 | 104 | 99 | 101 | 93 | 87 | 76 | 65 | 65 | 69 | 79 | 94 | 95 | 101 | 106 | 107 | 106 | 90 | 89 | 83 | 90 |
| Mar08 | 101 | 101 | 108 | 96 | 97 | 96 | 96 | 96 | 92 | 86 | 75 | 68 | 67 | 75 | 76 | 86 | 89 | 86 | 85 | 110 | 104 | 101 | 80 | 108 | 91 |
| Mar09 | 80 | 97 | 100 | 101 | 94 | 100 | 99 | 101 | 101 | 89 | 72 | 60 | 54 | 60 | 75 | 76 | 78 | 85 | 90 | 99 | 103 | 98 | 91 | 89 | 87 |
| Mar10 | 88 | .. | 86 | .. | 96 | 93 | 101 | 101 | 99 | 88 | 83 | 72 | 67 | 76 | 80 | 88 | 90 | 86 | 88 | 89 | 90 | 91 | 93 | 88 | .. |
| Mar11 | 92 | 93 | 93 | 92 | 93 | 95 | 102 | 106 | 110 | 105 | 90 | 75 | 69 | 70 | 76 | 82 | 84 | 83 | 85 | 92 | 99 | 94 | 99 | 93 | 91 |
| Mar12 | 94 | 98 | 105 | 93 | 85 | 99 | 100 | 101 | 103 | 99 | 86 | 72 | 62 | 59 | 68 | 75 | 83 | 87 | 89 | 92 | 95 | 92 | 91 | 93 | 88 |
| Mar13 | 93 | 93 | 92 | 88 | 90 | 91 | 95 | 99 | 100 | 94 | 83 | 75 | 71 | 73 | 79 | 85 | 85 | 85 | 87 | 88 | 89 | 90 | 91 | 91 | 88 |
| Mar14 | 91 | 92 | 94 | 94 | 93 | 91 | 97 | 106 | 107 | 93 | 81 | 73 | 68 | 69 | 77 | 85 | 83 | 83 | 87 | 88 | 92 | 93 | 93 | 90 | 88 |
| Mar15 | 93 | 91 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mar16 | .. | 97 | 103 | 96 | 91 | 92 | 99 | 103 | 101 | 93 | 84 | 76 | 75 | 77 | 79 | 81 | 84 | 85 | 86 | 87 | 90 | 101 | 99 | 94 | .. |
| Mar17 | 89 | 89 | 90 | 91 | 89 | 90 | 95 | 101 | 104 | 98 | 88 | 78 | 72 | 71 | 76 | 83 | 86 | 85 | 86 | 86 | 88 | 98 | 97 | 93 | 89 |
| Mar18 | 92 | 89 | 90 | 91 | 91 | 91 | 94 | 98 | 98 | 93 | 85 | 75 | 73 | 73 | 76 | 82 | 86 | 86 | 88 | 89 | 91 | 89 | .. | 88 | .. |
| Mar19 | 88 | 89 | 90 | 91 | 92 | 95 | 102 | 108 | 107 | 95 | 79 | 70 | 65 | 67 | 73 | 83 | 88 | 86 | 88 | 89 | 89 | 89 | 90 | 92 | 88 |
| Mar20 | 92 | 91 | 91 | 92 | 92 | 92 | 96 | 99 | 99 | 97 | 87 | 71 | 64 | 64 | 72 | 82 | 86 | 87 | 88 | 88 | 86 | 87 | 87 | 87 | 86 |
| Mar21 | 88 | 88 | 89 | 88 | 93 | 97 | 102 | 103 | 99 | 91 | 76 | 64 | 58 | 59 | 69 | 73 | 101 | 95 | 154 | 98 | 109 | 110 | 99 | 95 | 92 |
| Mar22 | 106 | 86 | 82 | 102 | 103 | 97 | 107 | 107 | 101 | 94 | 84 | 74 | 72 | 78 | 87 | 114 | 97 | 130 | 134 | 105 | 98 | 102 | 108 | 120 | 98 |
| Mar23 | 113 | 101 | 90 | 93 | 92 | 101 | 100 | 108 | 111 | 107 | 97 | 86 | 77 | 71 | 78 | 82 | 82 | 84 | 86 | 85 | 87 | 88 | 89 | 90 | 90 |
| Mar24 | 90 | 92 | 91 | 93 | 91 | 93 | 103 | 110 | 109 | 101 | 89 | 78 | 70 | 72 | 78 | 93 | 85 | 85 | 87 | 89 | 89 | 90 | 90 | 91 | 91 |
| Mar25 | 91 | 91 | 91 | 92 | 95 | 95 | 106 | 110 | 101 | 100 | 89 | 78 | 69 | 69 | 77 | 87 | 91 | 88 | 84 | 86 | 86 | 85 | 91 | 90 | 90 |
| Mar26 | 92 | 94 | 94 | 94 | 92 | 97 | 112 | 113 | 107 | 95 | 89 | 71 | 45 | 47 | 59 | 82 | 85 | 84 | 84 | 86 | 86 | 87 | 87 | 90 | 89 |
| Mar27 | 91 | 95 | 91 | 90 | 93 | 117 | 112 | 105 | 97 | 97 | 93 | 71 | 69 | 70 | 86 | 69 | 92 | 91 | 92 | 154 | 136 | 122 | 102 | 125 | 96 |
| Mar28 | 112 | 115 | 105 | 97 | 96 | 103 | 104 | 101 | 105 | 107 | 101 | 88 | 77 | 71 | 76 | 83 | 81 | 91 | 119 | 108 | 103 | 100 | 90 | 93 | 96 |
| Mar29 | 103 | 101 | 92 | 94 | 76 | 105 | 103 | 116 | 107 | 112 | 97 | 73 | 59 | 66 | 66 | 88 | 118 | 94 | 93 | 90 | 92 | 96 | 100 | 86 | 95 |
| Mar30 | 103 | 101 | 104 | 96 | 100 | 86 | 103 | 117 | 116 | 112 | 101 | 88 | 77 | 66 | 76 | 87 | 95 | 92 | 119 | 104 | 116 | 120 | 100 | 122 | 97 |
| Mar31 | 101 | 103 | 109 | 94 | 100 | 100 | 93 | 110 | 97 | 104 | 88 | 63 | 57 | 58 | 64 | 107 | 90 | 90 | 101 | 99 | 99 | 109 | 101 | 103 | 93 |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mar01 | 49 | 48 | 46 | 47 | 47 | 47 | 48 | 43 | 39 | 33 | 33 | 38 | 46 | 46 | 53 | 58 | 65 | 63 | 59 | 51 | 42 | 43 | 47 | 40 | 47 |
| Mar02 | 41 | 42 | 48 | 51 | 51 | 50 | 52 | 53 | 52 | 49 | 49 | 55 | 55 | 58 | 64 | 61 | 59 | 59 | 60 | 54 | 51 | 53 | 53 | 51 | 53 |
| Mar03 | 50 | 51 | 49 | 52 | 51 | 52 | 55 | 57 | 55 | 53 | 50 | 51 | 55 | 56 | 57 | 58 | 62 | 61 | 58 | 58 | 57 | 55 | 55 | 55 | 55 |
| Mar04 | 54 | 52 | 48 | 44 | 47 | 49 | 52 | 53 | 50 | 48 | 51 | 54 | 56 | 55 | 58 | 59 | 56 | 54 | 54 | 55 | 56 | 54 | 51 | 53 | 53 |
| Mar05 | 53 | 51 | 53 | 53 | 53 | 53 | 55 | 56 | 54 | 51 | 48 | 50 | 53 | 55 | 58 | 56 | 56 | 59 | 57 | 57 | 51 | 47 | 45 | 49 | 53 |
| Mar06 | 49 | 49 | 48 | 46 | 50 | 51 | 51 | 52 | 50 | 48 | 46 | 47 | 52 | 54 | 59 | 64 | 62 | 60 | 58 | 52 | 50 | 53 | 47 | 51 | 52 |
| Mar07 | 53 | 54 | 53 | 53 | 52 | 52 | 53 | 50 | 47 | 45 | 46 | 50 | 52 | 54 | 57 | 60 | 60 | 59 | 58 | 58 | 59 | 56 | 54 | 52 | 54 |

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Table 8.3 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mar08 | 50 | 50 | 51 | 53 | 53 | 53 | 52 | 50 | 46 | 43 | 44 | 46 | 49 | 50 | 51 | 52 | 52 | 53 | 55 | 54 | 54 | 53 | 49 | 48 | 50 |
| Mar09 | 49 | 46 | 51 | 52 | 52 | 51 | 53 | 53 | 51 | 46 | 46 | 49 | 55 | 60 | 65 | 65 | 63 | 63 | 62 | 59 | 55 | 54 | 56 | 55 | 55 |
| Mar10 | 55 | .. | .. | .. | 51 | 52 | 53 | 54 | 56 | 48 | 48 | 55 | 57 | 56 | 55 | 57 | 57 | 56 | 55 | 54 | 54 | 54 | 54 | 54 | .. |
| Mar11 | 53 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 51 | 47 | 44 | 43 | 46 | 48 | 50 | 53 | 53 | 55 | 56 | 58 | 59 | 59 | 56 | 51 | 53 |
| Mar12 | 48 | 49 | 50 | 52 | 49 | 48 | 50 | 50 | 48 | 48 | 46 | 47 | 50 | 52 | 54 | 55 | 55 | 56 | 56 | 56 | 56 | 56 | 55 | 54 | 52 |
| Mar13 | 54 | 54 | 53 | 53 | 52 | 52 | 53 | 53 | 50 | 44 | 42 | 43 | 47 | 48 | 48 | 49 | 49 | 50 | 51 | 51 | 52 | 52 | 52 | 52 | 50 |
| Mar14 | 52 | 51 | 52 | 51 | 52 | 52 | 55 | 55 | 51 | 45 | 44 | 43 | 42 | 45 | 48 | 51 | 51 | 52 | 53 | 54 | 54 | 54 | 54 | 53 | 51 |
| Mar15 | 51 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mar16 | .. | 47 | 48 | 50 | 50 | 52 | 54 | 54 | 52 | 48 | 45 | 47 | 48 | 48 | 48 | 49 | 50 | 50 | 51 | 51 | 52 | 52 | 51 | 51 | .. |
| Mar17 | 51 | 51 | 51 | 51 | 51 | 52 | 53 | 53 | 51 | 47 | 41 | 40 | 41 | 43 | 44 | 48 | 49 | 49 | 50 | 51 | 51 | 51 | 51 | 51 | 49 |
| Mar18 | 51 | 51 | 51 | 51 | 50 | 50 | 52 | 52 | 49 | 45 | 41 | 39 | 39 | 40 | 42 | 47 | 48 | 49 | 50 | 51 | 52 | 52 | 51 | 50 | 48 |
| Mar19 | 50 | 50 | 50 | 50 | 50 | 52 | 53 | 52 | 48 | 40 | 36 | 35 | 36 | 38 | 42 | 46 | 48 | 49 | 51 | 52 | 52 | 51 | 51 | 50 | 47 |
| Mar20 | 50 | 50 | 50 | 50 | 50 | 51 | 53 | 54 | 51 | 46 | 40 | 37 | 39 | 40 | 44 | 47 | 48 | 50 | 50 | 51 | 51 | 50 | 50 | 50 | 48 |
| Mar21 | 49 | 48 | 47 | 47 | 48 | 45 | 46 | 48 | 46 | 40 | 38 | 38 | 40 | 44 | 47 | 56 | 67 | 70 | 68 | 66 | 61 | 59 | 57 | 52 | 51 |
| Mar22 | 49 | 53 | 53 | 52 | 52 | 54 | 58 | 58 | 57 | 56 | 54 | 55 | 58 | 60 | 62 | 65 | 64 | 66 | 64 | 63 | 59 | 52 | 47 | 45 | 56 |
| Mar23 | 48 | 52 | 51 | 47 | 51 | 56 | 57 | 55 | 53 | 55 | 50 | 44 | 45 | 48 | 51 | 52 | 53 | 53 | 54 | 54 | 54 | 53 | 53 | 53 | 52 |
| Mar24 | 53 | 52 | 52 | 52 | 52 | 54 | 56 | 56 | 55 | 52 | 50 | 47 | 47 | 48 | 52 | 56 | 54 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| Mar25 | 53 | 53 | 53 | 53 | 52 | 54 | 54 | 52 | 50 | 53 | 52 | 53 | 46 | 48 | 50 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 52 |
| Mar26 | 52 | 52 | 53 | 52 | 52 | 54 | 55 | 52 | 46 | 42 | 43 | 44 | 44 | 48 | 50 | 51 | 51 | 51 | 52 | 52 | 52 | 51 | 51 | 51 | 50 |
| Mar27 | 51 | 51 | 51 | 48 | 45 | 46 | 50 | 46 | 43 | 42 | 43 | 46 | 53 | 66 | 78 | 93 | 95 | 82 | 74 | 67 | 59 | 61 | 59 | 53 | 58 |
| Mar28 | 54 | 48 | 49 | 51 | 47 | 51 | 52 | 53 | 53 | 52 | 51 | 52 | 50 | 54 | 59 | 65 | 62 | 63 | 62 | 64 | 63 | 60 | 57 | 45 | 55 |
| Mar29 | 51 | 53 | 54 | 54 | 55 | 58 | 60 | 59 | 56 | 53 | 52 | 53 | 52 | 54 | 60 | 69 | 73 | 69 | 65 | 62 | 60 | 60 | 57 | 56 | 58 |
| Mar30 | 52 | 52 | 52 | 53 | 51 | 49 | 54 | 54 | 52 | 48 | 43 | 44 | 48 | 55 | 60 | 63 | 64 | 62 | 62 | 62 | 56 | 56 | 55 | 53 | 54 |
| Mar31 | 54 | 48 | 45 | 48 | 46 | 52 | 52 | 57 | 57 | 53 | 49 | 46 | 52 | 59 | 65 | 72 | 70 | 64 | 61 | 60 | 61 | 55 | 54 | 56 | 56 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mar01 | 55 | 54 | 52 | 53 | 56 | 56 | 56 | 56 | 48 | 38 | 27 | 31 | 44 | 37 | 54 | 43 | 46 | 55 | 57 | 63 | 58 | 38 | 41 | 36 | 48 |
| Mar02 | 42 | 43 | 38 | 41 | 43 | 45 | 45 | 48 | 48 | 43 | 30 | 37 | 45 | 42 | 54 | 52 | 52 | 55 | 52 | 66 | 55 | 46 | 51 | 51 | 47 |
| Mar03 | 51 | 48 | 48 | 48 | 49 | 50 | 50 | 54 | 42 | 35 | 34 | 43 | 46 | 51 | 54 | 54 | 52 | 54 | 55 | 55 | 56 | 55 | 55 | 54 | 50 |
| Mar04 | 54 | 55 | 51 | 47 | 48 | 46 | 51 | 48 | 43 | 37 | 38 | 46 | 49 | 55 | 56 | 57 | 56 | 53 | 58 | 54 | 52 | 58 | 58 | 47 | 51 |
| Mar05 | 49 | 49 | 49 | 51 | 52 | 52 | 50 | 50 | 51 | 45 | 38 | 38 | 46 | 47 | 58 | 55 | 54 | 53 | 57 | 55 | 63 | 56 | 50 | 45 | 51 |
| Mar06 | 49 | 49 | 54 | 47 | 49 | 51 | 51 | 51 | 46 | 39 | 32 | 32 | 41 | 48 | 47 | 57 | 53 | 56 | 58 | 65 | 56 | 47 | 55 | 49 | 49 |
| Mar07 | 49 | 50 | 50 | 48 | 49 | 51 | 53 | 54 | 47 | 38 | 42 | 46 | 48 | 51 | 50 | 53 | 52 | 54 | 58 | 52 | 55 | 57 | 55 | 56 | 51 |
| Mar08 | 55 | 54 | 51 | 51 | 52 | 52 | 51 | 50 | 46 | 41 | 44 | 48 | 47 | 51 | 54 | 53 | 53 | 55 | 54 | 54 | 59 | 53 | 58 | 50 | 52 |
| Mar09 | 52 | 47 | 48 | 50 | 51 | 52 | 55 | 54 | 48 | 32 | 34 | 42 | 49 | 50 | 56 | 54 | 51 | 53 | 56 | 59 | 62 | 58 | 55 | 55 | 51 |
| Mar10 | 56 | 55 | 55 | .. | 53 | 53 | 56 | 50 | 46 | 40 | 36 | 46 | 50 | 55 | 54 | 55 | 55 | 55 | 56 | 56 | 56 | 56 | 56 | 57 | .. |
| Mar11 | 54 | 53 | 54 | 55 | 56 | 57 | 57 | 55 | 52 | 47 | 45 | 45 | 49 | 52 | 53 | 53 | 52 | 53 | 53 | 53 | 55 | 57 | 60 | 64 | 53 |

Table 8.3 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mar12 | 54 | 51 | 51 | 51 | 52 | 53 | 56 | 55 | 51 | 49 | 47 | 47 | 50 | 47 | 52 | 52 | 53 | 55 | 56 | 56 | 56 | 56 | 57 | 56 | 53 |
| Mar13 | 56 | 55 | 56 | 56 | 57 | 59 | 61 | 60 | 57 | 50 | 48 | 49 | 54 | 56 | 56 | 55 | 54 | 54 | 55 | 55 | 56 | 56 | 56 | 56 | 55 |
| Mar14 | 56 | 56 | 54 | 55 | 54 | 56 | 60 | 62 | 57 | 49 | 47 | 48 | 50 | 53 | 52 | 53 | 54 | 55 | 54 | 54 | 56 | 57 | 57 | 58 | 54 |
| Mar15 | 58 | 57 | 56 | 57 | 57 | 59 | 61 | 61 | 58 | 53 | 50 | 50 | 47 | 47 | 48 | 51 | 53 | 55 | 55 | 55 | 56 | : | : | : | : |
| Mar16 | 53 | 52 | 54 | 54 | 54 | 56 | 58 | 57 | 53 | 49 | 47 | 51 | 52 | 50 | 49 | 52 | 54 | 55 | 56 | 56 | 55 | 57 | 55 | 55 | 53 |
| Mar17 | 55 | 55 | 56 | 55 | 55 | 57 | 61 | 61 | 57 | 53 | 49 | 47 | 48 | 50 | 50 | 53 | 54 | 54 | 56 | 56 | 56 | 56 | 54 | 54 | 54 |
| Mar18 | 54 | 55 | 56 | 56 | 55 | 57 | 60 | 62 | 60 | 56 | 51 | 50 | 50 | 51 | 54 | 56 | 55 | 55 | 56 | 54 | 55 | 56 | 57 | 56 | 55 |
| Mar19 | 56 | 55 | 56 | 56 | 55 | 57 | 58 | 57 | 52 | 44 | 39 | 41 | 44 | 49 | 52 | 54 | 52 | 52 | 53 | 54 | 55 | 56 | 55 | 56 | 53 |
| Mar20 | 56 | 56 | 56 | 56 | 57 | 58 | 59 | 59 | 56 | 49 | 44 | 42 | 45 | 48 | 53 | 54 | 54 | 54 | 55 | 55 | 56 | 57 | 57 | 58 | 54 |
| Mar21 | 57 | 59 | 60 | 61 | 62 | 63 | 62 | 56 | 48 | 43 | 41 | 40 | 43 | 47 | 46 | 48 | 42 | 53 | 56 | 61 | 57 | 56 | 57 | 56 | 53 |
| Mar22 | 51 | 50 | 54 | 55 | 54 | 55 | 58 | 61 | 56 | 50 | 41 | 42 | 50 | 57 | 54 | 61 | 56 | 52 | 53 | 60 | 57 | 69 | 55 | 46 | 54 |
| Mar23 | 45 | 47 | 51 | 50 | 48 | 52 | 54 | 53 | 47 | 49 | 49 | 47 | 50 | 52 | 55 | 56 | 54 | 53 | 57 | 58 | 58 | 59 | 59 | 58 | 53 |
| Mar24 | 58 | 56 | 57 | 55 | 56 | 58 | 60 | 58 | 54 | 51 | 50 | 48 | 47 | 50 | 52 | 57 | 58 | 57 | 58 | 57 | 57 | 57 | 57 | 57 | 55 |
| Mar25 | 57 | 57 | 57 | 57 | 57 | 58 | 58 | 57 | 53 | 50 | 48 | 46 | 47 | 51 | 54 | 57 | 55 | 55 | 58 | 58 | 58 | 58 | 58 | 59 | 55 |
| Mar26 | 58 | 56 | 56 | 57 | 60 | 59 | 59 | 54 | 55 | 51 | 46 | 46 | 48 | 55 | 57 | 57 | 54 | 56 | 57 | 58 | 60 | 62 | 62 | 61 | 56 |
| Mar27 | 62 | 60 | 60 | 61 | 60 | 59 | 55 | 43 | 48 | 39 | 20 | 36 | 42 | 43 | 47 | 58 | 52 | 60 | 61 | 66 | 68 | 48 | 56 | 59 | 53 |
| Mar28 | 50 | 44 | 49 | 43 | 49 | 45 | 45 | 43 | 44 | 38 | 41 | 47 | 48 | 51 | 48 | 53 | 54 | 55 | 63 | 54 | 59 | 60 | 59 | 57 | 50 |
| Mar29 | 51 | 52 | 48 | 50 | 54 | 54 | 53 | 53 | 44 | 38 | 42 | 47 | 48 | 50 | 46 | 51 | 66 | 58 | 61 | 58 | 60 | 59 | 62 | 62 | 53 |
| Mar30 | 56 | 55 | 51 | 51 | 55 | 55 | 55 | 48 | 43 | 40 | 39 | 40 | 42 | 46 | 56 | 54 | 61 | 58 | 65 | 58 | 67 | 52 | 55 | 54 | 52 |
| Mar31 | 52 | 54 | 50 | 46 | 50 | 49 | 46 | 53 | 48 | 37 | 38 | 36 | 42 | 49 | 57 | 64 | 61 | 57 | 63 | 60 | 59 | 65 | 56 | 54 | 52 |

Table 8.4. Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory. Please note: if data is missing within one hour/day, then means are not calculated.

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2017, Field component: X, Base: 20900.0, Unit: nT** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr01 | 96 | 97 | 92 | 91 | 93 | 92 | 78 | 73 | 69 | 72 | 76 | 68 | 80 | 76 | 81 | 70 | 80 | 86 | 79 | 81 | 90 | 96 | 91 | 98 | 84 |
| Apr02 | 99 | 95 | 91 | 90 | 93 | 99 | 98 | 96 | 104 | 101 | 98 | 101 | 99 | 99 | 91 | 87 | 89 | 92 | 94 | 95 | 100 | 100 | 98 | 97 | 96 |
| Apr03 | 97 | 99 | 99 | 99 | 102 | 103 | 103 | 103 | 103 | 102 | 101 | 96 | 93 | 95 | 94 | 93 | 95 | 97 | 99 | 100 | 102 | 102 | 103 | 105 | 99 |
| Apr04 | 100 | 100 | 109 | 120 | 128 | 121 | 88 | 83 | 87 | 69 | 71 | 57 | 69 | 80 | 82 | 82 | 82 | 84 | 91 | 92 | 94 | 95 | 102 | 102 | 91 |
| Apr05 | 101 | 101 | 99 | 101 | 105 | 105 | 104 | 105 | 102 | 99 | 105 | 102 | 98 | 97 | 94 | 91 | 94 | 106 | 115 | 116 | 110 | 108 | 122 | 102 | 103 |
| Apr06 | 101 | 102 | 101 | 102 | 102 | 103 | 102 | 100 | 95 | 95 | 104 | 104 | 99 | 91 | 82 | 77 | 83 | 94 | 97 | 95 | 98 | 101 | 100 | 102 | 97 |
| Apr07 | ... | 103 | 101 | 99 | 100 | 100 | 102 | 96 | 91 | 99 | 95 | 97 | 105 | 106 | 107 | 102 | 100 | 103 | 103 | ... | ... | 108 | 107 | 105 | ... |
| Apr08 | 100 | 100 | 104 | 106 | 100 | 101 | 90 | 71 | 78 | 72 | 80 | 92 | 99 | 102 | 102 | 94 | 94 | 101 | 108 | 109 | 112 | 138 | 109 | 127 | 100 |
| Apr09 | 104 | 100 | 104 | 102 | 108 | 94 | 98 | 79 | 73 | 74 | 67 | 76 | 81 | 86 | 86 | 78 | 83 | 94 | 94 | 100 | 102 | 108 | 105 | 104 | 92 |
| Apr10 | 106 | 106 | 104 | 104 | 105 | 103 | 97 | 92 | 92 | 101 | 104 | 105 | 109 | 113 | 117 | 114 | 111 | 110 | 113 | 113 | 114 | 110 | 110 | 108 | 107 |
| Apr11 | 109 | 111 | 111 | 113 | 114 | 116 | 111 | 98 | 85 | 82 | 78 | 85 | 105 | 107 | 105 | 103 | 101 | 103 | 94 | 103 | 95 | 100 | 109 | 113 | 102 |
| Apr12 | 109 | 102 | 106 | 103 | 102 | 99 | 96 | 91 | 85 | 88 | 94 | 100 | 104 | 105 | 105 | 105 | 103 | 102 | 103 | 104 | 104 | 109 | 103 | 104 | 101 |
| Apr13 | 106 | 104 | 103 | 103 | 103 | 100 | 100 | 97 | 92 | 91 | 92 | 98 | 106 | 109 | 106 | 104 | 103 | 97 | 104 | 113 | 110 | 108 | 107 | 111 | 103 |
| Apr14 | 114 | 117 | 117 | 118 | 110 | 98 | 104 | 94 | 89 | 91 | 90 | 95 | 92 | 86 | 83 | 81 | 72 | 72 | 94 | 96 | 83 | 85 | 87 | 91 | 94 |
| Apr15 | 94 | 96 | 105 | 98 | 98 | 100 | 100 | 96 | 96 | 95 | 95 | 94 | 99 | 101 | 102 | 101 | 98 | 98 | 107 | 104 | 104 | 104 | 104 | 111 | 100 |
| Apr16 | 108 | 106 | 104 | 105 | 107 | 108 | 106 | 98 | 93 | 89 | 89 | 96 | 102 | 106 | 108 | 106 | 103 | 105 | 113 | 112 | 111 | 106 | 109 | 110 | 104 |
| Apr17 | 109 | 108 | 107 | 108 | 110 | 113 | 111 | 102 | 94 | 92 | 93 | 101 | 106 | 109 | 108 | 104 | 105 | 107 | 108 | 109 | 111 | 111 | 111 | 112 | 106 |
| Apr18 | 115 | 114 | 110 | 111 | 115 | 117 | 113 | 109 | 105 | 103 | 105 | 108 | 106 | 111 | 116 | 114 | 117 | 115 | 117 | 124 | 126 | 130 | ... | ... | ... |
| Apr19 | 125 | 115 | 111 | 116 | 102 | 96 | 114 | 101 | 89 | 93 | 100 | 99 | 98 | 98 | 97 | 99 | 99 | 99 | 105 | 111 | 100 | 110 | 114 | 119 | 105 |
| Apr20 | 117 | 110 | 105 | 120 | 135 | 106 | 91 | 77 | 82 | 73 | 43 | 58 | 63 | 74 | 87 | 86 | 84 | 84 | 99 | 97 | 95 | 110 | 102 | 95 | 91 |
| Apr21 | 94 | 94 | 92 | 96 | 96 | 96 | 92 | 88 | 85 | 88 | 93 | 96 | 99 | 94 | 86 | 95 | 102 | 112 | 101 | 134 | 103 | 85 | 98 | 119 | 97 |
| Apr22 | 95 | 92 | 86 | 110 | 88 | 92 | 86 | 55 | 37 | 34 | 41 | 62 | 78 | 59 | 34 | 34 | 43 | 83 | 82 | 100 | 86 | 98 | 134 | 129 | 77 |
| Apr23 | 87 | 85 | 92 | 85 | 80 | 73 | 80 | 60 | 39 | 57 | 83 | 95 | 84 | 69 | 70 | 71 | 78 | 74 | 100 | 103 | 99 | 99 | 105 | 91 | 81 |
| Apr24 | 94 | 97 | 91 | 93 | 95 | 91 | 76 | 63 | 65 | 66 | 74 | 86 | 91 | 89 | 85 | 78 | 83 | 95 | 86 | 94 | 100 | 87 | 87 | 91 | 86 |
| Apr25 | 102 | 102 | 105 | 89 | 85 | 83 | 76 | 69 | 70 | 72 | 89 | 96 | 90 | 91 | 91 | 91 | 90 | 92 | 99 | 94 | 95 | 102 | 103 | 98 | 91 |
| Apr26 | 97 | 98 | 93 | 92 | 96 | 94 | 93 | 83 | 73 | 81 | 92 | 100 | 102 | 99 | 95 | 94 | 94 | 94 | 94 | 88 | 92 | 91 | 93 | 98 | 93 |
| Apr27 | 102 | 96 | 91 | 92 | 95 | 88 | 80 | 79 | 69 | 78 | 86 | 98 | 100 | 98 | 99 | 98 | 98 | 100 | 100 | 97 | 95 | 97 | 99 | 102 | 93 |
| Apr28 | 104 | 98 | 96 | 98 | 97 | 96 | 93 | 83 | 79 | 81 | 92 | 105 | 110 | 109 | 103 | 108 | 102 | 99 | 100 | 99 | 96 | 99 | 91 | 98 | 97 |
| Apr29 | 93 | 97 | 94 | 97 | 100 | 96 | 92 | 85 | 81 | 89 | 97 | 107 | 106 | 107 | 103 | 103 | 102 | 107 | 107 | 102 | 107 | 105 | 100 | 98 | 99 |
| Apr30 | 101 | 99 | 99 | 99 | 100 | 97 | 92 | 86 | 83 | 85 | 95 | 103 | 103 | 102 | 103 | 106 | 110 | 113 | 107 | 102 | 102 | 107 | 110 | 127 | 101 |
| **2017, Field component: Y, Base: 1400.0, Unit: nT** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr01 | 98 | 99 | 101 | 97 | 95 | 96 | 109 | 108 | 114 | 112 | 94 | 78 | 71 | 65 | 77 | 97 | 109 | 94 | 103 | 102 | 97 | 98 | 102 | 95 | 96 |
| Apr02 | 99 | 101 | 102 | 98 | 93 | 92 | 105 | 114 | 116 | 105 | 94 | 76 | 61 | 57 | 72 | 80 | 89 | 105 | 92 | 96 | 99 | 97 | 94 | 94 | 93 |
| Apr03 | 95 | 95 | 95 | 95 | 95 | 97 | 104 | 111 | 112 | 106 | 93 | 79 | 66 | 62 | 65 | 75 | 89 | 96 | 97 | 95 | 94 | 94 | 95 | 97 | 92 |
| Apr04 | 104 | 99 | 91 | 97 | 94 | 95 | 103 | 97 | 106 | 104 | 87 | 76 | 76 | 73 | 77 | 87 | 93 | 95 | 95 | 95 | 95 | 94 | 93 | 93 | 92 |

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Table 8.4 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apr05 | 96 | 96 | 98 | 99 | 97 | 102 | 109 | 113 | 113 | 103 | 87 | 74 | 68 | 67 | 75 | 85 | 91 | 99 | 88 | 86 | 87 | 90 | 102 | 99 | 93 |
| Apr06 | 95 | 96 | 98 | 98 | 99 | 103 | 110 | 112 | 106 | 96 | 82 | 68 | 58 | 59 | 72 | 90 | 89 | 91 | 93 | 97 | 97 | 97 | 95 | 93 | 91 |
| Apr07 | ... | 93 | 98 | 102 | 102 | 105 | 115 | 118 | 112 | 95 | 80 | 71 | 69 | 75 | 82 | 91 | 97 | 93 | 95 | ... | ... | 112 | 106 | 117 | ... |
| Apr08 | 107 | 100 | 102 | 104 | 105 | 114 | 119 | 114 | 96 | 85 | 79 | 68 | 61 | 62 | 68 | 80 | 88 | 87 | 93 | 97 | 102 | 109 | 104 | 112 | 94 |
| Apr09 | 112 | 91 | 96 | 94 | 94 | 107 | 111 | 114 | 107 | 96 | 86 | 74 | 72 | 74 | 71 | 84 | 95 | 94 | 90 | 92 | 92 | 95 | 94 | 92 | 93 |
| Apr10 | 92 | 92 | 94 | 97 | 102 | 110 | 118 | 120 | 111 | 96 | 79 | 67 | 58 | 59 | 66 | 77 | 84 | 86 | 90 | 89 | 89 | 93 | 93 | 95 | 90 |
| Apr11 | 93 | 94 | 95 | 94 | 97 | 104 | 118 | 124 | 121 | 106 | 78 | 59 | 44 | 48 | 66 | 83 | 95 | 98 | 108 | 125 | 100 | 96 | 96 | 96 | 93 |
| Apr12 | 96 | 97 | 83 | 95 | 102 | 108 | 113 | 114 | 109 | 93 | 75 | 57 | 52 | 62 | 79 | 94 | 95 | 99 | 96 | 96 | 95 | 95 | 95 | 95 | 92 |
| Apr13 | 94 | 96 | 98 | 101 | 105 | 109 | 113 | 116 | 108 | 98 | 82 | 70 | 66 | 72 | 81 | 89 | 90 | 89 | 91 | 103 | 94 | 94 | 95 | 94 | 94 |
| Apr14 | 87 | 84 | 90 | 102 | 106 | 108 | 113 | 123 | 117 | 104 | 88 | 72 | 63 | 68 | 70 | 79 | 83 | 97 | 113 | 116 | 115 | 119 | 126 | 125 | 99 |
| Apr15 | 117 | 104 | 94 | 103 | 108 | 115 | 115 | 122 | 117 | 109 | 97 | 77 | 62 | 63 | 67 | 77 | 84 | 89 | 99 | 95 | 94 | 96 | 98 | 99 | 96 |
| Apr16 | 100 | 99 | 101 | 101 | 100 | 105 | 116 | 120 | 116 | 111 | 98 | 79 | 66 | 63 | 69 | 80 | 89 | 93 | 93 | 96 | 97 | 101 | 100 | 100 | 96 |
| Apr17 | 99 | 99 | 101 | 102 | 103 | 107 | 117 | 116 | 111 | 101 | 82 | 57 | 49 | 60 | 70 | 80 | 90 | 93 | 93 | 92 | 93 | 93 | 94 | 97 | 92 |
| Apr18 | 90 | 96 | 98 | 100 | 101 | 108 | 116 | 119 | 109 | 95 | 79 | 65 | 62 | 67 | 76 | 83 | 85 | 86 | 84 | 82 | 87 | 88 | ... | ... | ... |
| Apr19 | 103 | 102 | 100 | 98 | 104 | 93 | 95 | 107 | 106 | 100 | 89 | 82 | 79 | 82 | 87 | 91 | 89 | 88 | 92 | 95 | 115 | 103 | 91 | 92 | 95 |
| Apr20 | 101 | 98 | 111 | 114 | 106 | 110 | 110 | 114 | 98 | 98 | 77 | 70 | 65 | 73 | 81 | 88 | 95 | 104 | 117 | 107 | 100 | 95 | 94 | 97 | 97 |
| Apr21 | 98 | 101 | 104 | 105 | 110 | 116 | 121 | 125 | 118 | 103 | 86 | 74 | 71 | 75 | 77 | 75 | 74 | 93 | 99 | 130 | 128 | 126 | 120 | 117 | 102 |
| Apr22 | 108 | 110 | 94 | 117 | 117 | 134 | 129 | 127 | 120 | 103 | 92 | 74 | 67 | 73 | 85 | 81 | 118 | 105 | 116 | 113 | 104 | 98 | 98 | 125 | 104 |
| Apr23 | 113 | 110 | 115 | 108 | 110 | 110 | 120 | 120 | 111 | 95 | 86 | 73 | 65 | 67 | 90 | 82 | 114 | 97 | 109 | 122 | 115 | 107 | 96 | 113 | 102 |
| Apr24 | 96 | 95 | 100 | 92 | 95 | 105 | 113 | 110 | 101 | 99 | 87 | 83 | 73 | 77 | 82 | 81 | 96 | 110 | 124 | 110 | 109 | 116 | 112 | 98 | 99 |
| Apr25 | 83 | 92 | 99 | 106 | 111 | 121 | 124 | 117 | 119 | 104 | 89 | 74 | 68 | 72 | 77 | 87 | 89 | 99 | 117 | 102 | 99 | 102 | 105 | 104 | 99 |
| Apr26 | 98 | 94 | 99 | 106 | 110 | 115 | 123 | 125 | 119 | 103 | 84 | 72 | 66 | 69 | 83 | 95 | 101 | 107 | 107 | 110 | 108 | 104 | 97 | 91 | 100 |
| Apr27 | 92 | 101 | 105 | 110 | 110 | 116 | 123 | 115 | 109 | 98 | 86 | 77 | 73 | 80 | 89 | 98 | 101 | 100 | 103 | 108 | 101 | 100 | 99 | 100 | 100 |
| Apr28 | 99 | 100 | 102 | 105 | 110 | 114 | 121 | 123 | 110 | 96 | 79 | 66 | 62 | 71 | 88 | 98 | 99 | 104 | 99 | 99 | 100 | 106 | 105 | 109 | 99 |
| Apr29 | 108 | 106 | 108 | 107 | 113 | 119 | 123 | 122 | 110 | 99 | 87 | 70 | 68 | 76 | 86 | 93 | 97 | 97 | 98 | 100 | 102 | 119 | 116 | 112 | 101 |
| Apr30 | 108 | 108 | 104 | 112 | 112 | 117 | 120 | 117 | 108 | 95 | 79 | 71 | 63 | 66 | 75 | 83 | 89 | 92 | 94 | 97 | 96 | 96 | 99 | 97 | 95 |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apr01 | 55 | 54 | 55 | 56 | 57 | 60 | 62 | 63 | 60 | 55 | 52 | 46 | 46 | 56 | 63 | 71 | 74 | 66 | 66 | 66 | 65 | 60 | 61 | 60 | 60 |
| Apr02 | 57 | 57 | 58 | 59 | 58 | 60 | 60 | 58 | 53 | 46 | 45 | 45 | 46 | 49 | 54 | 59 | 60 | 61 | 62 | 61 | 60 | 59 | 59 | 58 | 56 |
| Apr03 | 58 | 58 | 58 | 58 | 57 | 59 | 59 | 56 | 56 | 50 | 42 | 38 | 40 | 45 | 50 | 54 | 56 | 58 | 59 | 59 | 58 | 58 | 58 | 57 | 54 |
| Apr04 | 57 | 57 | 56 | 52 | 50 | 53 | 58 | 61 | 56 | 54 | 52 | 48 | 46 | 51 | 56 | 59 | 60 | 61 | 61 | 61 | 61 | 60 | 60 | 60 | 56 |
| Apr05 | 59 | 59 | 58 | 58 | 58 | 62 | 64 | 62 | 58 | 52 | 45 | 43 | 45 | 48 | 51 | 56 | 59 | 58 | 57 | 56 | 57 | 57 | 56 | 56 | 56 |
| Apr06 | 57 | 57 | 57 | 57 | 57 | 59 | 61 | 59 | 56 | 47 | 36 | 35 | 37 | 43 | 51 | 64 | 63 | 60 | 60 | 60 | 60 | 59 | 59 | 59 | 55 |
| Apr07 | 57 | 55 | 55 | 57 | 59 | 61 | 62 | 61 | 58 | 52 | 43 | 43 | 47 | 54 | 58 | 57 | 56 | 55 | 56 | 57 | 56 | 56 | 57 | 56 | 55 |
| Apr08 | 57 | 58 | 55 | 55 | 57 | 58 | 60 | 57 | 55 | 49 | 41 | 42 | 46 | 49 | 52 | 55 | 60 | 59 | 59 | 58 | 58 | 56 | 53 | 47 | 54 |
| Apr09 | 48 | 49 | 49 | 49 | 49 | 53 | 55 | 55 | 53 | 47 | 48 | 49 | 55 | 59 | 60 | 61 | 63 | 62 | 60 | 60 | 60 | 58 | 58 | 58 | 55 |

Table 8.4 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apr10 | 58 | 57 | 58 | 58 | 60 | 60 | 59 | 54 | 48 | 44 | 42 | 42 | 42 | 46 | 52 | 55 | 55 | 54 | 55 | 56 | 56 | 56 | 56 | 57 | 53 |
| Apr11 | 57 | 56 | 56 | 56 | 57 | 58 | 58 | 55 | 53 | 48 | 40 | 33 | 36 | 44 | 50 | 57 | 58 | 58 | 61 | 61 | 62 | 60 | 58 | 56 | 54 |
| Apr12 | 54 | 55 | 55 | 54 | 56 | 58 | 59 | 56 | 53 | 50 | 45 | 45 | 47 | 54 | 59 | 60 | 59 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 55 |
| Apr13 | 57 | 57 | 57 | 58 | 58 | 60 | 59 | 56 | 51 | 45 | 41 | 36 | 39 | 46 | 51 | 55 | 57 | 58 | 58 | 58 | 57 | 57 | 57 | 56 | 53 |
| Apr14 | 57 | 52 | 49 | 49 | 52 | 56 | 53 | 51 | 50 | 48 | 45 | 42 | 43 | 47 | 53 | 59 | 65 | 67 | 66 | 63 | 65 | 64 | 62 | 61 | 55 |
| Apr15 | 59 | 59 | 57 | 57 | 58 | 60 | 59 | 55 | 51 | 47 | 40 | 37 | 39 | 45 | 53 | 57 | 60 | 60 | 59 | 59 | 59 | 59 | 59 | 58 | 54 |
| Apr16 | 57 | 57 | 57 | 57 | 57 | 58 | 57 | 56 | 51 | 48 | 42 | 37 | 36 | 40 | 46 | 52 | 55 | 56 | 56 | 57 | 57 | 58 | 58 | 57 | 53 |
| Apr17 | 57 | 57 | 57 | 56 | 57 | 58 | 58 | 57 | 53 | 46 | 37 | 37 | 47 | 54 | 58 | 58 | 59 | 58 | 57 | 58 | 55 | 57 | 55 | 56 | 54 |
| Apr18 | 56 | 54 | 55 | 56 | 56 | 58 | 59 | 56 | 52 | 49 | 44 | 42 | 45 | 49 | 52 | 54 | 55 | 54 | 54 | 55 | 55 | 57 | 55 | 55 | 53 |
| Apr19 | 53 | 54 | 55 | 54 | 56 | 60 | 57 | 59 | 56 | 49 | 44 | 45 | 48 | 51 | 58 | 61 | 60 | 59 | 59 | 59 | 60 | 60 | 58 | 57 | 56 |
| Apr20 | 56 | 51 | 46 | 46 | 39 | 43 | 51 | 53 | 51 | 52 | 52 | 50 | 54 | 61 | 64 | 65 | 65 | 65 | 65 | 63 | 62 | 59 | 57 | 58 | 55 |
| Apr21 | 60 | 60 | 60 | 60 | 60 | 59 | 59 | 57 | 53 | 49 | 47 | 47 | 48 | 52 | 56 | 58 | 62 | 65 | 66 | 63 | 60 | 65 | 58 | 55 | 57 |
| Apr22 | 56 | 59 | 59 | 48 | 50 | 52 | 53 | 50 | 53 | 51 | 54 | 51 | 52 | 61 | 79 | 85 | 87 | 83 | 76 | 70 | 69 | 67 | 56 | 48 | 61 |
| Apr23 | 52 | 58 | 59 | 61 | 61 | 61 | 61 | 59 | 55 | 55 | 49 | 47 | 49 | 59 | 71 | 81 | 84 | 81 | 73 | 67 | 68 | 66 | 60 | 59 | 62 |
| Apr24 | 61 | 56 | 58 | 56 | 52 | 54 | 56 | 56 | 56 | 54 | 53 | 51 | 51 | 52 | 60 | 68 | 73 | 76 | 75 | 71 | 66 | 64 | 63 | 66 | 60 |
| Apr25 | 62 | 58 | 57 | 58 | 61 | 63 | 63 | 62 | 55 | 51 | 48 | 45 | 49 | 53 | 58 | 63 | 64 | 66 | 67 | 67 | 65 | 66 | 65 | 62 | 59 |
| Apr26 | 62 | 61 | 61 | 63 | 64 | 64 | 64 | 62 | 59 | 55 | 47 | 43 | 47 | 53 | 59 | 61 | 66 | 69 | 68 | 68 | 67 | 64 | 63 | 64 | 61 |
| Apr27 | 62 | 62 | 62 | 64 | 64 | 66 | 63 | 58 | 52 | 49 | 47 | 46 | 49 | 56 | 60 | 62 | 63 | 63 | 64 | 65 | 65 | 66 | 66 | 63 | 59 |
| Apr28 | 62 | 62 | 62 | 64 | 65 | 66 | 64 | 58 | 58 | 47 | 40 | 37 | 43 | 50 | 57 | 64 | 66 | 66 | 65 | 65 | 65 | 65 | 66 | 62 | 59 |
| Apr29 | 63 | 63 | 64 | 65 | 66 | 67 | 65 | 63 | 60 | 51 | 40 | 38 | 45 | 52 | 59 | 61 | 61 | 62 | 63 | 65 | 64 | 62 | 62 | 62 | 59 |
| Apr30 | 61 | 61 | 62 | 63 | 65 | 64 | 62 | 58 | 56 | 50 | 45 | 37 | 39 | 48 | 54 | 57 | 60 | 61 | 62 | 64 | 64 | 63 | 62 | 58 | 57 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apr01 | 55 | 55 | 53 | 54 | 55 | 57 | 54 | 53 | 48 | 45 | 44 | 34 | 39 | 47 | 55 | 58 | 66 | 60 | 57 | 58 | 61 | 60 | 58 | 60 | 54 |
| Apr02 | 58 | 56 | 55 | 55 | 56 | 61 | 60 | 58 | 57 | 49 | 46 | 48 | 47 | 50 | 51 | 54 | 56 | 59 | 60 | 59 | 61 | 60 | 59 | 58 | 56 |
| Apr03 | 58 | 59 | 59 | 59 | 59 | 61 | 61 | 61 | 59 | 53 | 45 | 39 | 40 | 44 | 49 | 52 | 55 | 58 | 60 | 60 | 60 | 60 | 60 | 60 | 55 |
| Apr04 | 58 | 59 | 61 | 59 | 64 | 64 | 54 | 54 | 52 | 43 | 41 | 31 | 35 | 44 | 49 | 52 | 54 | 55 | 58 | 58 | 59 | 59 | 61 | 61 | 54 |
| Apr05 | 60 | 60 | 59 | 60 | 62 | 65 | 67 | 66 | 60 | 53 | 50 | 46 | 45 | 48 | 49 | 53 | 58 | 62 | 64 | 64 | 62 | 62 | 67 | 58 | 58 |
| Apr06 | 59 | 60 | 59 | 59 | 60 | 62 | 63 | 61 | 56 | 48 | 41 | 40 | 39 | 41 | 44 | 54 | 56 | 59 | 60 | 59 | 60 | 61 | 60 | 61 | 55 |
| Apr07 | 62 | 58 | 57 | 58 | 60 | 63 | 64 | 61 | 56 | .. | 43 | 44 | 51 | 57 | 62 | 59 | 57 | 58 | 59 | 63 | 65 | 71 | 61 | 60 | .. |
| Apr08 | 59 | 59 | 62 | 60 | 58 | 60 | 57 | 46 | 47 | 38 | 35 | 41 | 47 | 51 | 54 | 54 | 58 | 60 | 63 | 63 | 64 | 63 | 58 | 61 | 55 |
| Apr09 | 53 | 51 | 53 | 52 | 54 | 52 | 56 | 48 | 43 | 38 | 35 | 40 | 47 | 53 | 55 | 52 | 56 | 60 | 59 | 61 | 61 | 62 | 61 | 61 | 53 |
| Apr10 | 62 | 61 | 61 | 61 | 63 | 63 | 60 | 53 | 47 | 47 | 47 | 46 | 48 | 53 | 60 | 61 | 61 | 60 | 62 | 63 | 63 | 61 | 62 | 61 | 58 |
| Apr11 | 62 | 62 | 62 | 63 | 64 | 67 | 65 | 57 | 49 | 43 | 33 | 29 | 40 | 48 | 53 | 59 | 60 | 61 | 60 | 64 | 60 | 60 | 60 | 63 | 56 |
| Apr12 | 60 | 58 | 58 | 57 | 58 | 59 | 59 | 54 | 49 | 46 | 45 | 46 | 50 | 57 | 62 | 63 | 61 | 59 | 60 | 60 | 63 | 61 | 60 | 60 | 57 |
| Apr13 | 61 | 60 | 60 | 60 | 61 | 61 | 61 | 57 | 50 | 44 | 40 | 38 | 44 | 51 | 55 | 58 | 59 | 58 | 61 | 65 | 63 | 62 | 61 | 63 | 56 |
| Apr14 | 64 | 61 | 59 | 59 | 58 | 57 | 58 | 51 | 47 | 47 | 43 | 42 | 42 | 42 | 47 | 52 | 53 | 56 | 65 | 62 | 58 | 59 | 58 | 59 | 54 |

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Table 8.4 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apr15 | 59 | 59 | 60 | 57 | 59 | 61 | 61 | 56 | 52 | 48 | 40 | 37 | 41 | 47 | 54 | 58 | 60 | 60 | 63 | 62 | 62 | 62 | 62 | 64 | 56 |
| Apr16 | 62 | 61 | 60 | 61 | 61 | 63 | 61 | 57 | 51 | 46 | 40 | 38 | 39 | 44 | 51 | 56 | 58 | 60 | 63 | 63 | 63 | 62 | 63 | 63 | 56 |
| Apr17 | 62 | 61 | 61 | 61 | 62 | 65 | 65 | 59 | 53 | 45 | 36 | 40 | 50 | 58 | 61 | 61 | 62 | 62 | 62 | 63 | 63 | 63 | 63 | 63 | 58 |
| Apr18 | 63 | 61 | 61 | 62 | 65 | 67 | 66 | 62 | 57 | 52 | 49 | 47 | 50 | 55 | 60 | 61 | 63 | 62 | 63 | 66 | 68 | 70 | 70 | 68 | 61 |
| Apr19 | 66 | 62 | 61 | 62 | 58 | 59 | 64 | 61 | 53 | 48 | 46 | 46 | 48 | 52 | 58 | 61 | 60 | 60 | 63 | 65 | 62 | 66 | 65 | 67 | 59 |
| Apr20 | 65 | 57 | 51 | 57 | 57 | 49 | 49 | 45 | 45 | 42 | 29 | 33 | 39 | 50 | 58 | 59 | 59 | 59 | 65 | 62 | 60 | 64 | 60 | 57 | 53 |
| Apr21 | 58 | 58 | 58 | 60 | 59 | 59 | 57 | 54 | 49 | 46 | 47 | 47 | 49 | 50 | 51 | 57 | 63 | 68 | 67 | 79 | 64 | 60 | 60 | 65 | 58 |
| Apr22 | 56 | 56 | 54 | 55 | 48 | 51 | 49 | 33 | 25 | 25 | 30 | 36 | 43 | 44 | 50 | 55 | 61 | 75 | 68 | 70 | 64 | 66 | 72 | 64 | 52 |
| Apr23 | 49 | 53 | 58 | 56 | 54 | 51 | 54 | 43 | 30 | 38 | 43 | 46 | 43 | 46 | 58 | 67 | 74 | 69 | 73 | 69 | 60 | 66 | 63 | 56 | 55 |
| Apr24 | 59 | 56 | 55 | 54 | 52 | 52 | 47 | 42 | 42 | 41 | 44 | 46 | 48 | 48 | 54 | 58 | 65 | 74 | 69 | 69 | 67 | 61 | 61 | 62 | 55 |
| Apr25 | 63 | 60 | 60 | 55 | 55 | 57 | 54 | 51 | 44 | 41 | 45 | 45 | 46 | 51 | 55 | 59 | 60 | 63 | 68 | 65 | 64 | 66 | 65 | 62 | 56 |
| Apr26 | 62 | 61 | 59 | 61 | 63 | 63 | 62 | 56 | 49 | 48 | 46 | 45 | 50 | 54 | 58 | 59 | 64 | 67 | 66 | 63 | 64 | 63 | 63 | 64 | 59 |
| Apr27 | 63 | 60 | 60 | 62 | 63 | 59 | 55 | 49 | 41 | 42 | 43 | ... | 50 | 56 | 60 | 62 | 63 | 64 | 65 | 65 | 63 | 63 | 63 | 65 | ... |
| Apr28 | 65 | 62 | 61 | 63 | 65 | 66 | 62 | 53 | 45 | 41 | 39 | 41 | 49 | 55 | 60 | 68 | 68 | 66 | 66 | 65 | 64 | 65 | 63 | 63 | 59 |
| Apr29 | 61 | 63 | 62 | 65 | 67 | 66 | 63 | 58 | 54 | 48 | 41 | 43 | 49 | 56 | 61 | 63 | 63 | 66 | 67 | 66 | 68 | 66 | 63 | 62 | 60 |
| Apr30 | 63 | 62 | 62 | 64 | 66 | 64 | 60 | 54 | 50 | 45 | 44 | 41 | 43 | 50 | 56 | 61 | 65 | 67 | 66 | 65 | 65 | 67 | 67 | 71 | 59 |

Table 8.5.  Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory.  Please note: if data is missing within one hour/day, then means are not calculated.

2017, Field component: X, Base: 20800.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May01 | 219 | 207 | 208 | 207 | 208 | 210 | 210 | 206 | 206 | 207 | 213 | 216 | 216 | 215 | 213 | 213 | 209 | 207 | 211 | 213 | 211 | 208 | 205 | 208 | 210 |
| May02 | 209 | ... | 210 | 212 | 210 | 216 | 217 | 212 | 212 | 217 | 216 | 222 | 220 | 217 | 213 | 212 | 211 | 215 | 212 | 216 | 214 | 210 | 208 | 212 | ... |
| May03 | 208 | 208 | 208 | 208 | 211 | 216 | 217 | 212 | 212 | 215 | 232 | 225 | 220 | 216 | 212 | 210 | 208 | 215 | 212 | 214 | 214 | 213 | 208 | 213 | 214 |
| May04 | 214 | 213 | 212 | 212 | 214 | 218 | 221 | 219 | 217 | 220 | 220 | 226 | 222 | 217 | 215 | 212 | 213 | 212 | 216 | 228 | 225 | 218 | 225 | 225 | 218 |
| May05 | 219 | 213 | 210 | 214 | 214 | 211 | 210 | 208 | 206 | 207 | 215 | 224 | 227 | 222 | 213 | 212 | 210 | 209 | 210 | 212 | 213 | 213 | 213 | 213 | 213 |
| May06 | 213 | ... | 216 | 213 | 214 | 208 | 205 | 196 | 196 | 199 | 203 | 206 | 208 | 207 | 205 | 207 | 209 | 201 | 205 | 208 | 208 | 207 | 208 | 221 | ... |
| May07 | 218 | 215 | 214 | 205 | 208 | 205 | 201 | 196 | 196 | 199 | 217 | 216 | 214 | 209 | 221 | 214 | 210 | 201 | 206 | 212 | 208 | 208 | 208 | 208 | 208 |
| May08 | 207 | 208 | 205 | 205 | 201 | 197 | 196 | 195 | 195 | 199 | 213 | 225 | 226 | 224 | 221 | 214 | 210 | 207 | 206 | 212 | 211 | 206 | 208 | 211 | 209 |
| May09 | 217 | 206 | 208 | 207 | 207 | 207 | 207 | 206 | 208 | 208 | 219 | 223 | 228 | 224 | 228 | 214 | 223 | 211 | 214 | 215 | 214 | 216 | 216 | 212 | 215 |
| May10 | 212 | 210 | 208 | 209 | 208 | 208 | 205 | 205 | 209 | 212 | 216 | 226 | 229 | 230 | ... | 215 | 215 | 218 | 219 | 221 | 219 | 220 | 224 | 223 | ... |
| May11 | 220 | 219 | 217 | 219 | ... | ... | 208 | 205 | 208 | 216 | 221 | 217 | 214 | 216 | 213 | 215 | 219 | 224 | 226 | 228 | 225 | 225 | 227 | 228 | ... |
| May12 | 226 | 220 | 214 | 210 | 209 | 204 | ... | 201 | 204 | 209 | 215 | 215 | 213 | 213 | 216 | 215 | 215 | 213 | 209 | 214 | 214 | 218 | 223 | 214 | ... |
| May13 | 211 | 210 | 211 | 211 | 207 | 207 | 203 | 198 | 193 | 198 | 204 | 209 | 211 | 213 | 213 | 216 | 217 | 218 | 215 | 216 | 219 | 223 | 221 | 221 | 212 |
| May14 | 221 | 219 | 219 | 220 | 225 | 221 | 218 | 210 | 210 | 212 | 226 | 227 | 230 | 216 | 213 | 215 | 210 | 217 | 214 | 220 | 230 | 227 | 225 | 221 | 219 |
| May15 | 219 | 220 | 220 | 223 | 226 | 229 | 223 | 222 | 218 | 203 | 202 | 206 | 212 | 222 | 216 | 221 | 220 | 223 | 220 | 223 | 232 | 226 | 225 | 221 | 219 |
| May16 | 216 | 218 | 218 | 208 | 208 | 207 | 199 | 191 | 193 | 195 | 201 | 204 | 207 | 194 | 188 | 205 | 210 | 212 | 213 | 215 | 214 | 214 | 214 | 214 | 207 |
| May17 | 212 | 212 | 211 | 215 | 215 | 212 | 201 | 188 | 178 | 181 | 195 | 203 | 206 | 208 | 205 | 204 | 205 | 201 | 207 | 213 | 214 | 221 | 208 | 230 | 206 |
| May18 | 219 | 214 | 218 | 214 | 198 | 203 | 197 | 185 | 189 | 190 | 199 | 209 | 206 | 205 | 206 | 214 | 213 | 213 | 214 | 217 | 215 | 200 | 199 | 213 | 208 |
| May19 | 210 | 211 | 217 | 228 | 228 | 225 | 221 | 208 | 189 | 196 | 202 | 212 | 217 | 211 | 205 | 200 | 210 | 193 | 194 | 204 | 199 | 200 | 199 | 204 | 208 |
| May20 | 218 | 222 | 210 | 203 | 201 | 201 | 193 | 187 | 187 | 193 | 185 | 198 | 193 | 171 | 164 | 197 | 193 | 180 | 188 | 206 | 195 | 198 | 199 | 211 | 196 |
| May21 | 206 | 201 | 194 | 193 | 196 | 184 | 171 | 172 | 171 | 183 | 189 | 189 | 193 | 191 | 187 | 188 | 195 | 199 | 188 | 204 | 206 | 196 | 204 | 199 | 192 |
| May22 | 200 | 202 | 198 | 193 | 196 | 196 | 188 | 188 | 188 | 195 | 207 | 214 | 207 | 197 | 196 | 197 | 191 | 197 | 204 | 203 | 216 | 204 | 207 | 205 | 200 |
| May23 | 200 | 198 | 199 | 196 | 199 | 184 | 184 | 187 | 188 | 194 | 208 | 211 | 208 | 202 | 194 | 192 | 202 | 201 | 204 | 213 | 205 | 207 | 201 | 197 | 200 |
| May24 | 199 | 198 | 197 | 200 | 197 | 189 | 185 | 186 | 189 | 198 | 201 | 207 | 208 | 201 | 195 | 195 | 197 | 199 | 201 | 205 | 204 | 210 | 201 | 200 | 198 |
| May25 | 200 | 202 | 202 | 204 | 202 | 194 | 189 | 192 | 195 | 208 | 207 | 219 | 218 | 214 | 212 | 209 | 206 | 203 | 207 | 208 | 209 | 211 | 210 | 206 | 205 |
| May26 | 207 | 205 | 205 | 207 | 207 | 200 | 190 | 191 | 184 | 191 | 213 | 212 | 216 | 216 | 212 | 207 | 204 | 207 | 209 | 210 | 211 | 209 | 208 | 206 | 206 |
| May27 | 206 | 206 | 211 | 211 | 209 | 209 | 201 | 195 | 193 | 197 | 210 | 220 | 222 | 215 | 210 | 218 | 232 | 223 | 235 | 242 | 252 | 253 | 244 | 212 | 218 |
| May28 | 208 | 210 | 166 | 166 | 200 | 177 | 138 | 111 | 93 | 89 | 110 | 130 | 142 | 141 | 154 | 160 | 166 | 170 | 178 | 185 | 186 | 189 | 192 | 193 | 162 |
| May29 | 193 | 196 | 199 | 202 | 198 | 202 | 195 | 189 | 187 | 190 | 191 | 202 | 206 | 190 | 186 | 166 | 177 | 191 | 180 | 185 | 192 | 190 | 192 | 191 | 191 |
| May30 | 195 | 206 | 206 | 201 | 206 | 203 | 202 | 202 | 201 | 194 | 193 | 195 | 196 | 199 | 201 | 200 | 198 | 201 | 200 | 199 | 195 | 197 | 194 | 194 | 199 |
| May31 | 195 | 198 | 204 | 204 | 206 | 203 | 197 | 193 | 191 | 191 | 197 | 204 | 211 | 216 | 204 | 205 | 203 | 206 | 204 | 209 | 210 | 212 | 212 | 212 | 203 |

2017, Field component: Y, Base: 1400.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May01 | 101 | 103 | 103 | 110 | 110 | 112 | 110 | 118 | 118 | 111 | 102 | 89 | 78 | 73 | 74 | 78 | 82 | 88 | 91 | 92 | 93 | 94 | 106 | 98 | 97 |
| May02 | 98 | ... | 102 | 104 | 109 | 112 | 117 | 112 | 103 | 93 | 85 | 77 | 69 | 66 | 72 | 80 | 88 | 91 | 90 | 91 | 91 | 93 | 97 | 97 | ... |
| May03 | 101 | 102 | 104 | 107 | 110 | 112 | 110 | 104 | 96 | 88 | 82 | 77 | 74 | 78 | 86 | 90 | 90 | 92 | 89 | 90 | 91 | 93 | 94 | 97 | 94 |

Table 8.5 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May04 | 98 | 100 | 103 | 104 | 104 | 106 | 111 | 110 | 101 | 88 | 77 | 69 | 67 | 75 | 85 | 93 | 98 | 97 | 95 | 91 | 89 | 93 | 95 | 106 | 94 |
| May05 | 105 | 106 | 105 | 110 | 121 | 122 | 118 | 118 | 105 | 92 | 81 | 75 | 75 | 78 | 85 | 89 | 94 | 96 | 97 | 98 | 97 | 97 | 96 | 96 | 98 |
| May06 | 97 | .. | 101 | 104 | 112 | 118 | 120 | 117 | 110 | 103 | 90 | 74 | 64 | 67 | 77 | 84 | 89 | 94 | 93 | 94 | 97 | 97 | 98 | 98 | .. |
| May07 | 98 | 99 | 100 | 98 | 111 | 119 | 121 | 117 | 103 | 88 | 76 | 73 | 74 | 75 | 78 | 83 | 87 | 95 | 101 | 103 | 98 | 100 | 101 | 109 | 97 |
| May08 | 106 | 103 | 101 | 107 | 115 | 123 | 126 | 126 | 109 | 91 | 74 | 61 | 64 | 71 | 81 | 92 | 98 | 101 | 91 | 95 | 99 | 98 | 99 | 101 | 98 |
| May09 | 102 | 99 | 102 | 109 | 120 | 123 | 121 | 115 | 103 | 83 | 66 | 61 | 57 | 64 | 69 | 75 | 84 | 91 | 95 | 93 | 94 | 98 | 95 | 98 | 93 |
| May10 | 98 | 101 | 105 | 110 | 116 | 121 | 121 | 115 | 103 | 86 | 72 | 63 | 66 | 72 | 73 | .. | 87 | 95 | 96 | 93 | 92 | 95 | 96 | 102 | .. |
| May11 | 100 | 101 | 105 | 105 | .. | 122 | 117 | 113 | 103 | 90 | 83 | 75 | 69 | 66 | 73 | 78 | 87 | 88 | 91 | 89 | 88 | 91 | 93 | 99 | 97 |
| May12 | 101 | 103 | 104 | 111 | 117 | 122 | 122 | 121 | 115 | 106 | 83 | 75 | 73 | 73 | 78 | 76 | 92 | 95 | 98 | 93 | 97 | 98 | 99 | 101 | 95 |
| May13 | 103 | 104 | 106 | 108 | 111 | 115 | 119 | 118 | 118 | 109 | 98 | 84 | 72 | 66 | 73 | 69 | 76 | 82 | 85 | 90 | 93 | 93 | 96 | 98 | 94 |
| May14 | 100 | 101 | 100 | 105 | 116 | 123 | 128 | 129 | 120 | 101 | 98 | 76 | 72 | 65 | 60 | 73 | 73 | 82 | 87 | 90 | 91 | 93 | 95 | 98 | 95 |
| May15 | 99 | 100 | 102 | 107 | 112 | 120 | 122 | 122 | 114 | 98 | 85 | 71 | 70 | 69 | 69 | 73 | 80 | 83 | 88 | 92 | 97 | 99 | 106 | 99 | 97 |
| May16 | 102 | 98 | 92 | 100 | 116 | 125 | 127 | 122 | 109 | 90 | 76 | 65 | 59 | 60 | 73 | 80 | 87 | 93 | 99 | 92 | 97 | 97 | 100 | 101 | 95 |
| May17 | 103 | 104 | 101 | 110 | 116 | 125 | 128 | 117 | 105 | 97 | 83 | 71 | 63 | 69 | 69 | 77 | 84 | 93 | 99 | 99 | 106 | 100 | 100 | 99 | 98 |
| May18 | 105 | 83 | 98 | 96 | 102 | 104 | 109 | 110 | 108 | 96 | 82 | 70 | 66 | 69 | 69 | 82 | 89 | 95 | 98 | 98 | 100 | 98 | 100 | 101 | 94 |
| May19 | 103 | 100 | 98 | 105 | 118 | 127 | 123 | 119 | 107 | 91 | 78 | 82 | 72 | 65 | 66 | 71 | 81 | 95 | 98 | 100 | 108 | 116 | 107 | 103 | 101 |
| May20 | 102 | 105 | 116 | 113 | 119 | 126 | 119 | 105 | 98 | 81 | 79 | 83 | 79 | 80 | 71 | 85 | 98 | 103 | 107 | 108 | 103 | 98 | 101 | .. | 101 |
| May21 | 102 | 107 | 109 | 112 | 113 | 134 | 131 | 118 | 111 | 91 | 79 | 78 | 80 | 72 | 74 | 84 | 88 | 103 | 102 | 107 | 111 | 105 | 108 | 101 | 104 |
| May22 | 109 | 106 | 112 | 121 | 113 | 121 | 121 | 121 | 109 | 98 | 87 | 83 | 72 | 74 | 84 | 92 | 91 | 98 | 104 | 106 | 108 | 111 | 109 | 105 | 102 |
| May23 | 104 | 110 | 105 | 113 | 122 | 126 | 122 | 114 | 112 | 101 | 82 | 69 | 70 | 75 | 82 | 89 | 103 | 100 | 103 | 121 | 106 | 111 | 110 | 106 | 101 |
| May24 | 107 | 103 | 107 | 112 | 118 | 123 | 118 | 118 | 104 | 91 | 89 | 78 | 74 | 73 | 85 | 93 | 95 | 101 | 103 | 104 | 106 | 104 | 101 | 101 | 102 |
| May25 | 102 | 105 | 105 | 110 | 122 | 132 | 131 | 122 | 106 | 85 | 72 | 66 | 65 | 75 | 84 | 95 | 100 | 103 | 99 | 99 | 99 | 100 | 101 | 102 | 98 |
| May26 | 102 | 104 | 105 | 112 | 122 | 132 | 125 | 124 | 113 | 95 | 79 | 64 | 64 | 73 | 79 | 86 | 101 | 86 | 103 | 101 | 101 | 101 | 102 | 102 | 99 |
| May27 | 104 | 104 | 106 | 110 | 119 | 126 | 125 | 125 | 124 | 115 | 79 | 67 | 65 | 71 | 79 | 90 | 82 | 101 | 99 | 82 | 83 | 89 | 114 | 154 | 98 |
| May28 | 136 | 153 | 119 | 78 | 102 | 86 | 103 | 125 | 135 | 102 | 84 | 61 | 63 | 71 | 79 | 83 | 99 | 111 | 119 | 101 | 105 | 108 | 109 | 111 | 101 |
| May29 | 111 | 110 | 110 | 113 | 122 | 128 | 129 | 125 | 117 | 102 | 87 | 73 | 72 | 79 | 80 | 96 | 106 | 107 | 108 | 109 | 102 | 102 | 104 | 104 | 104 |
| May30 | 103 | 103 | 105 | 103 | 111 | 127 | 127 | 126 | 116 | 101 | 87 | 77 | 77 | 80 | 87 | 96 | 104 | 107 | 108 | 108 | 105 | 108 | 106 | 105 | 103 |
| May31 | 105 | 105 | 105 | 107 | 116 | 125 | 123 | 118 | 114 | 106 | 96 | 86 | 81 | 81 | 90 | 99 | 105 | 107 | 102 | 103 | 101 | 99 | 98 | 100 | 103 |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May01 | 56 | 58 | 60 | 61 | 62 | 59 | 56 | 53 | 50 | 46 | 39 | 34 | 37 | 43 | 49 | 52 | 55 | 58 | 59 | 59 | 60 | 60 | 61 | 60 | 54 |
| May02 | 60 | 60 | 60 | 60 | 61 | 60 | 59 | 57 | 55 | 50 | 38 | 34 | 37 | 44 | 50 | 55 | 57 | 57 | 58 | 58 | 59 | 59 | 59 | 59 | 54 |
| May03 | 58 | 59 | 59 | 59 | 59 | 56 | 54 | 52 | 50 | 45 | 35 | 32 | 39 | 45 | 52 | 55 | 54 | 56 | 58 | 58 | 58 | 59 | 58 | 58 | 53 |
| May04 | 58 | 58 | 58 | 59 | 58 | 55 | 55 | 52 | 47 | 43 | 42 | 44 | 47 | 53 | 55 | 58 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 56 | 54 |
| May05 | 57 | 56 | 58 | 59 | 61 | 58 | 58 | 56 | 54 | 48 | 46 | 44 | 42 | 47 | 51 | 53 | 54 | 55 | 56 | 57 | 58 | 57 | 57 | 57 | 54 |
| May06 | 56 | 57 | 57 | 58 | 60 | 55 | 55 | 55 | 49 | 45 | 43 | 41 | 42 | 47 | 51 | 54 | 52 | 54 | 55 | 56 | 56 | 57 | 57 | 57 | 53 |
| May07 | 57 | 57 | 57 | 57 | 58 | 57 | 56 | 53 | 51 | 49 | 52 | 51 | 52 | 54 | 58 | 63 | 63 | 65 | 66 | 63 | 62 | 62 | 61 | 60 | 58 |

Table 8.5 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May0860 | 60 | 60 | 60 | 61 | 62 | 58 | 55 | 51 | 46 | 40 | 41 | 41 | 43 | 48 | 52 | 55 | 58 | 59 | 60 | 60 | 60 | 60 | 60 | 59 | 55 |
| May0957 | 57 | 57 | 58 | 60 | 62 | 61 | 58 | 54 | 49 | 48 | 39 | 33 | 39 | 46 | 51 | 51 | 52 | 52 | 55 | 57 | 58 | 58 | 58 | 57 | 53 |
| May1058 | 58 | 58 | 59 | 60 | 61 | 59 | 57 | 55 | 49 | 46 | 45 | 45 | 49 | 54 | 55 | 58 | 59 | 56 | 55 | 56 | 56 | 57 | 57 | 56 | 55 |
| May1156 | 57 | 57 | 57 | 58 | 59 | 57 | 53 | 50 | 44 | 32 | 32 | 38 | 41 | 45 | 49 | 54 | 56 | 55 | 55 | 55 | 55 | 55 | 56 | 56 | 51 |
| May1256 | 56 | 56 | 57 | 59 | 60 | 56 | 55 | 49 | 48 | 44 | 41 | 39 | 41 | 46 | 48 | 50 | 55 | 57 | 58 | 58 | 58 | 58 | 56 | 56 | 53 |
| May1357 | 57 | 57 | 57 | 60 | 61 | 59 | 55 | 52 | 48 | 43 | 39 | 38 | 40 | 46 | 54 | 57 | 57 | 58 | 57 | 57 | 57 | 57 | 57 | 57 | 53 |
| May1456 | 57 | 57 | 57 | 59 | 60 | 57 | 54 | 49 | 42 | 34 | 26 | 30 | 42 | 46 | 50 | 57 | 56 | 58 | 57 | 57 | 56 | 56 | 56 | 56 | 51 |
| May1556 | 56 | 56 | 56 | 57 | 56 | 54 | 53 | 51 | 51 | 49 | 47 | 45 | 44 | 47 | 49 | 55 | 58 | 58 | 58 | 60 | 59 | 59 | 57 | 58 | 54 |
| May1657 | 58 | 58 | 59 | 58 | 60 | 58 | 57 | 57 | 53 | 41 | 34 | 33 | 38 | 43 | 50 | 54 | 57 | 59 | 60 | 59 | 61 | 60 | 58 | 58 | 53 |
| May1758 | 58 | 58 | 58 | 59 | 60 | 57 | 57 | 56 | 52 | 51 | 47 | 43 | 43 | 48 | 54 | 58 | 61 | 62 | 62 | 62 | 60 | 60 | 59 | 56 | 56 |
| May1856 | 57 | 57 | 55 | 58 | 58 | 57 | 57 | 56 | 48 | 45 | 45 | 50 | 51 | 53 | 57 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 56 |
| May1959 | 60 | 60 | 60 | 59 | 59 | 56 | 51 | 48 | 49 | 44 | 40 | 42 | 40 | 47 | 58 | 69 | 79 | 77 | 74 | 68 | 67 | 66 | 66 | 65 | 58 |
| May2062 | 57 | 57 | 54 | 55 | 54 | 50 | 53 | 49 | 55 | 51 | 52 | 51 | 52 | 60 | 67 | 76 | 81 | 78 | 75 | 71 | 68 | 67 | 66 | 61 | 61 |
| May2159 | 59 | 59 | 62 | 66 | 66 | 64 | 61 | 55 | 49 | 47 | 45 | 46 | 49 | 55 | 59 | 62 | 64 | 64 | 64 | 65 | 65 | 64 | 65 | 65 | 59 |
| May2264 | 62 | 62 | 63 | 65 | 63 | 62 | 62 | 59 | 53 | 47 | 49 | 49 | 50 | 52 | 59 | 69 | 69 | 71 | 71 | 67 | 65 | 64 | 63 | 62 | : |
| May2363 | 64 | 64 | 65 | 65 | 65 | 64 | 65 | 65 | 61 | 54 | 51 | 53 | 55 | 57 | 63 | 64 | 68 | 68 | : | 66 | 66 | 63 | 63 | 64 | 60 |
| May2464 | 64 | 64 | 65 | 66 | 67 | 65 | 64 | 63 | 56 | 51 | 50 | 46 | 44 | 50 | 55 | 60 | 64 | 65 | 64 | 63 | 63 | 62 | 63 | 63 | 59 |
| May2563 | 64 | 64 | 64 | 66 | 67 | 67 | 59 | 54 | 49 | 45 | 44 | 48 | 50 | 54 | 58 | 62 | 62 | 61 | 62 | 62 | 62 | 62 | 62 | 62 | 58 |
| May2663 | 63 | 63 | 64 | 66 | 66 | 66 | 64 | 59 | 51 | 44 | 37 | 42 | 45 | 49 | 57 | 63 | 64 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 59 |
| May2762 | 63 | 63 | 64 | 66 | 66 | 66 | 65 | 63 | 59 | 53 | 49 | 41 | 41 | 46 | 49 | 58 | 64 | 63 | 65 | 64 | 62 | 62 | 59 | 55 | 61 |
| May2850 | 45 | 45 | 38 | 39 | 28 | 37 | 47 | 50 | 50 | 51 | 55 | 64 | 68 | 74 | 82 | 85 | 88 | 85 | 78 | 74 | 73 | 72 | 71 | 70 | 69 |
| May2970 | 70 | 70 | 71 | 71 | 70 | 68 | 66 | 64 | 62 | 58 | 54 | 56 | 57 | 63 | 80 | 81 | 77 | 80 | 80 | 76 | 73 | 72 | 71 | 71 | 67 |
| May3070 | 70 | 70 | 70 | 71 | 68 | 66 | 62 | 60 | 59 | 59 | 62 | 62 | 61 | 65 | 68 | 68 | 71 | 73 | 73 | 69 | 68 | 68 | 68 | 68 | 67 |
| May3168 | 68 | 68 | 68 | 70 | 70 | 68 | 70 | 70 | 62 | 57 | 55 | 56 | 56 | 56 | 60 | 66 | 67 | 69 | 68 | 67 | 67 | 66 | 66 | 66 | 65 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May0166 | 66 | 62 | 64 | 65 | 66 | 66 | 63 | 60 | 55 | 51 | 48 | 44 | 46 | 52 | 56 | 59 | 61 | 62 | 64 | 66 | 65 | 65 | 64 | 64 | 60 |
| May0265 | 65 | 64 | 65 | 67 | 66 | 69 | 68 | 66 | 64 | 61 | 52 | 45 | 47 | 52 | 57 | 61 | 63 | 63 | 65 | 66 | 66 | 64 | 64 | 65 | 62 |
| May0363 | 63 | 63 | 64 | 64 | 65 | 63 | 61 | 59 | 58 | 58 | 52 | 46 | 50 | 54 | 58 | 61 | 59 | 64 | 64 | 65 | 65 | 65 | 65 | 65 | 60 |
| May0465 | 65 | 65 | 65 | 65 | 66 | 65 | 66 | 62 | 57 | 54 | 53 | 57 | 58 | 61 | 63 | 64 | 64 | 64 | 65 | 70 | 69 | 66 | 69 | 69 | 63 |
| May0567 | 67 | 64 | 64 | 67 | 68 | 65 | 64 | 61 | 59 | 53 | 54 | 57 | 56 | 58 | 58 | 60 | 59 | 61 | 62 | 64 | 65 | 64 | 64 | 65 | 62 |
| May0665 | 65 | 65 | 65 | 66 | 68 | 65 | 62 | 60 | 55 | 54 | 55 | 50 | 50 | 53 | 55 | 58 | 58 | 61 | 65 | 65 | 66 | 66 | 67 | 67 | 61 |
| May0766 | 66 | 66 | 65 | 64 | 63 | 61 | 58 | 54 | 52 | 55 | 61 | 59 | 59 | 59 | 60 | 64 | 64 | 66 | 67 | 73 | 67 | 66 | 65 | 67 | 63 |
| May0864 | 64 | 64 | 65 | 64 | 64 | 59 | 56 | 51 | 49 | 45 | 49 | 53 | 56 | 60 | 63 | 63 | 64 | 64 | 65 | 66 | 65 | 64 | 64 | 65 | 60 |
| May0966 | 66 | 63 | 62 | 64 | 66 | 66 | 63 | 59 | 55 | 54 | 49 | 46 | 53 | 57 | 64 | 63 | 63 | 59 | 62 | 65 | 66 | 65 | 66 | 64 | 61 |
| May1064 | 64 | 64 | 64 | 65 | 66 | 65 | 61 | 59 | 55 | 53 | 54 | 58 | 62 | 67 | 64 | 65 | 66 | 65 | 65 | 66 | 66 | 67 | 69 | 68 | 63 |
| May1166 | 66 | 66 | 66 | 68 | 70 | 63 | 59 | 54 | 50 | 43 | 45 | 49 | 50 | 53 | 58 | 62 | : | 67 | 67 | 68 | 67 | 68 | 69 | 69 | : |

Table 8.5 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May12 | 68 | 66 | 65 | 66 | 66 | 60 | 58 | 53 | 51 | 51 | 50 | 48 | 49 | 53 | 56 | 58 | 62 | 63 | 63 | 65 | 65 | 66 | 66 | 64 | 60 |
| May13 | 63 | 63 | 64 | 66 | 67 | 64 | 59 | 54 | 48 | 45 | 44 | 44 | 47 | 54 | 62 | 65 | 66 | 65 | 65 | 67 | 68 | 68 | 68 | 67 | 60 |
| May14 | 67 | 66 | 67 | 69 | 72 | 68 | 64 | 56 | 50 | 43 | 41 | 45 | 57 | 55 | 57 | 64 | 61 | 66 | 64 | 67 | 70 | 69 | 68 | 67 | 61 |
| May15 | 66 | 66 | 66 | 68 | 69 | 69 | 65 | 63 | 62 | 53 | 50 | 49 | 51 | 58 | 58 | 65 | 67 | 66 | 68 | 71 | 74 | 69 | 65 | 65 | 63 |
| May16 | 66 | 66 | 67 | 67 | 65 | 63 | 59 | 55 | 50 | 42 | 38 | 37 | 43 | : . | 46 | 58 | 62 | 66 | 67 | 67 | 66 | 66 | 66 | 66 | : . |
| May17 | 64 | 64 | 65 | 66 | 69 | 65 | 60 | 53 | 45 | 45 | 47 | 46 | 48 | 53 | 57 | 61 | 64 | 63 | 67 | 68 | 67 | 68 | 69 | 70 | 60 |
| May18 | 65 | 64 | 64 | 66 | 59 | 60 | 57 | 52 | 49 | 44 | 46 | 55 | 55 | 56 | 61 | 67 | 67 | 67 | 67 | 69 | 67 | 67 | 67 | 67 | 61 |
| May19 | 65 | 66 | 68 | 72 | 73 | 69 | 63 | 54 | 49 | 45 | 43 | 49 | 49 | 53 | 61 | 69 | 83 | 73 | 72 | 71 | 67 | 67 | 67 | 68 | 63 |
| May20 | 70 | 68 | 60 | 58 | 57 | 53 | 52 | 46 | 45 | 49 | 47 | 51 | 50 | 47 | 52 | 74 | 77 | 69 | 70 | 74 | 67 | 67 | 68 | 66 | 60 |
| May21 | 63 | 61 | 61 | 64 | 66 | 59 | 51 | 45 | 39 | 42 | 43 | 43 | 48 | 52 | 54 | 58 | 63 | 64 | 67 | 67 | 69 | 64 | 65 | 65 | 57 |
| May22 | 65 | 64 | 63 | 63 | 63 | 62 | 59 | 55 | 51 | 47 | 53 | 57 | 54 | 52 | 58 | 67 | 65 | 70 | 70 | 72 | 73 | 67 | 67 | 65 | 62 |
| May23 | 64 | 64 | 66 | 64 | 66 | 58 | 61 | 60 | 58 | 55 | 56 | 59 | 59 | 58 | 61 | 61 | 69 | 69 | 69 | 73 | 69 | 70 | 67 | 64 | 63 |
| May24 | 65 | 64 | 65 | 67 | 67 | 61 | 59 | 58 | 53 | 51 | 52 | 51 | 49 | 52 | 53 | 59 | 63 | 65 | 65 | 66 | 66 | 66 | 65 | 64 | 60 |
| May25 | 64 | 65 | 66 | 68 | 70 | 63 | 56 | 53 | 50 | 46 | 49 | 57 | 59 | 61 | 65 | 66 | 65 | 64 | 66 | 67 | 67 | 68 | 67 | 66 | 62 |
| May26 | 67 | 66 | 67 | 70 | 72 | 68 | 61 | 54 | 50 | 50 | 45 | 49 | 54 | 58 | 63 | 67 | 67 | 66 | 67 | 67 | 67 | 67 | 67 | 66 | 62 |
| May27 | 66 | 66 | 68 | 71 | 73 | 71 | 67 | 62 | 57 | 53 | 55 | 52 | 53 | 54 | 55 | 67 | 78 | 73 | 81 | 82 | 85 | 85 | 80 | 63 | 67 |
| May28 | 57 | 48 | 46 | 27 | 33 | 30 | 22 | 14 | 7 | 6 | 17 | 34 | 42 | 47 | 55 | 67 | 72 | 71 | 68 | 67 | 67 | 68 | 68 | 63 | 46 |
| May29 | 67 | 68 | 69 | 71 | 72 | 69 | 65 | 61 | 58 | 55 | 51 | 58 | 60 | 58 | 72 | 65 | 67 | 76 | 71 | 69 | 69 | 67 | 67 | 68 | 66 |
| May30 | 69 | 72 | 73 | 72 | 71 | 68 | 64 | 62 | 58 | 58 | 59 | 60 | 60 | 65 | 68 | 68 | 70 | 73 | 73 | 69 | 68 | 67 | 67 | 66 | 67 |
| May31 | 66 | 67 | 67 | 72 | 74 | 71 | 70 | 67 | 59 | 55 | 56 | 58 | 61 | 64 | 63 | 69 | 69 | 72 | 70 | 72 | 72 | 71 | 72 | 71 | 67 |

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Table 8.6. Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory. Please note: if data is missing within one hour/day, then means are not calculated.

2017, Field component: X, Base: 20900.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jun01 | 113 | 114 | 114 | 117 | 119 | 118 | 110 | 104 | 99 | 95 | 104 | 112 | 113 | 114 | 106 | 115 | 122 | 134 | 122 | 115 | 113 | 108 | 114 | 109 | 113 |
| Jun02 | 104 | 109 | 112 | 115 | 114 | 104 | 99 | 96 | 93 | 97 | 103 | 109 | 109 | 104 | 105 | 110 | 110 | 109 | 110 | 112 | 114 | 113 | 112 | 112 | 107 |
| Jun03 | 114 | 114 | 112 | 114 | 113 | 111 | 107 | 100 | 99 | 115 | 119 | 123 | 123 | 112 | 97 | 96 | 83 | 100 | 107 | 110 | 106 | 107 | 107 | 105 | 108 |
| Jun04 | 105 | 104 | 103 | 104 | 103 | 97 | 93 | 93 | 102 | 104 | 105 | 108 | 103 | 100 | 96 | 101 | 105 | 107 | 108 | 109 | 110 | 111 | 111 | 111 | 104 |
| Jun05 | 110 | 110 | 111 | 116 | 114 | 112 | 100 | 95 | 92 | 97 | 106 | 108 | 113 | 113 | 111 | 109 | 117 | 115 | 116 | 118 | 118 | 111 | 117 | 114 | 110 |
| Jun06 | 116 | 114 | 110 | 107 | 105 | 105 | 100 | 96 | 97 | 107 | 112 | 113 | 105 | 107 | 116 | 120 | 119 | 117 | 117 | 116 | 115 | 111 | 116 | 116 | 111 |
| Jun07 | 112 | 112 | 111 | 112 | 114 | 114 | 116 | 109 | 104 | 105 | 105 | 106 | 111 | 115 | 119 | 119 | 112 | 114 | 115 | 117 | 120 | 119 | 120 | 117 | 113 |
| Jun08 | 122 | 118 | 116 | 116 | 116 | 113 | 106 | 102 | 101 | 105 | 114 | 115 | 114 | 104 | 106 | 115 | 117 | 112 | 111 | 113 | 117 | 119 | 119 | 122 | 113 |
| Jun09 | 116 | 122 | 117 | 118 | 114 | 105 | 98 | 95 | 98 | 102 | 106 | 111 | 111 | 114 | 114 | 119 | 112 | 115 | 120 | 120 | 118 | 119 | 120 | 114 | 112 |
| Jun10 | 117 | 121 | 121 | 122 | 122 | 118 | 106 | 91 | 85 | 96 | 110 | 120 | 123 | 122 | 122 | 119 | 116 | 116 | 116 | 119 | 119 | 117 | 119 | 117 | 115 |
| Jun11 | 116 | 118 | 121 | 125 | 123 | 117 | 101 | 94 | 91 | 92 | 103 | 114 | 119 | 117 | 108 | 116 | 126 | 97 | 98 | 111 | 118 | 113 | 109 | 109 | 111 |
| Jun12 | 110 | 109 | 109 | 114 | 116 | 109 | 98 | 92 | 84 | 82 | 93 | 102 | 104 | 105 | 94 | 91 | 107 | 111 | 119 | 120 | 114 | 110 | 112 | 112 | 105 |
| Jun13 | 114 | 115 | 113 | 111 | 112 | 108 | 105 | 101 | 99 | 96 | 92 | 106 | 102 | 102 | 106 | 107 | 108 | 120 | 109 | 112 | 114 | 111 | 111 | 113 | 107 |
| Jun14 | 110 | 110 | 110 | 112 | 112 | 112 | 109 | 101 | 99 | 103 | 107 | 103 | 106 | 111 | 112 | 116 | 110 | 110 | 109 | 112 | 115 | 114 | 113 | 113 | 110 |
| Jun15 | 110 | 109 | 114 | 121 | 118 | 112 | 105 | 102 | 100 | 95 | 98 | 106 | 114 | 113 | 109 | 110 | 111 | 111 | 114 | 117 | 119 | 119 | 118 | 119 | 111 |
| Jun16 | 119 | 118 | 121 | 130 | 134 | 131 | 129 | 127 | 105 | 90 | 94 | 114 | 114 | 120 | 97 | 94 | 82 | 88 | 94 | 99 | 101 | 102 | 136 | 111 | 110 |
| Jun17 | 102 | 105 | 99 | 111 | 96 | 100 | 93 | 85 | 81 | 88 | 90 | 99 | 106 | 96 | 98 | 103 | 99 | 107 | 116 | 117 | 119 | 124 | 110 | 115 | 102 |
| Jun18 | 127 | 110 | 108 | 109 | 111 | 107 | 98 | 91 | 78 | 86 | 93 | 102 | 103 | 97 | 97 | 104 | 99 | 100 | 108 | 113 | 111 | 103 | 103 | 102 | 103 |
| Jun19 | 103 | 103 | 102 | 105 | 108 | 107 | 105 | 96 | 94 | 92 | 94 | 100 | 100 | 99 | 101 | 102 | 103 | 105 | 105 | 105 | 108 | 109 | 105 | 102 | 102 |
| Jun20 | 102 | 101 | 101 | 109 | 113 | 111 | 98 | 90 | 85 | 83 | 90 | 102 | 106 | 105 | 108 | 101 | 96 | 104 | 109 | 109 | 109 | 107 | 106 | 106 | 102 |
| Jun21 | 106 | 107 | 108 | 111 | 109 | 101 | 95 | 92 | 93 | 98 | 104 | 108 | 112 | 106 | 103 | 109 | 107 | 113 | 113 | 111 | 109 | 101 | 103 | 100 | 105 |
| Jun22 | 105 | 104 | 111 | 116 | 118 | 112 | 101 | 103 | 105 | 109 | 110 | 107 | 106 | 104 | 105 | 105 | 108 | 111 | 115 | 115 | 109 | 128 | 130 | 127 | 112 |
| Jun23 | 126 | 124 | ⋮ | 126 | 125 | 121 | 114 | 111 | 119 | 121 | 107 | 97 | 97 | 105 | 107 | 107 | 105 | 107 | 102 | 107 | 108 | 111 | 124 | 119 | ⋮ |
| Jun24 | 114 | 115 | 117 | 115 | 118 | 116 | 105 | 112 | 119 | 96 | 107 | 97 | 97 | 105 | 107 | 107 | 105 | 117 | 116 | 119 | 121 | 124 | 113 | 124 | 111 |
| Jun25 | 118 | 114 | 114 | 117 | 118 | 113 | 101 | 101 | 86 | 78 | 94 | 87 | 100 | ⋮ | 103 | 105 | 105 | 117 | 110 | 116 | 115 | 114 | 112 | 116 | ⋮ |
| Jun26 | 117 | 111 | 109 | 118 | 113 | 114 | 104 | 92 | 85 | 89 | 72 | 88 | 95 | 102 | 103 | 109 | 109 | 105 | 110 | 114 | 115 | 112 | 112 | 110 | 105 |
| Jun27 | 111 | 112 | 115 | 111 | 113 | 114 | 104 | 97 | 89 | 95 | 93 | 93 | 98 | 104 | 110 | 115 | 113 | 110 | 110 | 114 | 115 | 114 | 114 | 113 | 107 |
| Jun28 | 114 | 117 | 116 | 120 | 122 | 116 | 111 | 108 | 99 | 95 | 95 | 94 | 94 | 103 | 106 | 103 | 106 | 107 | 112 | 114 | 116 | 116 | 116 | 118 | 109 |
| Jun29 | 117 | 116 | 115 | 114 | 121 | 117 | 103 | 102 | 102 | 93 | 99 | 100 | 94 | 93 | 96 | 105 | 109 | 113 | 113 | 112 | 115 | 114 | 115 | 112 | 108 |
| Jun30 | 111 | 111 | 111 | 113 | 114 | 113 | 107 | 102 | 107 | 106 | 107 | 104 | 101 | 105 | 111 | 115 | 119 | 122 | 123 | 123 | 121 | 119 | ⋮ | 122 | ⋮ |

2017, Field component: Y, Base: 1400.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jun01 | 100 | 101 | 103 | 108 | 116 | 127 | 129 | 121 | 110 | 95 | 83 | 71 | 58 | 55 | 65 | 75 | 84 | 83 | 82 | 94 | 101 | 103 | 105 | 104 | 95 |
| Jun02 | 104 | 103 | 106 | 115 | 124 | 128 | 124 | 122 | 119 | 111 | 99 | 93 | 87 | 82 | 82 | 84 | 89 | 93 | 97 | 102 | 106 | 105 | 103 | 102 | 103 |
| Jun03 | 103 | 103 | 106 | 112 | 120 | 126 | 128 | 126 | 117 | 104 | 92 | 78 | 70 | 64 | 74 | 83 | 102 | 103 | 101 | 101 | 101 | 100 | 100 | 102 | 101 |
| Jun04 | 103 | 102 | 104 | 110 | 120 | 128 | 127 | 119 | 106 | 92 | 82 | 78 | 80 | 83 | 86 | 91 | 96 | 98 | 97 | 97 | 98 | 99 | 102 | 102 | 100 |

Table 8.6 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jun05 | 102 | 103 | 106 | 113 | 124 | 133 | 131 | 127 | 122 | 109 | 92 | 79 | 68 | 68 | 79 | 87 | 92 | 92 | 92 | 92 | 95 | 97 | 105 | 106 | 101 |
| Jun06 | 105 | 110 | 113 | 115 | 116 | 123 | 126 | 121 | 112 | 98 | 85 | 77 | 77 | 81 | 81 | 86 | 92 | 94 | 92 | 93 | 95 | 98 | 100 | 99 | 100 |
| Jun07 | 101 | 105 | 107 | 111 | 111 | 123 | 128 | 128 | 118 | 100 | 85 | 77 | 70 | 66 | 70 | 80 | 92 | 96 | 97 | 97 | 98 | 100 | 103 | 105 | 99 |
| Jun08 | 106 | 110 | 110 | 116 | 120 | 128 | 123 | 117 | 107 | 96 | 92 | 81 | 74 | 79 | 83 | 91 | 99 | 102 | 101 | 101 | 100 | 101 | 103 | 105 | 102 |
| Jun09 | 107 | 99 | 109 | 112 | 120 | 129 | 125 | 118 | 111 | 100 | 87 | 76 | 69 | 69 | 73 | 79 | 86 | 94 | 100 | 101 | 102 | 100 | 101 | 103 | 99 |
| Jun10 | 103 | 99 | 101 | 112 | 126 | 134 | 132 | 124 | 109 | 90 | 76 | 70 | 68 | 71 | 79 | 89 | 96 | 102 | 100 | 100 | 100 | 100 | 99 | 102 | 99 |
| Jun11 | 103 | 104 | 108 | 117 | 128 | 137 | 129 | 115 | 106 | 88 | 79 | 69 | 57 | 55 | 62 | 78 | 82 | 90 | 99 | 100 | 113 | 103 | 104 | 98 | 97 |
| Jun12 | 103 | 106 | 107 | 116 | 127 | 135 | 131 | 130 | 120 | 107 | 93 | 85 | 82 | 84 | 86 | 97 | 100 | 102 | 105 | 104 | 107 | 113 | 103 | 104 | 106 |
| Jun13 | 100 | 91 | 106 | 116 | 126 | 136 | 130 | 127 | 105 | 92 | 84 | 79 | 77 | 78 | 80 | 88 | 92 | 94 | 99 | 101 | 103 | 104 | 103 | 104 | 102 |
| Jun14 | 106 | 106 | 107 | 112 | 120 | 121 | 124 | 125 | 119 | 106 | 88 | 76 | 77 | 79 | 85 | 92 | 98 | 100 | 98 | 99 | 100 | 102 | 104 | 105 | 102 |
| Jun15 | 105 | 106 | 105 | 113 | 123 | 128 | 134 | 122 | 104 | 90 | 89 | 82 | 76 | 74 | 77 | 83 | 91 | 94 | 96 | 97 | 100 | 101 | 102 | 103 | 102 |
| Jun16 | 103 | 104 | 104 | 110 | 113 | 126 | 131 | 137 | 132 | 106 | 89 | 71 | 64 | 45 | 50 | 60 | 79 | 87 | 97 | 122 | 121 | 110 | 114 | 121 | 100 |
| Jun17 | 131 | 122 | 106 | 109 | 116 | 124 | 135 | 137 | 130 | 117 | 103 | 87 | 71 | 67 | 71 | 70 | 77 | 94 | 89 | 99 | 121 | 117 | 110 | 106 | 105 |
| Jun18 | 107 | 110 | 111 | 118 | 130 | 132 | 132 | 136 | 130 | 118 | 103 | 90 | 68 | 64 | 75 | 88 | 96 | 102 | 107 | 115 | 121 | 119 | 108 | 108 | 108 |
| Jun19 | 108 | 107 | 107 | 112 | 110 | 118 | 123 | 130 | 112 | 101 | 101 | 89 | 81 | 77 | 79 | 89 | 96 | 100 | 103 | 104 | 105 | 107 | 106 | 104 | 104 |
| Jun20 | 106 | 108 | 111 | 116 | 120 | 126 | 131 | 124 | 108 | 95 | 88 | 86 | 84 | 81 | 84 | 93 | 106 | 108 | 104 | 103 | 103 | 103 | 104 | 104 | 106 |
| Jun21 | 104 | 104 | 105 | 111 | 122 | 133 | 129 | 115 | 99 | 88 | 93 | 86 | 83 | 85 | 84 | 88 | 92 | 95 | 100 | 107 | 110 | 108 | 114 | 117 | 104 |
| Jun22 | 118 | 123 | 117 | 122 | 123 | 122 | 122 | 124 | 118 | 105 | 96 | 89 | 81 | 84 | 87 | 92 | 96 | 101 | 102 | 102 | 102 | 102 | 102 | 110 | 105 |
| Jun23 | 106 | 107 | ... | 117 | 127 | 134 | 138 | 140 | 135 | 122 | 104 | 89 | 73 | 62 | 69 | 80 | 89 | 97 | 98 | 104 | 102 | 100 | 96 | ... | ... |
| Jun24 | 108 | 105 | 106 | 112 | 116 | 118 | 120 | 126 | 129 | 121 | 103 | 86 | 86 | 62 | 87 | 90 | 95 | 96 | 101 | 113 | 109 | 100 | 101 | 112 | 105 |
| Jun25 | 122 | 116 | 116 | 117 | 122 | 125 | 122 | 127 | 124 | 116 | 98 | 81 | ... | ... | 71 | 77 | 91 | 98 | 100 | 102 | 107 | 113 | 109 | 105 | ... |
| Jun26 | 104 | 104 | 104 | 112 | 113 | 122 | 125 | 128 | 124 | 115 | 96 | 83 | 71 | 67 | 72 | 84 | 95 | 104 | 114 | 109 | 107 | 106 | 105 | 106 | 103 |
| Jun27 | 106 | 103 | 105 | 109 | 112 | 119 | 124 | 132 | 132 | 122 | 100 | 81 | 68 | 64 | 71 | 83 | 93 | 103 | 102 | 102 | 104 | 105 | 106 | 106 | 102 |
| Jun28 | 106 | 105 | 105 | 106 | 111 | 125 | 135 | 137 | 133 | 121 | 105 | 92 | 81 | 75 | 79 | 88 | 98 | 105 | 105 | 103 | 102 | 102 | 102 | 102 | 105 |
| Jun29 | 103 | 107 | 109 | 112 | 118 | 128 | 127 | 131 | 124 | 112 | 96 | 83 | 78 | 79 | 80 | 88 | 98 | 103 | 106 | 106 | 105 | 105 | 106 | 106 | 105 |
| Jun30 | 106 | 106 | 106 | 108 | 116 | 129 | 137 | 139 | 128 | 114 | 97 | 83 | 79 | 83 | 86 | 86 | 91 | 96 | 97 | 99 | 100 | 103 | ... | 108 | ... |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jun01 | 66 | 65 | 66 | 67 | 68 | 67 | 65 | 66 | 62 | 60 | 55 | 52 | 50 | 55 | 61 | 64 | 62 | 65 | 64 | 65 | 65 | 65 | 65 | 65 | 63 |
| Jun02 | 65 | 63 | 63 | 66 | 64 | 63 | 66 | 71 | 73 | 70 | 65 | 61 | 60 | 62 | 64 | 65 | 65 | 66 | 68 | 66 | 64 | 65 | 65 | 64 | 65 |
| Jun03 | 63 | 63 | 64 | 64 | 66 | 63 | 63 | 62 | 57 | 46 | 35 | 33 | 36 | 52 | 62 | 75 | 80 | 76 | 70 | 67 | 67 | 66 | 66 | 66 | 61 |
| Jun04 | 66 | 66 | 67 | 68 | 69 | 66 | 63 | 62 | 58 | 55 | 52 | 48 | 51 | 56 | 60 | 62 | 65 | 65 | 65 | 64 | 64 | 64 | 64 | 64 | 62 |
| Jun05 | 65 | 65 | 66 | 67 | 66 | 62 | 63 | 62 | 58 | 53 | 50 | 46 | 48 | 54 | 58 | 62 | 63 | 62 | 62 | 63 | 63 | 63 | 62 | 63 | 60 |
| Jun06 | 63 | 62 | 64 | 67 | 66 | 60 | 58 | 60 | 56 | 53 | 50 | 51 | 51 | 53 | 61 | 65 | 65 | 64 | 64 | 63 | 63 | 64 | 64 | 63 | 60 |
| Jun07 | 64 | 64 | 66 | 67 | 66 | 62 | 59 | 57 | 56 | 53 | 49 | 43 | 38 | 46 | 57 | 63 | 64 | 64 | 62 | 63 | 62 | 62 | 62 | 63 | 59 |
| Jun08 | 62 | 61 | 62 | 63 | 64 | 62 | 58 | 59 | 59 | 54 | 47 | 44 | 49 | 53 | 58 | 64 | 66 | 65 | 62 | 62 | 62 | 63 | 63 | 62 | 59 |
| Jun09 | 61 | 61 | 63 | 66 | 69 | 65 | 61 | 60 | 56 | 56 | 55 | 56 | 59 | 59 | 62 | 65 | 63 | 65 | 65 | 62 | 63 | 63 | 63 | 63 | 62 |

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Table 8.6  (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jun10 | 63 | 62 | 61 | 62 | 64 | 63 | 64 | 65 | 59 | 45 | 36 | 33 | 38 | 43 | 52 | 60 | 63 | 62 | 61 | 61 | 61 | 62 | 62 | 62 | 57 |
| Jun11 | 62 | 62 | 63 | 66 | 69 | 67 | 63 | 58 | 55 | 55 | 50 | 47 | 48 | 49 | 50 | 59 | 73 | 75 | 76 | 69 | 65 | 66 | 65 | 66 | 61 |
| Jun12 | 65 | 65 | 68 | 69 | 71 | 68 | 59 | 60 | 59 | 55 | 50 | 50 | 52 | 57 | 64 | 64 | 66 | 64 | 64 | 65 | 65 | 66 | 66 | 65 | 62 |
| Jun13 | 64 | 63 | 63 | 65 | 64 | 62 | 62 | 62 | 58 | 54 | 51 | 50 | 52 | 58 | 63 | 65 | 64 | 66 | 67 | 66 | 64 | 64 | 64 | 64 | 61 |
| Jun14 | 64 | 64 | 64 | 65 | 65 | 66 | 67 | 67 | 58 | 51 | 45 | 46 | 49 | 55 | 63 | 69 | 67 | 67 | 65 | 63 | 63 | 64 | 64 | 64 | 61 |
| Jun15 | 64 | 64 | 65 | 65 | 62 | 61 | 60 | 62 | 62 | 62 | 59 | 57 | 55 | 59 | 61 | 63 | 63 | 64 | 62 | 62 | 63 | 63 | 62 | 62 | 62 |
| Jun16 | 62 | 63 | :: | 63 | 62 | 60 | 59 | 53 | 52 | 51 | 40 | 40 | 43 | 50 | 62 | 78 | 77 | 75 | 74 | 72 | 71 | 70 | 63 | 57 | :: |
| Jun17 | 58 | 58 | 61 | 61 | 61 | 67 | 70 | 72 | 67 | 61 | 55 | 53 | 56 | 61 | 64 | 70 | 68 | 69 | 68 | 72 | 71 | 67 | 66 | 66 | 64 |
| Jun18 | 62 | 61 | 60 | 61 | 62 | 63 | 66 | 66 | 64 | 61 | 55 | 50 | 52 | 52 | 62 | 67 | 68 | 70 | 68 | 68 | 67 | 67 | 67 | 67 | 63 |
| Jun19 | 67 | 67 | 68 | 68 | 66 | 65 | 68 | 68 | 65 | 64 | 54 | 52 | 56 | 59 | 63 | 67 | 67 | 69 | 69 | 68 | 68 | 67 | 65 | 65 | 65 |
| Jun20 | 65 | 66 | 67 | 68 | 68 | 68 | 70 | 70 | 65 | 62 | 59 | 56 | 57 | 61 | 68 | 73 | 73 | 70 | 67 | 66 | 65 | 69 | 66 | 66 | 66 |
| Jun21 | 66 | 66 | 67 | 69 | 72 | 68 | 65 | 60 | 60 | 61 | 62 | 59 | 62 | 62 | 61 | 67 | 68 | 68 | 70 | 69 | 69 | 64 | 68 | 68 | 66 |
| Jun22 | 68 | 67 | 67 | 67 | 63 | 59 | 62 | 65 | 65 | 51 | 49 | 65 | 66 | 61 | 63 | 66 | 66 | 65 | 66 | 65 | 65 | 64 | 64 | 64 | 64 |
| Jun23 | 64 | 64 | :: | 66 | 64 | 61 | 61 | 58 | 53 | 58 | 49 | 46 | 45 | 48 | 55 | 62 | 64 | 65 | 65 | 65 | 66 | 64 | 65 | 64 | :: |
| Jun24 | 65 | 65 | 65 | 66 | 64 | 66 | 69 | 68 | 62 | 61 | 50 | 44 | 50 | 60 | 65 | 71 | 72 | 74 | 75 | 73 | 72 | 70 | 67 | 63 | 65 |
| Jun25 | 63 | 65 | 66 | 65 | 64 | 64 | 65 | 65 | 67 | 50 | 46 | 46 | 48 | :: | 63 | 71 | 73 | 74 | 72 | 68 | 67 | 70 | 67 | 67 | :: |
| Jun26 | 66 | 67 | 65 | 66 | 68 | 68 | 67 | 68 | 58 | 61 | 53 | 49 | 52 | 57 | 61 | 64 | 69 | 71 | 71 | 69 | 69 | 66 | 67 | 66 | 63 |
| Jun27 | 66 | 66 | 65 | 69 | 69 | 69 | 69 | 68 | 64 | 60 | 53 | 51 | 50 | 53 | 60 | 67 | 69 | 70 | 68 | 66 | 66 | 66 | 65 | 65 | 64 |
| Jun28 | 65 | 65 | 67 | 68 | 68 | 69 | 69 | 59 | 56 | 54 | 53 | 46 | 42 | 45 | 55 | 63 | 68 | 69 | 68 | 66 | 66 | 65 | 65 | 65 | 62 |
| Jun29 | 65 | 65 | 66 | 68 | 68 | 65 | 65 | 59 | 56 | 54 | 51 | 52 | 59 | 63 | 62 | 61 | 62 | 66 | 67 | 66 | 66 | 66 | 65 | 65 | 62 |
| Jun30 | 65 | 65 | 66 | 68 | 70 | 67 | 63 | 62 | 62 | 58 | 55 | 53 | 53 | 54 | 54 | 58 | 61 | 64 | 64 | 64 | 65 | 65 | 66 | 63 | 62 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jun01 | 71 | 72 | 72 | 75 | 77 | 76 | 71 | 69 | 63 | 59 | 58 | 58 | 57 | 61 | 64 | 70 | 72 | 79 | 74 | 72 | 71 | 69 | 72 | 70 | 69 |
| Jun02 | 67 | 68 | 70 | 73 | 72 | 66 | 67 | 70 | 70 | 69 | 67 | 66 | 65 | 64 | 67 | 70 | 69 | 70 | 72 | 72 | 70 | 71 | 71 | 71 | 69 |
| Jun03 | 70 | 70 | 69 | 71 | 73 | 70 | 68 | 64 | 58 | 55 | 47 | 46 | 49 | 58 | 60 | 72 | 72 | 76 | 74 | 72 | 70 | 70 | 70 | 69 | 65 |
| Jun04 | 69 | 68 | 69 | 71 | 71 | 66 | 62 | 61 | 58 | 58 | 55 | 52 | 54 | 57 | 59 | 63 | 67 | 68 | 69 | 69 | 69 | 69 | 69 | 70 | 64 |
| Jun05 | 70 | 69 | 71 | 75 | 73 | 69 | 65 | 61 | 56 | 54 | 54 | 51 | 55 | 60 | 64 | 66 | 71 | 69 | 70 | 71 | 72 | 71 | 71 | 70 | 66 |
| Jun06 | 71 | 69 | 69 | 71 | 69 | 64 | 60 | 60 | 57 | 57 | 57 | 58 | 55 | 58 | 68 | 74 | 74 | 72 | 71 | 71 | 72 | 71 | 72 | 71 | 66 |
| Jun07 | 70 | 70 | 71 | 73 | 71 | 70 | 68 | 63 | 60 | 57 | 52 | 48 | 45 | 54 | 66 | 71 | 69 | 71 | 71 | 72 | 71 | 72 | 72 | 71 | 66 |
| Jun08 | 72 | 70 | 70 | 71 | 71 | 66 | :: | 62 | 61 | 57 | 55 | 52 | 57 | 56 | 62 | 71 | 74 | 70 | 68 | 68 | 70 | 72 | 72 | 72 | :: |
| Jun09 | 69 | 71 | 71 | 75 | 75 | 68 | 62 | 59 | 53 | 45 | 58 | 62 | 64 | 65 | 68 | 69 | 69 | 72 | 74 | 71 | 72 | 71 | 71 | 70 | 68 |
| Jun10 | 71 | 72 | 71 | 73 | 75 | 76 | 68 | 62 | 53 | 53 | 43 | 44 | 51 | 55 | 63 | 66 | 70 | 70 | 69 | 71 | 74 | 73 | 70 | 70 | 65 |
| Jun11 | 70 | 70 | 73 | 78 | 80 | 73 | 65 | 57 | 53 | 49 | 49 | 55 | 57 | 57 | 54 | 61 | 84 | 73 | 73 | 74 | 74 | 72 | 69 | 71 | 67 |
| Jun12 | 70 | 70 | 73 | 76 | 79 | 73 | 66 | 64 | 54 | 54 | 49 | 53 | 55 | 60 | 62 | 68 | 69 | 70 | 71 | 74 | 72 | 73 | 72 | 70 | 66 |
| Jun13 | 71 | 70 | 69 | 71 | 71 | 67 | 66 | 69 | 60 | 55 | 51 | 54 | 54 | 59 | 66 | 68 | 69 | 70 | 71 | 71 | 70 | 72 | 69 | 71 | 66 |
| Jun14 | 69 | 69 | 69 | 70 | 72 | 73 | 72 | 69 | 60 | 55 | 51 | 49 | 53 | 60 | 68 | 76 | 73 | 72 | 70 | 69 | 70 | 71 | 71 | 70 | 67 |

Table 8.6 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jun15 | 69 | 69 | 72 | 75 | 72 | 68 | 64 | 65 | 64 | 61 | 59 | 60 | 62 | 65 | 65 | 68 | 69 | 70 | 69 | 70 | 71 | 72 | 71 | 71 | 68 |
| Jun16 | 71 | 72 | 73 | 77 | 78 | 75 | 74 | 68 | 57 | 49 | 40 | 48 | 51 | 59 | 60 | 73 | 69 | 70 | 71 | 72 | 72 | 71 | 80 | 64 | 66 |
| Jun17 | 61 | 62 | 62 | 67 | 60 | 69 | 68 | 67 | 60 | 57 | 52 | 54 | 59 | 59 | 62 | 70 | 68 | 72 | 75 | 76 | 77 | 78 | 71 | 73 | 66 |
| Jun18 | 75 | 67 | 65 | 67 | 68 | 68 | 67 | 64 | 54 | 55 | 54 | 53 | 54 | 51 | 61 | 69 | 68 | 70 | 72 | 74 | 73 | 70 | 69 | 68 | 65 |
| Jun19 | 69 | 69 | 70 | 72 | 69 | 69 | 71 | 68 | 64 | 58 | 53 | 54 | 57 | 59 | 64 | 68 | 69 | 71 | 72 | 71 | 72 | 71 | 68 | 67 | 66 |
| Jun20 | 67 | 67 | 69 | 73 | 75 | 74 | 71 | 67 | 60 | 58 | 56 | 58 | 61 | 64 | 71 | 73 | 72 | 72 | 71 | 70 | 70 | 69 | 69 | 69 | 68 |
| Jun21 | 69 | 70 | 71 | 75 | 76 | 69 | 64 | 59 | 59 | 62 | 62 | 63 | 68 | 65 | 63 | 71 | 71 | 74 | 76 | 74 | 73 | 70 | 71 | 69 | 68 |
| Jun22 | 71 | 70 | 73 | 75 | 72 | 66 | 64 | 67 | 68 | 66 | 67 | 68 | 68 | 64 | 66 | 69 | 70 | 71 | 72 | 72 | 76 | 77 | 78 | 76 | 70 |
| Jun23 | 76 | 75 | 76 | 78 | 76 | 73 | 69 | 65 | 58 | 57 | 54 | 50 | 52 | 58 | 68 | 72 | 72 | 73 | 75 | 74 | 73 | 74 | 75 | 73 | 68 |
| Jun24 | 72 | 72 | 74 | 74 | 73 | 74 | 72 | 75 | 72 | 69 | 54 | 45 | 50 | 63 | 66 | 73 | 74 | 77 | 78 | 76 | 76 | 75 | 78 | 75 | 70 |
| Jun25 | 73 | 72 | 73 | 74 | 72 | 71 | 67 | 69 | 62 | 60 | 49 | 43 | 46 | 57 | 64 | 72 | 75 | 81 | 76 | 77 | 76 | 73 | 74 | 74 | 68 |
| Jun26 | 74 | 72 | 72 | 75 | 77 | 74 | 68 | 63 | 54 | 43 | 37 | 46 | 53 | 58 | 62 | 68 | 73 | 73 | 73 | 74 | 76 | 73 | 71 | 71 | 66 |
| Jun27 | 72 | 72 | 71 | 74 | 75 | 76 | 72 | 67 | 62 | 58 | 52 | 49 | 49 | 56 | 65 | 74 | 71 | 74 | 76 | 73 | 73 | 72 | 73 | 72 | 68 |
| Jun28 | 72 | 74 | 74 | 77 | 79 | 76 | 75 | 72 | 65 | 59 | 53 | 46 | 43 | 49 | 59 | 65 | 67 | 73 | 73 | 73 | 74 | 73 | 73 | 74 | 67 |
| Jun29 | 73 | 73 | 73 | 75 | 78 | 74 | 66 | 62 | 59 | 53 | 52 | 53 | 57 | 60 | 61 | 64 | 70 | 72 | 73 | 72 | 74 | 73 | 73 | 71 | 67 |
| Jun30 | 70 | 70 | 71 | 74 | 76 | 74 | 69 | 67 | 67 | 63 | 59 | 56 | 55 | 57 | 60 | 66 | 70 | 74 | 75 | 75 | 75 | 74 | 75 | 74 | 69 |

Table 8.7.  Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory. Please note: if data is missing within one hour/day, then means are not calculated.

2017, Field component: X, Base: 20900.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jul01 | 120 | 121 | 121 | 125 | 119 | 103 | 118 | 122 | 126 | 119 | 110 | 101 | 99 | 109 | 99 | 94 | 89 | 112 | 118 | 124 | 132 | 126 | 121 | 121 | 114 |
| Jul02 | 128 | 114 | 117 | 120 | 121 | 121 | 115 | 107 | 101 | 103 | 103 | 91 | 84 | 89 | 90 | 97 | 100 | 110 | 111 | 123 | 126 | 119 | 117 | 122 | 109 |
| Jul03 | 121 | 121 | 120 | 124 | 118 | 108 | 106 | 102 | 101 | 105 | 109 | 101 | 106 | 110 | 112 | 112 | 112 | 113 | 116 | 117 | 116 | 117 | 123 | 113 | 113 |
| Jul04 | 111 | 112 | 112 | 110 | 112 | 107 | 106 | 110 | 122 | 126 | 127 | 122 | 112 | 102 | 103 | 109 | 114 | 114 | 114 | 116 | 115 | 114 | 113 | 113 | 113 |
| Jul05 | 112 | 108 | 109 | 109 | 111 | 112 | 104 | 97 | 90 | 93 | 99 | 104 | 105 | 110 | 113 | 114 | 116 | 114 | 117 | 117 | 116 | 117 | 118 | 115 | 109 |
| Jul06 | 115 | 117 | 117 | 121 | 123 | 117 | 110 | 111 | 112 | 109 | 110 | 110 | 114 | 111 | 110 | 115 | 111 | 110 | 118 | 118 | 113 | 111 | 122 | 101 | 114 |
| Jul07 | 105 | 106 | 114 | 119 | 120 | 108 | 100 | 95 | 90 | 89 | 91 | 100 | 107 | 112 | 112 | 112 | 112 | 114 | 113 | 118 | 117 | 116 | 114 | 111 | 108 |
| Jul08 | 114 | 112 | 113 | 115 | 115 | 109 | 102 | 100 | 95 | 91 | 95 | 106 | 108 | 106 | 108 | 112 | 112 | 115 | 119 | 118 | 118 | 120 | 120 | 119 | 110 |
| Jul09 | 129 | 131 | 148 | 153 | 140 | 134 | 107 | 96 | 91 | 84 | 45 | 73 | 91 | 91 | 96 | 99 | 105 | 90 | 101 | 104 | 97 | 107 | 113 | 125 | 106 |
| Jul10 | 111 | 103 | 106 | 100 | 109 | 101 | 91 | 80 | 72 | 69 | 74 | 85 | 90 | 99 | 105 | 113 | 109 | 111 | 113 | 116 | 119 | 121 | 123 | 118 | 102 |
| Jul11 | 118 | 118 | 119 | 122 | 123 | 109 | 98 | 83 | 69 | 76 | 81 | 89 | 89 | 93 | 92 | 99 | 101 | 100 | 111 | 111 | 113 | 112 | 116 | 115 | 102 |
| Jul12 | 111 | 110 | 110 | 113 | 113 | 109 | 103 | 90 | 82 | 76 | 75 | 83 | 90 | 95 | 96 | 100 | 102 | 109 | 110 | 112 | 111 | 115 | 116 | 113 | 102 |
| Jul13 | 116 | 113 | 110 | 111 | 112 | 109 | 102 | 94 | 88 | 86 | 84 | 90 | 97 | 104 | 99 | 107 | 113 | 117 | 115 | 117 | 116 | 115 | 115 | 113 | 106 |
| Jul14 | 111 | 110 | 112 | 117 | 119 | 116 | 108 | 97 | 86 | 84 | 89 | 95 | 106 | 111 | 111 | 112 | 111 | 117 | 121 | 124 | 125 | 121 | 121 | 121 | 110 |
| Jul15 | 120 | 119 | 118 | 119 | 121 | 118 | 111 | 100 | 94 | 88 | 95 | 104 | 108 | 114 | 116 | 116 | 116 | 115 | 118 | 120 | 122 | 121 | 121 | 120 | 113 |
| Jul16 | 119 | 120 | 117 | 118 | 119 | ..: | ..: | 112 | 95 | 109 | 104 | 91 | 69 | 58 | 65 | 61 | 60 | 61 | 93 | 85 | 96 | 84 | 100 | 106 | ..: |
| Jul17 | 97 | 95 | 99 | 94 | 101 | 102 | 84 | 69 | 70 | 55 | 45 | 58 | 78 | 77 | 79 | 63 | 63 | 79 | 86 | 91 | 94 | 97 | 94 | 91 | 82 |
| Jul18 | 92 | 94 | 103 | 104 | 98 | 88 | 90 | 88 | 84 | 88 | 91 | 91 | 91 | 88 | 87 | 92 | 93 | 91 | 94 | 94 | 93 | 93 | 94 | 92 | 92 |
| Jul19 | 91 | 91 | 92 | 93 | 95 | 94 | 93 | 90 | 88 | 89 | 98 | ..: | ..: | ..: | ..: | 105 | 103 | 103 | 103 | 106 | 108 | 107 | 109 | 111 | ..: |
| Jul20 | 110 | 108 | 109 | 111 | 113 | 113 | 108 | 107 | 102 | 99 | 101 | 107 | 110 | 115 | 106 | 105 | 113 | 107 | 117 | 121 | 118 | 105 | 112 | 108 | 109 |
| Jul21 | 112 | 118 | 118 | 103 | 101 | 101 | 94 | 87 | 89 | 90 | 91 | 92 | 89 | 90 | 88 | 84 | ..: | 104 | 106 | 109 | 109 | 107 | 112 | 116 | ..: |
| Jul22 | 117 | 106 | 107 | 110 | 108 | 111 | 99 | 97 | 77 | 64 | 86 | 92 | 103 | 103 | 98 | 101 | 95 | 95 | 101 | 102 | 107 | 109 | 100 | 115 | 101 |
| Jul23 | 114 | 103 | 106 | 112 | 107 | 100 | 97 | 88 | 86 | 80 | 77 | 76 | 76 | 90 | 98 | 100 | 95 | 99 | 101 | 102 | 103 | 100 | 100 | 133 | 98 |
| Jul24 | 108 | 108 | 103 | 104 | 115 | 109 | 99 | 81 | 77 | 84 | 94 | 103 | 104 | 102 | 108 | 103 | 104 | 99 | 104 | 114 | 113 | 114 | 122 | 108 | 104 |
| Jul25 | 105 | 105 | 102 | 104 | 110 | 107 | 94 | 61 | 76 | 86 | 105 | 111 | 104 | 106 | 111 | 106 | 99 | 100 | 104 | 111 | 111 | 121 | 118 | 117 | 104 |
| Jul26 | 115 | 114 | 103 | 101 | 102 | 94 | 87 | 61 | 67 | 85 | 97 | 101 | 113 | 105 | 102 | 100 | 97 | 100 | 103 | 106 | 106 | 106 | 105 | 104 | 99 |
| Jul27 | 101 | 100 | 101 | 104 | 106 | 108 | 104 | 97 | 86 | 81 | 87 | 98 | 103 | 103 | 101 | 97 | 92 | 106 | 112 | 112 | 112 | 112 | 112 | 107 | 102 |
| Jul28 | 107 | 107 | 108 | 107 | 111 | 112 | 108 | 102 | 98 | 93 | 91 | 98 | 109 | 108 | 103 | 95 | 94 | 101 | 109 | 116 | 105 | 99 | 102 | 106 | 104 |
| Jul29 | 106 | 105 | 107 | 109 | 108 | 103 | 96 | 92 | 92 | 92 | 98 | 104 | 99 | 96 | 95 | 92 | 100 | 101 | 105 | 107 | 108 | 107 | 106 | 106 | 101 |
| Jul30 | 107 | 108 | 106 | 109 | 109 | 106 | 102 | 95 | 90 | 92 | 99 | 101 | 103 | 102 | 99 | 99 | 101 | ..: | 109 | 106 | 108 | 110 | 108 | 109 | ..: |
| Jul31 | 109 | 109 | 108 | 112 | 109 | 105 | 105 | 100 | 94 | 106 | 111 | 109 | 107 | 106 | 103 | 107 | 107 | 108 | 110 | 113 | 114 | 116 | 116 | 115 | 109 |

2017, Field component: Y, Base: 1400.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jul01 | 109 | 107 | 106 | 106 | 118 | 117 | 114 | 126 | 123 | 113 | 101 | 86 | 77 | 76 | 78 | 89 | 98 | 102 | 96 | 95 | 97 | 99 | 102 | 101 | 101 |
| Jul02 | 105 | 109 | 108 | 108 | 111 | 114 | 98 | 107 | 111 | 115 | 107 | 88 | 92 | 94 | 100 | 104 | 106 | 111 | 111 | 104 | 102 | 106 | 108 | 109 | 105 |
| Jul03 | 108 | 110 | 112 | 116 | 125 | 125 | 122 | 124 | 120 | 110 | 95 | 86 | 83 | 84 | 87 | 95 | 98 | 99 | 100 | 101 | 105 | 103 | 109 | 114 | 106 |

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Table 8.7 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jul04 | 111 | 112 | 113 | 118 | 123 | 129 | 125 | 122 | 124 | 121 | 113 | 106 | 99 | 96 | 93 | 92 | 94 | 97 | 99 | 101 | 104 | 116 | 113 | 109 | 110 |
| Jul05 | 111 | 115 | 116 | 120 | 125 | 130 | 134 | 135 | 127 | 112 | 95 | 80 | 70 | 72 | 81 | 92 | 101 | 101 | 101 | 102 | 103 | 104 | 106 | 110 | 106 |
| Jul06 | 111 | 112 | 114 | 117 | 126 | 137 | 142 | 143 | 134 | 119 | 100 | 86 | 77 | 76 | 81 | 90 | 98 | 100 | 103 | 104 | 108 | 110 | 128 | 123 | 110 |
| Jul07 | 115 | 114 | 109 | 116 | 127 | 135 | 135 | 130 | 130 | 116 | 97 | 78 | 67 | 64 | 69 | 82 | 94 | 107 | 108 | 102 | 102 | 106 | 112 | 107 | 105 |
| Jul08 | 103 | 108 | 112 | 117 | 127 | 135 | 140 | 138 | 127 | 105 | 87 | 77 | 76 | 80 | 84 | 93 | 100 | 102 | 101 | 103 | 106 | 105 | 105 | 107 | 106 |
| Jul09 | 107 | 116 | 99 | 145 | 151 | 153 | 150 | 149 | 139 | 119 | 100 | 90 | 79 | 79 | 85 | 94 | 100 | 120 | 107 | 117 | 128 | 117 | 107 | 111 | 115 |
| Jul10 | 122 | 113 | 117 | 112 | 123 | 133 | 134 | 137 | 131 | 118 | 99 | 88 | 85 | 87 | 90 | 94 | 99 | 103 | 101 | 102 | 102 | 102 | 102 | 106 | 108 |
| Jul11 | 109 | 108 | 110 | 111 | 120 | 127 | 129 | 129 | 124 | 113 | 100 | 88 | 80 | 81 | 80 | 89 | 104 | 105 | 108 | 105 | 105 | 105 | 102 | 112 | 106 |
| Jul12 | 115 | 110 | 110 | 111 | 118 | 131 | 140 | 144 | 134 | 116 | 100 | 87 | 76 | 71 | 79 | 94 | 104 | 110 | 107 | 105 | 104 | 106 | 105 | 106 | 108 |
| Jul13 | 105 | 106 | 109 | 118 | 126 | 134 | 139 | 142 | 135 | 122 | 106 | 95 | 91 | 85 | 85 | 92 | 99 | 103 | 106 | 105 | 108 | 104 | 105 | 109 | 110 |
| Jul14 | 111 | 112 | 113 | 120 | 128 | 136 | 137 | 136 | 128 | 114 | 95 | 83 | 76 | 73 | 81 | 90 | 98 | 101 | 100 | 101 | 102 | 102 | 105 | 106 | 106 |
| Jul15 | 107 | 108 | 111 | 115 | 127 | 138 | 137 | 135 | 124 | 111 | 98 | 89 | 78 | 75 | 81 | 91 | 98 | 101 | 101 | 100 | 102 | 102 | 104 | 105 | 106 |
| Jul16 | 109 | 104 | 113 | 119 | 125 | : | : | 129 | 121 | 105 | 91 | 75 | 62 | 55 | 64 | 97 | 135 | 104 | 113 | 110 | 114 | 136 | 128 | 113 | : |
| Jul17 | 124 | 115 | 113 | 101 | 127 | 119 | 123 | 137 | 132 | 126 | 110 | 94 | 90 | 84 | 78 | 120 | 117 | 106 | 107 | 108 | 110 | 112 | 113 | 115 | 112 |
| Jul18 | 121 | 121 | 122 | 124 | 135 | 135 | 129 | 120 | 111 | 101 | 94 | 94 | 96 | 97 | 101 | 109 | 116 | 114 | 111 | 111 | 112 | 110 | 112 | 116 | 113 |
| Jul19 | 117 | 117 | 119 | 122 | 127 | 133 | 130 | 129 | 123 | 110 | 98 | : | : | : | : | 102 | 105 | 107 | 109 | 105 | 108 | 103 | 106 | 108 | : |
| Jul20 | 110 | 111 | 111 | 115 | 124 | 129 | 126 | 123 | 116 | 106 | 91 | 80 | 80 | 86 | 91 | 97 | : | 101 | 102 | 99 | 103 | 121 | 120 | 112 | : |
| Jul21 | 112 | 108 | 130 | 137 | 133 | 142 | 138 | 125 | 126 | 119 | 109 | 98 | 90 | 91 | 94 | 104 | 105 | 112 | 110 | 106 | 106 | 108 | 114 | 110 | 108 |
| Jul22 | 120 | 119 | 117 | 116 | 118 | 121 | 119 | 119 | 113 | 100 | 100 | 91 | 86 | 88 | 93 | 103 | 109 | 113 | 107 | 104 | 106 | 108 | 118 | 111 | 108 |
| Jul23 | 115 | 112 | 118 | 120 | 121 | 118 | 116 | 111 | 106 | 100 | 95 | 83 | 76 | 85 | 90 | 100 | 109 | 117 | 109 | 114 | 121 | 130 | 118 | 105 | 110 |
| Jul24 | 116 | 120 | 119 | 118 | 123 | 127 | 121 | 117 | 116 | 108 | 100 | 91 | 87 | 94 | 90 | 94 | 100 | 102 | 110 | 106 | 113 | 119 | 123 | 122 | 110 |
| Jul25 | 111 | 108 | 112 | 118 | 125 | 132 | 134 | 131 | 119 | 103 | 84 | 65 | 62 | 71 | 78 | 86 | 97 | 109 | 109 | 106 | 110 | 111 | 108 | 123 | 105 |
| Jul26 | 105 | 111 | 124 | 120 | 128 | 132 | 131 | 120 | 110 | 98 | 88 | 89 | 93 | 94 | 98 | 101 | 105 | 105 | 107 | 107 | 106 | 107 | 109 | 112 | 108 |
| Jul27 | 114 | 115 | 116 | 119 | 128 | 131 | 136 | 136 | 133 | 123 | 110 | 100 | 102 | 99 | 95 | 101 | 107 | 109 | 108 | 105 | 105 | 104 | 108 | 119 | 113 |
| Jul28 | 113 | 113 | 112 | 113 | 118 | 124 | 126 | 133 | 133 | 124 | 114 | 100 | 86 | 81 | 82 | 94 | 105 | 107 | 110 | 116 | 125 | 116 | 111 | 110 | 111 |
| Jul29 | 111 | 113 | 113 | 115 | 128 | 133 | 130 | 130 | 123 | 111 | 102 | 97 | 91 | 82 | 84 | 94 | 106 | : | 104 | 106 | 109 | 111 | 112 | 110 | : |
| Jul30 | 112 | 115 | 113 | 115 | 123 | 129 | 129 | 129 | 131 | 125 | 117 | 106 | 100 | 96 | 99 | 104 | 108 | 102 | 108 | 105 | 105 | 105 | 107 | 110 | 106 |
| Jul31 | 113 | 115 | 115 | 115 | 126 | 129 | 123 | 119 | 114 | 106 | 94 | 86 | 86 | 90 | 94 | 98 | 103 | 102 | 101 | 104 | 102 | 103 | 106 | 106 | 106 |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jul01 | 63 | 64 | 65 | 65 | 65 | 67 | 65 | 66 | 63 | 54 | 47 | 49 | 51 | 55 | 64 | 68 | 67 | 73 | 74 | 70 | 67 | 67 | 66 | 66 | 63 |
| Jul02 | 63 | 64 | 65 | 67 | 67 | 65 | 65 | 61 | 63 | 55 | 46 | 45 | 50 | 54 | 61 | 69 | 72 | 72 | 71 | 69 | 66 | 67 | 67 | 67 | 63 |
| Jul03 | 66 | 65 | 65 | 65 | 65 | 61 | 58 | 57 | 52 | 46 | 47 | 50 | 49 | 52 | 60 | 64 | 64 | 62 | 65 | 66 | 66 | 66 | 64 | 64 | 60 |
| Jul04 | 65 | 65 | 66 | 66 | 65 | 63 | 66 | 65 | 60 | 56 | 50 | 47 | 53 | 53 | 52 | 58 | 62 | 64 | 66 | 66 | 66 | 66 | 66 | 65 | 61 |
| Jul05 | 65 | 65 | 66 | 67 | 65 | 65 | 63 | 67 | 67 | 64 | 53 | 50 | 54 | 60 | 66 | 68 | 68 | 66 | 67 | 66 | 65 | 65 | 65 | 65 | 64 |
| Jul06 | 65 | 65 | 65 | 66 | 65 | 66 | 64 | 59 | 59 | 54 | 45 | 45 | 52 | 53 | 55 | 64 | 68 | 66 | 67 | 68 | 68 | 68 | 66 | 67 | 62 |
| Jul07 | 67 | 67 | 67 | 67 | 67 | 64 | 64 | 61 | 60 | 60 | 59 | 59 | 55 | 53 | 59 | 68 | 70 | 69 | 67 | 66 | 66 | 66 | 65 | 66 | 64 |

Table 8.7  (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jul08 | 66 | 65 | 65 | 67 | 68 | 67 | 64 | 62 | 62 | 58 | 49 | 52 | 55 | 57 | 59 | 65 | 66 | 66 | 65 | 66 | 66 | 65 | 65 | 65 | 63 |
| Jul09 | 64 | 63 | 61 | 55 | 60 | 57 | 56 | 59 | 59 | 55 | 55 | 52 | 51 | 57 | 65 | 70 | 75 | 81 | 78 | 76 | 76 | 73 | 71 | 65 | 64 |
| Jul10 | 62 | 66 | 68 | 68 | 67 | 68 | 65 | 61 | 64 | 64 | 62 | 58 | 58 | 61 | 63 | 69 | 69 | 70 | 69 | 68 | 68 | 68 | 68 | 67 | 65 |
| Jul11 | 67 | 67 | 68 | 70 | 70 | 72 | 69 | 67 | 68 | 67 | 59 | 57 | 57 | 60 | 67 | 72 | 75 | 73 | 71 | 70 | 68 | 68 | 68 | 67 | 67 |
| Jul12 | 67 | 66 | 68 | 70 | 71 | 72 | 77 | 75 | 72 | 68 | 61 | 57 | 55 | 59 | 63 | 70 | 71 | 71 | 69 | 69 | 68 | 68 | 69 | 68 | 68 |
| Jul13 | 67 | 66 | 68 | 71 | 73 | 69 | 67 | 65 | 61 | 60 | 54 | 53 | 55 | 60 | 62 | 65 | 69 | 71 | 70 | 68 | 67 | 68 | 67 | 67 | 65 |
| Jul14 | 67 | 66 | 69 | 71 | 72 | 71 | 70 | 70 | 64 | 66 | 63 | 57 | 53 | 56 | 62 | 67 | 67 | 67 | 66 | 65 | 65 | 65 | 65 | 65 | 65 |
| Jul15 | 65 | 67 | 65 | 67 | 69 | 71 | 70 | 66 | 63 | 61 | 55 | 45 | 41 | 49 | 58 | 64 | 66 | 66 | 64 | 65 | 65 | 66 | 66 | 65 | 62 |
| Jul16 | 65 | 65 | 65 | 68 | 69 | :: | 67 | 60 | 66 | 65 | 60 | 74 | 91 | 101 | 109 | 120 | 114 | 100 | 92 | 88 | 83 | 80 | 78 | 73 | :: |
| Jul17 | 72 | 73 | 72 | 71 | 70 | 71 | 67 | 67 | 66 | 64 | 67 | 66 | 65 | 66 | 75 | 101 | 97 | 86 | 81 | 77 | 77 | 76 | 76 | 75 | 74 |
| Jul18 | 75 | 74 | 73 | 71 | 72 | 66 | 67 | 69 | 68 | 63 | 60 | 63 | 69 | 72 | 71 | 71 | 72 | 74 | 74 | 75 | 75 | 71 | 74 | 74 | 71 |
| Jul19 | 73 | 73 | 74 | 75 | 75 | 71 | 71 | 73 | 73 | 69 | 65 | 62 | :: | :: | 66 | 70 | 71 | 73 | 74 | 72 | 74 | 73 | 71 | 72 | :: |
| Jul20 | 71 | 71 | 70 | 72 | 72 | 70 | 71 | 71 | 68 | 61 | 61 | 59 | 58 | 62 | 66 | 69 | 70 | 69 | 70 | 72 | 72 | 73 | 71 | 71 | 69 |
| Jul21 | 71 | 69 | 62 | 67 | 71 | 71 | 71 | 70 | 66 | 65 | 61 | 57 | 58 | 63 | 71 | 79 | 78 | 74 | 72 | 72 | 74 | 71 | 74 | 70 | 69 |
| Jul22 | 66 | 68 | 70 | 71 | 73 | 72 | 70 | 69 | 67 | 64 | 59 | 58 | 61 | 66 | 72 | 76 | 79 | 74 | 74 | 74 | 73 | 74 | 74 | 73 | 70 |
| Jul23 | 69 | 70 | 71 | 72 | 73 | 71 | 66 | 65 | 67 | 66 | 69 | 71 | 71 | 68 | 73 | 77 | 79 | 76 | 76 | 74 | 74 | 73 | 71 | 66 | 71 |
| Jul24 | 65 | 69 | 72 | 73 | 73 | 72 | 72 | 76 | 76 | 66 | 72 | 68 | 65 | 66 | 73 | 77 | 79 | 79 | 77 | 74 | 74 | 73 | 70 | 70 | 72 |
| Jul25 | 71 | 71 | 71 | 73 | 73 | 69 | 66 | 66 | 61 | 54 | 48 | 49 | 47 | 53 | 61 | 68 | 72 | 75 | 74 | 75 | 75 | 73 | 70 | 68 | 66 |
| Jul26 | 67 | 66 | 67 | 72 | 73 | 72 | 71 | 71 | 71 | 67 | 61 | 61 | 63 | 65 | 68 | 74 | 75 | 74 | 74 | 74 | 74 | 73 | 71 | 73 | 70 |
| Jul27 | 73 | 73 | 74 | 76 | 76 | 73 | 68 | 64 | 62 | 61 | 61 | 66 | 67 | 64 | 65 | 72 | 73 | 72 | 72 | 71 | 71 | 71 | 73 | 71 | 69 |
| Jul28 | 71 | 70 | 70 | 72 | 74 | 72 | 71 | 68 | 69 | 68 | 63 | 60 | 60 | 61 | 68 | 76 | 80 | 76 | 75 | 75 | 75 | 74 | 74 | 73 | 71 |
| Jul29 | 73 | 73 | 73 | 74 | 73 | 72 | 72 | 69 | 68 | 62 | 59 | 60 | 61 | 62 | 67 | 73 | 74 | 75 | 74 | 74 | 74 | 73 | 74 | 73 | 70 |
| Jul30 | 72 | 71 | 72 | 73 | 75 | 74 | 74 | 71 | 68 | 65 | 62 | 60 | 61 | 63 | 67 | 69 | 72 | :: | 73 | 73 | 73 | 72 | 72 | 72 | :: |
| Jul31 | 72 | 71 | 72 | 72 | 75 | 72 | 74 | 67 | 62 | 60 | 59 | 60 | 66 | 69 | 67 | 69 | 71 | 73 | 71 | 72 | 71 | 71 | 71 | 71 | 69 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jul01 | 73 | 74 | 75 | 76 | 74 | 69 | 74 | 76 | 76 | 64 | 53 | 52 | 52 | 60 | 63 | 66 | 63 | 78 | 81 | 80 | 81 | 78 | 76 | 76 | 71 |
| Jul02 | 76 | 71 | 73 | 76 | 77 | 71 | 72 | 66 | 64 | 58 | 50 | 43 | 44 | 51 | 58 | 68 | 72 | 77 | 77 | 79 | 78 | 76 | 75 | 77 | 68 |
| Jul03 | 76 | 75 | 75 | 77 | 74 | 66 | 62 | 59 | 57 | 52 | 53 | 52 | 53 | 58 | 66 | 69 | 70 | 68 | 73 | 74 | 74 | 74 | 75 | 71 | 67 |
| Jul04 | 71 | 71 | 72 | 72 | 71 | 68 | 69 | 70 | 71 | 70 | 64 | 59 | 59 | 56 | 55 | 63 | 69 | 71 | 72 | 74 | 73 | 73 | 72 | 72 | 68 |
| Jul05 | 71 | 70 | 71 | 72 | 72 | 72 | 67 | 67 | 64 | 62 | 55 | 53 | 57 | 65 | 71 | 74 | 75 | 73 | 75 | 76 | 73 | 73 | 74 | 72 | 69 |
| Jul06 | 73 | 73 | 74 | 76 | 77 | 75 | 71 | 68 | 66 | 61 | 52 | 52 | 60 | 59 | 61 | 71 | 73 | 71 | 75 | 74 | 74 | 73 | 77 | 68 | 69 |
| Jul07 | 70 | 71 | 74 | 76 | 77 | 70 | 66 | 61 | 58 | 57 | 57 | 59 | 58 | 59 | 65 | 73 | 75 | 76 | 74 | 74 | 74 | 72 | 72 | 71 | 69 |
| Jul08 | 72 | 71 | 72 | 74 | 75 | 73 | 67 | 64 | 62 | 56 | 49 | 55 | 60 | 60 | 64 | 69 | 72 | 74 | 78 | 78 | 75 | 75 | 75 | 75 | 68 |
| Jul09 | 78 | 78 | 83 | 81 | 80 | 75 | 67 | 60 | 57 | 54 | 33 | 42 | 48 | 54 | 63 | 74 | 77 | 76 | 74 | 74 | 75 | 77 | 77 | 77 | 68 |
| Jul10 | 69 | 68 | 71 | 68 | 72 | 70 | 63 | 55 | 54 | 52 | 52 | 52 | 55 | 61 | 66 | 74 | 73 | 75 | 74 | 78 | 76 | 77 | 78 | 76 | 67 |
| Jul11 | 76 | 76 | 77 | 80 | 81 | 76 | 70 | 61 | 56 | 58 | 52 | 53 | 53 | 57 | 64 | 71 | 76 | 73 | 76 | 75 | 74 | 74 | 75 | 74 | 69 |

Table 8.7 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jul12 | 72 | 72 | 73 | 76 | 77 | 77 | 79 | 72 | 66 | 58 | 52 | 50 | 51 | 57 | 61 | 70 | 72 | 75 | 74 | 74 | 73 | 75 | 76 | 75 | 69 |
| Jul13 | 74 | 73 | 73 | 76 | 79 | 74 | 70 | 64 | 58 | 56 | 49 | 50 | 55 | 62 | 62 | 68 | 75 | 78 | 77 | 76 | 75 | 74 | 74 | 73 | 69 |
| Jul14 | 72 | 72 | 74 | 79 | 81 | 79 | 75 | 70 | 60 | 60 | 59 | 56 | 57 | 62 | 67 | 73 | 73 | 75 | 75 | 76 | 77 | 75 | 75 | 75 | 71 |
| Jul15 | 74 | 74 | 74 | 76 | 79 | 79 | 73 | 67 | 62 | 57 | 55 | 49 | 47 | 57 | 65 | 71 | 73 | 73 | 73 | 74 | 75 | 75 | 76 | 74 | 69 |
| Jul16 | 74 | 74 | 73 | 77 | 79 | 74 | 79 | 67 | 63 | 70 | 62 | 69 | 75 | 78 | 89 | 98 | 94 | 80 | 88 | 80 | 80 | 73 | 79 | 76 | 77 |
| Jul17 | 71 | 71 | 73 | 69 | 71 | 72 | 61 | 55 | 55 | 46 | 44 | 48 | 56 | 56 | 65 | .. | 79 | 76 | 74 | 73 | 74 | 74 | 73 | 72 | .. |
| Jul18 | 72 | 72 | 74 | 74 | 72 | 63 | 64 | 65 | 62 | 59 | 57 | 60 | 65 | 67 | 66 | 68 | 70 | 71 | 71 | 72 | 72 | 72 | 71 | 70 | 68 |
| Jul19 | 70 | 70 | 71 | 73 | 74 | 70 | 69 | 69 | 68 | .. | .. | 66 | .. | 69 | 66 | .. | 72 | 74 | 76 | 77 | 77 | 76 | 76 | 77 | .. |
| Jul20 | 76 | 75 | 75 | 77 | 78 | 77 | 75 | 75 | 70 | 62 | 62 | 63 | 63 | 69 | 69 | 72 | 76 | 73 | 78 | 81 | 79 | 76 | 78 | 75 | 73 |
| Jul21 | 77 | 77 | 71 | 70 | 72 | 73 | 70 | 65 | 62 | 62 | 58 | 55 | 55 | 59 | 66 | 71 | 74 | 76 | 75 | 76 | 75 | 78 | 77 | 77 | 70 |
| Jul22 | 75 | 72 | 74 | 76 | 78 | 76 | 71 | 68 | 58 | 50 | 54 | 56 | 64 | 67 | 71 | 76 | 77 | 72 | 77 | 78 | 78 | 75 | 78 | 79 | 71 |
| Jul23 | 76 | 73 | 74 | 78 | 76 | 72 | 66 | 61 | 61 | 58 | 59 | 60 | 60 | 64 | 74 | 76 | 76 | 76 | 75 | 75 | 77 | 75 | 74 | 82 | 71 |
| Jul24 | 70 | 71 | 75 | 79 | 80 | 75 | 72 | 70 | 66 | 69 | 69 | 70 | 67 | 68 | 76 | 77 | 80 | 78 | 78 | 80 | 80 | 79 | 81 | 75 | 74 |
| Jul25 | 73 | 73 | 73 | 75 | 78 | 74 | 65 | 59 | 53 | 50 | 52 | 55 | 50 | 56 | 66 | 70 | 71 | 75 | 75 | 80 | 79 | 82 | 79 | 76 | 69 |
| Jul26 | 74 | 73 | 69 | 73 | 74 | 69 | 67 | 55 | 57 | 61 | 60 | 62 | 69 | 68 | 69 | 73 | 74 | 74 | 75 | 77 | 76 | 75 | 75 | 75 | 70 |
| Jul27 | 74 | 74 | 74 | 77 | 79 | 77 | 71 | 65 | 57 | 55 | 57 | 66 | 69 | 66 | 66 | 71 | 70 | 75 | 77 | 77 | 76 | 76 | 76 | 75 | 71 |
| Jul28 | 74 | 74 | 74 | 76 | 79 | 79 | 75 | 70 | 69 | 66 | 61 | 60 | 65 | 65 | 69 | 74 | 77 | 76 | 79 | 82 | 75 | 73 | 74 | 77 | 73 |
| Jul29 | 76 | 75 | 76 | 78 | 77 | 74 | 71 | 67 | 65 | 60 | 60 | 63 | 61 | 60 | 64 | 69 | 74 | 75 | 76 | 75 | 77 | 77 | 78 | 79 | 71 |
| Jul30 | 75 | 75 | 75 | 78 | 79 | 77 | 75 | 69 | 65 | 63 | 63 | 62 | 63 | 65 | 67 | 69 | 72 | 75 | 77 | 76 | 76 | 77 | 76 | 76 | 72 |
| Jul31 | 76 | 76 | 76 | 78 | 79 | 76 | 73 | 69 | 65 | 64 | 65 | 64 | 69 | 71 | 69 | 72 | 74 | 76 | 76 | 77 | 78 | 78 | 78 | 78 | 73 |

Table 8.8. Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory. Please note: if data is missing within one hour/day, then means are not calculated.

2017, Field component: X, Base: 20900.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aug01 | 113 | 113 | 113 | 112 | 110 | 108 | 105 | 108 | 104 | 103 | 102 | 104 | 113 | 110 | 112 | 112 | 111 | 109 | 114 | 115 | 117 | 118 | 117 | 119 | 111 |
| Aug02 | 117 | 113 | 111 | 112 | 112 | 108 | 108 | 103 | 94 | 90 | 96 | 108 | 113 | 115 | 106 | 102 | 107 | 109 | 111 | 115 | 114 | 110 | 113 | 112 | 109 |
| Aug03 | 109 | 109 | 107 | 107 | 110 | 108 | 99 | 91 | 84 | 87 | 95 | 110 | 119 | 119 | 118 | 112 | 115 | 108 | 111 | 123 | 138 | 114 | 118 | 128 | 110 |
| Aug04 | 130 | 137 | 133 | 132 | 139 | 129 | 112 | 101 | 75 | 80 | 90 | 83 | 93 | 81 | 71 | 61 | 83 | 82 | 96 | 102 | 105 | 117 | 112 | 107 | 102 |
| Aug05 | 104 | 109 | 108 | 108 | 110 | 88 | 86 | 76 | 73 | 83 | 88 | 90 | 94 | 90 | 87 | 93 | 95 | 94 | 102 | 103 | 113 | 113 | 107 | 104 | 97 |
| Aug06 | 112 | 117 | 103 | 105 | 103 | 95 | 90 | 86 | 87 | 73 | 91 | 110 | 106 | 97 | 100 | 96 | 97 | 98 | 99 | 106 | 110 | 122 | 107 | 101 | 100 |
| Aug07 | 102 | 103 | 104 | 106 | 106 | 96 | 85 | 77 | 75 | 78 | 92 | 98 | 96 | 100 | 99 | 98 | 101 | 104 | 106 | 109 | 107 | 107 | 105 | 105 | 98 |
| Aug08 | 106 | 106 | 106 | 104 | 107 | 105 | 99 | 90 | 83 | 87 | 95 | 105 | 112 | 113 | 108 | 105 | 107 | 101 | 106 | 111 | 112 | 113 | 112 | 110 | 104 |
| Aug09 | 110 | 110 | 109 | 108 | 109 | 108 | 101 | 99 | 100 | 101 | 103 | 108 | 107 | 107 | 107 | 104 | 101 | 108 | 108 | 106 | 107 | 108 | 112 | 110 | 106 |
| Aug10 | 109 | 110 | 110 | 110 | 109 | 106 | 105 | 102 | 98 | 101 | 110 | 117 | 121 | 122 | 112 | 110 | 108 | 106 | 113 | .. | .. | .. | 119 | 114 | .. |
| Aug11 | 112 | 113 | 116 | 115 | 112 | 104 | 99 | 104 | 108 | 113 | 114 | 108 | 110 | 110 | 105 | 103 | 108 | 115 | 119 | 117 | 102 | 114 | 118 | 120 | 111 |
| Aug12 | 122 | 116 | 113 | 128 | 116 | 107 | 98 | 92 | 91 | 99 | 104 | 109 | 109 | 110 | 105 | 109 | 111 | 112 | 116 | 116 | 120 | 111 | 113 | 122 | 110 |
| Aug13 | 118 | 105 | 104 | 104 | 108 | 107 | 104 | 94 | 93 | 91 | 94 | 96 | 100 | 105 | 108 | 107 | 109 | 105 | 109 | 114 | 114 | 123 | 122 | 111 | 106 |
| Aug14 | 108 | 116 | 106 | 105 | 107 | 104 | 97 | 93 | 93 | 98 | 107 | 107 | 104 | 106 | 107 | 103 | 106 | 107 | 105 | 109 | 111 | 110 | 109 | 110 | 105 |
| Aug15 | 110 | 109 | 109 | 108 | 110 | 106 | 98 | 95 | 93 | 92 | 97 | 103 | 113 | 117 | 116 | 113 | 113 | 110 | 112 | 117 | 119 | 120 | 109 | 124 | 109 |
| Aug16 | 123 | 125 | 115 | 113 | 117 | 115 | 104 | 91 | 86 | 91 | 102 | 108 | 109 | 117 | 116 | 109 | 105 | 105 | 104 | 106 | 108 | 114 | 117 | 125 | 109 |
| Aug17 | 128 | 115 | 114 | 117 | 115 | 116 | 117 | 107 | 75 | 77 | 84 | 99 | 65 | 76 | 73 | 82 | 76 | 72 | 77 | 103 | 103 | 104 | 115 | 110 | 97 |
| Aug18 | 101 | 104 | 107 | 111 | 101 | 96 | 89 | 82 | 83 | 86 | 100 | 112 | 102 | 88 | 74 | 85 | 85 | 72 | 79 | 83 | 98 | 113 | 112 | 102 | 95 |
| Aug19 | 107 | 135 | 109 | 110 | 102 | 95 | 72 | 80 | 46 | 64 | 86 | 92 | 82 | 95 | 98 | 88 | 99 | 85 | 94 | 83 | 104 | 118 | 128 | 109 | 96 |
| Aug20 | 105 | 103 | 96 | 101 | 109 | 93 | 84 | 74 | 69 | 71 | 82 | 93 | 97 | 100 | 102 | 90 | 86 | 95 | 98 | 94 | 106 | 97 | 104 | 105 | 94 |
| Aug21 | 98 | 96 | 97 | 98 | 95 | 94 | 86 | 73 | 57 | 59 | 86 | 107 | 113 | 116 | 112 | 104 | 101 | 101 | 107 | 103 | 106 | 118 | 121 | 111 | 98 |
| Aug22 | 110 | 112 | 122 | 137 | 113 | 118 | 101 | 83 | 73 | 84 | 85 | 93 | 93 | 98 | 97 | 95 | 98 | 107 | 110 | 106 | 107 | 128 | 124 | 103 | 104 |
| Aug23 | 94 | 100 | 107 | 90 | 101 | 90 | 74 | 69 | 59 | 72 | 80 | 75 | 66 | 60 | 52 | 76 | 62 | 68 | 71 | 85 | 85 | 93 | 96 | 103 | 80 |
| Aug24 | 93 | 93 | 94 | 94 | 101 | 88 | 77 | 74 | 63 | 66 | 72 | 67 | 68 | 77 | 84 | 96 | 98 | 99 | 86 | 105 | 103 | 99 | 100 | 100 | 88 |
| Aug25 | 101 | 100 | 99 | 100 | 100 | 99 | 92 | 81 | 73 | 73 | 78 | 82 | 95 | 108 | 106 | 102 | 100 | 99 | 103 | 105 | 102 | 107 | 102 | 104 | 96 |
| Aug26 | 104 | 105 | 106 | 106 | 106 | 107 | 99 | 87 | 75 | 70 | 82 | 97 | 101 | 104 | 98 | 98 | 102 | 101 | 102 | 101 | 101 | 103 | 105 | 106 | 99 |
| Aug27 | 104 | 105 | 110 | 107 | 109 | 110 | 106 | 96 | 87 | 84 | 73 | 88 | 108 | 113 | .. | 102 | 84 | 83 | 73 | 73 | 82 | 74 | 82 | 83 | .. |
| Aug28 | 91 | 92 | 95 | 98 | 95 | 92 | 88 | 78 | 70 | 68 | 79 | 86 | 93 | 98 | 97 | 95 | 95 | 98 | 100 | 103 | 102 | 102 | 99 | 103 | 92 |
| Aug29 | 107 | 110 | 108 | 108 | 112 | 106 | 97 | 88 | 83 | 82 | 80 | 86 | 93 | 98 | 103 | 104 | 108 | 117 | 112 | 110 | 102 | 105 | 110 | 107 | 102 |
| Aug30 | 105 | 104 | 108 | 112 | 110 | 108 | 105 | 97 | 87 | 88 | 91 | 95 | 102 | 105 | 108 | 110 | 110 | 109 | 110 | 111 | 111 | 112 | 113 | 112 | 105 |
| Aug31 | 112 | 112 | 117 | 119 | 119 | 126 | 158 | 136 | 89 | 55 | 51 | 57 | 76 | 43 | 44 | 69 | 58 | 82 | 80 | 93 | 85 | 100 | 101 | 94 | 90 |

2017, Field component: Y, Base: 1400.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aug01 | 109 | 110 | 114 | 117 | 124 | 129 | 131 | 126 | 116 | 96 | 81 | 75 | 73 | 86 | 95 | 101 | 104 | 102 | 102 | 102 | 106 | 109 | 112 | 113 | 106 |
| Aug02 | 113 | 113 | 115 | 119 | 125 | 129 | 128 | 127 | 120 | 109 | 95 | 80 | 79 | 83 | 92 | 97 | 106 | 109 | 108 | 106 | 107 | 110 | 114 | 114 | 109 |
| Aug03 | 113 | 112 | 115 | 119 | 124 | 129 | 132 | 133 | 124 | 108 | 92 | 82 | 76 | 73 | 76 | 86 | 101 | 100 | 101 | 101 | 115 | 114 | 115 | 113 | 106 |

Table 8.8 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aug04 | 122 | 123 | 124 | 124 | 136 | 140 | 136 | 131 | 109 | 86 | 83 | 72 | 76 | 72 | 73 | 99 | 98 | 108 | 116 | 116 | 111 | 111 | 112 | 114 | 108 |
| Aug05 | 113 | 109 | 115 | 120 | 125 | 128 | 132 | 128 | 118 | 109 | 95 | 87 | 84 | 83 | 98 | 105 | 105 | 129 | 137 | 110 | 120 | 120 | 118 | 113 | 113 |
| Aug06 | 102 | 115 | 120 | 125 | 130 | 131 | 130 | 127 | 112 | 101 | 91 | 87 | 87 | 97 | 102 | 106 | 110 | 113 | 125 | 111 | 112 | 115 | 116 | 114 | 112 |
| Aug07 | 115 | 117 | 116 | 117 | 127 | 135 | 133 | 130 | 119 | 107 | 94 | 82 | 83 | 90 | 100 | 108 | 114 | 110 | 106 | 107 | 111 | 112 | 113 | 112 | 111 |
| Aug08 | 114 | 115 | 115 | 118 | 127 | 129 | 125 | 120 | 110 | 99 | 89 | 82 | 86 | 90 | 95 | 107 | 116 | 112 | 107 | 106 | 108 | 110 | 111 | 112 | 108 |
| Aug09 | 113 | 115 | 116 | 119 | 125 | 129 | 129 | 127 | 121 | 106 | 95 | 87 | 85 | 89 | 94 | 104 | 113 | 115 | 113 | 112 | 112 | 112 | 115 | 112 | 111 |
| Aug10 | 113 | 114 | 116 | 119 | 126 | 126 | 123 | 116 | 107 | 100 | 88 | 80 | 77 | 80 | 93 | 104 | 110 | 109 | 107 | 108 | : | : | 115 | 114 | : |
| Aug11 | 115 | 112 | 115 | 118 | 125 | 130 | 134 | 136 | 129 | 114 | 99 | 92 | 87 | 84 | 79 | 86 | 100 | 105 | 104 | 115 | 114 | 114 | 113 | 113 | 110 |
| Aug12 | 114 | 116 | 118 | 109 | 124 | 130 | 134 | 136 | 129 | 115 | 100 | 87 | 86 | 90 | 97 | 102 | 107 | 107 | 109 | 114 | 124 | 115 | 114 | 121 | 112 |
| Aug13 | 125 | 125 | 124 | 119 | 124 | 135 | 138 | 136 | 125 | 105 | 87 | 76 | 78 | 82 | 87 | 97 | 107 | 112 | 111 | 112 | 112 | 115 | 120 | 119 | 111 |
| Aug14 | 115 | 113 | 117 | 117 | 122 | 122 | 125 | 128 | 123 | 114 | 103 | 89 | 85 | 87 | 93 | 100 | 107 | 113 | 118 | 112 | 110 | 111 | 111 | 113 | 110 |
| Aug15 | 115 | 117 | 121 | 123 | 130 | 141 | 146 | 143 | 130 | 115 | 102 | 93 | 88 | 90 | 95 | 101 | 107 | 110 | 108 | 107 | 108 | 109 | 109 | 119 | 113 |
| Aug16 | 114 | 119 | 122 | 122 | 126 | 127 | 124 | 119 | 112 | 103 | 96 | 89 | 90 | 91 | 92 | 95 | 102 | 103 | 102 | 112 | 110 | 113 | 116 | 122 | 109 |
| Aug17 | 117 | 121 | 118 | 123 | 129 | 129 | 133 | 134 | 120 | 102 | 86 | 74 | 63 | 80 | 96 | 94 | 103 | 116 | 134 | 122 | 117 | 110 | 126 | 114 | 111 |
| Aug18 | 117 | 113 | 104 | 124 | 140 | 141 | 140 | 140 | 129 | 112 | 104 | 97 | 92 | 90 | 96 | 102 | 110 | 119 | 159 | 132 | 115 | 112 | 112 | 126 | 117 |
| Aug19 | 113 | 115 | 133 | 139 | 141 | 140 | 131 | 128 | 111 | 102 | 97 | 79 | 87 | 94 | 92 | 106 | 155 | 120 | 118 | 117 | 128 | 148 | 118 | 112 | 118 |
| Aug20 | 133 | 113 | 103 | 91 | 119 | 135 | 142 | 136 | 130 | 120 | 106 | 90 | 90 | 95 | 100 | 109 | 118 | 143 | 128 | 123 | 117 | 125 | 118 | 140 | 116 |
| Aug21 | 117 | 116 | 118 | 121 | 129 | 135 | 138 | 136 | 130 | 99 | 86 | 78 | 81 | 94 | 107 | 112 | 115 | 114 | 114 | 111 | 112 | 118 | 122 | 129 | 113 |
| Aug22 | 121 | 115 | 116 | 116 | 136 | 140 | 142 | 137 | 128 | 110 | 95 | 83 | 80 | 90 | 99 | 106 | 109 | 112 | 107 | 111 | 118 | 127 | 138 | 122 | 116 |
| Aug23 | 129 | 124 | 135 | 134 | 132 | 139 | 145 | 137 | 125 | 109 | 94 | 72 | 76 | 80 | 91 | 115 | 126 | 143 | 165 | 119 | 115 | 118 | 132 | 138 | 120 |
| Aug24 | 127 | 125 | 113 | 123 | 124 | 135 | 139 | 142 | 133 | 116 | 99 | 90 | 83 | 89 | 103 | 114 | 112 | 111 | 108 | 110 | 115 | 115 | 116 | 129 | 115 |
| Aug25 | 117 | 119 | 120 | 124 | 131 | 139 | 142 | 145 | 133 | 111 | 86 | 69 | 67 | 81 | 95 | 109 | 119 | 121 | 115 | 113 | 122 | 114 | 117 | 117 | 113 |
| Aug26 | 116 | 117 | 120 | 122 | 129 | 136 | 142 | 142 | 135 | 118 | 94 | 77 | 78 | 83 | 96 | 108 | 110 | 114 | 113 | 116 | 114 | 114 | 114 | 117 | 114 |
| Aug27 | 113 | 113 | 110 | 120 | 122 | 128 | 135 | 140 | 136 | 121 | 106 | 94 | 87 | 90 | : | 107 | 113 | 115 | 125 | 136 | 150 | 132 | 132 | 114 | : |
| Aug28 | 117 | 116 | 117 | 121 | 126 | 132 | 136 | 142 | 132 | 119 | 104 | 91 | 86 | 91 | 100 | 110 | 118 | 116 | 114 | 113 | 116 | 116 | 119 | 128 | 115 |
| Aug29 | 115 | 117 | 119 | 120 | 125 | 133 | 136 | 142 | 137 | 126 | 114 | 101 | 90 | 90 | 94 | 101 | 109 | 108 | 99 | 110 | 126 | 126 | 120 | 117 | 116 |
| Aug30 | 119 | 121 | 116 | 118 | 125 | 129 | 133 | 135 | 132 | 122 | 104 | 86 | 77 | 78 | 86 | 97 | 106 | 107 | 107 | 110 | 113 | 114 | 114 | 121 | 111 |
| Aug31 | 115 | 116 | 117 | 121 | 125 | 133 | 142 | 141 | 134 | 106 | 83 | 73 | 52 | 66 | 83 | 97 | 107 | 130 | 120 | 137 | 128 | 119 | 114 | 122 | 112 |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aug01 | 71 | 71 | 71 | 72 | 73 | 69 | 69 | 68 | 63 | 61 | 60 | 57 | 60 | 61 | 63 | 68 | 70 | 67 | 68 | 69 | 69 | 70 | 70 | 70 | 67 |
| Aug02 | 70 | 70 | 70 | 71 | 73 | 72 | 72 | 73 | 70 | 61 | 50 | 55 | 59 | 63 | 69 | 71 | 70 | 71 | 71 | 71 | 71 | 71 | 70 | 70 | 68 |
| Aug03 | 69 | 69 | 70 | 71 | 73 | 72 | 71 | 68 | 64 | 61 | 56 | 54 | 51 | 57 | 60 | 72 | 77 | 78 | 75 | 74 | 72 | 72 | 74 | 75 | 68 |
| Aug04 | 75 | 74 | 72 | 72 | 71 | 67 | 69 | 67 | 69 | 65 | 64 | 63 | 69 | 72 | 84 | 88 | 86 | 87 | 83 | 81 | 81 | 77 | 72 | 74 | 74 |
| Aug05 | 74 | 73 | 71 | 73 | 73 | 74 | 75 | 78 | 77 | 73 | 70 | 71 | 73 | 79 | 80 | 84 | 80 | 81 | 83 | 80 | 76 | 74 | 74 | 75 | 76 |
| Aug06 | 71 | 67 | 70 | 74 | 75 | 74 | 75 | 72 | 65 | 58 | 57 | 59 | 64 | 67 | 72 | 75 | 78 | 78 | 79 | 78 | 75 | 73 | 71 | 73 | 71 |
| Aug07 | 73 | 74 | 75 | 77 | 78 | 75 | 72 | 69 | 64 | 64 | 68 | 70 | 71 | 74 | 76 | 78 | 75 | 72 | 72 | 73 | 73 | 73 | 73 | 73 | 73 |

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Table 8.8 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aug08 | 73 | 73 | 74 | 76 | 76 | 72 | 72 | 71 | 67 | 63 | 61 | 60 | 61 | 66 | 72 | 77 | 78 | 77 | 75 | 74 | 74 | 73 | 72 | 72 | 71 |
| Aug09 | 72 | 72 | 73 | 75 | 75 | 73 | 72 | 69 | 64 | 63 | 64 | 68 | 69 | 69 | 74 | 77 | 76 | 74 | 75 | 75 | 74 | 74 | 73 | 73 | 72 |
| Aug10 | ⋮ | 73 | 73 | 74 | 75 | 74 | 73 | 72 | 70 | 70 | 71 | 69 | 71 | 68 | 68 | 71 | 73 | 73 | 73 | ⋮ | ⋮ | ⋮ | 71 | 71 | ⋮ |
| Aug11 | 71 | 71 | 71 | 73 | 75 | 73 | 71 | 67 | 65 | 65 | 66 | 60 | 59 | 58 | 67 | 70 | 72 | 71 | 71 | 72 | 74 | 73 | 72 | 71 | 69 |
| Aug12 | 71 | 70 | 71 | 69 | 67 | 67 | 74 | 77 | 73 | 68 | 62 | 58 | 57 | 59 | 64 | 67 | 70 | 69 | 70 | 72 | 71 | 73 | 72 | 69 | 68 |
| Aug13 | 67 | 69 | 71 | 73 | 72 | 69 | 68 | 68 | 65 | 63 | 59 | 57 | 58 | 65 | 67 | 71 | 74 | 74 | 75 | 75 | 72 | 70 | 69 | 70 | 68 |
| Aug14 | 71 | 69 | 69 | 71 | 72 | 74 | 76 | 74 | 72 | 67 | 67 | 70 | 70 | 74 | 74 | 74 | 73 | 73 | 75 | 75 | 74 | 73 | 73 | 73 | 72 |
| Aug15 | 73 | 73 | 72 | 74 | 76 | 72 | 72 | 72 | 71 | 67 | 69 | 71 | 69 | 68 | 70 | 72 | 74 | 73 | 71 | 71 | 75 | 74 | 71 | 70 | 71 |
| Aug16 | 69 | 69 | 70 | 71 | 72 | 72 | 74 | 73 | 77 | 69 | 65 | 63 | 62 | 64 | 66 | 68 | 71 | 73 | 73 | 74 | 75 | 75 | 74 | 73 | 70 |
| Aug17 | 68 | 69 | 70 | 72 | 74 | 71 | 71 | 73 | 70 | 71 | 73 | 79 | 84 | 85 | 90 | 89 | 88 | 88 | 87 | 84 | 81 | 80 | 77 | 75 | 78 |
| Aug18 | 76 | 77 | 73 | 72 | 75 | 74 | 71 | 70 | 70 | 72 | 74 | 74 | 75 | 80 | 85 | 82 | 81 | 86 | 87 | 85 | 83 | 79 | 77 | 77 | 77 |
| Aug19 | 76 | 66 | 65 | 70 | 74 | 72 | 75 | 74 | 75 | 74 | 74 | 72 | 71 | 74 | 74 | 81 | 87 | 84 | 82 | 81 | 79 | 75 | 72 | 70 | 75 |
| Aug20 | 68 | 66 | 67 | 66 | 63 | 69 | 73 | 74 | 74 | 72 | 69 | 69 | 68 | 67 | 72 | 79 | 81 | 81 | 81 | 79 | 78 | 77 | 76 | 74 | 73 |
| Aug21 | 74 | 76 | 76 | 77 | 78 | 77 | 79 | 81 | 77 | 70 | 64 | 69 | 70 | 71 | 73 | 75 | 76 | 75 | 76 | 76 | 76 | 74 | 72 | 72 | 74 |
| Aug22 | 74 | 68 | 67 | 55 | 58 | 60 | 63 | 71 | 70 | 62 | 60 | 64 | 68 | 75 | 80 | 80 | 83 | 79 | 77 | 76 | 72 | 72 | 67 | 68 | 70 |
| Aug23 | 72 | 72 | 69 | 71 | 72 | 73 | 75 | 75 | 73 | 68 | ⋮ | 68 | 80 | 89 | 101 | 107 | 110 | 106 | 97 | 93 | 89 | 85 | 82 | 81 | ⋮ |
| Aug24 | 81 | 81 | 81 | 80 | 79 | 79 | 81 | 82 | 81 | 79 | 75 | 77 | 78 | 80 | 82 | 85 | 83 | 80 | 79 | 80 | 79 | 79 | 80 | 79 | 80 |
| Aug25 | 79 | 79 | 80 | 80 | 82 | 82 | 81 | 80 | 77 | 73 | 69 | 63 | 67 | 74 | 78 | 78 | 79 | 79 | 79 | 78 | 79 | 78 | 77 | 77 | 77 |
| Aug26 | 78 | 78 | 77 | 79 | 81 | 81 | 81 | 82 | 77 | 72 | 66 | 66 | 70 | 75 | 76 | 78 | 77 | 75 | 77 | 79 | 78 | 79 | 78 | 78 | 77 |
| Aug27 | 78 | 77 | 76 | 77 | 79 | 81 | 82 | 84 | 84 | 78 | 72 | 64 | 69 | 77 | 80 | 81 | 85 | 85 | 87 | 89 | 86 | 84 | 83 | 83 | 80 |
| Aug28 | 82 | 82 | 82 | 83 | 84 | 85 | 87 | 87 | 85 | 82 | 76 | 72 | 75 | 77 | 80 | 81 | 82 | 81 | 80 | 79 | 79 | 84 | 83 | 79 | 81 |
| Aug29 | 78 | 77 | 77 | 78 | 79 | 79 | 80 | 80 | 78 | 74 | 69 | 65 | 67 | 72 | 76 | 77 | 78 | 79 | 80 | 79 | 82 | 83 | 80 | 79 | 77 |
| Aug30 | 79 | 78 | 78 | 76 | 76 | 77 | 78 | 78 | 76 | 71 | 66 | 63 | 64 | 70 | 74 | 78 | 79 | 77 | 77 | 78 | 78 | 77 | 76 | 76 | 75 |
| Aug31 | 76 | 76 | 75 | 75 | 80 | 76 | 72 | 71 | 70 | 74 | 74 | 77 | 86 | 96 | 100 | 98 | 96 | 93 | 91 | 87 | 85 | 81 | 79 | 80 | 82 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aug01 | 77 | 77 | 77 | 77 | 78 | 74 | 73 | 72 | 66 | 64 | 61 | 59 | 66 | 66 | 69 | 74 | 75 | 71 | 75 | 76 | 77 | 78 | 78 | 78 | 72 |
| Aug02 | 78 | 76 | 75 | 77 | 79 | 78 | 76 | 75 | 69 | 58 | 50 | 59 | 65 | 70 | 71 | 71 | 73 | 75 | 76 | 78 | 78 | 76 | 76 | 76 | 72 |
| Aug03 | 74 | 74 | 73 | 75 | 78 | 76 | 72 | 66 | 59 | 57 | 55 | 59 | 61 | 65 | 68 | 77 | 83 | 81 | 80 | 84 | 88 | 79 | 82 | 87 | 73 |
| Aug04 | 88 | 90 | 87 | 87 | 89 | 82 | 75 | 69 | 59 | 57 | 60 | 55 | 65 | 63 | 70 | 69 | 77 | 78 | 81 | 82 | 82 | 84 | 78 | 77 | 75 |
| Aug05 | 76 | 77 | 75 | 77 | 78 | 70 | 70 | 67 | 65 | 66 | 65 | 67 | 70 | 73 | 73 | 80 | 78 | 79 | 84 | 80 | 81 | 80 | 78 | 77 | 74 |
| Aug06 | 76 | 75 | 72 | 76 | 77 | 73 | 71 | 66 | 60 | 47 | 55 | 64 | 67 | 66 | 72 | 73 | 76 | 77 | 79 | 80 | 81 | 75 | 78 | 74 | 71 |
| Aug07 | 75 | 75 | 76 | 79 | 80 | 74 | 67 | 60 | 55 | 55 | 64 | 69 | 69 | 74 | 75 | 76 | 76 | 74 | 75 | 77 | 76 | 75 | 75 | 76 | 72 |
| Aug08 | 76 | 76 | 77 | 78 | 79 | 75 | 73 | 68 | 61 | 59 | 59 | 62 | 67 | 72 | 76 | 79 | 81 | 77 | 77 | 79 | 79 | 78 | 78 | 77 | 73 |
| Aug09 | 77 | 76 | 77 | 78 | 80 | 77 | 76 | 70 | 65 | 64 | 66 | 71 | 72 | 72 | 76 | 75 | 76 | 78 | 78 | 79 | 78 | 79 | 80 | 77 | 75 |
| Aug10 | 77 | 77 | 77 | 78 | 80 | 76 | 76 | 71 | 70 | 70 | 75 | 76 | 79 | 77 | 73 | 71 | 76 | 76 | 76 | 77 | 78 | 80 | 80 | 78 | 77 |
| Aug11 | 77 | 77 | 79 | 80 | 80 | 76 | 72 | 71 | 70 | 72 | 72 | 65 | 64 | 63 | 71 | 75 | 75 | 78 | 79 | 80 | 75 | 79 | 80 | 81 | 74 |

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Table 8.8 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aug12 | 81 | 78 | 77 | 82 | 75 | 72 | 74 | 74 | 70 | 68 | 65 | 63 | 62 | 64 | 66 | 72 | 75 | 75 | 77 | 79 | 80 | 78 | 77 | 80 | 73 |
| Aug13 | 76 | 72 | 73 | 75 | 76 | 73 | 72 | 67 | 63 | 61 | 58 | 56 | 59 | 67 | 71 | 74 | 77 | 78 | 78 | 79 | 78 | 80 | 79 | 75 | 71 |
| Aug14 | 75 | 76 | 72 | 74 | 76 | 76 | 75 | 72 | 70 | 66 | 70 | 72 | 72 | 76 | 77 | 75 | 76 | 77 | 77 | 79 | 79 | 78 | 77 | 77 | 75 |
| Aug15 | 77 | 77 | 77 | 78 | 81 | 77 | 73 | 71 | 68 | 64 | 67 | 72 | 74 | 76 | 77 | 78 | 79 | 76 | 76 | 79 | 80 | 80 | 80 | 81 | 76 |
| Aug16 | 80 | 80 | 77 | 78 | 80 | 79 | 76 | 69 | 66 | 66 | 66 | 67 | 67 | 69 | 73 | 73 | 73 | 75 | 75 | 77 | 79 | 81 | 82 | 84 | 75 |
| Aug17 | 81 | 76 | 77 | 80 | 81 | 79 | 79 | 77 | 66 | 61 | 65 | 77 | 67 | 73 | 77 | 80 | 76 | 75 | 77 | 85 | 82 | 81 | 84 | 80 | 77 |
| Aug18 | 76 | 79 | 76 | 78 | 77 | 73 | 67 | 64 | 64 | 66 | 74 | 79 | 76 | 73 | 72 | 75 | 79 | 79 | 79 | 77 | 81 | 84 | 81 | 78 | 75 |
| Aug19 | 79 | 82 | 70 | 76 | 76 | 72 | 64 | 66 | 52 | 58 | 68 | 68 | 63 | 72 | 73 | 75 | 86 | 83 | 79 | 82 | 81 | 84 | 85 | 75 | 74 |
| Aug20 | 72 | 68 | 66 | 67 | 68 | 67 | 68 | 64 | 61 | 60 | 62 | 65 | 67 | 67 | 73 | 74 | 75 | 79 | 80 | 76 | 80 | 76 | 77 | 76 | 70 |
| Aug21 | 74 | 74 | 75 | 76 | 76 | 75 | 74 | 69 | 59 | 52 | 59 | 71 | 75 | 78 | 78 | 77 | 77 | 76 | 79 | 78 | 79 | 82 | 82 | 78 | 74 |
| Aug22 | 79 | 74 | 77 | 73 | 66 | 70 | 66 | 65 | 59 | 56 | 54 | 61 | 65 | 74 | 78 | 78 | 82 | 82 | 81 | 79 | 80 | 85 | 79 | 71 | 72 |
| Aug23 | 70 | 73 | 73 | 68 | 74 | 70 | 64 | 63 | 56 | 57 | 53 | 57 | 63 | 69 | 77 | 94 | 91 | 90 | 91 | 79 | 81 | 82 | 81 | 78 | 73 |
| Aug24 | 77 | 78 | 78 | 77 | 80 | 74 | 72 | 71 | 65 | 64 | 63 | 62 | 63 | 69 | 74 | 83 | 82 | 79 | 79 | 81 | 80 | 79 | 79 | 79 | 75 |
| Aug25 | 79 | 79 | 79 | 80 | 82 | 82 | 78 | 73 | 66 | 62 | 59 | .. | .. | 77 | 80 | 78 | 79 | 79 | 80 | 80 | 79 | 81 | 78 | 79 | .. |
| Aug26 | 80 | 80 | 80 | 81 | 85 | 85 | 81 | 76 | 68 | 59 | 58 | 65 | 70 | 76 | 75 | 77 | 77 | 76 | 78 | 79 | 80 | 79 | 80 | 80 | 76 |
| Aug27 | 80 | 79 | 80 | 80 | 83 | 85 | 85 | 83 | 78 | 71 | 61 | 60 | 73 | 76 | 78 | 81 | 78 | 77 | 80 | 76 | 78 | 74 | 75 | 75 | 77 |
| Aug28 | 78 | 78 | 79 | 82 | 81 | 81 | 81 | 77 | 71 | 68 | 63 | 62 | 69 | 75 | 78 | 78 | 79 | 79 | 79 | 80 | 80 | 80 | 79 | 80 | 77 |
| Aug29 | 81 | 82 | 80 | 81 | 84 | 82 | 79 | 75 | 71 | 67 | 61 | 59 | 64 | 71 | 77 | 82 | 81 | 86 | 84 | 83 | 82 | 85 | 84 | 82 | 77 |
| Aug30 | 81 | 80 | 81 | 81 | 81 | 81 | 81 | 77 | 71 | 67 | 63 | 62 | 65 | 72 | 77 | 82 | .. | 81 | 81 | 82 | 82 | 82 | 82 | 82 | .. |
| Aug31 | 81 | 81 | 82 | 82 | 84 | ... | 97 | 86 | 67 | 54 | 52 | 57 | 63 | 68 | 73 | 82 | 76 | 84 | 81 | 83 | 78 | 81 | 79 | 77 | .. |

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Table 8.9. Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory. Please note: if data is missing within one hour/day, then means are not calculated.

**2017, Field component: X, Base: 20800.0, Unit: nT**

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sep01 | 206 | 198 | 192 | 194 | 186 | 192 | 186 | 180 | 181 | 167 | 154 | 164 | 166 | 173 | 181 | 181 | 187 | 195 | 200 | 204 | 207 | 205 | 219 | 196 | 188 |
| Sep02 | 195 | 199 | 212 | 217 | 193 | 199 | 192 | 173 | 134 | 155 | 164 | 175 | 189 | 189 | 190 | 185 | 192 | 193 | 194 | 193 | 193 | 199 | 205 | 208 | 189 |
| Sep03 | 203 | 203 | 194 | 193 | 193 | 189 | 186 | 181 | 181 | 181 | 184 | 186 | 196 | 202 | 198 | 192 | 192 | 195 | 199 | 201 | 200 | 215 | 215 | 209 | 195 |
| Sep04 | 210 | 208 | 201 | 192 | 198 | 202 | 195 | 189 | 186 | 187 | 187 | 198 | 202 | 201 | 201 | 202 | 196 | 200 | 195 | 188 | 199 | 201 | 203 | 234 | 199 |
| Sep05 | 209 | 198 | 191 | 196 | 197 | 195 | 187 | 167 | 174 | 187 | 194 | 199 | 199 | 207 | 205 | 201 | 200 | 198 | 196 | 212 | 201 | 198 | 201 | 206 | 197 |
| Sep06 | 203 | 203 | 201 | 202 | 207 | 203 | 199 | 192 | 185 | 179 | 184 | 190 | 196 | 204 | 201 | 199 | 199 | 199 | 201 | 202 | 202 | 202 | 202 | 210 | 199 |
| Sep07 | 228 | 225 | 219 | 212 | 204 | 203 | 202 | 181 | 161 | 157 | 170 | 179 | 196 | 201 | 203 | 193 | 198 | 198 | 200 | 205 | 203 | 204 | 185 | 243 | 199 |
| Sep08 | 232 | 133 | 128 | 132 | 139 | 132 | 131 | 112 | 115 | 143 | 160 | 162 | 104 | 88 | 92 | 97 | 129 | 93 | 112 | 114 | 130 | 152 | 142 | 158 | 130 |
| Sep09 | 160 | 159 | 155 | 152 | 154 | 150 | 144 | 141 | 141 | 143 | 147 | 158 | 170 | 172 | 171 | 170 | 167 | 167 | 169 | 170 | 171 | 171 | 171 | 171 | 160 |
| Sep10 | 171 | 171 | 171 | 171 | 170 | 165 | 158 | 151 | 150 | 153 | 159 | 168 | 177 | 183 | 184 | 180 | 186 | 184 | 187 | 190 | 186 | 192 | 189 | 193 | 175 |
| Sep11 | 188 | 185 | 181 | 188 | 189 | 181 | 166 | 150 | 151 | 160 | 169 | 180 | 186 | 191 | 188 | 184 | 187 | 187 | 203 | 204 | 194 | 194 | 207 | 200 | 184 |
| Sep12 | 198 | 194 | 192 | 195 | 196 | 195 | 188 | 184 | 169 | 160 | 165 | 167 | 171 | 179 | 175 | 185 | 184 | 180 | 189 | 193 | 228 | 246 | 206 | 215 | 190 |
| Sep13 | 191 | 175 | 177 | 181 | 186 | 182 | 175 | 165 | 147 | 157 | 174 | 179 | 180 | 179 | 177 | 177 | 181 | 188 | 191 | 194 | 189 | 189 | 189 | 190 | 180 |
| Sep14 | 188 | 198 | 199 | 196 | 190 | 190 | 188 | 181 | 177 | 181 | 185 | 197 | 209 | 210 | 196 | 154 | 139 | 144 | 150 | 158 | 162 | 187 | 178 | 184 | 181 |
| Sep15 | 192 | 206 | 189 | 177 | 180 | 174 | 174 | 159 | 154 | 168 | 172 | 175 | 160 | 149 | 145 | 146 | 171 | 187 | 184 | 210 | 183 | 201 | 194 | 196 | 177 |
| Sep16 | 214 | 186 | 185 | 189 | 187 | 162 | 173 | 169 | 163 | 145 | 166 | 173 | 150 | 156 | 169 | 165 | 161 | 173 | 193 | 186 | 188 | 204 | 200 | 192 | 177 |
| Sep17 | 194 | 185 | 189 | 182 | 184 | 190 | 188 | 184 | 182 | 180 | 184 | 177 | 158 | 163 | 151 | 151 | 147 | 162 | 178 | 188 | 191 | 190 | 192 | 193 | 178 |
| Sep18 | 194 | 200 | 210 | 212 | 190 | 186 | 175 | 155 | 166 | 181 | 164 | 165 | 172 | 170 | 174 | 178 | 181 | 183 | 187 | 204 | 195 | 207 | 195 | 200 | 185 |
| Sep19 | 201 | 196 | 190 | 190 | 190 | 188 | 184 | 179 | 181 | 191 | 194 | 192 | 197 | 195 | 196 | 192 | 187 | 184 | 197 | 201 | 195 | 186 | 184 | 189 | 191 |
| Sep20 | 193 | 201 | 200 | 188 | 191 | 190 | 189 | 184 | 179 | 185 | 189 | 190 | 192 | 195 | 189 | 196 | 194 | 196 | 197 | 202 | 201 | 201 | 203 | 202 | 194 |
| Sep21 | 199 | 198 | 199 | 199 | 199 | 198 | 193 | 192 | 179 | 174 | 175 | 181 | 190 | 188 | 187 | 189 | 192 | 197 | 199 | 194 | 189 | 190 | 197 | 194 | 191 |
| Sep22 | 193 | 193 | 194 | 196 | 200 | 197 | 190 | 177 | 172 | 181 | 187 | 189 | 189 | 193 | 199 | 196 | 193 | 187 | 172 | 177 | 188 | 197 | 191 | 194 | 189 |
| Sep23 | 197 | 199 | 199 | 200 | 203 | 197 | 191 | 183 | 173 | 174 | 180 | 183 | 185 | 188 | 194 | 195 | 196 | 199 | 199 | 197 | 202 | 198 | 200 | 202 | 193 |
| Sep24 | 201 | 199 | 200 | 202 | 203 | 200 | 198 | 192 | 188 | 183 | 189 | 192 | 195 | 194 | 189 | 189 | 200 | 201 | 202 | 205 | 193 | 199 | 206 | 200 | 197 |
| Sep25 | 201 | 196 | 199 | 200 | 209 | 203 | 198 | 193 | 186 | 184 | 189 | 196 | 198 | 199 | 199 | 200 | 200 | 209 | 211 | 203 | 205 | 205 | 206 | 205 | 199 |
| Sep26 | 206 | 205 | 205 | 206 | 205 | 203 | 201 | 195 | 191 | 188 | 193 | 196 | 199 | 203 | 207 | 208 | 208 | 209 | 211 | 210 | 211 | 211 | 212 | 213 | 204 |
| Sep27 | 221 | 222 | 211 | 210 | 216 | 222 | 222 | 199 | 181 | 172 | 170 | 171 | 149 | 145 | 142 | 153 | 174 | 188 | 196 | 187 | 192 | 173 | 170 | 185 | 186 |
| Sep28 | 174 | 193 | 204 | 194 | 170 | 174 | 161 | 154 | 135 | 153 | 152 | 149 | 157 | 142 | 146 | 149 | 171 | 170 | 178 | 203 | 194 | 178 | 181 | 185 | 170 |
| Sep29 | 187 | 174 | 177 | 178 | 184 | 184 | 180 | 178 | 180 | 174 | 174 | 169 | 151 | 166 | 169 | 170 | 174 | 177 | 182 | 200 | 190 | 189 | 186 | 198 | 179 |
| Sep30 | 189 | 186 | 187 | 190 | 193 | 182 | 187 | 193 | 193 | 176 | 172 | 170 | 165 | 158 | 149 | 167 | 170 | 166 | 166 | 181 | 189 | 193 | 188 | 201 | 179 |

**2017, Field component: Y, Base: 1400.0, Unit: nT**

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sep01 | 111 | 114 | 130 | 136 | 133 | 136 | 140 | 135 | 125 | 103 | 92 | 89 | 88 | 106 | 103 | 105 | 112 | 113 | 109 | 112 | 115 | 126 | 131 | 123 | 116 |
| Sep02 | 121 | 123 | 98 | 119 | 107 | 121 | 133 | 130 | 122 | 110 | 104 | 92 | 87 | 91 | 102 | 125 | 129 | 120 | 118 | 130 | 121 | 119 | 117 | 104 | 114 |
| Sep03 | 118 | 122 | 125 | 127 | 132 | 138 | 138 | 132 | 120 | 107 | 92 | 83 | 84 | 91 | 100 | 121 | 119 | 114 | 115 | 115 | 116 | 117 | 114 | 116 | 115 |
| Sep04 | 108 | 123 | 128 | 115 | 124 | 128 | 131 | 133 | 130 | 124 | 108 | 94 | 81 | 88 | 97 | 105 | 114 | 120 | 121 | 146 | 126 | 128 | 129 | 132 | 118 |

Table 8.9 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sep05 | 126 | 125 | 117 | 114 | 127 | 133 | 137 | 137 | 128 | 109 | 93 | 78 | 79 | 84 | 97 | 106 | 112 | 115 | 122 | 136 | 122 | 119 | 119 | 114 | 115 |
| Sep06 | 117 | 117 | 119 | 121 | 126 | 133 | 140 | 139 | 130 | 120 | 103 | 90 | 63 | 78 | 94 | 114 | 119 | 117 | 118 | 117 | 118 | 118 | 118 | 115 | 114 |
| Sep07 | 109 | 117 | 118 | 124 | 136 | 147 | 136 | 134 | 132 | 115 | 99 | 96 | 88 | 92 | 94 | 103 | 112 | 118 | 118 | 118 | 127 | 139 | 163 | 222 | 123 |
| Sep08 | 196 | 196 | 171 | 160 | 149 | 156 | 163 | 159 | 157 | 135 | 112 | 88 | 89 | 87 | 100 | 134 | 189 | 172 | 159 | 149 | 159 | 141 | 136 | 130 | 145 |
| Sep09 | 137 | 136 | 137 | 136 | 144 | 147 | 150 | 145 | 135 | 121 | 108 | 95 | 93 | 105 | 115 | 124 | 126 | 124 | 125 | 125 | 125 | 125 | 125 | 126 | 126 |
| Sep10 | 126 | 128 | 129 | 132 | 135 | 141 | 149 | 149 | 137 | 120 | 105 | 99 | 102 | 109 | 116 | 122 | 138 | 129 | 122 | 123 | 130 | 133 | 126 | 121 | 126 |
| Sep11 | 133 | 135 | 124 | 127 | 133 | 135 | 141 | 138 | 122 | 103 | 86 | 81 | 87 | 93 | 103 | 116 | 116 | 120 | 131 | 127 | 117 | 117 | 115 | 117 | 117 |
| Sep12 | 124 | 127 | 128 | 128 | 131 | 135 | 141 | 140 | 129 | 113 | 93 | 84 | 91 | 103 | 121 | 119 | 120 | 114 | 111 | 115 | 127 | 134 | 134 | 117 | 120 |
| Sep13 | 153 | 161 | 153 | 149 | 144 | 142 | 140 | 140 | 133 | 123 | 108 | 99 | 96 | 97 | 103 | 110 | 115 | 118 | 119 | 122 | 119 | 121 | 121 | 122 | 125 |
| Sep14 | 124 | 124 | 125 | 133 | 133 | 133 | 138 | 140 | 133 | 122 | 106 | 92 | 81 | 72 | 61 | 112 | 133 | 125 | 127 | 139 | 158 | 130 | 128 | 132 | 121 |
| Sep15 | 110 | 140 | 139 | 127 | 121 | 135 | 139 | 133 | 136 | 122 | 110 | 102 | 116 | 108 | 101 | 110 | 114 | 111 | 120 | 174 | 139 | 119 | 134 | 126 | 124 |
| Sep16 | 140 | 130 | 100 | 103 | 97 | 122 | 140 | 142 | 135 | 127 | 114 | 101 | 102 | 110 | 108 | 111 | 125 | 138 | 150 | 134 | 122 | 118 | 125 | 120 | 121 |
| Sep17 | 114 | 118 | 120 | 122 | 118 | 127 | 133 | 141 | 134 | 125 | 115 | 102 | 107 | 111 | 125 | 134 | 138 | 141 | 135 | 132 | 123 | 121 | 120 | 120 | 124 |
| Sep18 | 119 | 111 | 91 | 118 | 128 | 130 | 127 | 117 | 111 | 115 | 106 | 104 | 96 | 114 | 111 | 128 | 119 | 119 | 126 | 129 | 122 | 120 | 122 | 118 | 117 |
| Sep19 | 113 | 119 | 127 | 129 | 130 | 134 | 140 | 142 | 137 | 126 | 113 | 105 | 103 | 111 | 116 | 118 | 120 | 128 | 135 | 129 | 143 | 138 | 140 | 132 | 126 |
| Sep20 | 114 | 123 | 124 | 123 | 126 | 128 | 135 | 135 | 129 | 116 | 105 | 95 | 94 | 99 | 114 | 115 | 118 | 118 | 122 | 136 | 127 | 118 | 119 | 120 | 119 |
| Sep21 | 120 | 122 | 120 | 121 | 122 | 123 | 130 | 134 | 134 | 134 | 123 | 106 | 98 | 98 | 107 | 114 | 116 | 114 | 119 | 128 | 134 | 137 | 128 | 124 | 121 |
| Sep22 | 118 | 121 | 121 | 121 | 122 | 125 | 134 | 137 | 132 | 122 | 105 | 91 | 91 | 97 | 109 | 115 | 118 | 114 | 123 | 123 | 132 | 132 | 128 | 124 | 119 |
| Sep23 | 121 | 121 | 123 | 123 | 124 | 119 | 131 | 134 | 135 | 130 | 112 | 97 | 91 | 91 | 98 | 108 | 113 | 114 | 117 | 123 | 145 | 126 | 122 | 124 | 119 |
| Sep24 | 125 | 126 | 123 | 121 | 119 | 126 | 130 | 135 | 136 | 130 | 113 | 97 | 89 | 87 | 89 | 94 | 102 | 107 | 110 | 118 | 136 | 131 | 122 | 124 | 118 |
| Sep25 | 132 | 127 | 133 | 126 | 124 | 122 | 129 | 137 | 138 | 127 | 115 | 107 | 102 | 99 | 103 | 109 | 113 | 117 | 116 | 117 | 118 | 119 | 122 | 123 | 116 |
| Sep26 | 123 | 124 | 123 | 123 | 128 | 131 | 137 | 138 | 138 | 128 | 110 | 93 | 88 | 90 | 97 | 106 | 109 | 111 | 113 | 115 | 116 | 116 | 117 | 117 | 120 |
| Sep27 | 117 | 123 | 127 | 126 | 117 | 90 | 111 | 142 | 131 | 123 | 112 | 89 | 97 | 106 | 96 | 111 | 113 | 118 | 117 | 152 | 203 | 191 | 165 | 150 | 115 |
| Sep28 | 125 | 110 | 128 | 130 | 128 | 127 | 133 | 131 | 109 | 122 | 123 | 124 | 117 | 126 | 115 | 146 | 132 | 123 | 132 | 142 | 143 | 142 | 136 | 115 | 129 |
| Sep29 | 132 | 131 | 126 | 128 | 122 | 126 | 121 | 142 | 138 | 135 | 128 | 107 | 113 | 105 | 104 | 115 | 125 | 127 | 135 | 140 | 132 | 135 | 127 | 125 | 125 |
| Sep30 | 126 | 131 | 123 | 123 | 122 | 117 | 121 | 135 | 138 | 129 | 119 | 111 | 111 | 115 | 118 | 159 | 127 | 128 | 127 | 121 | 120 | 121 | 133 | 141 | 126 |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sep01 | 79 | 75 | 75 | 78 | 82 | 81 | 79 | 77 | 73 | 68 | 71 | 75 | 82 | 90 | 89 | 89 | 86 | 85 | 85 | 84 | 82 | 82 | 80 | 79 | 80 |
| Sep02 | 81 | 81 | 81 | 72 | 77 | 75 | 74 | 74 | 77 | 75 | 71 | 73 | 76 | 79 | 82 | 85 | 87 | 85 | 85 | 84 | 84 | 83 | 81 | 78 | 79 |
| Sep03 | 77 | 78 | 80 | 81 | 82 | 82 | 83 | 81 | 78 | 72 | 69 | 69 | 72 | 77 | 80 | 86 | 87 | 84 | 83 | 82 | 82 | 82 | 80 | 78 | 79 |
| Sep04 | 77 | 73 | 77 | 79 | 78 | 78 | 79 | 79 | 78 | 72 | 68 | 68 | 69 | 75 | 81 | 82 | 84 | 85 | 86 | 86 | 86 | 83 | 82 | 72 | 78 |
| Sep05 | 73 | 77 | 79 | 78 | 80 | 82 | 82 | 80 | 76 | 69 | 64 | 64 | 71 | 76 | 79 | 81 | 80 | 81 | 82 | 80 | 79 | 80 | 80 | 80 | 77 |
| Sep06 | 80 | 80 | 80 | 81 | 81 | 80 | 80 | 80 | 79 | 73 | 71 | 71 | 61 | 65 | 78 | 81 | 84 | 82 | 81 | 80 | 80 | 80 | 79 | 79 | 78 |
| Sep07 | 76 | 74 | 74 | 75 | 77 | 79 | 79 | 80 | 77 | 73 | 71 | 68 | 69 | 70 | 73 | 76 | 78 | 78 | 78 | 80 | 80 | 80 | 77 | 53 | 75 |
| Sep08 | 20 | 28 | 41 | 66 | 79 | 86 | 89 | 87 | 86 | 82 | 68 | 66 | 104 | 151 | 176 | 162 | 160 | 145 | 122 | 115 | 108 | 99 | 98 | 91 | 97 |
| Sep09 | 93 | 93 | 94 | 96 | 98 | 98 | 98 | 98 | 97 | 92 | 89 | 80 | 82 | 89 | 91 | 93 | 92 | 92 | 93 | 93 | 93 | 92 | 92 | 92 | 93 |

Table 8.9  (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sep10 | 92 | 92 | 92 | 93 | 93 | 96 | 98 | 96 | 94 | 89 | 85 | 82 | 85 | 89 | 91 | 90 | 90 | 88 | 90 | 90 | 90 | 89 | 88 | 86 | 90 |
| Sep11 | 84 | 85 | 87 | 87 | 89 | 91 | 92 | 90 | 86 | 80 | 79 | 81 | 85 | 89 | 91 | 91 | 90 | 90 | 90 | 88 | 88 | 88 | 85 | 83 | 87 |
| Sep12 | 84 | 85 | 86 | 86 | 87 | 88 | 87 | 88 | 87 | 80 | 74 | 75 | 81 | 87 | 93 | 94 | 92 | 91 | 91 | 90 | 87 | 79 | 79 | 74 | 85 |
| Sep13 | 56 | 75 | 82 | 84 | 86 | 89 | 90 | 91 | 91 | 82 | 78 | 77 | 80 | 84 | 85 | 85 | 87 | 88 | 89 | 88 | 88 | 88 | 88 | 88 | 84 |
| Sep14 | 87 | 87 | 86 | 84 | 85 | 85 | 86 | 88 | 87 | 81 | 77 | 72 | 70 | 70 | 75 | 87 | 109 | 107 | 104 | 105 | 100 | 94 | 93 | 92 | 88 |
| Sep15 | 87 | 77 | 80 | 84 | 86 | 86 | 92 | 93 | 92 | 87 | 85 | 82 | 88 | 92 | 95 | 97 | 96 | 94 | 92 | 90 | 89 | 85 | 82 | 80 | 88 |
| Sep16 | 74 | 78 | 77 | 75 | 76 | 81 | 87 | 89 | 84 | 80 | 76 | 75 | 82 | 91 | 91 | 95 | 98 | 98 | 92 | 91 | 91 | 87 | 84 | 85 | 85 |
| Sep17 | 83 | 83 | 84 | 86 | 85 | 87 | 89 | 89 | 87 | 83 | 79 | 80 | 85 | 94 | 96 | 104 | 105 | 103 | 97 | 95 | 92 | 86 | 91 | 91 | 90 |
| Sep18 | 90 | 88 | 85 | 77 | 81 | 87 | 87 | 86 | 85 | 82 | 85 | 90 | 89 | 89 | 91 | 91 | 93 | 92 | 88 | 88 | 85 | 87 | 85 | 87 | 87 |
| Sep19 | 84 | 84 | 84 | 87 | 87 | 89 | 90 | 88 | 85 | 81 | 75 | 75 | 81 | 84 | 84 | 86 | 87 | 89 | 87 | 86 | 86 | 87 | 87 | 87 | 85 |
| Sep20 | 87 | 83 | 85 | 84 | 86 | 86 | 88 | 87 | 85 | 86 | 82 | 81 | 83 | 87 | 89 | 88 | 88 | 89 | 88 | 86 | 86 | 86 | 86 | 86 | 86 |
| Sep21 | 86 | 86 | 82 | 86 | 86 | 87 | 89 | 89 | 88 | 85 | 78 | 73 | 75 | 80 | 86 | 88 | 88 | 89 | 87 | 87 | 88 | 89 | 90 | 89 | 86 |
| Sep22 | 86 | 86 | 86 | 87 | 87 | 89 | 90 | 90 | 88 | 84 | 82 | 76 | 80 | 82 | 85 | 86 | 87 | 87 | 87 | 87 | 86 | 86 | 86 | 85 | 86 |
| Sep23 | 88 | 87 | 87 | 87 | 87 | 89 | 91 | 90 | 87 | 84 | 68 | 78 | 78 | 80 | 85 | 87 | 85 | 85 | 85 | 85 | 88 | 89 | 90 | 89 | 83 |
| Sep24 | 85 | 85 | 86 | 85 | 86 | 88 | 88 | 86 | 82 | 75 | 72 | 70 | 73 | 77 | 82 | 83 | 83 | 84 | 85 | 85 | 86 | 85 | 87 | 85 | 83 |
| Sep25 | 85 | 85 | 84 | 85 | 83 | 86 | 90 | 89 | 83 | 77 | 67 | 74 | 76 | 79 | 81 | 78 | 80 | 82 | 82 | 85 | 85 | 85 | 85 | 84 | 83 |
| Sep26 | 84 | 84 | 84 | 83 | 83 | 83 | 85 | 87 | 83 | 74 | 71 | 65 | 68 | 69 | 73 | 78 | 80 | 82 | 91 | 89 | 82 | 82 | 82 | 82 | 79 |
| Sep27 | 82 | 76 | 79 | 80 | 77 | 79 | 81 | 83 | 82 | 74 | 89 | 73 | 81 | 88 | 95 | 99 | 94 | 93 | 95 | 89 | 87 | 82 | 75 | 72 | 83 |
| Sep28 | 80 | 68 | 68 | 72 | 77 | 83 | 83 | 87 | 86 | 85 | 77 | 88 | 88 | 92 | 96 | 100 | 101 | 97 | 93 | 90 | 89 | 89 | 86 | 82 | 87 |
| Sep29 | 83 | 88 | 89 | 89 | 89 | 90 | 92 | 91 | 86 | 80 | 78 | 80 | 82 | 84 | 87 | 92 | 94 | 94 | 93 | 90 | 89 | 89 | 89 | 86 | 88 |
| Sep30 | 87 | 88 | 89 | 88 | 87 | 88 | 91 | 89 | 84 | 81 | 78 | 80 | 84 | 90 | 95 | 101 | 98 | 99 | 99 | 96 | 94 | 92 | 91 | 89 | 90 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sep01 | 81 | 74 | 72 | 76 | 75 | 78 | 74 | 69 | 66 | 54 | 51 | 59 | 66 | 76 | 79 | 80 | 80 | 82 | 84 | 85 | 84 | 84 | 88 | 78 | 75 |
| Sep02 | 78 | 81 | 85 | 80 | 74 | 75 | 72 | 63 | 49 | 55 | 56 | 62 | 70 | 73 | 77 | 78 | 83 | 81 | 82 | 81 | 81 | 82 | 83 | 82 | 74 |
| Sep03 | 78 | 79 | 77 | 78 | 80 | 78 | 77 | 73 | 70 | 64 | 62 | 63 | 70 | 77 | 79 | 81 | 83 | 81 | 82 | 82 | 82 | 86 | 86 | 82 | 77 |
| Sep04 | 81 | 77 | 77 | 75 | 77 | 79 | 77 | 75 | 73 | 67 | 63 | 67 | 69 | 75 | 81 | 82 | 81 | 85 | 83 | 81 | 85 | 83 | 87 | 87 | 78 |
| Sep05 | 77 | 76 | 75 | 77 | 79 | 80 | 77 | 66 | 65 | 64 | 62 | 64 | 70 | 79 | 81 | 81 | 80 | 80 | 80 | 85 | 80 | 79 | 80 | 82 | 76 |
| Sep06 | 81 | 81 | 80 | 81 | 84 | 81 | 80 | 77 | 72 | 65 | 64 | 66 | 60 | 66 | 78 | 80 | 83 | 81 | 81 | 83 | 80 | 80 | 80 | 83 | 77 |
| Sep07 | 88 | 85 | 83 | 81 | 79 | 81 | 80 | 70 | 61 | 56 | 58 | 60 | 67 | 71 | 74 | 73 | 77 | 77 | 80 | 75 | 76 | 77 | 72 | 77 | 75 |
| Sep08 | 42 | 6 | 15 | 39 | 54 | 57 | 59 | 50 | 50 | 56 | 51 | 49 | 59 | 71 | 119 | 110 | 124 | 94 | 75 | 83 | 76 | 77 | 71 | 72 | 66 |
| Sep09 | 75 | 74 | 73 | 74 | 77 | 75 | 73 | 71 | 70 | 66 | 65 | 61 | 67 | 75 | 77 | 79 | 77 | 76 | 78 | 79 | 79 | 78 | 71 | 79 | 74 |
| Sep10 | 79 | 79 | 79 | 79 | 79 | 80 | 79 | 74 | 72 | 68 | 66 | 67 | 74 | 81 | 83 | 81 | 83 | 80 | 83 | 85 | 83 | 85 | 83 | 82 | 78 |
| Sep11 | 79 | 79 | 78 | 81 | 83 | 82 | 82 | 68 | 64 | 62 | 64 | 71 | 78 | 83 | 84 | 83 | 83 | 83 | 90 | 86 | 84 | 84 | 88 | 83 | 79 |
| Sep12 | 83 | 82 | 78 | 83 | 85 | 86 | 82 | 80 | 73 | 62 | 58 | 60 | 67 | 77 | 81 | 86 | 78 | 81 | 85 | 86 | 99 | 99 | 83 | 81 | 80 |
| Sep13 | 55 | 66 | 73 | 77 | 80 | 81 | 79 | 75 | 67 | 63 | 66 | 68 | 71 | 74 | 74 | 74 | 78 | 82 | 84 | 85 | 82 | 83 | 82 | 83 | 75 |
| Sep14 | 82 | 85 | 85 | 82 | 80 | 81 | 81 | 80 | 76 | 73 | 70 | 70 | 73 | 73 | 72 | 66 | 80 | 80 | 80 | 85 | 83 | 87 | 82 | 84 | 79 |

Table 8.9 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sep15 | 82 | 81 | 76 | 74 | 76 | 76 | 80 | 74 | 71 | 73 | 72 | 70 | 69 | 68 | 69 | 71 | 82 | 86 | 84 | 95 | 82 | 85 | 79 | 78 | 77 |
| Sep16 | 81 | 72 | 70 | 70 | 70 | 64 | 75 | 75 | 68 | 56 | 61 | 63 | 60 | 71 | 76 | 78 | 79 | 85 | 88 | 84 | 84 | 88 | 83 | 81 | 74 |
| Sep17 | 79 | 76 | 80 | 78 | 78 | 82 | 83 | 82 | 79 | 74 | 72 | 69 | 66 | 76 | 73 | 81 | 81 | 84 | 87 | 88 | 87 | 86 | 86 | 86 | 80 |
| Sep18 | 86 | 87 | 87 | 82 | 77 | 80 | 76 | 66 | 68 | 73 | 68 | 73 | 76 | 75 | 78 | 81 | 83 | 83 | 85 | 90 | 85 | 89 | 83 | 85 | 80 |
| Sep19 | 84 | 81 | 80 | 82 | 82 | 83 | 82 | 79 | 77 | 77 | 73 | 72 | 79 | 81 | 82 | 81 | 81 | 81 | 86 | 88 | 83 | 80 | 80 | 82 | 81 |
| Sep20 | 83 | 83 | 82 | 78 | 80 | 82 | 82 | 80 | 78 | 78 | 76 | 76 | 78 | 84 | 83 | 86 | 84 | 85 | 85 | 87 | 86 | 86 | 86 | 86 | 82 |
| Sep21 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 81 | 78 | 74 | 68 | 65 | 70 | 74 | 79 | 83 | 83 | 85 | 85 | 84 | 83 | 83 | 84 | 81 | 81 |
| Sep22 | 82 | 83 | 83 | 84 | 87 | 87 | 85 | 80 | 75 | 71 | 69 | 70 | 74 | 78 | 83 | 84 | 83 | 82 | 79 | 83 | 86 | 87 | 85 | 86 | 81 |
| Sep23 | 86 | 86 | 86 | 86 | 86 | 87 | 86 | 82 | 77 | 72 | 73 | 70 | 70 | 74 | 81 | 84 | 84 | 85 | 86 | 85 | 87 | 85 | 86 | 86 | 82 |
| Sep24 | 85 | 84 | 85 | 85 | 86 | 87 | 86 | 82 | 77 | 68 | 64 | 67 | 71 | 74 | 76 | 79 | 84 | 88 | 88 | 87 | 84 | 88 | 86 | 86 | 81 |
| Sep25 | 85 | 83 | 84 | 84 | 87 | 87 | 88 | 85 | 77 | 71 | 68 | 72 | 75 | 78 | 80 | 82 | 82 | 84 | 85 | 85 | 86 | 86 | 87 | 86 | 82 |
| Sep26 | 86 | 86 | 85 | 86 | 84 | 84 | 85 | 84 | 79 | 70 | 65 | 64 | 67 | 70 | 76 | 81 | 84 | 85 | 87 | 86 | 86 | 87 | 87 | 87 | 81 |
| Sep27 | 90 | 88 | 84 | 84 | 86 | 89 | 91 | 83 | 74 | 62 | 58 | 60 | 58 | 62 | 67 | 77 | 81 | 86 | 88 | 83 | 85 | 72 | 64 | 67 | 77 |
| Sep28 | 69 | 73 | 71 | 70 | 64 | 70 | 66 | 67 | 60 | 64 | 67 | 65 | 69 | 66 | 70 | 77 | 87 | 82 | 85 | 90 | 84 | 78 | 77 | 75 | 73 |
| Sep29 | 77 | 76 | 78 | 79 | 82 | 82 | 82 | 81 | 78 | 69 | 66 | 66 | 60 | 68 | 72 | 77 | 81 | 83 | 84 | 89 | 84 | 84 | 82 | 84 | 78 |
| Sep30 | 81 | 81 | 82 | 83 | 83 | 82 | 84 | 85 | 76 | 71 | 66 | 66 | 68 | 71 | 71 | 85 | 83 | 82 | 82 | 87 | 88 | 88 | 85 | 89 | 80 |

Table 8.10. Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory. Please note: if data is missing within one hour/day, then means are not calculated.

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017, Field component: X, Base: 20900.0, Unit: nT | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct01 | 97 | 95 | 84 | 84 | 90 | 91 | 93 | 78 | 75 | 78 | 74 | 74 | 80 | 82 | 76 | 76 | 80 | 96 | 81 | 87 | 86 | 83 | 95 | 90 | 84 |
| Oct02 | 89 | 90 | 94 | 98 | 105 | 103 | 96 | 94 | 92 | 85 | 82 | 83 | 75 | 78 | 80 | 85 | 89 | 89 | 88 | 89 | 93 | 93 | 96 | 96 | 90 |
| Oct03 | 97 | 97 | 104 | 113 | 108 | 103 | 100 | 88 | 88 | 79 | 80 | 86 | 92 | 94 | 95 | 94 | 95 | 95 | 94 | 93 | 95 | 95 | 100 | 96 | 95 |
| Oct04 | 99 | 101 | 97 | 100 | 107 | 102 | 100 | 94 | 89 | 89 | 92 | 92 | 95 | 97 | 98 | 98 | 97 | 97 | 98 | 101 | 98 | 95 | 95 | 96 | 97 |
| Oct05 | 100 | 104 | 104 | 96 | 100 | 104 | 106 | 101 | 94 | 92 | 101 | 107 | 107 | 106 | 104 | 105 | 105 | 104 | 107 | 104 | 102 | 105 | 120 | 102 | 103 |
| Oct06 | 101 | 100 | 108 | 109 | 105 | 102 | 98 | 93 | 89 | 88 | 91 | 96 | 96 | 101 | 95 | 95 | 89 | 94 | 98 | 96 | 101 | 96 | 102 | 92 | 98 |
| Oct07 | 94 | 97 | 97 | 99 | 99 | 101 | 101 | 100 | 98 | 94 | 92 | 96 | 99 | 104 | 102 | 100 | 95 | 98 | 99 | 99 | 101 | 102 | 103 | 106 | 99 |
| Oct08 | 107 | 103 | 104 | 105 | 105 | 109 | 106 | 100 | 92 | 89 | 90 | 93 | 97 | 103 | 104 | 102 | 102 | 103 | 103 | 104 | 103 | 103 | 103 | 103 | 101 |
| Oct09 | 102 | 102 | 109 | 105 | 108 | 109 | 103 | 95 | 86 | 81 | 85 | 91 | 98 | 103 | 105 | 104 | 103 | 105 | 108 | 108 | 109 | 108 | 109 | 108 | 102 |
| Oct10 | 109 | 107 | 107 | 108 | 110 | 111 | 107 | 99 | 92 | 88 | 92 | 97 | 100 | 104 | 107 | 105 | 106 | 107 | 112 | 113 | 112 | 111 | 106 | 100 | 105 |
| Oct11 | 94 | 97 | 105 | 106 | 107 | 99 | 121 | 99 | 72 | 76 | 79 | 77 | 70 | 96 | 86 | 40 | 54 | 81 | 54 | 62 | 76 | 81 | 86 | 90 | 84 |
| Oct12 | 115 | 100 | 92 | 89 | 86 | 87 | 88 | 81 | 66 | 60 | 75 | 68 | 63 | 34 | 54 | 64 | 53 | 61 | 78 | 80 | 91 | 83 | 94 | 120 | 78 |
| Oct13 | 90 | 87 | 92 | 96 | 91 | 98 | 93 | 90 | 84 | 78 | 56 | 46 | 43 | 40 | 7 | 26 | 40 | 37 | 67 | 90 | 66 | 65 | 92 | 105 | 70 |
| Oct14 | 104 | 76 | 71 | 82 | 84 | 75 | 65 | 72 | 77 | 71 | 33 | 60 | 77 | 67 | 75 | 69 | 81 | 92 | 76 | 71 | 90 | 93 | 90 | 94 | 77 |
| Oct15 | 105 | 100 | 105 | 90 | 81 | 75 | 84 | 79 | 71 | 70 | 75 | 45 | 40 | 47 | 58 | 49 | 49 | 48 | 62 | 87 | 93 | 87 | 89 | 90 | 74 |
| Oct16 | 90 | 91 | 92 | 92 | 94 | 95 | 94 | 89 | 83 | 75 | 74 | 74 | 77 | 81 | 78 | 82 | 88 | 90 | 91 | 92 | 100 | 110 | 102 | 93 | 89 |
| Oct17 | 91 | 91 | 93 | 93 | 97 | 101 | 99 | 96 | 91 | 86 | 81 | 78 | 78 | 81 | 81 | 84 | 88 | 91 | 92 | 86 | 91 | 95 | 97 | 95 | 90 |
| Oct18 | 96 | 96 | 93 | 95 | 98 | 103 | 99 | 96 | 93 | 90 | 93 | 91 | 89 | 93 | 94 | 93 | 95 | 99 | 100 | 98 | 96 | 105 | 98 | 89 | 96 |
| Oct19 | 100 | 94 | 95 | 100 | 105 | 101 | 101 | 100 | 94 | 85 | 83 | 86 | 92 | 93 | 89 | 86 | 60 | 57 | 68 | 70 | 91 | 91 | 101 | 95 | 89 |
| Oct20 | 93 | 101 | 94 | 97 | 99 | 99 | 91 | 84 | 76 | 79 | 81 | 82 | 78 | 83 | 88 | 92 | 94 | 92 | 95 | 94 | 97 | 97 | 96 | 92 | 91 |
| Oct21 | 99 | 103 | 101 | 101 | 103 | 109 | 117 | 116 | 106 | 97 | 99 | 109 | 110 | 113 | 105 | 104 | 108 | 94 | 81 | 89 | 94 | 98 | 102 | 125 | 104 |
| Oct22 | 110 | 91 | 91 | 94 | 98 | 97 | 91 | 85 | 83 | 78 | 84 | 91 | 96 | 100 | 97 | 96 | 99 | 99 | 101 | 101 | 107 | 108 | 105 | 101 | 96 |
| Oct23 | 106 | 110 | 106 | 105 | 106 | 109 | 105 | 100 | 92 | 85 | 89 | 93 | 99 | 103 | 101 | 101 | 105 | 106 | 107 | 106 | 105 | 106 | 106 | 104 | 102 |
| Oct24 | 104 | 102 | 102 | 102 | 104 | 104 | 103 | 98 | 104 | 101 | 103 | 106 | 91 | 83 | 86 | 66 | 45 | 85 | 85 | 86 | 90 | 92 | 116 | 102 | 93 |
| Oct25 | 109 | 101 | 94 | 94 | 91 | 91 | 93 | 91 | 63 | 74 | 75 | 75 | 79 | 86 | 86 | 82 | 90 | 87 | 94 | 99 | 104 | 121 | 97 | 87 | 90 |
| Oct26 | 90 | 91 | 89 | 94 | 101 | 100 | 101 | 96 | 71 | 78 | 68 | 48 | 38 | 45 | 62 | 62 | 52 | 50 | 69 | 98 | 89 | 90 | 91 | 91 | 77 |
| Oct27 | 89 | 95 | 93 | 91 | 93 | 97 | 99 | 96 | 89 | 84 | 82 | 83 | 86 | 90 | 92 | 94 | 95 | 96 | 97 | 96 | 97 | 95 | 96 | 93 | 92 |
| Oct28 | 100 | 96 | 99 | 101 | 106 | 109 | 107 | 99 | 96 | 90 | 91 | 92 | 92 | 93 | 94 | 95 | 96 | 93 | 93 | 94 | 94 | 97 | 97 | 97 | 97 |
| Oct29 | 98 | 96 | 98 | 99 | 104 | 103 | 101 | 96 | 93 | 92 | 90 | 93 | 98 | 101 | 97 | 99 | 101 | 101 | 99 | 97 | 95 | 96 | 98 | 99 | 98 |
| Oct30 | 99 | 99 | 100 | 104 | 104 | 103 | 103 | 98 | 92 | 85 | 83 | 86 | 92 | 97 | 99 | 101 | 103 | 102 | 103 | 102 | 102 | 102 | 102 | 101 | 98 |
| Oct31 | 105 | 105 | 100 | 102 | 105 | 107 | 107 | 103 | 95 | 87 | 80 | 80 | 86 | 93 | 98 | 101 | 103 | 104 | 105 | 104 | 104 | 103 | 103 | 103 | 99 |
| 2017, Field component: Y, Base: 1400.0, Unit: nT | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct01 | 132 | 134 | 134 | 128 | 126 | 125 | 129 | 129 | 129 | 129 | 118 | 106 | 100 | 98 | 106 | 116 | 122 | 143 | 123 | 124 | 129 | 133 | 120 | 129 | 123 |
| Oct02 | 125 | 125 | 125 | 114 | 119 | 126 | 132 | 140 | 145 | 140 | 126 | 110 | 103 | 102 | 104 | 112 | 118 | 122 | 123 | 123 | 123 | 122 | 121 | 122 | 122 |
| Oct03 | 122 | 122 | 118 | 127 | 127 | 127 | 134 | 142 | 139 | 131 | 117 | 106 | 102 | 104 | 109 | 116 | 116 | 119 | 117 | 119 | 122 | 123 | 127 | 131 | 122 |

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Table 8.10 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oct04 | 122 | 124 | 128 | 126 | 126 | 125 | 131 | 136 | 134 | 124 | 111 | 102 | 94 | 94 | 102 | 112 | 113 | 113 | 119 | 121 | 122 | 128 | 139 | 134 | 120 |
| Oct05 | 123 | 129 | 137 | 131 | 126 | 125 | 130 | 138 | 141 | 135 | 120 | 109 | 106 | 105 | 108 | 110 | 110 | 111 | 113 | 116 | 119 | 126 | 141 | 136 | 123 |
| Oct06 | 128 | 126 | 119 | 121 | 121 | 121 | 129 | 139 | 140 | 130 | 116 | 103 | 93 | 92 | 98 | 108 | 109 | 113 | 118 | 122 | 127 | 130 | 145 | 137 | 120 |
| Oct07 | 125 | 125 | 123 | 121 | 121 | 124 | 130 | 140 | 146 | 144 | 132 | 116 | 104 | 97 | 101 | 106 | 107 | 110 | 116 | 118 | 120 | 124 | 126 | 124 | 121 |
| Oct08 | 123 | 125 | 122 | 123 | 121 | 121 | 129 | 141 | 144 | 129 | 109 | 91 | 86 | 91 | 101 | 111 | 113 | 116 | 116 | 119 | 122 | 124 | 123 | 124 | 118 |
| Oct09 | 126 | 123 | 123 | 121 | 119 | 123 | 132 | 142 | 145 | 132 | 116 | 102 | 95 | 97 | 108 | 116 | 116 | 117 | 117 | 119 | 120 | 122 | 122 | 124 | 120 |
| Oct10 | 123 | 123 | 121 | 120 | 120 | 122 | 130 | 139 | 142 | 131 | 114 | 99 | 92 | 94 | 103 | 110 | 111 | 112 | 113 | 116 | 118 | 123 | 137 | 143 | 119 |
| Oct11 | 149 | 122 | 121 | 120 | 124 | 116 | 118 | 132 | 140 | 128 | 111 | 92 | 88 | 99 | 99 | 114 | 117 | 152 | 133 | 150 | 166 | 135 | 145 | 126 | 125 |
| Oct12 | 160 | 149 | 132 | 124 | 116 | 116 | 125 | 136 | 140 | 127 | 118 | 113 | 101 | 103 | 116 | 107 | 132 | 127 | 126 | 134 | 145 | 147 | 132 | 136 | 127 |
| Oct13 | 131 | 127 | 128 | 123 | 102 | 123 | 129 | 136 | 140 | 130 | 122 | 114 | 101 | 111 | 117 | 121 | 123 | 137 | 163 | 146 | 163 | 126 | 126 | 168 | 130 |
| Oct14 | 173 | 135 | 122 | 117 | 100 | 98 | 122 | 136 | 138 | 127 | 130 | 112 | 101 | 111 | 117 | 131 | 147 | 145 | 152 | 149 | 144 | 128 | 128 | 123 | 128 |
| Oct15 | 109 | 99 | 108 | 113 | 100 | 108 | 126 | 140 | 143 | 130 | 122 | 115 | 100 | 103 | 135 | 131 | 139 | 139 | 125 | 130 | 131 | 128 | 130 | 125 | 128 |
| Oct16 | 125 | 120 | 124 | 121 | 117 | 114 | 128 | 137 | 134 | 128 | 120 | 110 | 110 | 109 | 116 | 122 | 118 | 122 | 125 | 128 | 133 | 133 | 130 | 128 | 123 |
| Oct17 | 123 | 121 | 123 | 123 | 122 | 124 | 130 | 139 | 140 | 131 | 118 | 109 | 108 | 109 | 119 | 120 | 120 | 124 | 127 | 132 | 131 | 131 | 127 | 126 | 124 |
| Oct18 | 124 | 124 | 124 | 124 | 124 | 125 | 130 | 134 | 135 | 127 | 115 | 108 | 106 | 107 | 113 | 117 | 118 | 120 | 127 | 126 | 127 | 143 | 142 | 138 | 124 |
| Oct19 | 137 | 136 | 125 | 124 | 123 | 120 | 122 | 128 | 132 | 122 | 109 | 107 | 103 | 107 | 101 | 105 | 131 | 132 | 132 | 141 | 136 | 134 | 128 | 130 | 124 |
| Oct20 | 117 | 128 | 126 | 125 | 124 | 123 | 126 | 132 | 134 | 125 | 113 | 102 | 99 | 104 | 112 | 117 | 120 | 122 | 122 | 123 | 133 | 130 | 135 | 129 | 122 |
| Oct21 | 122 | 123 | 123 | 121 | 117 | 123 | 124 | 126 | 126 | 124 | 111 | 96 | 99 | 103 | 114 | 114 | 118 | 118 | 131 | 126 | 127 | 128 | 126 | 123 | 119 |
| Oct22 | 140 | 143 | 132 | 126 | 126 | 127 | 132 | 135 | 136 | 128 | 114 | 104 | 102 | 108 | 114 | 117 | 117 | 119 | 120 | 121 | 123 | 128 | 129 | 132 | 124 |
| Oct23 | 129 | 129 | 129 | 125 | 123 | 123 | 127 | 136 | 142 | 136 | 116 | 103 | 100 | 105 | 112 | 116 | 117 | 120 | 120 | 121 | 123 | 127 | 129 | 127 | 123 |
| Oct24 | 127 | 126 | 125 | 124 | 123 | 124 | 130 | 137 | 136 | 124 | 104 | 94 | 93 | 89 | 122 | 91 | 129 | 145 | 117 | 124 | 129 | 138 | 172 | 127 | 123 |
| Oct25 | 143 | 131 | 125 | 119 | 119 | 124 | 130 | 133 | 134 | 128 | 113 | 102 | 104 | 106 | 113 | 123 | 121 | 139 | 130 | 125 | 142 | 146 | 139 | 132 | 126 |
| Oct26 | 123 | 123 | 115 | 126 | 127 | 127 | 131 | 135 | 137 | 127 | 118 | 113 | 111 | 114 | 114 | 159 | 130 | 130 | 146 | 152 | 128 | 127 | 127 | 129 | 128 |
| Oct27 | 130 | 121 | 126 | 124 | 125 | 128 | 134 | 141 | 144 | 136 | 123 | 113 | 109 | 110 | 115 | 119 | 121 | 124 | 124 | 126 | 130 | 131 | 128 | 126 | 125 |
| Oct28 | 126 | 124 | 123 | 120 | 120 | 121 | 127 | 138 | 138 | 134 | 122 | 109 | 103 | 110 | 115 | 119 | 122 | 131 | 130 | 132 | 129 | 128 | 129 | 129 | 124 |
| Oct29 | 127 | 126 | 124 | 120 | 123 | 124 | 131 | 137 | 137 | 132 | 123 | 111 | 106 | 111 | 116 | 118 | 121 | 123 | 126 | 128 | 134 | 129 | 126 | 124 | 124 |
| Oct30 | 123 | 124 | 122 | 124 | 128 | 128 | 133 | 140 | 143 | 138 | 126 | 114 | 108 | 112 | 119 | 122 | 123 | 126 | 125 | 125 | 125 | 125 | 127 | 127 | 125 |
| Oct31 | 128 | 123 | 123 | 123 | 124 | 125 | 130 | 138 | 140 | 133 | 117 | 105 | 101 | 108 | 114 | 118 | 121 | 122 | 123 | 124 | 124 | 125 | 125 | 125 | 123 |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oct01 | 88 | 84 | 87 | 88 | 88 | 90 | 93 | 96 | 92 | 84 | 76 | 74 | 75 | 77 | 85 | 92 | 94 | 92 | 93 | 92 | 91 | 91 | 89 | 87 | 87 |
| Oct02 | 89 | 90 | 89 | 89 | 88 | 85 | 88 | 87 | 82 | 78 | 76 | 78 | 81 | 84 | 87 | 89 | 90 | 90 | 90 | 90 | 90 | 89 | 89 | 89 | 86 |
| Oct03 | 89 | 88 | 87 | 83 | 85 | 86 | 89 | 89 | 83 | 75 | 71 | 72 | 74 | 79 | 85 | 87 | 87 | 87 | 88 | 89 | 89 | 89 | 89 | 88 | 84 |
| Oct04 | 88 | 86 | 86 | 83 | 82 | 86 | 89 | 91 | 88 | 85 | 83 | 86 | 87 | 87 | 89 | 89 | 87 | 88 | 85 | 88 | 88 | 89 | 89 | 89 | 87 |
| Oct05 | 87 | 85 | 83 | 84 | 84 | 86 | 89 | 91 | 89 | 82 | 75 | 75 | 76 | 76 | 80 | 82 | 82 | 84 | 87 | 86 | 87 | 87 | 84 | 84 | 83 |
| Oct06 | 86 | 85 | 84 | 82 | 83 | 85 | 88 | 88 | 84 | 78 | 74 | 76 | 77 | 80 | 83 | 86 | 86 | 88 | 87 | 88 | 87 | 88 | 86 | 89 | 84 |
| Oct07 | 88 | 87 | 87 | 86 | 86 | 86 | 88 | 89 | 85 | 79 | 73 | 72 | 73 | 78 | 82 | 84 | 86 | 87 | 87 | 88 | 88 | 88 | 87 | 87 | 84 |

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Table 8.10 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oct08 | 86 | 85 | 85 | 84 | 84 | 85 | 87 | 88 | 85 | 78 | 72 | 70 | 73 | 78 | 83 | 84 | 85 | 85 | 85 | 85 | 85 | 86 | 85 | 85 | 83 |
| Oct09 | 85 | 86 | 84 | 84 | 85 | 86 | 90 | 91 | 85 | 75 | 71 | 71 | 72 | 77 | 82 | 83 | 84 | 85 | 85 | 84 | 84 | 84 | 84 | 84 | 83 |
| Oct10 | 84 | 84 | 83 | 83 | 83 | 85 | 88 | 88 | 82 | 72 | 67 | 68 | 69 | 74 | 79 | 81 | 82 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 81 |
| Oct11 | 84 | 84 | 82 | 83 | 84 | 87 | 87 | 89 | 84 | 73 | 72 | 75 | 76 | 79 | 85 | 93 | 97 | 96 | 97 | 98 | 96 | 93 | 88 | 87 | 86 |
| Oct12 | 75 | 77 | 81 | 83 | 85 | 88 | 92 | 95 | 97 | 95 | 87 | 81 | 81 | 92 | 99 | 98 | 101 | 101 | 98 | 96 | 94 | 94 | 90 | 83 | 90 |
| Oct13 | 83 | 86 | 87 | 88 | 88 | 88 | 92 | 93 | 89 | 83 | 78 | 79 | 84 | 97 | 110 | 115 | 109 | 109 | 104 | 90 | 90 | 88 | 88 | 76 | 92 |
| Oct14 | 76 | 81 | 85 | 88 | 86 | 85 | 89 | 92 | 92 | 88 | 88 | 89 | 88 | 94 | 99 | 97 | 97 | 95 | 94 | 95 | 93 | 92 | 91 | 91 | 90 |
| Oct15 | 85 | 82 | 76 | 80 | 83 | 87 | 94 | 96 | 95 | 91 | 89 | 91 | 95 | 99 | 103 | 104 | 105 | 106 | 105 | 99 | 96 | 95 | 94 | 94 | 93 |
| Oct16 | 93 | 93 | 90 | 91 | 92 | 92 | 95 | 93 | 91 | 84 | 90 | 90 | 90 | 91 | 94 | 94 | 93 | 92 | 92 | 92 | 92 | 89 | 87 | 89 | 92 |
| Oct17 | 90 | 90 | 90 | 90 | 90 | 91 | 94 | 95 | 91 | 87 | 82 | 85 | 86 | 88 | 91 | 89 | 90 | 92 | 92 | 90 | 90 | 91 | 87 | 91 | 90 |
| Oct18 | 90 | 90 | 90 | 90 | 90 | 90 | 94 | 95 | 91 | 86 | 85 | 85 | 85 | 88 | 89 | 89 | 90 | 89 | 89 | 90 | 90 | 88 | 87 | 89 | 89 |
| Oct19 | 86 | 88 | 89 | 88 | 88 | 89 | 92 | 93 | 90 | 83 | 82 | 84 | 84 | 84 | 89 | 91 | 99 | 102 | 101 | 102 | 98 | 93 | 91 | 90 | 91 |
| Oct20 | 92 | 88 | 90 | 90 | 90 | 91 | 94 | 94 | 90 | 80 | 80 | 78 | 81 | 85 | 88 | 90 | 92 | 90 | 92 | 94 | 91 | 91 | 90 | 91 | 89 |
| Oct21 | 90 | 89 | 89 | 89 | 89 | 90 | 91 | 89 | 84 | 80 | 76 | 77 | 79 | 84 | 86 | 88 | 88 | 90 | 94 | 90 | 93 | 93 | 90 | 85 | 87 |
| Oct22 | 82 | 85 | 87 | 89 | 89 | 88 | 90 | 90 | 86 | 80 | 78 | 80 | 85 | 88 | 86 | 88 | 90 | 90 | 90 | 90 | 89 | 89 | 89 | 89 | 87 |
| Oct23 | 88 | 86 | 86 | 88 | 87 | 88 | 89 | 87 | 83 | 75 | 71 | 78 | 85 | 87 | 89 | 89 | 90 | 88 | 88 | 88 | 88 | 88 | 88 | 87 | 86 |
| Oct24 | 87 | 87 | 87 | 86 | 87 | 88 | 89 | 89 | 84 | 73 | 67 | 71 | 80 | 87 | 87 | 90 | 107 | 106 | 100 | 99 | 97 | 94 | 85 | 87 | 89 |
| Oct25 | 83 | 84 | 85 | 85 | 87 | 88 | 90 | 91 | 89 | 84 | 86 | 87 | 89 | 92 | 96 | 99 | 94 | 94 | 102 | 92 | 90 | 95 | 85 | 88 | 89 |
| Oct26 | 88 | 89 | 89 | 88 | 92 | 89 | 91 | 91 | 88 | 83 | 80 | 87 | 96 | 101 | 105 | 107 | 106 | 106 | 102 | 99 | 96 | 92 | 94 | 93 | 94 |
| Oct27 | 93 | 93 | 91 | 92 | 92 | 91 | 94 | 96 | 93 | 87 | 83 | 85 | 87 | 91 | 94 | 93 | 93 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 91 |
| Oct28 | 90 | 90 | 90 | 90 | 89 | 89 | 91 | 91 | 85 | 80 | 78 | 78 | 85 | 89 | 90 | 91 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 91 | 89 |
| Oct29 | 90 | 90 | 90 | 90 | 89 | 90 | 92 | 92 | 91 | 86 | .. | 82 | 87 | 91 | 92 | 91 | 91 | 91 | 92 | 92 | 92 | 92 | 90 | 91 | .. |
| Oct30 | 90 | 90 | 90 | 89 | 89 | 90 | 91 | 93 | 92 | 86 | 84 | 87 | 92 | 94 | 94 | 92 | 91 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| Oct31 | 88 | 88 | 89 | 89 | 86 | 89 | 92 | 92 | 88 | 83 | 81 | 86 | 88 | 90 | 91 | 90 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oct01 | 86 | 82 | 79 | 81 | 83 | 85 | 88 | 85 | 80 | 74 | 64 | 63 | 66 | 68 | 74 | 81 | 84 | 89 | 83 | 85 | 84 | 83 | 86 | 82 | 80 |
| Oct02 | 83 | 85 | 86 | 87 | 86 | 86 | 86 | 84 | 79 | 72 | 69 | 70 | 69 | 73 | 77 | 81 | 84 | 84 | 84 | 84 | 86 | 85 | 86 | 86 | 81 |
| Oct03 | 86 | 86 | 88 | 89 | 86 | 87 | 89 | 83 | 76 | 67 | 63 | 66 | 70 | 76 | 82 | 84 | 84 | 84 | 84 | 85 | 86 | 86 | 88 | 86 | 82 |
| Oct04 | 87 | 86 | 85 | 86 | 87 | 86 | 88 | 88 | 83 | 80 | 79 | 81 | 83 | 84 | 87 | 87 | 85 | 85 | 86 | 88 | 87 | 86 | 86 | 86 | 85 |
| Oct05 | 87 | 86 | 85 | 83 | 84 | 87 | 91 | 91 | 86 | 78 | 76 | 78 | 79 | 78 | 81 | 84 | 84 | 85 | 87 | 86 | 87 | 88 | 93 | 85 | 84 |
| Oct06 | 86 | 85 | 87 | 86 | 85 | 86 | 86 | 85 | 79 | 73 | 71 | 74 | 74 | 79 | 83 | 83 | 80 | 84 | 85 | 85 | 85 | 85 | 87 | 85 | 82 |
| Oct07 | 85 | 85 | 85 | 85 | 85 | 86 | 89 | 88 | 84 | 77 | 70 | 70 | 72 | 79 | 81 | 83 | 82 | 84 | 86 | 86 | 87 | 87 | 88 | 89 | 83 |
| Oct08 | 88 | 86 | 86 | 86 | 86 | 88 | 89 | 88 | 81 | 73 | 68 | 67 | 71 | 79 | 84 | 85 | 85 | 86 | 86 | 86 | 86 | 87 | 86 | 86 | 83 |
| Oct09 | 86 | 86 | 87 | 86 | 87 | 90 | 91 | 87 | 79 | 67 | 65 | 67 | 71 | 78 | 83 | 84 | 85 | 86 | 87 | 87 | 87 | 87 | 86 | 87 | 83 |
| Oct10 | 87 | 86 | 86 | 86 | 87 | 89 | 90 | 87 | 79 | 68 | 64 | 67 | 69 | 75 | 81 | 83 | 84 | 86 | 88 | 80 | 85 | 84 | 85 | 84 | 82 |
| Oct11 | 81 | 82 | 84 | 85 | 86 | 85 | 95 | 88 | 72 | 63 | 63 | 64 | 63 | 76 | 78 | 66 | 76 | 87 | 76 | 80 | 85 | 84 | 82 | 82 | 79 |

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Table 8.10 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oct12 | 83 | 78 | 78 | 78 | 79 | 81 | 86 | 86 | 81 | 77 | 76 | 67 | 64 | 62 | 76 | 80 | 79 | 83 | 87 | 86 | 89 | 85 | 87 | 92 | 80 |
| Oct13 | 78 | 80 | 83 | 85 | 83 | 86 | 88 | 87 | 82 | 73 | 59 | 56 | 58 | 69 | 67 | 80 | 80 | 80 | 88 | 86 | 76 | 79 | 84 | 80 | 78 |
| Oct14 | 79 | 71 | 72 | 79 | 78 | 73 | 73 | 79 | 81 | 75 | 58 | 70 | 77 | 78 | 86 | 82 | 88 | 91 | 83 | 81 | 88 | 88 | 86 | 87 | 79 |
| Oct15 | 87 | 81 | 78 | 76 | 73 | 75 | 85 | 86 | 82 | 78 | 77 | 66 | 67 | 73 | 83 | 79 | 81 | 82 | 86 | 92 | 91 | 88 | 88 | 88 | 81 |
| Oct16 | 88 | 87 | 86 | 87 | 88 | 89 | 91 | 90 | 84 | 79 | 77 | 77 | 78 | 81 | 83 | 85 | 86 | 87 | 87 | 88 | 91 | 93 | 88 | 85 | 86 |
| Oct17 | 85 | 85 | 86 | 86 | 88 | 90 | 93 | 92 | 86 | 78 | 73 | 74 | 75 | 79 | 81 | 84 | 86 | 87 | 87 | 85 | 87 | 88 | 89 | 87 | 85 |
| Oct18 | 88 | 87 | 86 | 87 | 88 | 91 | 92 | 92 | 87 | 82 | 81 | 80 | 79 | 83 | 85 | 85 | 86 | 88 | 88 | 88 | 87 | 90 | 86 | 84 | 86 |
| Oct19 | 86 | 85 | 86 | 88 | 89 | 89 | 91 | 92 | 87 | 79 | 74 | 77 | 80 | 80 | 83 | 83 | 80 | 82 | 85 | 87 | 93 | 91 | 90 | 87 | 85 |
| Oct20 | 88 | 87 | 86 | 88 | 88 | 89 | 89 | 86 | 79 | 74 | 71 | 70 | 70 | 77 | 82 | 86 | 88 | 87 | 82 | 88 | 89 | 89 | 87 | 86 | 84 |
| Oct21 | 89 | 89 | 88 | 88 | 89 | 92 | 89 | 95 | 87 | 79 | 76 | 80 | 83 | 88 | 87 | 88 | 91 | 86 | 88 | 87 | 93 | 91 | 92 | 96 | 88 |
| Oct22 | 86 | 81 | 83 | 85 | 89 | 88 | 86 | 83 | 78 | 71 | 71 | 76 | 82 | 86 | 87 | 86 | 88 | 88 | 84 | 90 | 89 | 92 | 90 | 88 | 85 |
| Oct23 | 90 | 90 | 88 | 88 | 89 | 89 | 91 | 87 | 80 | 69 | 67 | 75 | 83 | 87 | 87 | 88 | 89 | 90 | 89 | 91 | 91 | 90 | 90 | 89 | 86 |
| Oct24 | 88 | 87 | 87 | 87 | 88 | 88 | 90 | 88 | 86 | 74 | 68 | 73 | 75 | 78 | 78 | 82 | 80 | 98 | 90 | 91 | 91 | 90 | 93 | 87 | 85 |
| Oct25 | 87 | 84 | 82 | 82 | 82 | 83 | 86 | 86 | 72 | 73 | 74 | 75 | 78 | 84 | 86 | 85 | 88 | 87 | 91 | 97 | 91 | 96 | 84 | 82 | 84 |
| Oct26 | 82 | 83 | 83 | 85 | 88 | 88 | 91 | 91 | 75 | 73 | 66 | 64 | 67 | 75 | 75 | 89 | 83 | 82 | 90 | 89 | 90 | 89 | 89 | 88 | 82 |
| Oct27 | 87 | 89 | 87 | 87 | 88 | 89 | 92 | 93 | 88 | 80 | 75 | 77 | 80 | 85 | 88 | 89 | 89 | 89 | 88 | 89 | 88 | 89 | 89 | 88 | 87 |
| Oct28 | 89 | 87 | 88 | 89 | 91 | 90 | 93 | 90 | 83 | 76 | 74 | 74 | 81 | 84 | 86 | 87 | 89 | 88 | 90 | 89 | 89 | 89 | 89 | 89 | 86 |
| Oct29 | 88 | 87 | 88 | 89 | 90 | 90 | 92 | 92 | 87 | 82 | 77 | 78 | 85 | 90 | 89 | 89 | 90 | 90 | 88 | 89 | 89 | 90 | 90 | 89 | 88 |
| Oct30 | 89 | 89 | 89 | 90 | 90 | 90 | .. | .. | 88 | 79 | 76 | 80 | 86 | 91 | 92 | 91 | 91 | 90 | 90 | 90 | 90 | 90 | 90 | 89 | .. |
| Oct31 | 90 | 88 | 88 | 88 | 90 | 91 | 94 | 92 | 85 | 77 | 72 | 76 | 81 | 86 | 89 | 90 | 89 | 89 | 90 | 90 | 90 | 90 | 89 | 89 | 87 |

Table 8.11. Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory. Please note: if data is missing within one hour/day, then means are not calculated.

2017, Field component: X, Base: 20900.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nov01 | 102 | 104 | 107 | 108 | 111 | 114 | 115 | 112 | 108 | 103 | 100 | 99 | 102 | 103 | 109 | 112 | 113 | 114 | 114 | 113 | 109 | 100 | 103 | 103 | 107 |
| Nov02 | 101 | 102 | 104 | 101 | 103 | 106 | 109 | 107 | 103 | 103 | 105 | 108 | 112 | 112 | 111 | 110 | 112 | 112 | 111 | 109 | 104 | 96 | 102 | 112 | 106 |
| Nov03 | 100 | 86 | 85 | 91 | 93 | 96 | 97 | 92 | 90 | 90 | 86 | 85 | 78 | 91 | 95 | 95 | 98 | 98 | 97 | 98 | 99 | 98 | 95 | 99 | 93 |
| Nov04 | 99 | 98 | 102 | 103 | 104 | 103 | 102 | 98 | 94 | 91 | 91 | 94 | 95 | 97 | 98 | 96 | 94 | 99 | 101 | 100 | 101 | 105 | 102 | 100 | 99 |
| Nov05 | 100 | 99 | 100 | 101 | 103 | 104 | 102 | 97 | 90 | 86 | 91 | 96 | 99 | 101 | 103 | 103 | 101 | 100 | 103 | 104 | 104 | 104 | 100 | 102 | 100 |
| Nov06 | 102 | 105 | 103 | 105 | 106 | 107 | 107 | 103 | 97 | 90 | 91 | 95 | 101 | 105 | 106 | 107 | 107 | 107 | 107 | 108 | 109 | 110 | 109 | 106 | 104 |
| Nov07 | 106 | 107 | 112 | 118 | 127 | 132 | 122 | 120 | 106 | 75 | 60 | 56 | 57 | 66 | 65 | 71 | 66 | 58 | 71 | 72 | 46 | 41 | 63 | 86 | 83 |
| Nov08 | 88 | 91 | 68 | 79 | 78 | 76 | 74 | 76 | 68 | 43 | 22 | 25 | 16 | 7 | 17 | 4 | 32 | 54 | 73 | 71 | 65 | 81 | 91 | 71 | 57 |
| Nov09 | 71 | 74 | 77 | 84 | 78 | 86 | 80 | 75 | 59 | 50 | 50 | 57 | 56 | 53 | 64 | 71 | 72 | 60 | 47 | 70 | 75 | 81 | 107 | 92 | 70 |
| Nov10 | 83 | 86 | 83 | 90 | 91 | 94 | 77 | 61 | 68 | 65 | 71 | 79 | 72 | 65 | 54 | 46 | 68 | 79 | 88 | 78 | 77 | 98 | 98 | 94 | 78 |
| Nov11 | 96 | 88 | 86 | 87 | 88 | 90 | 85 | 84 | 83 | 81 | 76 | 84 | 80 | 81 | 81 | 85 | 88 | 92 | 94 | 96 | 95 | 88 | 91 | 90 | 87 |
| Nov12 | 93 | 89 | 92 | 97 | 101 | 102 | 98 | 94 | 88 | 81 | 77 | 79 | 82 | 86 | 88 | 88 | 91 | 95 | 96 | 92 | 100 | 95 | 91 | 93 | 91 |
| Nov13 | 95 | 94 | 94 | 98 | 101 | 102 | 105 | 104 | 97 | 84 | 81 | 87 | 87 | 82 | 81 | 81 | 85 | 94 | 95 | 96 | 97 | 98 | 98 | 97 | 93 |
| Nov14 | 100 | 108 | 119 | 102 | 102 | 111 | 105 | 103 | 94 | 89 | 89 | 93 | 95 | 95 | 95 | 81 | 99 | 101 | 104 | 104 | 104 | 104 | 77 | 81 | 87 |
| Nov15 | 82 | 87 | 87 | 91 | 93 | 98 | 99 | 92 | 93 | 80 | 72 | 91 | 87 | 87 | 95 | 85 | 89 | 81 | 99 | 104 | 104 | 92 | 94 | 98 | 90 |
| Nov16 | 98 | 99 | 95 | 123 | 109 | 109 | 106 | 94 | 82 | 80 | 79 | 87 | 90 | 92 | 91 | 92 | 89 | 88 | 86 | 91 | 94 | 98 | 107 | 98 | 95 |
| Nov17 | 93 | 95 | 95 | 95 | 100 | 101 | 104 | 101 | 95 | 88 | 86 | 85 | 94 | 98 | 93 | 97 | 100 | 101 | 102 | 101 | 103 | 99 | 96 | 97 | 97 |
| Nov18 | 98 | 98 | 96 | 97 | 101 | 104 | 102 | 100 | 97 | 93 | 96 | 96 | 93 | 89 | 93 | 93 | 93 | 97 | 92 | 90 | 92 | 96 | 101 | 100 | 96 |
| Nov19 | 98 | 97 | 99 | 99 | 105 | 111 | 111 | 112 | 106 | 100 | 97 | 100 | 102 | 104 | 103 | 102 | 103 | 102 | 102 | 100 | 101 | 102 | 104 | 102 | 102 |
| Nov20 | 105 | 107 | 106 | 106 | 109 | 111 | 115 | 117 | 115 | 110 | 104 | 100 | 103 | 105 | 107 | 106 | 109 | 111 | 96 | 92 | 100 | 104 | 103 | 124 | 107 |
| Nov21 | 113 | 89 | 90 | 100 | 94 | 111 | 111 | 103 | 91 | 74 | 80 | 81 | 85 | 84 | 76 | 69 | 75 | 89 | 71 | 64 | 101 | 92 | 101 | 102 | 90 |
| Nov22 | 86 | 84 | 89 | 96 | 94 | 103 | 103 | 97 | 90 | 83 | 86 | 88 | 81 | 82 | 79 | 70 | 69 | 71 | 86 | 82 | 76 | 82 | 89 | 89 | 86 |
| Nov23 | 90 | 93 | 96 | 97 | 97 | 98 | 100 | 104 | 99 | .. | 91 | 91 | 89 | 81 | 92 | 87 | 85 | 80 | 82 | 77 | 74 | 91 | 94 | 95 | .. |
| Nov24 | 110 | 103 | 98 | 97 | 101 | 98 | 101 | 104 | 104 | 99 | 95 | 96 | 99 | 103 | 106 | 105 | 105 | 102 | 87 | 70 | 94 | 94 | 78 | 86 | 97 |
| Nov25 | 90 | 93 | 95 | 100 | 100 | 101 | 99 | 95 | 91 | 89 | 83 | 84 | 87 | 88 | 91 | 93 | 93 | 97 | 98 | 98 | 97 | 97 | 98 | 98 | 94 |
| Nov26 | 98 | 100 | 102 | 104 | 107 | 110 | 112 | 112 | 107 | 98 | 95 | 97 | 102 | 101 | 97 | 94 | 99 | 100 | 98 | 99 | 100 | 102 | 102 | 102 | 102 |
| Nov27 | 101 | 103 | 108 | 111 | 113 | 112 | 114 | 116 | 116 | 113 | 109 | 109 | 112 | 112 | 111 | 112 | 111 | 107 | 99 | 105 | 105 | 107 | 108 | 105 | 109 |
| Nov28 | 100 | 95 | 91 | 88 | 95 | 97 | 97 | 97 | 92 | 88 | 84 | 85 | 87 | 92 | 97 | 98 | 102 | 107 | 104 | 103 | .. | 102 | 103 | 102 | .. |
| Nov29 | 102 | 99 | 98 | 103 | 104 | 106 | 109 | 107 | 106 | 107 | 107 | 109 | 108 | 107 | 110 | 109 | 111 | 109 | 105 | 103 | 96 | 93 | 87 | 91 | 104 |
| Nov30 | 97 | 97 | 98 | 111 | 114 | 110 | 110 | 114 | 109 | 103 | 107 | 99 | 95 | 99 | 93 | 89 | 89 | 97 | 97 | 96 | 92 | 93 | 93 | 93 | 100 |

2017, Field component: Y, Base: 1400.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nov01 | 126 | 123 | 125 | 123 | 123 | 125 | 130 | 137 | 138 | 127 | 111 | 101 | 101 | 106 | 113 | 116 | 117 | 119 | 120 | 122 | 125 | 130 | 131 | 129 | 122 |
| Nov02 | 132 | 129 | 129 | 125 | 123 | 125 | 129 | 133 | 136 | 129 | 119 | 110 | 106 | 109 | 115 | 117 | 118 | 120 | 122 | 124 | 125 | 130 | 143 | 152 | 125 |
| Nov03 | 163 | 143 | 132 | 128 | 125 | 129 | 134 | 138 | 137 | 128 | 118 | 106 | 110 | 114 | 115 | 118 | 120 | 122 | 130 | 126 | 127 | 129 | 133 | 134 | 127 |
| Nov04 | 133 | 127 | 127 | 125 | 126 | 125 | 129 | 132 | 131 | 122 | 115 | 109 | 110 | 113 | 116 | 116 | 120 | 123 | 125 | 127 | 128 | 133 | 133 | 128 | 124 |

70

Table 8.11 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nov05 | 128 | 126 | 125 | 125 | 126 | 128 | 135 | 144 | 144 | 131 | 117 | 110 | 111 | 116 | 120 | 121 | 122 | 123 | 123 | 125 | 126 | 127 | 128 | 129 | 125 |
| Nov06 | 129 | 130 | 127 | 126 | 125 | 126 | 130 | 138 | 140 | 132 | 120 | 109 | 108 | 114 | 120 | 122 | 123 | 124 | 124 | 124 | 125 | 126 | 127 | 128 | 125 |
| Nov07 | 128 | 127 | 128 | 123 | 120 | 120 | 123 | 129 | 130 | 129 | 108 | 100 | 87 | 93 | 101 | 106 | 98 | 118 | 210 | 197 | 160 | 184 | 195 | 156 | 132 |
| Nov08 | 157 | 151 | 120 | 100 | 85 | 112 | 125 | 136 | 138 | 132 | 130 | 123 | 120 | 143 | 124 | 149 | 145 | 123 | 131 | 137 | 162 | 179 | 137 | 144 | 134 |
| Nov09 | 135 | 122 | 126 | 125 | 125 | 126 | 130 | 139 | 139 | 138 | 127 | 121 | 117 | 126 | 125 | 154 | 152 | 155 | 140 | 139 | 138 | 144 | 150 | 143 | 135 |
| Nov10 | 133 | 131 | 115 | 116 | 124 | 125 | 126 | 134 | 136 | 127 | 129 | 119 | 117 | 128 | 141 | 160 | 135 | 129 | 142 | 146 | 139 | 135 | 135 | 128 | 131 |
| Nov11 | 122 | 132 | 126 | 126 | 128 | 131 | 133 | 139 | 136 | 128 | 123 | 118 | 116 | 121 | 121 | 124 | 130 | 130 | 130 | 130 | 130 | 134 | 133 | 130 | 128 |
| Nov12 | 128 | 126 | 125 | 125 | 123 | 128 | 135 | 140 | 140 | 130 | 122 | 117 | 115 | 120 | 124 | 126 | 132 | 129 | 130 | 131 | 138 | 146 | 132 | 129 | 129 |
| Nov13 | 126 | 126 | 120 | 117 | 126 | 128 | 133 | 142 | 142 | 130 | 123 | 110 | 109 | 113 | 117 | 126 | 129 | 127 | 130 | 131 | 131 | 130 | 130 | 129 | 126 |
| Nov14 | 129 | 130 | 133 | 133 | 127 | 129 | 128 | 130 | 136 | 131 | 121 | 113 | 111 | 116 | 122 | 120 | 127 | 136 | 141 | 149 | 152 | 154 | 155 | 144 | 132 |
| Nov15 | 136 | 128 | 126 | 125 | 125 | 125 | 131 | 137 | 135 | 130 | 112 | 102 | 100 | 106 | 107 | 110 | 112 | 117 | 126 | 126 | 128 | 131 | 132 | 128 | 122 |
| Nov16 | 127 | 126 | 112 | 124 | 131 | 126 | 129 | 136 | 132 | 132 | 128 | 120 | 116 | 119 | 122 | 124 | 128 | 133 | 134 | 140 | 140 | 139 | 134 | 130 | 128 |
| Nov17 | 129 | 127 | 128 | 127 | 126 | 128 | 130 | 135 | 135 | 131 | 122 | 121 | 120 | 123 | 127 | 124 | 124 | 126 | 127 | 128 | 129 | 130 | 131 | 133 | 128 |
| Nov18 | 129 | 129 | 127 | 127 | 126 | 127 | 128 | 134 | 139 | 140 | 129 | 120 | 118 | 120 | 120 | 123 | 129 | 125 | 129 | 133 | 136 | 138 | 145 | 135 | 129 |
| Nov19 | 130 | 129 | 129 | 127 | 125 | 127 | 125 | 128 | 134 | 134 | 126 | 117 | 116 | 118 | 121 | 122 | 124 | 126 | 126 | 128 | 128 | 129 | 129 | 128 | 126 |
| Nov20 | 126 | 124 | 123 | 124 | 124 | 125 | 126 | 131 | 139 | 141 | 132 | 121 | 114 | 116 | 119 | 121 | 121 | 119 | 133 | 135 | 131 | 129 | 132 | 157 | 128 |
| Nov21 | 156 | 141 | 135 | 135 | 113 | 104 | 99 | 119 | 128 | 132 | 127 | 125 | 122 | 124 | 126 | 147 | 142 | 153 | 151 | 150 | 134 | 138 | 137 | 129 | 132 |
| Nov22 | 137 | 130 | 127 | 126 | 119 | 119 | 124 | 128 | 130 | 131 | 122 | 116 | 115 | 129 | 121 | 128 | 142 | 143 | 143 | 152 | 136 | 138 | 131 | 130 | 132 |
| Nov23 | 128 | 127 | 123 | 127 | 127 | 127 | 129 | 133 | 135 | ... | 126 | 120 | 118 | 127 | 124 | 122 | 127 | 136 | 131 | 143 | 145 | 150 | 153 | 143 | 130 |
| Nov24 | 120 | 132 | 130 | 127 | 127 | 125 | 126 | 129 | 127 | 123 | 121 | 119 | 117 | 119 | 120 | 123 | 124 | 131 | 132 | 138 | 140 | 155 | 153 | 141 | 129 |
| Nov25 | 128 | 127 | 127 | 126 | 123 | 127 | 128 | 134 | 136 | 131 | 126 | 118 | 118 | 122 | 127 | 123 | 128 | 133 | 131 | 132 | 131 | 132 | 130 | 129 | 128 |
| Nov26 | 129 | 128 | 127 | 125 | 125 | 126 | 127 | 133 | 138 | 136 | 128 | 117 | 114 | 120 | 123 | 124 | 126 | 128 | 131 | 129 | 130 | 133 | 132 | 133 | 127 |
| Nov27 | 133 | 132 | 130 | 126 | 128 | 130 | 124 | 127 | 131 | 130 | 123 | 117 | 116 | 118 | 119 | 118 | 123 | 125 | 129 | 132 | 133 | 131 | 131 | 136 | 126 |
| Nov28 | 137 | 144 | 143 | 133 | 131 | 130 | 131 | 133 | 132 | 129 | 121 | 119 | 117 | 119 | 123 | 124 | 127 | 127 | 128 | 131 | ... | 130 | 129 | 127 | ... |
| Nov29 | 128 | 130 | 128 | 127 | 126 | 127 | 129 | 132 | 132 | 123 | 119 | 115 | 116 | 121 | 122 | 125 | 126 | 127 | 129 | 130 | 132 | 141 | 143 | 138 | 128 |
| Nov30 | 129 | 130 | 130 | 119 | 134 | 128 | 129 | 132 | 137 | 137 | 131 | 121 | 123 | 123 | 126 | 142 | 129 | 130 | 134 | 134 | 140 | 144 | 147 | 138 | 132 |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nov01 | 89 | 89 | 87 | 87 | 87 | 86 | 88 | 88 | 81 | 72 | 73 | 76 | 81 | 84 | 84 | 85 | 86 | 86 | 86 | 86 | 87 | 89 | 89 | 89 | 85 |
| Nov02 | 89 | 88 | 87 | 87 | 87 | 87 | 88 | 87 | 84 | 80 | 78 | 80 | 82 | 83 | 84 | 85 | 85 | 86 | 86 | 87 | 88 | 90 | 90 | 88 | 86 |
| Nov03 | 84 | 87 | 89 | 89 | 90 | 90 | 90 | 91 | 85 | 79 | 80 | 85 | 90 | 92 | 92 | 89 | 90 | 91 | 91 | 91 | 91 | 91 | 92 | 91 | 89 |
| Nov04 | 91 | 90 | 89 | 89 | 90 | 89 | 90 | 91 | 86 | 82 | 83 | 85 | 87 | 88 | 89 | 89 | 91 | 90 | 90 | 90 | 90 | 89 | 89 | 89 | 89 |
| Nov05 | 89 | 90 | 89 | 89 | 89 | 89 | 89 | 90 | 84 | 81 | 83 | 85 | 87 | 89 | 90 | 89 | 89 | 90 | 89 | 89 | 89 | 89 | 89 | 89 | 88 |
| Nov06 | 89 | 88 | 89 | 88 | 88 | 88 | 89 | 88 | 85 | 80 | 80 | 82 | 84 | 87 | 88 | 87 | 88 | 88 | 89 | 88 | 88 | 87 | 87 | 87 | 87 |
| Nov07 | 87 | 87 | 87 | 85 | 83 | 83 | 86 | 86 | 82 | 79 | 80 | 85 | 90 | 93 | 96 | 99 | 102 | 106 | 109 | 104 | 104 | 102 | 94 | 80 | 91 |
| Nov08 | 78 | 73 | 79 | 82 | 81 | 87 | 92 | 92 | 92 | 93 | 97 | 100 | 107 | 118 | 122 | 123 | 122 | 113 | 107 | 104 | 103 | 101 | 91 | 94 | 98 |
| Nov09 | 96 | 94 | 94 | 94 | 95 | 97 | 102 | 105 | 105 | 100 | 99 | 101 | 102 | 107 | 105 | 104 | 103 | 104 | 107 | 106 | 104 | 101 | 93 | 93 | 100 |

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Table 8.11 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nov10 | 94 | 94 | 95 | 94 | 95 | 96 | 99 | 101 | 99 | 97 | 97 | 98 | 98 | 101 | 103 | 107 | 107 | 103 | 102 | 101 | 103 | 99 | 95 | 95 | 99 |
| Nov11 | 92 | 93 | 95 | 96 | 96 | 96 | 97 | 95 | 91 | 85 | 85 | 87 | 91 | 94 | 96 | 98 | 98 | 98 | 97 | 96 | 96 | 96 | 95 | 95 | 94 |
| Nov12 | 94 | 95 | 95 | 95 | 95 | 94 | 95 | 94 | 91 | 88 | 90 | 91 | 93 | 95 | 96 | 96 | 96 | 96 | 95 | 95 | 96 | 94 | 94 | 94 | 94 |
| Nov13 | 94 | 94 | 94 | 93 | 92 | 92 | 92 | 92 | 89 | 85 | 86 | 87 | 91 | 96 | 97 | 98 | 99 | 97 | 96 | 96 | 95 | 95 | 94 | 94 | 93 |
| Nov14 | 93 | 91 | 87 | 89 | 90 | 90 | 91 | 93 | 90 | 87 | 82 | 83 | 87 | 91 | 93 | 96 | 99 | 104 | 106 | 106 | 105 | 101 | 100 | 98 | 94 |
| Nov15 | 98 | 97 | 97 | 96 | 95 | 95 | 94 | 94 | 92 | 88 | 86 | 89 | 93 | 96 | 97 | 97 | 101 | 102 | 100 | 99 | 98 | 99 | 98 | 96 | 96 |
| Nov16 | 95 | 95 | 96 | 96 | 95 | 90 | 91 | 93 | 93 | 92 | 92 | 91 | 93 | 96 | 96 | 95 | 96 | 97 | 97 | 97 | 96 | 95 | 93 | 92 | 94 |
| Nov17 | 93 | 93 | 96 | 88 | 89 | 90 | 94 | 93 | 96 | 94 | 92 | 89 | 94 | 95 | 96 | 95 | 95 | 94 | 93 | 93 | 93 | 93 | 94 | 94 | 94 |
| Nov18 | 94 | 93 | 93 | 94 | 93 | 93 | 94 | 95 | 95 | 90 | 86 | 87 | 91 | 94 | 95 | 95 | 96 | 95 | 95 | 96 | 96 | 95 | 93 | 92 | 93 |
| Nov19 | 92 | 92 | 92 | 93 | 93 | 92 | 92 | 92 | 87 | 82 | 78 | 82 | 86 | 89 | 90 | 91 | 91 | 92 | 92 | 92 | 93 | 92 | 92 | 91 | 90 |
| Nov20 | 91 | 90 | 90 | 90 | 91 | 91 | 90 | 90 | 88 | 84 | 80 | 81 | 84 | 88 | 89 | 89 | 90 | 89 | 91 | 94 | 94 | 93 | 91 | 87 | 89 |
| Nov21 | 83 | 87 | 89 | 90 | 91 | 89 | 88 | 88 | 89 | 90 | 90 | 91 | 92 | 95 | 97 | 98 | 101 | 97 | 99 | 101 | 97 | 92 | 92 | 87 | 92 |
| Nov22 | 90 | 93 | 94 | 93 | 94 | 93 | 94 | 94 | 93 | 92 | 90 | 88 | 91 | 96 | 98 | 99 | 97 | 101 | 100 | 97 | 98 | 98 | 97 | 96 | 95 |
| Nov23 | 96 | 95 | 94 | 94 | 94 | 93 | 92 | 95 | 95 | ⋮ | 93 | 91 | 92 | 96 | 96 | 96 | 97 | 99 | 99 | 100 | 101 | 98 | 96 | 95 | ⋮ |
| Nov24 | 92 | 90 | 92 | 93 | 93 | 93 | 92 | 92 | 90 | 88 | 87 | 88 | 89 | 92 | 92 | 93 | 93 | 93 | 94 | 95 | 98 | 93 | 95 | 95 | 92 |
| Nov25 | 96 | 95 | 95 | 95 | 96 | 95 | 95 | 91 | 87 | 85 | 85 | 88 | 93 | 96 | 97 | 96 | 96 | 96 | 95 | 95 | 95 | 95 | 94 | 94 | 93 |
| Nov26 | 93 | 93 | 93 | 93 | 93 | 92 | 90 | 89 | 89 | 87 | 87 | 88 | 90 | 92 | 93 | 94 | 94 | 94 | 95 | 94 | 93 | 93 | 93 | 92 | 92 |
| Nov27 | 92 | 92 | 91 | 90 | 93 | 89 | 88 | 92 | 89 | 88 | 86 | 85 | 86 | 88 | 89 | 91 | 91 | 92 | 93 | 94 | 93 | 93 | 92 | 92 | 90 |
| Nov28 | 92 | 92 | 92 | 93 | 93 | 93 | 92 | 92 | 91 | 88 | 89 | 91 | 93 | 96 | 95 | 95 | 94 | 93 | 93 | 93 | 94 | 95 | 93 | 92 | 93 |
| Nov29 | 92 | 92 | 91 | 91 | 91 | 91 | 90 | 90 | 87 | 84 | 85 | 86 | 89 | 92 | 92 | 92 | 91 | 91 | 92 | 93 | 94 | 95 | 96 | 95 | 91 |
| Nov30 | 94 | 93 | 93 | 91 | 87 | 89 | 88 | 87 | 86 | 85 | 84 | 87 | 91 | 92 | 93 | 95 | 97 | 95 | 95 | 95 | 96 | 96 | 96 | 96 | 92 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nov01 | 89 | 89 | 90 | 90 | 91 | 92 | 94 | 92 | 85 | 74 | 73 | 76 | 81 | 84 | 87 | 89 | 90 | 91 | 91 | 91 | 90 | 89 | 90 | 90 | 87 |
| Nov02 | 89 | 88 | 88 | 87 | 87 | 89 | 91 | 90 | 85 | 82 | 80 | 83 | 86 | 87 | 88 | 88 | 90 | 90 | 90 | 90 | 89 | 88 | 90 | 93 | 88 |
| Nov03 | 85 | 81 | 82 | 85 | 86 | 89 | 88 | 86 | 81 | 75 | 74 | 77 | 79 | 86 | 88 | 86 | 88 | 88 | 89 | 89 | 90 | 89 | 89 | 90 | 85 |
| Nov04 | 89 | 89 | 89 | 89 | 89 | 88 | 90 | 88 | 83 | 78 | 79 | 81 | 83 | 86 | 87 | 86 | 87 | 88 | 89 | 89 | 89 | 91 | 89 | 88 | 87 |
| Nov05 | 88 | 88 | 88 | 89 | 90 | 90 | 90 | 88 | 79 | 75 | 78 | 82 | 86 | 88 | 90 | 89 | 89 | 88 | 89 | 90 | 90 | 90 | 90 | 89 | 87 |
| Nov06 | 89 | 89 | 89 | 89 | 90 | 90 | 91 | 89 | 83 | 76 | 76 | 79 | 84 | 89 | 89 | 89 | 90 | 90 | 90 | 91 | 91 | 91 | 90 | 89 | 88 |
| Nov07 | 89 | 89 | 90 | 92 | 94 | 97 | 95 | 94 | 84 | 69 | 62 | 64 | 69 | 76 | 78 | 84 | 84 | 85 | 96 | 90 | 79 | 76 | 79 | 75 | 83 |
| Nov08 | 74 | 71 | 65 | 72 | 70 | 75 | 79 | 81 | 77 | 67 | 61 | 66 | 68 | 75 | 82 | 78 | 89 | 90 | 93 | 90 | 87 | 92 | 87 | 80 | 78 |
| Nov09 | 82 | 82 | 82 | 86 | 84 | 89 | 91 | 93 | 85 | 77 | 75 | 80 | 81 | 84 | 87 | 90 | 90 | 85 | 82 | 90 | 91 | 91 | 96 | 89 | 86 |
| Nov10 | 86 | 87 | 86 | 88 | 89 | 92 | 87 | 82 | 84 | 80 | 83 | 87 | 84 | 84 | 81 | 82 | 90 | 91 | 92 | 95 | 91 | 96 | 93 | 91 | 87 |
| Nov11 | 89 | 86 | 87 | 88 | 90 | 90 | 89 | 87 | 83 | 77 | 74 | 79 | 81 | 85 | 87 | 90 | 91 | 92 | 93 | 93 | 92 | 89 | 90 | 90 | 87 |
| Nov12 | 90 | 88 | 90 | 92 | 92 | 94 | 93 | 91 | 85 | 78 | 79 | 81 | 84 | 87 | 89 | 90 | 91 | 93 | 92 | 91 | 91 | 93 | 91 | 90 | 89 |
| Nov13 | 91 | 90 | 90 | 91 | 92 | 93 | 94 | 92 | 88 | 78 | 77 | 80 | 84 | 86 | 87 | 88 | 91 | 93 | 83 | 87 | 93 | 93 | 92 | 91 | 89 |
| Nov14 | 92 | 94 | 95 | 89 | 90 | 94 | 92 | 93 | 86 | 82 | 77 | 79 | 85 | 87 | 88 | 86 | 81 | 79 | 83 | 87 | 89 | 90 | 91 | 89 | 87 |

Table 8.11 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nov15 | 88 | 88 | 89 | 90 | 91 | 92 | 92 | 89 | 88 | 79 | 73 | 83 | 85 | 88 | 92 | 88 | 85 | 91 | 98 | 99 | 98 | 94 | 94 | 94 | 90 |
| Nov16 | 93 | 93 | 92 | 97 | 92 | 93 | 93 | 89 | 84 | 82 | 82 | 85 | 87 | 91 | 91 | 91 | 90 | 90 | 90 | 92 | 93 | 93 | 95 | 90 | 90 |
| Nov17 | 89 | 90 | 90 | 90 | 92 | 93 | 94 | 94 | 92 | 87 | 84 | 82 | 89 | 93 | 91 | 92 | 93 | 93 | 93 | 93 | 93 | 92 | 91 | 91 | 91 |
| Nov18 | 92 | 91 | 90 | 90 | 92 | 93 | 94 | 94 | 92 | 86 | 84 | 85 | 87 | 87 | 89 | 91 | 91 | 91 | 90 | 90 | 91 | 92 | 92 | 92 | 90 |
| Nov19 | 90 | 90 | 90 | 91 | 94 | 95 | 96 | 96 | 89 | 82 | 76 | 81 | 86 | 89 | 90 | 90 | 91 | 91 | 92 | 91 | 92 | 92 | 92 | 91 | 90 |
| Nov20 | 92 | 92 | 92 | 92 | 93 | 94 | 95 | 97 | 95 | 88 | 82 | 80 | 84 | 89 | 91 | 91 | 92 | 93 | 89 | 89 | 93 | 93 | 91 | 97 | 91 |
| Nov21 | 89 | 82 | 84 | 90 | 93 | 88 | 91 | 88 | 84 | 78 | 80 | 81 | 85 | 86 | 85 | 84 | 88 | 92 | 85 | 85 | 96 | 88 | 92 | 88 | 87 |
| Nov22 | 84 | 85 | 87 | 90 | 93 | 93 | 94 | 91 | 88 | 84 | 83 | 82 | 81 | 87 | 87 | 84 | 86 | 87 | 92 | 88 | 87 | 89 | 91 | 90 | 88 |
| Nov23 | 90 | 90 | 91 | 91 | 91 | 93 | 95 | 96 | 93 | 85 | 88 | 86 | 86 | 86 | 91 | 89 | 89 | 88 | 90 | 88 | 89 | 93 | 92 | 90 | 90 |
| Nov24 | 95 | 91 | 90 | 91 | 92 | 91 | 92 | 92 | 90 | 87 | 84 | 85 | 88 | 92 | 93 | 94 | 94 | 92 | 87 | 85 | 94 | 92 | 85 | 88 | 90 |
| Nov25 | 90 | 90 | 91 | 93 | 94 | 94 | 93 | 88 | 83 | 80 | 78 | 80 | 86 | 89 | 91 | 91 | 92 | 93 | 93 | 92 | 92 | 93 | 92 | 92 | 90 |
| Nov26 | 91 | 92 | 93 | 93 | 94 | 95 | 95 | 95 | 92 | 86 | 84 | 85 | 90 | 91 | 90 | 90 | 92 | 93 | 92 | 93 | 93 | 93 | 93 | 92 | 92 |
| Nov27 | 92 | 92 | 94 | 94 | 94 | 93 | 93 | 94 | 95 | 92 | 89 | 88 | 90 | 92 | 93 | 95 | 95 | 94 | 91 | 92 | 94 | 95 | 94 | 93 | 93 |
| Nov28 | 91 | 89 | 88 | 87 | 90 | 91 | 90 | 90 | 86 | 82 | 81 | 83 | 86 | 91 | 92 | 92 | 94 | 95 | 94 | 94 | 94 | 93 | 93 | 92 | 90 |
| Nov29 | 91 | 90 | 90 | 91 | 92 | 93 | 93 | 92 | 89 | 87 | 87 | 89 | 92 | 94 | 95 | 94 | 95 | 94 | 93 | 93 | 91 | 91 | 89 | 90 | 91 |
| Nov30 | 92 | 90 | 90 | 95 | 93 | 92 | 92 | 93 | 92 | 89 | 85 | 86 | 87 | 90 | 89 | 90 | 90 | 93 | 93 | 92 | 92 | 92 | 92 | 92 | 91 |

Table 8.12. Hourly and daily means of field components X,Y,Z and independently measured F from the Conrad Observatory. Please note: if data is missing within one hour/day, then means are not calculated.

2017, Field component: X, Base: 20900.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dec01 | 102 | 103 | 103 | 103 | 101 | 105 | 105 | 109 | 107 | 106 | 106 | 103 | 99 | 100 | 99 | 99 | 96 | 94 | 107 | 105 | 101 | 102 | 101 | 103 | 103 |
| Dec02 | 105 | 105 | 101 | 103 | 105 | 105 | 108 | 108 | 110 | 106 | 103 | 105 | 107 | 107 | 105 | 100 | 90 | 99 | 102 | 101 | 99 | 100 | 100 | 100 | 103 |
| Dec03 | 101 | 100 | 99 | 100 | 102 | 104 | 105 | 103 | 99 | 99 | 98 | 99 | 100 | 103 | 107 | 107 | 108 | 108 | 108 | 108 | 106 | 104 | 99 | 100 | 103 |
| Dec04 | 104 | 107 | 109 | 111 | 113 | 114 | 114 | 112 | 112 | 105 | 104 | 110 | 105 | 95 | 92 | 102 | 102 | 81 | 43 | 27 | 39 | 49 | 66 | 80 | 91 |
| Dec05 | 82 | 102 | 106 | 109 | 100 | 105 | 102 | 94 | 96 | 92 | 61 | 68 | 90 | 74 | 41 | 73 | 49 | 62 | 61 | 71 | 77 | 82 | 83 | 79 | 82 |
| Dec06 | 81 | 83 | 88 | 95 | 103 | 97 | 94 | 100 | 92 | 88 | 85 | 85 | 86 | 92 | 76 | 71 | 77 | 83 | 83 | 97 | 91 | 90 | 93 | 91 | 88 |
| Dec07 | 92 | 92 | 93 | 97 | 100 | 103 | 103 | 108 | 105 | 104 | 101 | 103 | 100 | 76 | 65 | 77 | 91 | 89 | 95 | 90 | 92 | 92 | 93 | 88 | 94 |
| Dec08 | 90 | 92 | 93 | 96 | 99 | 101 | 104 | 105 | 104 | 99 | 100 | 97 | 95 | 102 | 100 | 99 | 98 | 99 | 102 | 102 | 99 | 97 | 101 | 96 | 99 |
| Dec09 | 95 | 94 | 97 | 100 | 102 | 104 | 107 | 108 | 106 | 108 | 107 | 108 | 106 | 99 | 98 | 98 | 99 | 101 | 103 | 104 | 105 | 103 | 102 | 104 | 102 |
| Dec10 | 104 | 105 | 106 | 108 | 109 | 110 | 112 | 113 | 111 | 105 | 103 | 104 | 100 | 101 | 101 | 97 | 94 | 95 | 95 | 99 | 99 | 101 | 105 | 104 | 103 |
| Dec11 | 101 | 100 | 103 | .. | 117 | 122 | 123 | 118 | 108 | 107 | 96 | 97 | 86 | 93 | 97 | 89 | 91 | 89 | 89 | 98 | 99 | 105 | 105 | 103 | .. |
| Dec12 | 97 | 102 | 105 | 109 | 105 | 107 | 108 | 106 | 98 | 98 | 100 | 96 | 95 | 100 | 103 | 101 | 99 | 83 | 51 | 66 | 91 | 78 | 83 | 87 | 95 |
| Dec13 | 90 | 92 | 95 | 97 | 100 | 107 | 103 | 107 | 104 | 97 | 96 | 92 | 87 | 87 | 89 | 86 | 94 | 99 | 92 | 99 | 93 | 93 | 95 | 105 | 96 |
| Dec14 | 112 | 103 | 101 | 102 | 104 | 106 | 106 | 106 | 102 | 102 | 97 | 97 | 98 | 102 | 103 | 103 | 104 | 103 | 102 | 100 | 102 | 100 | 101 | 99 | 102 |
| Dec15 | 100 | 101 | 103 | 106 | 111 | 113 | 115 | 109 | 104 | 98 | 104 | 112 | 117 | 111 | 107 | 106 | 110 | 110 | 108 | 107 | 105 | 104 | 105 | 103 | 107 |
| Dec16 | 104 | 105 | 107 | 109 | 110 | 112 | 111 | 110 | 107 | 105 | 103 | 101 | 104 | 106 | 105 | 102 | 103 | 105 | 106 | 106 | 108 | 112 | 117 | 113 | 107 |
| Dec17 | 109 | 111 | 118 | 117 | 117 | 119 | 96 | 129 | 114 | 110 | 101 | 93 | 90 | 86 | 75 | 54 | 74 | 70 | 70 | 124 | 80 | 75 | 88 | 108 | 97 |
| Dec18 | 99 | 82 | 86 | 100 | 102 | 96 | 102 | 97 | 73 | 78 | 84 | 84 | 78 | 78 | 91 | 95 | 93 | 98 | 90 | 94 | 94 | 98 | 97 | 97 | 91 |
| Dec19 | 97 | 99 | 101 | 102 | 106 | 107 | 106 | 104 | 102 | 98 | 98 | 98 | 101 | 100 | 100 | 98 | 101 | 98 | 100 | 97 | 87 | 89 | 91 | 90 | 99 |
| Dec20 | 97 | 93 | 95 | 100 | 104 | 104 | 106 | 109 | 109 | 106 | 98 | 95 | 104 | 102 | 103 | 102 | 99 | 100 | 97 | 103 | 103 | 101 | 100 | 100 | 101 |
| Dec21 | 100 | 102 | 105 | 106 | 106 | 106 | 107 | 107 | 107 | 103 | 103 | 100 | 98 | 98 | 97 | 101 | 100 | 100 | 101 | 101 | 101 | 102 | 102 | 102 | 102 |
| Dec22 | 102 | 103 | 103 | 106 | 107 | 106 | 112 | 113 | 120 | 109 | 108 | 109 | 108 | 108 | 107 | 108 | 107 | 107 | 106 | 106 | 104 | 106 | 108 | 105 | 107 |
| Dec23 | 105 | 103 | 103 | 102 | 106 | 116 | 117 | 122 | 121 | 113 | 112 | 108 | 105 | 104 | 104 | 104 | 105 | 105 | 106 | 106 | 106 | 104 | 104 | 104 | 108 |
| Dec24 | 104 | 103 | 100 | 111 | 114 | 115 | 120 | 124 | 121 | 121 | 116 | 102 | 97 | 99 | 94 | 74 | 93 | 100 | 96 | 92 | 85 | 87 | 87 | 103 | 102 |
| Dec25 | 101 | 95 | 96 | 97 | 100 | 102 | 104 | 106 | 102 | 94 | 105 | 107 | 108 | 106 | 103 | 99 | 91 | 74 | 77 | 93 | 84 | 85 | 79 | 80 | 95 |
| Dec26 | 79 | 84 | 86 | 88 | 95 | 98 | 101 | 105 | 105 | 104 | 99 | 102 | 106 | 106 | 101 | 99 | 104 | 96 | 98 | 85 | 96 | 84 | 98 | 108 | 95 |
| Dec27 | 91 | 93 | 96 | 97 | 103 | 105 | 105 | 111 | 117 | 117 | 111 | 107 | 103 | 101 | 99 | 97 | 101 | 106 | 97 | 95 | 95 | 87 | 84 | 93 | 97 |
| Dec28 | 98 | 97 | 98 | 101 | 103 | 106 | 109 | 115 | 119 | 112 | 107 | 101 | 98 | 99 | 101 | 97 | 92 | 101 | 100 | 96 | 97 | 106 | 100 | 101 | 100 |
| Dec29 | 101 | 100 | 100 | 104 | 103 | 103 | 105 | 108 | 110 | 107 | 105 | 108 | 109 | 107 | 104 | 104 | 106 | 102 | 101 | 110 | 107 | 105 | 105 | 104 | 102 |
| Dec30 | 105 | 102 | 102 | 105 | 110 | 109 | 111 | 114 | 114 | 114 | 113 | 112 | 109 | 106 | 104 | 98 | 96 | 99 | 97 | 96 | 97 | 103 | 105 | 99 | 105 |
| Dec31 | 98 | 100 | 103 | 103 | 105 | 107 | 111 | 113 | 109 | 109 | 110 | 112 | 110 | 109 | 109 | 107 | 106 | 106 | 113 | 114 | 110 | 100 | 90 | 95 | 106 |

2017, Field component: Y, Base: 1500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dec01 | 34 | 29 | 29 | 30 | 29 | 26 | 26 | 30 | 30 | 30 | 24 | 15 | 17 | 22 | 22 | 22 | 36 | 23 | 36 | 36 | 29 | 32 | 32 | 30 | 28 |
| Dec02 | 28 | 28 | 26 | 26 | 26 | 27 | 29 | 34 | 37 | 30 | 22 | 15 | 16 | 19 | 22 | 23 | 30 | 26 | 28 | 31 | 33 | 34 | 33 | 32 | 27 |
| Dec03 | 30 | 28 | 28 | 28 | 29 | 30 | 32 | 36 | 37 | 30 | 22 | 17 | 18 | 21 | 23 | 25 | 28 | 29 | 29 | 30 | 31 | 36 | 35 | 32 | 29 |

Table 8.12 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dec04 | 28 | 26 | 25 | 25 | 25 | 27 | 29 | 28 | 31 | 27 | 20 | 16 | 18 | 19 | 13 | 18 | 12 | 12 | 22 | 55 | 64 | 75 | 82 | 42 | 31 |
| Dec05 | 40 | 27 | 28 | 30 | 27 | 28 | 27 | 25 | 27 | 24 | 8 | 13 | 23 | 20 | 46 | 28 | 48 | 79 | 47 | 66 | 40 | 61 | 69 | 45 | 37 |
| Dec06 | 42 | 33 | 23 | 25 | 21 | 25 | 24 | 27 | 33 | 30 | 27 | 30 | 29 | 28 | 42 | 43 | 35 | 31 | 37 | 44 | 37 | 37 | 40 | 40 | 33 |
| Dec07 | 36 | 32 | 29 | 28 | 28 | 29 | 27 | 28 | 33 | 32 | 30 | 28 | 24 | 30 | 38 | 27 | 33 | 35 | 42 | 35 | 48 | 47 | 45 | 40 | 33 |
| Dec08 | 36 | 34 | 32 | 30 | 29 | 29 | 28 | 30 | 32 | 30 | 26 | 25 | 30 | 26 | 25 | 27 | 30 | 30 | 30 | 31 | 32 | 36 | 38 | 38 | 31 |
| Dec09 | 37 | 32 | 31 | 28 | 28 | 29 | 29 | 29 | 29 | 23 | 21 | 21 | 21 | 24 | 29 | 26 | 27 | 29 | 34 | 32 | 33 | 32 | 32 | 31 | 29 |
| Dec10 | 30 | 28 | 27 | 26 | 27 | 27 | 29 | 32 | 36 | 34 | 27 | 21 | 21 | 22 | 24 | 25 | 26 | 32 | 32 | 33 | 33 | 33 | 35 | 37 | 29 |
| Dec11 | 34 | 31 | 30 | .. | 22 | 25 | 26 | 27 | 26 | 23 | 22 | 14 | 9 | 18 | 25 | 28 | 40 | 34 | 31 | 47 | 64 | 57 | 42 | 34 | .. |
| Dec12 | 35 | 32 | 33 | 31 | 33 | 28 | 30 | 31 | 35 | 30 | 23 | 19 | 19 | 21 | 26 | 28 | 28 | 32 | 53 | 59 | 64 | 40 | 37 | 37 | 33 |
| Dec13 | 33 | 31 | 29 | 29 | 28 | 31 | 34 | 32 | 35 | 31 | 24 | 20 | 19 | 21 | 26 | 34 | 41 | 31 | 40 | 46 | 36 | 37 | 34 | 44 | 32 |
| Dec14 | 42 | 33 | 26 | 28 | 29 | 27 | 30 | 39 | 43 | 38 | 26 | 18 | 19 | 23 | 28 | 29 | 30 | 32 | 32 | 33 | 36 | 37 | 32 | 33 | 31 |
| Dec15 | 28 | 26 | 26 | 26 | 26 | 27 | 32 | 32 | 29 | 22 | 18 | 18 | 19 | 24 | 24 | 29 | 28 | 29 | 30 | 34 | 36 | 34 | 32 | 30 | 27 |
| Dec16 | 28 | 27 | 27 | 27 | 28 | 29 | 32 | 36 | 38 | 31 | 24 | 19 | 19 | 23 | 28 | 30 | 31 | 33 | 33 | 34 | 34 | 34 | 31 | 30 | 29 |
| Dec17 | 27 | 25 | 22 | 26 | 29 | 30 | 21 | 30 | 29 | 26 | 22 | 16 | 20 | 19 | 17 | 34 | 53 | 36 | 53 | 65 | 72 | 55 | 47 | 35 | 34 |
| Dec18 | 38 | 26 | 23 | 23 | 28 | 29 | 28 | 30 | 37 | 27 | 20 | 22 | 24 | 38 | 28 | 29 | 34 | 45 | 43 | 42 | 41 | 39 | 36 | 33 | 32 |
| Dec19 | 30 | 27 | 25 | 24 | 29 | 31 | 33 | 34 | 35 | 33 | 30 | 27 | 26 | 26 | 30 | 33 | 33 | 35 | 47 | 51 | 49 | 44 | 54 | 39 | 34 |
| Dec20 | 36 | 37 | 33 | 30 | 29 | 28 | 27 | 28 | 32 | 30 | 29 | 29 | 25 | 23 | 26 | 29 | 31 | 33 | 41 | 34 | 34 | 34 | 33 | 33 | 31 |
| Dec21 | 31 | 30 | 28 | 29 | 28 | 30 | 30 | 31 | 34 | 30 | 27 | 31 | 28 | 25 | 28 | 29 | 28 | 31 | 32 | 32 | 33 | 35 | 34 | 32 | 30 |
| Dec22 | 32 | 30 | 28 | 28 | 28 | 30 | 31 | 34 | 29 | 34 | 28 | 25 | 22 | 22 | 26 | 29 | 30 | 31 | 32 | 32 | 33 | 36 | 37 | 32 | 30 |
| Dec23 | 35 | 36 | 38 | 33 | 26 | 28 | 28 | 26 | 31 | 26 | 27 | 23 | 24 | 26 | 27 | 27 | 28 | 30 | 32 | 32 | 35 | 36 | 37 | 36 | 30 |
| Dec24 | 35 | 36 | 34 | 32 | 33 | 31 | 29 | 30 | 31 | 29 | 23 | 22 | 18 | 14 | 12 | 24 | 25 | 30 | 31 | 42 | 58 | 58 | 48 | 59 | 33 |
| Dec25 | 47 | 42 | 35 | 34 | 34 | 35 | 35 | 35 | 34 | 32 | 25 | 24 | 23 | 21 | 23 | 24 | 21 | 19 | 28 | 49 | 49 | 52 | 54 | 67 | 34 |
| Dec26 | 59 | 47 | 41 | 39 | 36 | 35 | 35 | 37 | 37 | 32 | 27 | 25 | 23 | 25 | 27 | 33 | 29 | 28 | 33 | 46 | 67 | 41 | 40 | 40 | 36 |
| Dec27 | 42 | 37 | 34 | 35 | 35 | 33 | 32 | 30 | 27 | 26 | 23 | 26 | 22 | 18 | 21 | 38 | 26 | 26 | 25 | 30 | 36 | 54 | 43 | 41 | 32 |
| Dec28 | 32 | 34 | 30 | 31 | 31 | 31 | 31 | 33 | 36 | 32 | 27 | 24 | 21 | 20 | 26 | 24 | 29 | 31 | 31 | 33 | 32 | 35 | 37 | 33 | 30 |
| Dec29 | 33 | 33 | 33 | 30 | 33 | 33 | 33 | 32 | 33 | 29 | 25 | 22 | 20 | 22 | 25 | 29 | 28 | 27 | 32 | 44 | 34 | 34 | 36 | 33 | 31 |
| Dec30 | 35 | 34 | 31 | 29 | 30 | 31 | 32 | 33 | 34 | 30 | 28 | 26 | 25 | 24 | 22 | 22 | 24 | 29 | 30 | 35 | 37 | 37 | 36 | 37 | 30 |
| Dec31 | 35 | 33 | 32 | 31 | 33 | 32 | 32 | 33 | 34 | 28 | 26 | 23 | 21 | 21 | 23 | 23 | 24 | 26 | 27 | 28 | 30 | 45 | 49 | 47 | 30 |

2017, Field component: Z, Base: 43700.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dec01 | 94 | 94 | 93 | 92 | 92 | 91 | 89 | 88 | 85 | 83 | 85 | 87 | 90 | 91 | 92 | 94 | 94 | 96 | 94 | 94 | 94 | 93 | 93 | 92 | 91 |
| Dec02 | 92 | 92 | 92 | 92 | 92 | 91 | 90 | 90 | 88 | 86 | 84 | 86 | 89 | 92 | 93 | 94 | 96 | 95 | 94 | 94 | 94 | 94 | 93 | 93 | 91 |
| Dec03 | 93 | 92 | 93 | 93 | 93 | 93 | 93 | 93 | 90 | 87 | 87 | 89 | 91 | 93 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 93 | 93 | 92 |
| Dec04 | 92 | 92 | 91 | 91 | 90 | 89 | 88 | 90 | 90 | 87 | 86 | 87 | 91 | 93 | 94 | 94 | 94 | 97 | 107 | 115 | 117 | 114 | 109 | 106 | 96 |
| Dec05 | 103 | 96 | 93 | 91 | 91 | 92 | 92 | 91 | 88 | 86 | 89 | 93 | 95 | 99 | 107 | 105 | 107 | 110 | 107 | 106 | 104 | 99 | 97 | 98 | 97 |
| Dec06 | 98 | 99 | 98 | 96 | 96 | 95 | 96 | 95 | 93 | 93 | 92 | 95 | 98 | 98 | 99 | 103 | 102 | 102 | 101 | 99 | 99 | 98 | 97 | 97 | 97 |
| Dec07 | 97 | 97 | 97 | 96 | 96 | 96 | 95 | 93 | 91 | 89 | 90 | 90 | 91 | 96 | 101 | 102 | 100 | 99 | 99 | 98 | 97 | 97 | 96 | 96 | 96 |

Table 8.12 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dec08 | 96 | 96 | 97 | 97 | 96 | 96 | 95 | 94 | 93 | 91 | 90 | 91 | 93 | 94 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 95 | 95 | 95 |
| Dec09 | 95 | 95 | 95 | 95 | 95 | 95 | 94 | 93 | 93 | 93 | 91 | 89 | 92 | 93 | 94 | 96 | 96 | 96 | 96 | 95 | 95 | 95 | 94 | 94 | 94 |
| Dec10 | 93 | 93 | 93 | 92 | 93 | 93 | 92 | 91 | 90 | 88 | 88 | 87 | 92 | 95 | 95 | 95 | 95 | 96 | 96 | 96 | 96 | 95 | 94 | 93 | 93 |
| Dec11 | 93 | 93 | 93 | 93 | 91 | 90 | 90 | 90 | 89 | 88 | 91 | 91 | 93 | 95 | 97 | 98 | 98 | 99 | 98 | 98 | 98 | 96 | 94 | 94 | 94 |
| Dec12 | 94 | 93 | 93 | 91 | 92 | 92 | 91 | 90 | 90 | 89 | 90 | 88 | 90 | 94 | 95 | 95 | 95 | 97 | 103 | 105 | 101 | 100 | 100 | 99 | 95 |
| Dec13 | 98 | 93 | 96 | 96 | 95 | 95 | 94 | 94 | 94 | 92 | 92 | 92 | 95 | 98 | 98 | 99 | 99 | 98 | 97 | 97 | 97 | 97 | 96 | 95 | 96 |
| Dec14 | 92 | 92 | 93 | 94 | 94 | 94 | 94 | 95 | 93 | 90 | 88 | 91 | 94 | 97 | 96 | 96 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 94 |
| Dec15 | 95 | 95 | 94 | 94 | 94 | 93 | 93 | 93 | 90 | 91 | 93 | 95 | 97 | 97 | 95 | 94 | 94 | 94 | 94 | 95 | 94 | 94 | 94 | 93 | 94 |
| Dec16 | 93 | 93 | 93 | 94 | 94 | 93 | 92 | 91 | 90 | 88 | 88 | 88 | 92 | 95 | 95 | 95 | 95 | 95 | 95 | 94 | 94 | 93 | 92 | 91 | 93 |
| Dec17 | 91 | 91 | 90 | 90 | 90 | 89 | 92 | 86 | 83 | 82 | 87 | 92 | 95 | 99 | 100 | 105 | 107 | 106 | 106 | 95 | 95 | 98 | 96 | 96 | 94 |
| Dec18 | 88 | 93 | 94 | 94 | 93 | 94 | 95 | 95 | 96 | 97 | 96 | 96 | 98 | 100 | 101 | 100 | 99 | 99 | 99 | 99 | 98 | 97 | 96 | 96 | 96 |
| Dec19 | 96 | 96 | 96 | 96 | 95 | 94 | 93 | 93 | 92 | 90 | 90 | 90 | 93 | 96 | 98 | 98 | 97 | 97 | 96 | 96 | 97 | 97 | 95 | 95 | 95 |
| Dec20 | 94 | 95 | 95 | 95 | 95 | 95 | 94 | 93 | 92 | 91 | 91 | 90 | 92 | 95 | 96 | 96 | 96 | 96 | 96 | 96 | 95 | 95 | 95 | 95 | 94 |
| Dec21 | 95 | 95 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 91 | 92 | 93 | 94 | 95 | 95 | 96 | 96 | 96 | 96 | 96 | 96 | 95 | 95 | 93 | 95 |
| Dec22 | 94 | 94 | 94 | 94 | 94 | 94 | 93 | 92 | 89 | 86 | 87 | 89 | 91 | 91 | 92 | 93 | 94 | 94 | 94 | 94 | 94 | 93 | 93 | 94 | 92 |
| Dec23 | 92 | 92 | 92 | 93 | 93 | 92 | 91 | 90 | 89 | 88 | 89 | 88 | 89 | 92 | 94 | 95 | 94 | 95 | 95 | 95 | 95 | 95 | 95 | 97 | 92 |
| Dec24 | 94 | 93 | 94 | 92 | 91 | 91 | 89 | 88 | 89 | 85 | 83 | 86 | 91 | 94 | 96 | 98 | 100 | 98 | 99 | 100 | 101 | 101 | 101 | 101 | 94 |
| Dec25 | 96 | 95 | 96 | 96 | 96 | 95 | 94 | 92 | 90 | 88 | 89 | 92 | 94 | 95 | 96 | 97 | 98 | 101 | 104 | 102 | 102 | 103 | 102 | 102 | 96 |
| Dec26 | 101 | 100 | 99 | 99 | 98 | 98 | 97 | 95 | 93 | 93 | 94 | 92 | 93 | 96 | 96 | 97 | 97 | 98 | 98 | 99 | 100 | 100 | 98 | 100 | 97 |
| Dec27 | 95 | 96 | 96 | 96 | 95 | 95 | 94 | 93 | 93 | 92 | 94 | 94 | 94 | 95 | 98 | 98 | 98 | 98 | 98 | 98 | 99 | 101 | 97 | 96 | 96 |
| Dec28 | 98 | 97 | 97 | 97 | 97 | 96 | 95 | 92 | 88 | 88 | 93 | 93 | 93 | 95 | 97 | 98 | 98 | 98 | 97 | 98 | 98 | 97 | 97 | 95 | 95 |
| Dec29 | 96 | 96 | 96 | 95 | 95 | 95 | 93 | 92 | 91 | 93 | 95 | 96 | 94 | 94 | 96 | 97 | 96 | 97 | 97 | 96 | 96 | 95 | 95 | 95 | 95 |
| Dec30 | 95 | 95 | 95 | 94 | 93 | 93 | 92 | 92 | 92 | 92 | 93 | 93 | 93 | 95 | 96 | 96 | 97 | 97 | 98 | 99 | 99 | 98 | 97 | 96 | 95 |
| Dec31 | 96 | 96 | 96 | 96 | 95 | 95 | 93 | 92 | 93 | 95 | 97 | 97 | 95 | 97 | 96 | 96 | 95 | 96 | 95 | 95 | 95 | 96 | 97 | 97 | 95 |

2017, Field component: F, Base: 48500.0, Unit: nT

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dec01 | 94 | 94 | 93 | 92 | 91 | 93 | 93 | 91 | 88 | 86 | 87 | 87 | 88 | 90 | 91 | 92 | 91 | 91 | 96 | 95 | 93 | 93 | 92 | 93 | 91 |
| Dec02 | 93 | 92 | 92 | 92 | 93 | 93 | 93 | 93 | 91 | 88 | 85 | 87 | 91 | 94 | 94 | 93 | 90 | 93 | 94 | 93 | 93 | 93 | 92 | 92 | 92 |
| Dec03 | 92 | 91 | 91 | 92 | 93 | 94 | 94 | 93 | 89 | 86 | 85 | 88 | 90 | 93 | 94 | 94 | 95 | 94 | 94 | 94 | 93 | 93 | 92 | 92 | 92 |
| Dec04 | 93 | 93 | 94 | 94 | 95 | 94 | 94 | 95 | 95 | 89 | 87 | 90 | 92 | 90 | 89 | 93 | 93 | 87 | 80 | 81 | 88 | 90 | 94 | 95 | 91 |
| Dec05 | 93 | 96 | 95 | 94 | 90 | 93 | 92 | 87 | 85 | 82 | 71 | 77 | 89 | 86 | 80 | 91 | 83 | 92 | 89 | 92 | 92 | 91 | 90 | 88 | 88 |
| Dec06 | 88 | 90 | 91 | 93 | 96 | 92 | 92 | 94 | 89 | 87 | 85 | 87 | 90 | 93 | 88 | 89 | 91 | 92 | 92 | 97 | 93 | 93 | 93 | 92 | 91 |
| Dec07 | 92 | 92 | 92 | 93 | 94 | 96 | 95 | 95 | 92 | 90 | 90 | 90 | 90 | 84 | 84 | 90 | 95 | 93 | 95 | 93 | 93 | 93 | 91 | 90 | 92 |
| Dec08 | 91 | 91 | 92 | 93 | 94 | 95 | 95 | 95 | 94 | 90 | 89 | 89 | 90 | 94 | 94 | 94 | 94 | 94 | 96 | 95 | 94 | 93 | 94 | 92 | 93 |
| Dec09 | 92 | 91 | 92 | 94 | 95 | 94 | 95 | 95 | 94 | 95 | 93 | 92 | 94 | 91 | 92 | 93 | 94 | 95 | 92 | 96 | 96 | 95 | 94 | 94 | 94 |
| Dec10 | 94 | 94 | 94 | 95 | 95 | 96 | 96 | 96 | 94 | 90 | 88 | 88 | 90 | 93 | 94 | 92 | 91 | 92 | 92 | 96 | 96 | 94 | 95 | 94 | 93 |
| Dec11 | 92 | 92 | 93 | 93 | 98 | 99 | 99 | 97 | 92 | 90 | 88 | 88 | 86 | 90 | 94 | 92 | 93 | 92 | 92 | 96 | 96 | 96 | 95 | 94 | 93 |

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Table 8.12 (cont'd)

| day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dec12 | 92 | 93 | 94 | 94 | 93 | 94 | 94 | 92 | 90 | 88 | 89 | 86 | 87 | 92 | 95 | 95 | 94 | 88 | 81 | 89 | 96 | 90 | 91 | 92 | 91 |
| Dec13 | 92 | 92 | 93 | 93 | 94 | 95 | 95 | 96 | 94 | 91 | 89 | 87 | 88 | 90 | 91 | 92 | 95 | 96 | 92 | 96 | 93 | 93 | 93 | 96 | 93 |
| Dec14 | 97 | 92 | 92 | 93 | 95 | 96 | 96 | 96 | 93 | 88 | 86 | 88 | 92 | 96 | 96 | 96 | 96 | 95 | 95 | 94 | 94 | 94 | 94 | 93 | 94 |
| Dec15 | 93 | 94 | 94 | 95 | 97 | 98 | 98 | 96 | 91 | 90 | 93 | 98 | 102 | 100 | 97 | 96 | 97 | 97 | 96 | 96 | 95 | 95 | 95 | 93 | 96 |
| Dec16 | 94 | 94 | 95 | 96 | 97 | 97 | 96 | 95 | 91 | 89 | 88 | 88 | 92 | 96 | 95 | 94 | 95 | 96 | 96 | 96 | 97 | 98 | 98 | 96 | 95 |
| Dec17 | 94 | 95 | 96 | 96 | 96 | 97 | 89 | 98 | 89 | 86 | 86 | 87 | 89 | 90 | 87 | 83 | 94 | 90 | 91 | 106 | 87 | 86 | 90 | 93 | 92 |
| Dec18 | 87 | 84 | 86 | 92 | 93 | 91 | 94 | 92 | 83 | 86 | 87 | 87 | 87 | 89 | 95 | 96 | 94 | 96 | 93 | 95 | 94 | 95 | 94 | 93 | 91 |
| Dec19 | 93 | 94 | 94 | 95 | 96 | 96 | 95 | 94 | 92 | 88 | 88 | 89 | 92 | 95 | 95 | 95 | 96 | 95 | 95 | 94 | 90 | 91 | 91 | 90 | 93 |
| Dec20 | 91 | 90 | 92 | 94 | 95 | 95 | 95 | 96 | 95 | 92 | 89 | 87 | 92 | 94 | 96 | 95 | 94 | 95 | 94 | 96 | 96 | 94 | 93 | 93 | 94 |
| Dec21 | 94 | 94 | 95 | 95 | 96 | 96 | 95 | 96 | 96 | 91 | 92 | 92 | 92 | 92 | 93 | 95 | 94 | 94 | 95 | 95 | 95 | 95 | 95 | 94 | 94 |
| Dec22 | 94 | 94 | 95 | 95 | 96 | 97 | 97 | 97 | 94 | 89 | 90 | 92 | 93 | 93 | 94 | 95 | 96 | 96 | 96 | 95 | 95 | 96 | 95 | 94 | 94 |
| Dec23 | 94 | 93 | 92 | 93 | 94 | 98 | 97 | 98 | 97 | 93 | 93 | 91 | 90 | 93 | 94 | 95 | 95 | 97 | 96 | 96 | 96 | 94 | 95 | 95 | 95 |
| Dec24 | 94 | 94 | 92 | 96 | 96 | 97 | 97 | 97 | 97 | 94 | 89 | 87 | 88 | 92 | 91 | 85 | 92 | 88 | 96 | 95 | 94 | 94 | 94 | 98 | 94 |
| Dec25 | 95 | 92 | 93 | 93 | 94 | 95 | 94 | 93 | 90 | 84 | 90 | 94 | 96 | 96 | 96 | 94 | 98 | 94 | 92 | 98 | 94 | 91 | 92 | 92 | 93 |
| Dec26 | 91 | 92 | 92 | 92 | 95 | 96 | 96 | 96 | 94 | 93 | 92 | 92 | 94 | 97 | 96 | 95 | 97 | 96 | 96 | 92 | 97 | 91 | 96 | 96 | 94 |
| Dec27 | 90 | 92 | 92 | 93 | 95 | 96 | 95 | 97 | 99 | 98 | 98 | 96 | 93 | 94 | 95 | 95 | 93 | 98 | 95 | 96 | 96 | 94 | 94 | 93 | 95 |
| Dec28 | 96 | 94 | 95 | 96 | 96 | 97 | 97 | 97 | 96 | 93 | 94 | 92 | 90 | 93 | 96 | 95 | 98 | 96 | 96 | 95 | 96 | 98 | 95 | 96 | 95 |
| Dec29 | 95 | 94 | 94 | 95 | 96 | 95 | 94 | 94 | 94 | 95 | 96 | 97 | 96 | 96 | 96 | 97 | 98 | 95 | 95 | 99 | 98 | 96 | 96 | 95 | 96 |
| Dec30 | 96 | 94 | 95 | 95 | 96 | 96 | 96 | 97 | 97 | 97 | 97 | 98 | 96 | 96 | 96 | 94 | 94 | 95 | 95 | 96 | 97 | 98 | 97 | 96 | 96 |
| Dec31 | 94 | 94 | 95 | 96 | 96 | 97 | 97 | 97 | 97 | 97 | 99 | 100 | 98 | 99 | 98 | 97 | 96 | 97 | 100 | 100 | 98 | 95 | 92 | 94 | 97 |

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