DATA SET DESCRIPTION

Monthly CLIMAT reports from stations worldwide

Version first check

Cite data set as: DWD Climate Data Center: Monthly CLIMAT reports from stations worldwide, version first check, last accessed: <date>.

INTENT OF THE DATASET

The monthly data sets include all parameters of the CLIMAT reports, which are routinely disseminated by the National Meteorological Services all over the world for their stations. Correctness of month and year has been quality controlled.

POINT OF CONTACT

Deutscher Wetterdienst
CDC - Vertrieb Klima und Umwelt
Frankfurter Straße 135
63067 Offenbach
Tel.: + 49 (0) 69 8062-4400
Fax.: + 49 (0) 69 8062-4499
Mail: klima.vertrieb@dwd.de

DATA DESCRIPTION

Spatial coverage global

Temporal coverage 01.03.2003 - previous month

Temporal resolution monthly

Format(s) Monthly files with name CLIMAT_RAW_YYYY_MM where YYYY=year, MM=month. The file of a month contains the CLIMAT reports from all reporting stations. Each station is stored in an own row. The WMO station-identifyer (station-id) is related to station name and other metadata in the station list https://opendata.dwd.de/climate_environment/CDC/help/stations_list_CLIMAT_data.txt. The file "readme_RAW_CLIMATs_eng.txt" describes format in detail. A CLIMAT report of one station begins always with year, month, WMO station-id (year;month;IIiii). The CLIMAT report is constructed from 4 consecutive sections, with an index in each section (G1,G2,G3 bzw G4) ascending and serving as marker. The index references the following group, similar to the ascii-format of the CLIMAT-reports (FM71 format). Not reported parameters remain empty. The whole CLIMAT-report comprises: year;month;IIiii;G1;Po;G1;P;G1;sn;T;st;G1;sn;Tx;sn;Tn;G1;e;G1;R1;Rd;nr;G1;S1;ps;G1;mp;mT;mTx;mTn; G1;me;mR;mS;G2;Yb;Yc;G2;Po;G2;P;G2;sn;T;st;G2;sn;Tx;sn;Tn;G2;e;G2;R1;nr;G2;S1;G2;YP;YT;YTx;G2;Ye; YR;YS;G3;T25;T30;G3;T35;T40;G3;Tn0;Tx0;G3;R01;R05;G3;R10;R50;G3;R100;R150;G3;s00;s01;G3;s10;s50; G3;f10;f20;f30;G3;V1;V2;V3;G4;sn;Txd;yx;G4;sn;Tnd;yn;G4;sn;Tax;yax;G4;sn;Tan;yan;G4;Rx;yr;G4;iw;fx;yfx; G4;Dts;Dgr;G4;iy;Gx;Gn. Explanation of acronyms see section "Parameter".

Parameters The section and group index G1, G2, G3 and G4 refering to the coding of the CLIMAT reports appears several times, within the sequence but is explained only once below. Temperature values consist of sign and absolute value, which are stored in separate entries. The sign sn is below coded as: 0 - positive or zero, 1 - negative .

year	Jahr
month	Monat
IIiii	WMO Station-identifyer
G1	group index within section 1
Po	Monthly mean pressure at station level 1/10 hPA

P	Monthly mean sea level pressure or for high located stations (in mountainous regions): monthly mean geopotential	1/10 hPA or standard geopotential metres
sn	sign of Monthly mean air temperature	code
T	Monthly mean air temperature	1/10 °C
st	Standard deviation of daily mean values	1/10 °C
sn	sign of Mean daily maximum air temperature of the month	code
Tx	Mean daily maximum air temperature of the month	1/10 °C
sn	sign of Mean daily minimum air temperature of the month	code
Tn	Mean daily minimum air temperature of the month	1/10 °C
e	Mean vapour pressure for the month	1/10 hPA
R1	Total precipitation for the month	mm
Rd	Frequency group (quintile) within which R1 falls	
nr	Number of days in the month with precipitation equal to or greater than 1 mm	
S1	Total sunshine for the month	h
ps	Percentage of total sunshine duration relative to the normal	%
mP	Number of days missing from the records for pressure	
mT	Number of days missing from the records for air temperature	
mTx	Number of days missing from the record for daily maximum air temperature	
mTn	Number of days missing from the record for daily minimum air temperature	
me	Number of days missing from the records for vapour pressure	
mR	Number of days missing from the records for precipitation	
mS	Number of days missing from the records for sunshine duration	
G2	group index within section	2
Yb	Year of beginning of the reference period	
Yc	Year of ending of the reference period	
P0	Monthly mean pressure at station level	1/10 hPA
P	Monthly mean sea level pressure or	1/10 hPA or

	for high located stations (in mountainous regions): monthly mean geopotential	standard geopotential metres
sn	sign of T	code
T	abs(Monthly mean air temperature)	1/10 °C
st	Standard deviation of daily mean values relative to the monthly mean air temperature	1/10 °C
sn	sign of Tx	code
Tx	abs(Mean daily maximum air temperature of the month)	1/10 °C
sn	sign of Tn	code
Tn	abs(Mean daily minimum air temperature of the month)	1/10 °C
e	Mean vapour pressure for the month	1/10 hPA
R1	Total precipitation for the month	mm
nr	Number of days in the month with precipitation equal to or greater than 1 mm	
S1	Total sunshine for the month	h
	Number of missing years within the reference period from the calculation of normal for ...	
yP	... air pressure	
yR	... precipitation	
yS	... sunshine duration	
yT	... mean air temperature	
yTx	... mean extreme air temperature	
ye	... vapour pressure	
G3	group index within section	3
	Number of days in the month with maximum air temperature equal to or more than ...	
T25	... 25°C	
T30	... 30°C	
T35	... 35°C	
T40	... 40°C	
	Number of days in the month with minmimum air temperature ...	
Tn0	... less than 0°C	
	Number of days in the month with maximum air temperature ...	
Tx0	... less than 0°C	
	Number of days in the month with precipitation equal to or more than ...	
R01	... 1.0 mm	
R05	... 5.0 mm	
R10	... 10.0 mm	
R50	... 50.0 mm	
R100	... 100.0 mm	
R150	... 150.0 mm	
	Number of days in the month with snow depth ...	
s00	... more than 0 cm	

s01	... more than 1 cm	
s10	... more than 10 cm	
s50	... more than 50 cm	
	Number of days in the month with observed or recorded wind speed equal to or more than ...	
f10	... 10 metres per second or 20 knots	
f20	... 20 metres per second or 40 knots	
f30	... 30 metres per second or 60 knots	
	Number of days in the month with observed or recorded visibility of ...	
V1	... less than 50 m	
V2	... less than 100 m	
V3	... less than 1000 m	
G4	group index within section	4
sn	sign of Highest daily mean air temperature of the month	code
Txd	abs(Highest daily mean air temperature of the month)	1/10 °C
yx	Day of highest daily mean air temperature during the month	date
sn	sign of Lowest daily mean air temperature of the month	code
Tnd	abs(Lowest daily mean air temperature of the month)	1/10 °C
yn	Day of lowest daily mean air temperature during the month	date
sn	sign of Highest air temperature of the month	code
Tax	abs(Highest air temperature of the month)	1/10 °C
yax	Day of highest air temperature during the month	date
sn	sign of Lowest air temperature of the month	code
Tan	abs(Lowest air temperature of the month)	1/10 °C
yan	Day of lowest air temperature during the month	date
Rx	Highest daily amount of precipitation during the month, in tenths of a millimetre	
yr	Day of highest daily amount of precipitation during the month	date
iw	Indicator for source and units of wind speed	
fx	Highest gust wind speed observed or recorded during the month	in tenths of units indicated by iw
yfx	Day of highest observed or recorded wind speed during the month	date
Dts	Number of days in the month with thunderstorm(s)	

	Dgr	Number of days in the month with hail
	iy	Indicator for reading of extreme temperatures (only to write if there is a change)
	Gn	Principal time of daily reading in UTC (hours) of minimum temperature
	Gx	Principal time of daily reading in UTC (hours) of maximum temperature
Uncertainties	are caused by: - differences in instumentation and measuring devices - differences in the method to determine mean monthly temperatures	
Quality information	The data are only quality controlled in regard to the correctness of the month and year they belong to.	

DATA ORIGIN

The data was disseminated by the National Meteorological Services after the end of each month.

VALIDATION AND UNCERTAINTY ESTIMATE

Quality control of the raw data in this directory is not completet yet. Only the correctness of the month and year is verified.

CONSIDERATIONS FOR APPLICATIONS

This are raw data, provided for convinience. Explanations to the different parameters are included in the file "readme_RAW_CLIMATs_eng.txt". For data which completed various steps of quality control, see directories under / observations_global/CLIMAT/monthly/qc/ . There are preliminary quality controlled data in directories /recent/ (Version "recent"), covering the recent years. Data which span the historical time series, and where the full quality control had been completed, are given as versioned data sets in the directories /historical/.

REFERENCES

Manuals on codes, WMO No. 306, WMO, Geneva.

COPYRIGHT

REVISION HISTORY

The data is provided on a monthly base. This document is maintained by the Marine Climate Monitoring Division of DWD, last edited 19.12.2018.