

DATA SET DESCRIPTION

Phenological observations of crops from sowing to harvest (immediate reporters, recent)

Version recent

Cite data set as: DWD Climate Data Center (CDC): Phenological observations of crops from sowing to harvest (immediate reporters, recent), Version v007, <date>.

Dataset-ID: urn:x-wmo:md:de.dwd.cdc::obsgermany-phenology-immediate_reporters-crops-recent

INTENT OF THE DATASET

The phenological data provide an overview of plant development in Germany over the year. The data are collected by volunteer observers and reported to DWD.

POINT OF CONTACT

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DATA DESCRIPTION

Spatial coverage Germany

Temporal coverage rolling: 500 day before yesterday until - yesterday

Temporal resolution annual

Format(s) Ascii. Each file PH_Sofortmelder* contains the observation of a certain species (e.g., oat), with fixed object_id (e.g., 208). The rows are sorted according to Stations_id, reference year, phase_id. Each row corresponds to one observation. The list with all phenological stations and corresponding meta-data can be found here:
https://opendata.dwd.de/climate_environment/CDC/help/PH_Beschreibung_Phaenologie_Stationen_Sofortmelder.txt .

Units meadows, winter wheat, winter rye, winter barley, winter oilseed rape, summer wheat, spring barley, oat, sunflower, maize, potato, beet, fodder beet.

Qualitaetsniveau	see	Quality_flags
Stations_id	see	stations immediate reporters
Referenzjahr		year corresponding to phase
Objekt_id	see	phase definition

Phase_id	see	phase definition
Eintrittsdatum	date of observation	yyyymmdd
Eintrittsdatum_QB	see	Quality_flags
Jultag	date of observation	day of the year

Uncertainties Factor for uncertainty is the change of the observer.

Quality information The QUALITAETS_BYTE (QB) denotes whether the value was objected to and/or corrected.

Explanation for QB:

QB = 0 : not checked/not flagged;
QB = 1 : had no objections;
QB = 5 : doubtful;
QB = 10 : meadows continuous green, a new greening could not be observed.

The QUALITAETS_NIVEAU (QN) shows the quality control procedure applied for a data report (of several parameters) for a certain reporting time.

Explanation for QN:

QN = 1 : only formal control;
QN = 2 : controled on individual criteria;
QN = 7 : systematically controled, not corrected;

DATA ORIGIN

A fixed observation area is assigned to every phenological observer. Each observation area has a station-id assigned by the network administration. The observer registers the first detected resp. the latest occurrence of determined growth stages independent of plant specimen, site or field. The observation were reported immediatly online or by phone and archived in the climate data bank of DWD.

VALIDATION AND UNCERTAINTY ESTIMATE

During the operational handling of phenological data each year a spatial quality control has been performed. Each year 1 - 2 % of the data are flagged to be wrong. Causes could be confusion of phases.

CONSIDERATIONS FOR APPLICATIONS

BBCH code see [phase definition](#).

ADDITIONAL INFORMATION

English and Latin names of plants are listed in [PH_Beschreibung_Pflanze.txt](#). For the English name of the phase see [PH_Beschreibung_Phase.txt](#). According to experience, at some sites a few plant species are not, not continually or only partly observed. From 1991 (West Germany)/ 1992 (East Germany) a modified observation programme was introduce, see [PH_Beschreibung_Phaenologie_Besonderheiten_Zeitreihen.txt](#). When using phenological data, it is advisably to use several stations characteristically of a natural area or natural area group. In this way, the data have less gaps and the specifics of a single station are less prominently in influencing the results. The classification of natural areas and natural area groups used by Deutscher Wetterdienst (DWD) for phenological data is based on the map [Naturräumliche Gliederung und Waldverbreitung](#) (Meynen und Schmithüsen, 1953-1962), see also [Handbuch der naturräumlichen Gliederung Deutschlands](#). Observation criteria for current pheno phases are defined in the [instructions for observers](#).

REFERENCES

Bruns, E., van Vliet, A.J.H.: Standardisation of phenological monitoring in Europe. Wageningen University, Deutscher Wetterdienst, 2003.

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Emil Meynen, Josef Schmithüsen (Herausgeber): Handbuch der naturräumlichen Gliederung Deutschlands. Bundesanstalt für Landeskunde, Remagen/Bad Godesberg, 1953–1962.

Kaspar, F., K. Zimmermann, and C. Polte-Rudolf: An overview of the phenological observation network and the phenological database of Germany's national meteorological service (Deutscher Wetterdienst). Adv. Sci. Res., 11, 93-99, doi:10.5194/asr-11-93-2014, 2014.

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REVISION HISTORY

This document is maintained by the Climate Data Center (CDC) of DWD, last edited on 2021-06-15.