

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 recent, 2018.

INTENT OF THE DATASET

This describes the freely available data of the DWD Climate Data Center (CDC). The phenological data are quality controlled and flagged with a quality byte.

POINT OF CONTACT

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DATA DESCRIPTION

Spatial coverage	Germany																								
Temporal coverage	last year - current year																								
Temporal resolution	annually																								
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 .																								
Parameters	meadows, winter wheat, winter rye, winter barley, winter oilseed rape, summer wheat, spring barley, oat, sunflower, maize, potato, beet, fodder beet. <table border="0" style="margin-left: 20px;"> <tr> <td>Qualitaetsniveau</td> <td>see</td> <td>Quality_flags</td> </tr> <tr> <td>Stations_id</td> <td>see</td> <td>stations immediate reporters</td> </tr> <tr> <td>Referenzjahr</td> <td></td> <td>year corresponding to phase</td> </tr> <tr> <td>Objekt_id</td> <td>see</td> <td>phase definition</td> </tr> <tr> <td>Phase_id</td> <td>see</td> <td>phase definition</td> </tr> <tr> <td>Eintrittsdatum</td> <td>date of observation</td> <td>yyyymmdd</td> </tr> <tr> <td>Eintrittsdatum_QB</td> <td>see</td> <td>Quality_flags</td> </tr> <tr> <td>Jultag</td> <td>date of observation</td> <td>day of the year</td> </tr> </table>	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
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Uncertainties	Factors for uncertainties include: (1) change of observer (2) change of plants.																								
Quality information	The Qualitaetsniveau describes the data control. The individual dates are flagged with a quality byte (Eintrittsdatum_QB). Qualitaetsniveau:																								

	1	only formal control
	2	controled on individual criteria
	7	systematically controled and flagged but not corrected
Eintrittsdatum_QB	0	not checked
	1	correct
	5	uncertain

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 months and phases

CONSIDERATIONS FOR APPLICATIONS

BBCH code see [phase definition](#).

ADDITIONAL INFORMATION

English and Latin names of plants are listed in https://opendata.dwd.de/climate_environment/CDC/observations_germany/help/PH_Beschreibung_Pflanze.txt. For the English name of the phase see https://opendata.dwd.de/climate_environment/CDC/observations_germany/help/PH_Beschreibung_Phase.txt. According to experience, at some sites a few plant species are not, not continually or only partly observed. Data sets are from about 400 - partly each year alternated - stations since 01.01.1979 for West Germany; since 01.01.1992 onward all parts of Germany are covered. 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 https://de.wikipedia.org/wiki/Handbuch_der_naturr%C3%A4umlichen_Gliederung_Deutschlands. For applications related to climate research, the observations provided by annual reporters should be preferred. Observation criteria for current pheno phases are defined in the [instructions for observers](#).

REFERENCES

DWD, Anleitung für die phänologischen Beobachter des Deutschen Wetterdienstes, Vorschriften und Betriebsunterlagen Nr. 17, Deutscher Wetterdienst Offenbach 1991, überarbeitet 2014.

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

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

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REVISION HISTORY

The data are updated daily. This document is maintained by DWD National Climate Data Center (NKDZ), last edited on 19.12.2018.