Deutscher Wetterdienst
Wetter und Klima aus einer Hand

DWD

DATASET DESCRIPTION

Phenological observations of wild plants, including forest and ornamental woody plants from beginning of sprouting and flowering to ripening, also falling of leaves for some species (annual reporters, historical)

Version: v009

Publication date:

Cite data set as:	Phenological observations of wild plants, including forest and ornamental woody plants from beginning of sprouting and flowering to ripening, also falling of leaves for some species (annual reporters, historical), Version v009
Dataset-ID:	urn:x-wmo:md:de.dwd.cdc::obsgermany-phenology-annual_reporters-wild-historical
Dataset-URL:	https://opendata.dwd.de/climate_environment/CDC/observations_germany/phenology/annual_reporters/wild/historical

ABSTRACT

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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DATASET DESCRIPTION

Parameter	common wormwood, wood anemone, European larch, rowan, mock orange, ash, common heather, autumn crocus, Norway spruce, lilac, golden chain tree, forsythia, silver birch, common hazel, coltsfoot, dog rose, Scots pine, cornelian cherry, dandelion, blackthorn, black locust, goat willow, horse chestnut, European beech, snowberry, common snowdrop, black elder, European alder, large leaved lime, small leafed lime, Norway maple, pedunculate oak, white fir, hackberry, meadow foxtail, orchard grass, midland hawthorn, wild plants
Temporal coverage	1951-01-01 -- 2021-12-31
Spatial coverage	Germany
Projection	WGS 84 (EPSG:4326)
Format description	Each file PH_Jahresmelder* contains the observation of a certain species (e.g., hazel), with fixed object_id (e.g., 113). 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_Jahresmelder.txt .

application schema	csv dialect description			
	delimiter	**line terminator**	**header**	**quote char**
	;	\\r\\n	true	\"

csv content description

column name	description	uom	type	format
Stations_id	DWD Station ID		VARCHAR2	
Referenzjahr	year corresponding to phase		NUMBER	YYYY
Qualitaetsniveau	quality flags		NUMBER	numerical code
Objekt_id	identifier of the phenological object		NUMBER	990
Phase_id	identifier of the phenological stage		NUMBER	
Eintrittsdatum	date of observation		NUMBER	YYYYMMDD
Eintrittsdatum_QB	quality flag		NUMBER	
Jultag	day of the year		NUMBER	DDD

Quality Information

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

QN = 1 : only formal control;
QN = 7 : second control done, before correction;
QN = 10 : quality control finished, routine corrections finished (individual corrections later still possible).

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

QB = 1 : had no objections;
QB = 2 : corrected;
QB = 3 : confirmed with objection rejected;
QB = 5 : doubtful;
QB = 8 : incorrect;

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 beginning of determined growth stages (pheno phases) and notes the date in the phenological observation journal, as soon as it occured. It is important not to change the observed plant (tree, bush) or the site (snowdrop, etc.), the chosen plant is to be observed as much years as possible. At the end of the year, the observer send the completed observation sheet to the network operator for data recording. In the long run, this system will be replaced by online data transmission (2020: about 50 % of the observers).

VALIDATION AND UNCERTAINTY ESTIMATE

During the operational handling of phenological data each year a gross error check and an additional 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.

UNCERTAINTIES

Factors for uncertainties include:
(1) change of observer (2) change of plants.

CONSIDERATIONS FOR APPLICATIONS

Remarks from the observer about the report (such as K.n.A.d.Ph. = abnormal occurrence of phase) see https://opendata.dwd.de/climate_environment/CDC/observations_germany/phenology/annual_reporters/wild/historical/PH_Jahresmelder_Wildwachsende_Pflanze_Notiz.txt. BBCH code see [phase definition;https://opendata.dwd.de/climate_environment/CDC/observations_germany/phenology/annual_reporters/wild/historical/PH_Beschreibung_Phasendefinition_Jahresmelder_Wildwachsende_Pflanze.txt].

ADDITIONAL INFORMATION

English and Latin names of plants are listed in [PH_Beschreibung_Pflanze.txt;https://opendata.dwd.de/climate_environment/CDC/help /PH_Beschreibung_Pflanze.txt]. For the English name of the phase see [PH_Beschreibung_Phase.txt;https://opendata.dwd.de /climate_environment/CDC/help/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 oberservation programme was introduce, see [PH_Beschreibung_Phaenologie_Besonderheiten_Zeitreihen.txt ;https://opendata.dwd.de/climate_environment/CDC/help /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;https://de.wikipedia.org/wiki/Handbuch_der_naturr%C3% A4umlichen_Gliederung_Deutschlands]. Observation criteria for current pheno phases are defined in the [instructions for observers; http://www.dwd.de/DE/klimaumwelt/klimaueberwachung/phaenologie/daten_deutschland/beobachtersuche/beobachteranleitung.html].

LITERATURE

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 Deutscher Wetterdienst, CDC - Vertrieb Klima und Umwelt, last edited at 2023-09-15.