

DATA SET DESCRIPTION

Phenological observations of fruit-bearing plants from beginning of sprouting to ripening, also falling of leaves for some species (immediate reporters, recent)

Version recent

Cite data set as: DWD Climate Data Center (CDC): Phenological observations of fruit-bearing plants from beginning of sprouting to ripening, also falling of leaves for some species (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., gooseberry), with fixed object_id (e.g., 350). 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	Apple, apple - late ripeness, cherry, gooseberry, currant (all varieties). 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 yyymmdd Eintrittsdatum_QB see Quality_flags Jultag date of observation day of the year
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

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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.