



Global sowing and harvesting windows of major crops

1. IDENTIFICATION INFORMATION

Name	Global sowing and harvesting windows of major crops
DOI	doi:10.20783/DIAS.546 [https://doi.org/10.20783/DIAS.546]
Metadata Identifier	global_crop_calendar_200020220216185108-DIAS20220214155649-en

2. CONTACT

2.1 CONTACT on DATASET

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2.2.1 Data Integration and Analysis System

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5. DATE OF THIS DOCUMENT

2022-02-16

6. DATE OF DATASET

creation : 2018-07-04

7. DATASET OVERVIEW

7.1 Abstract

Using daily weather data for the period 1996–2005 as the inputs to a rule-based model, we derive calendars for maize, rice, winter and spring wheat and soybeans around the year 2000 with a spatial resolution of 0.5° in latitude and longitude. Winter and spring wheat and rainfed versus irrigated conditions are differentiated. Separate calendars for rainfed and irrigated conditions and three representative varieties (short-, medium- and long-season varieties) are estimated. The daily probabilities of sowing and harvesting derived using the model can be converted into sowing and harvesting windows, respectively, with user-defined thresholds.

7.2 Topic Category(ISO19139)

farming

7.3 Temporal Extent

Begin Date	2000-01-01
End Date	2000-12-31
Temporal Characteristics	Daily

7.4 Geographic Bounding Box

North latitude bound	90
West longitude bound	-180
Eastbound longitude	180
South latitude bound	-90

7.5 Grid

Dimension Name	Dimension Size (slice number of the dimension)	Resolution Unit
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column	720	0.5 (deg)
row	360	0.5 (day)
vertical	1	1 (level)

7.6 Geographic Description

7.7 Keywords

7.7.1 Keywords on Dataset

Keyword Type	Keyword	Keyword thesaurus Name
theme	Agriculture > Agricultural Plant Science > Cropping Systems	GCMD_science

7.7.2 Keywords on Project

7.7.2.1 Data Integration and Analysis System

Keyword Type	Keyword	Keyword thesaurus Name
theme	DIAS > Data Integration and Analysis System	No_Dictionary

7.8 Online Resource

File download : <https://data.diasjp.net/dl/storages/filelist/dataset:546>

7.9 Data Environmental Information

7.10 Distribution Information

name	version	specification
NetCDF	4	

8. DATA PROCESSING

8.1 Data Processing (1)

8.1.1 General Explanation of the data producer's knowledge about the lineage of a dataset

The rule-based model determines the potential sowing and harvesting dates of a crop of interest at a given location based on the sequence of rules and a 10-yr period of daily weather data. The rules describe climatic requirements in terms of heat, chilling, moisture and field workability. Rainfed and irrigated conditions are separately considered. The potential sowing date indicates

days with a higher probability of completing the annual crop life cycle under a given weather pattern and soil hydrologic condition.

8.1.2 Data Source

Data Source Citation Name	Description of derived parameters and processing techniques used
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9. DATA REMARKS

We compared the SAGE and MIRCA2000 datasets with the modeled sowing and harvesting windows. The global data reported in USDA (1994) were also used because clear distinctions between multiple cropping seasons were available.

10. DATA POLICY

10.1 Data Policy by the Data Provider

Users are asked to cite the reference (Iizumi et al., in review) when the dataset is used.

10.2 Data Policy by the Project

10.2.1 Data Integration and Analysis System

If data provider does not have data policy, DIAS Terms of Service (<https://diasjp.net/en/policy/>) and DIAS Privacy Policy (<https://diasjp.net/en/privacypolicy/>) apply.

If there is a conflict between DIAS Terms of Service and data provider's policy, the data provider's policy shall prevail.

11. LICENSE

12. DATA SOURCE ACKNOWLEDGEMENT

12.1 Acknowledge the Data Provider

12.2 Acknowledge the Project

12.2.1 Data Integration and Analysis System

If you plan to use this dataset for a conference presentation, paper, journal article, or report etc., please include acknowledgments referred to following examples. If the data provider describes examples of acknowledgments, include them as well.

" In this study, [Name of Dataset] provided by [Name of Data Provider] was utilized. This dataset was also collected and provided under the Data Integration and Analysis System (DIAS), which was developed and operated by a project supported by the Ministry of Education, Culture, Sports, Science and Technology. "

13. REFERENCES

Iizumi T, Kim W, and Nishimori M. Modeling the global sowing and harvesting windows of major crops around the year 2000. *Agricultural and Forest Meteorology* (in review).

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