**General notes:**

consider one or two staple crops? Eg. Maize, wheat

some data such as potential yield, crop water demand may not need to be spatially explicit

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Available sources** | **Release date** | **Notes** |
| **Climate** |  | |  |
| Temperature | BIOCLIM | 2023 |  |
| Rainfall | BIOCLIM | 2023 |  |
| Rainfall N concentration | Global? |  |  |
| CO2 concentration | Global? |  |  |
| **Soil** |  | |  |
| SOC | ISRIC | 2023 |  |
| Soil texture | HWSD | 2012 |  |
| pH | ISRIC | 2023 |  |
| Bulk density | ISRIC | 2020 |  |
| **Crop parameters** |  | |  |
| Acreage | Cell5m, modelled (?) |  |  |
| Potential yield | GYGA |  | Only available for select countries/regions |
| Actual yield | GYGA, Cell5m | 2023 | Average of past 5-10 years |
| Thermal degree days |  |  |  |
| Water demand | Phenotype specific |  |  |
| Growing degree days | Calculated |  |  |
| **Management** |  |  |  |
| Plant & harvest dates | LSMS, modelled | 2018 onwards |  |
| Mineral fertilizer applied | LSMS, modelled | 2018 onwards |  |
| Film mulch | LSMS, modelled | 2018 onwards |  |
| Manure | LSMS, modelled | 2018 onwards |  |
| Tillage | LSMS, modelled | 2018 onwards |  |
| Residue | LSMS, modelled | 2018 onwards |  |
| **Crop map** |  |  |  |
| Plant area | Cell5m, modelled (?) |  |  |

1As GDDs = (Tmax  - Tmin)/2 – Tbase (specific to each crop)(calculated based on temperature data)

[BIOCLIM](https://www.worldclim.org/data/bioclim.html)

[Harmonized world soil database (HWSD).](https://webarchive.iiasa.ac.at/Research/LUC/External-World-soil-database/HTML/)

[Climafrica](https://data.apps.fao.org/map/catalog/srv/eng/catalog.search?id=14116&fname=DSMW.zip&access=private#/metadata/7f1cfa9a-8491-4e67-b12f-63aae00a8ce5)

[Worldclim](https://www.worldclim.org/data/bioclim.html)

[GYGA](https://www.wur.nl/en/value-creation-cooperation/collaborating-with-wur-1/wdcc/data-portal/global-yield-gap-atlas-1.htm) – Global yield gap atlas