

### Data description for “*input\_maize.csv*”

| Variable name                                   | Variable type   | Abbreviation  | Resolution   | Unit                                 | Source                |
|---|-----------------|---------------|--------------|--------------------------------------|-----------------------|
| Erosion classification                          | Target variable | Erosion_class | Field parcel | Categorical                          | Fischer et al. (2018) |
| Erosion detected (Y/N)                          | Target variable | Eroding       | Field parcel | Categorical                          | Fischer et al. (2018) |
| Total precipitation                             | Covariate       | RadolanSum    | 1 km, daily  | mm                                   | RADOLAN <sup>3)</sup> |
| Normalised Differential Vegetation Index (NDVI) | Covariate       | NDVI          | 30 m, weekly | -                                    | MODIS/Landsat fusion  |
| Maximum precipitation intensity                 | Covariate       | RadolanMax    | 1 km, daily  | mm h <sup>-1</sup>                   | RADOLAN               |
| Number of hours with precipitation > 10 mm      | Covariate       | RadolanGT10mm | 1 km, daily  | -                                    | RADOLAN               |
| Maize phenological phase                        | Covariate       | Phase         | 1 km, daily  | -                                    | Möller (2021)         |
| Soil erodibility (USLE <sup>1)</sup> K factor)  | Covariate       | K_factor      | 5 m          | t ha <sup>-1</sup> h N <sup>-1</sup> | Fischer et al. (2018) |
| Slope length (USLE L factor)                    | Covariate       | L_factor      | 5 m          | -                                    | Fischer et al. (2018) |
| Slope gradient (USLE S factor)                  | Covariate       | S_factor      | 5 m          | -                                    | Fischer et al. (2018) |

<sup>1)</sup> Universal Soil Loss Equation (USLE; Wischmeier & Smith (1978))

<sup>2)</sup> Integrated Administration and Control System of the European Union

<sup>3)</sup> Radar precipitation estimates from the German Weather Service (DWD)

## References

- Möller, M. Germany-wide time series of interpolated phenological observations for main crop types between 1993 and 2021. *Web Coverage Service* <https://sf.julius-kuehn.de/openapi/phase/> (2021).
- Fischer, F. K. et al. Validation of official erosion modelling based on high-resolution radar rain data by aerial photo erosion classification. *Earth Surf. Process. Landforms* **43**, 187–194 (2018).
- Winterrath, T., Rosenow, W. & Weigl, E. On the DWD quantitative precipitation analysis and nowcasting system for real-time application in German flood risk management. *IAHS Red B.* **351**, 323–329 (2012).
- Wischmeier, W. H. & Smith D. D. Predicting rainfall erosion losses - a guide to conservation planning. Washington, DC, U.S. Gov. Print Office. (1978)