

1. Administrative Data

gaul1: Administrative FAO Data.

2. Individual processes (Intrinsic scenario - farmable land as Fig. 2)

-> Cropland

SLCH_crops_v1.0: Root crops harvesting

Tillage_crops_v1.0: Tillage Erosion

Water_crops_v1.0: Erosion by sheet and rill

Wind_crops_v1.0: Wind erosion

Class 1 = very low, Class 2 = relatively low, Class 3 = moderate, Class 4 = relatively high and Class 5 = very high

intrinsic scenario models the susceptibility of the total land considered suitable for croplands, by using the **global crop suitability index** proposed by Zabel et al. (2014), a gridded dataset expressing the crop suitability based on a set of 16 plants under rainfed and irrigation conditions for a reference period covering 1981e2010, with a spatial resolution of 30 arcsec (~1 km).

Land suitable for crops (In actual scenario as Fig. 3)

SLCH_suit_v1.0: Root crops harvesting

Tillage_suit_v1.0: Tillage Erosion

Water_suit_1.0: Erosion by sheet and rill

Wind_suit_1.0: Wind erosion

Class 1 = very low, Class 2 = relatively low, Class 3 = moderate, Class 4 = relatively high and Class 5 = very high

Actual scenario by the cropland as defined by the Copernicus Global Land Cover Layer (CGLS-LC100 collection 3) (Buchhorn et al., 2021) for the reference year 2019.

3. Summary

Overall susceptibility to soil erosion v1: Fig. 4. Co-occurrence of different soil erosion processes (by water, wind, gully, tillage and harvesting) in the 1x 1 km² cell size grid.

Values: 0 (0 process) -5 (5 processes)

4 Future Trends

Water Erosion:

| Code1 | Erosion |
|---------------------------|--------------------|
| WaEV (increasing rain) | More water erosion |
| WaEV (decreasing rain) | Less water erosion |
| WaEV (increasing drought) | Less water erosion |
| WaEV (decreasing drought) | More water erosion |

Wind Erosion:

| Code1 | Erosion |
|---------------------------|-------------------|
| WiEV (increasing rain) | Less wind erosion |
| WiEV (decreasing rain) | More wind erosion |
| WeEV (increasing drought) | More wind erosion |
| WeEV (decreasing drought) | Less wind erosion |

