

Disclaimer

Prototype Sentinel-1 automatic flood processing chain

The current Sentinel-1 flood service is a prototype. The information present here should therefore be taken with caution and not be used for critical emergency operations. Since the results are not subject to any manual editing or post-processing, different errors and misclassifications can be present in the data.

Errors might especially occur in the following cases:

- Only open water surfaces are considered, i.e. areas of flooded vegetation are not included in the flood layer.
- Radar shadows resulting from buildings, vegetation (e.g. trees and forest edges) and steep topography can be misclassified as floods.
- Due to the side-looking viewing geometry of SAR-satellites, floods in urban areas may not be detected.
- Surface types with similar low radar backscatter than water surfaces (e.g. roads, airport runways, desert) can erroneously be classified as floods

Data sources copyright information

Sentinel-1: © ESA 2024

Reference publication

Bereczky, M., Wieland, M., Krullikowski, C., Martinis, S., Plank, S. (2022): Sentinel-1-based water and flood mapping: benchmarking convolutional neural networks against an operational rule-based processing chain, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Vol. 15, 2023-2036.

Wieland, M., Fichtner, F., Martinis, S., Groth, S., Krullikowski, C., Plank, S., and Motagh, M. 2023. S1S2-Water: A global dataset for semantic segmentation of water bodies from Sentinel-1 and Sentinel-2 satellite images. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing.

Citation

When disseminating data/layers of the Sentinel- flood service in e.g. presentations or own map products, please cite the source as follows: © DLR/ZKI 2024

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