

EO 4 Ecosystem Accounting 2022



From global to national freshwater ecosystem monitoring and reporting

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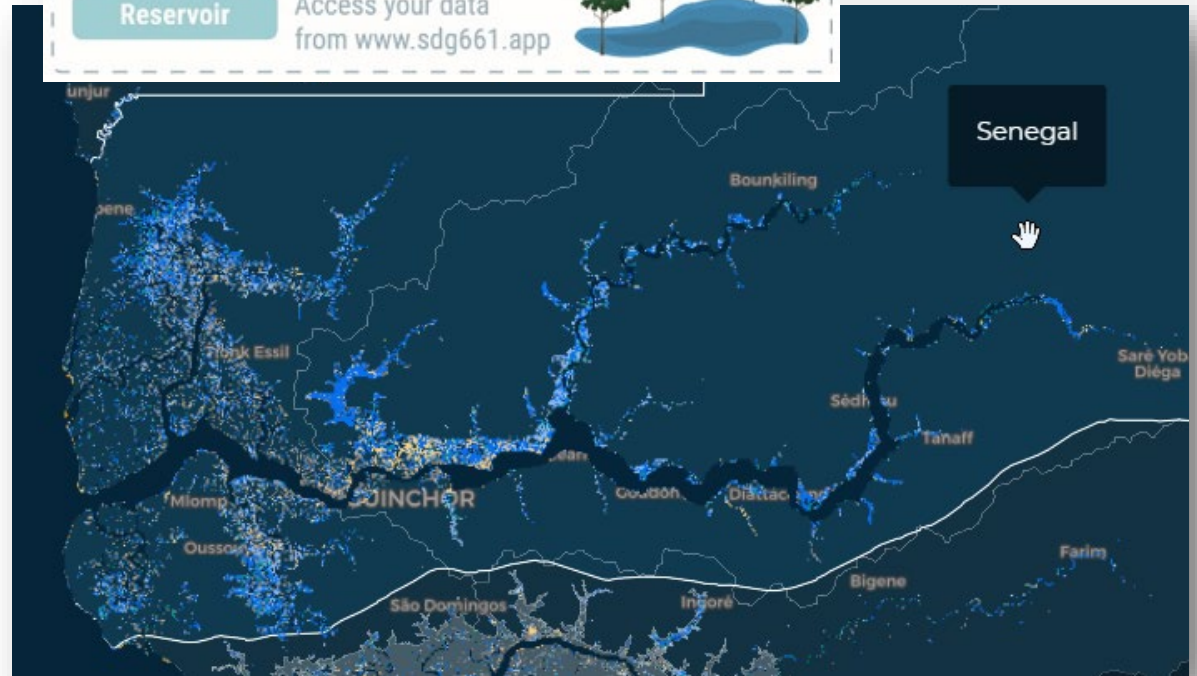
Preventing the ongoing loss and degradation of critical freshwater ecosystems globally is key to the resolution of three of the world's most urgent environmental priorities:

- Address **climate mitigation** and adaptation as wetlands lock carbon and functions to absorb floodwater and reduce storm impacts.
- Reduce **biodiversity** loss through protection and restoration of wetland habitats.
- Secure freshwater **services**: water retention, filtration, absorption capacities
- National inventories a critical instrument to ensure conservation and wise use of Freshwater Ecosystems



- Benchmark product*: 30 m spatial resolution and monthly temporal resolution 1984-2020

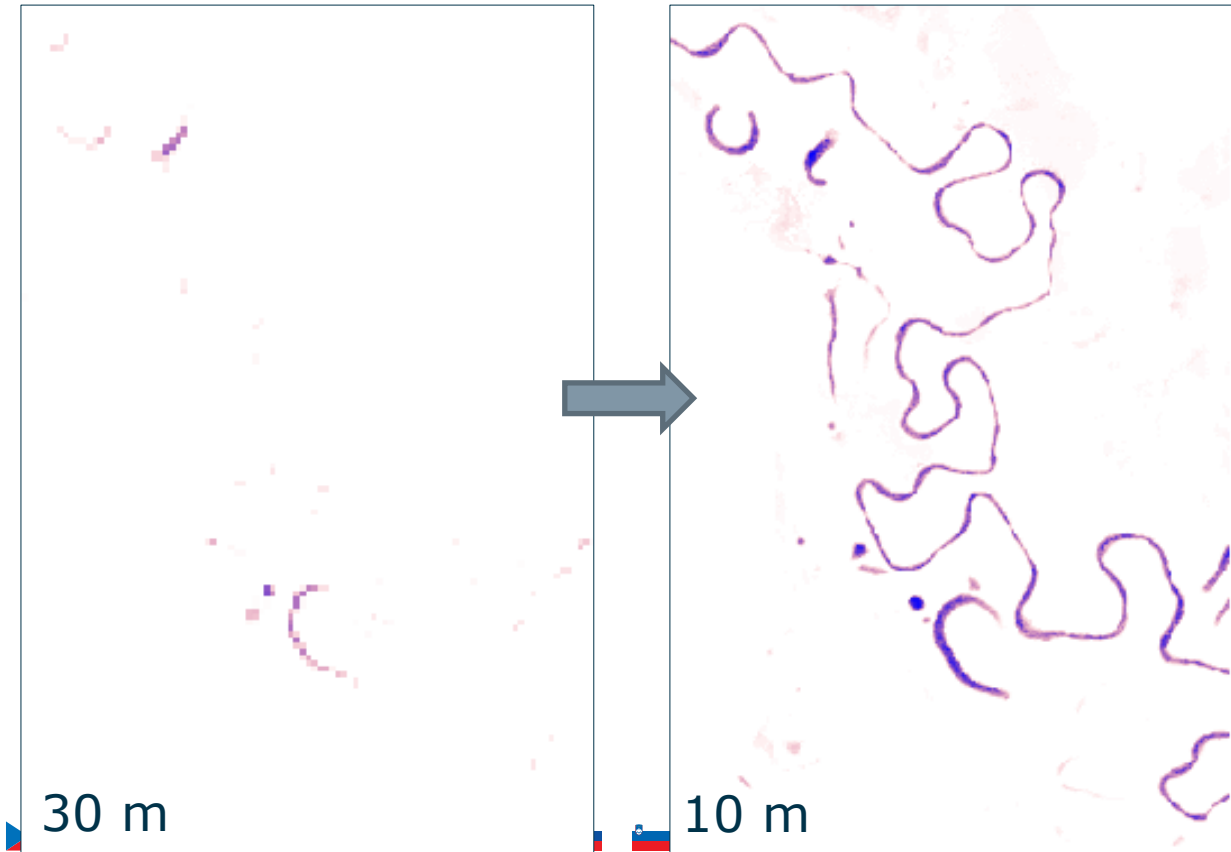
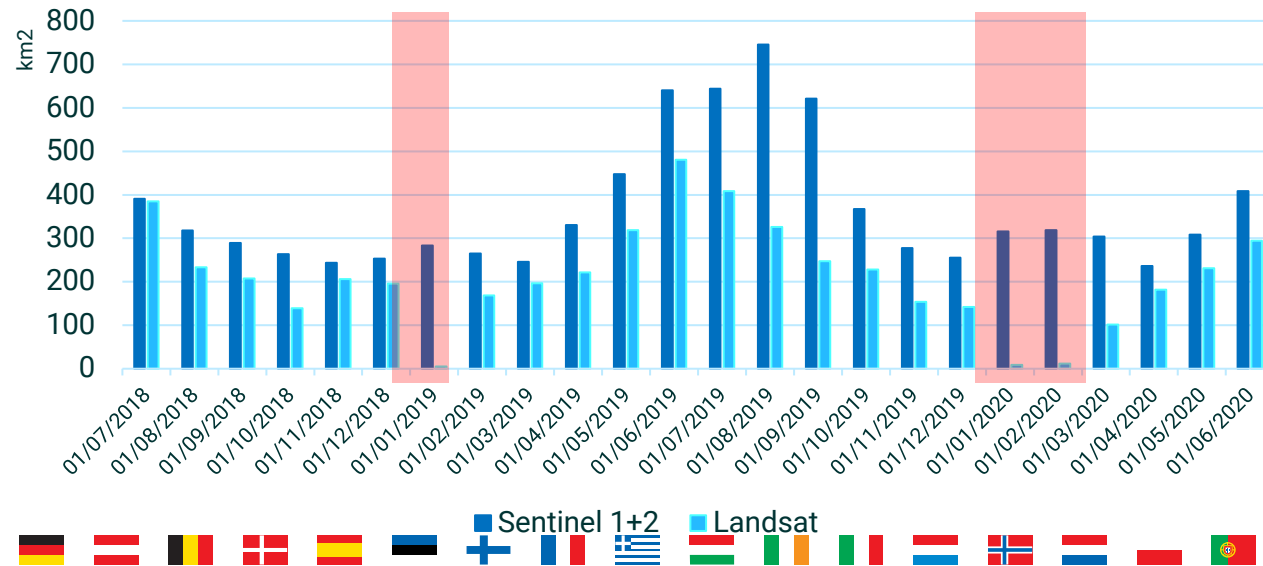
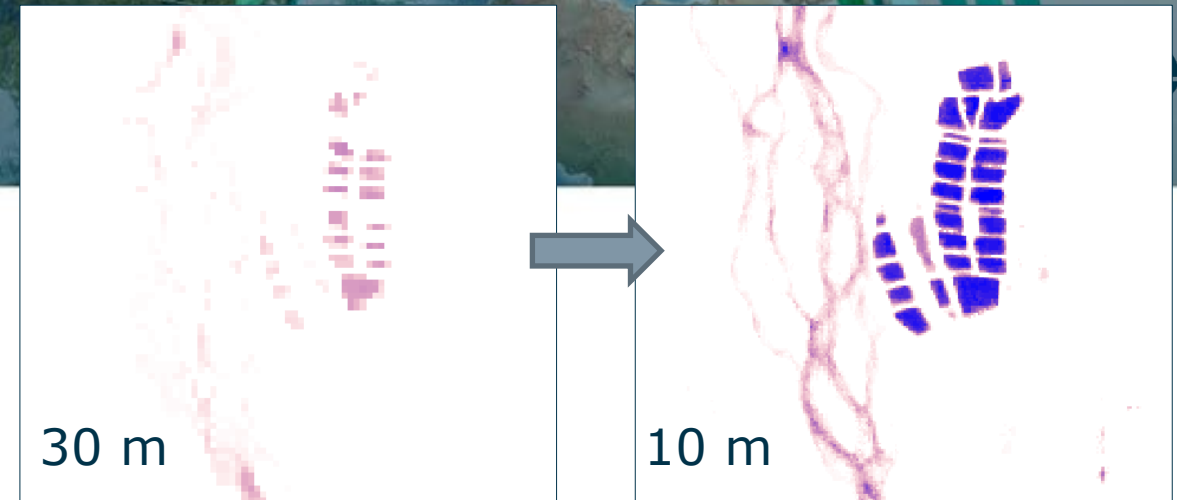
* Jean-Francois Pekel, Andrew Cottam, Noel Gorelick, Alan S. Belward, High-resolution mapping of global surface water and its long-term changes. *Nature* 540, 418-422 (2016). ([doi:10.1038/nature20584](https://doi.org/10.1038/nature20584))



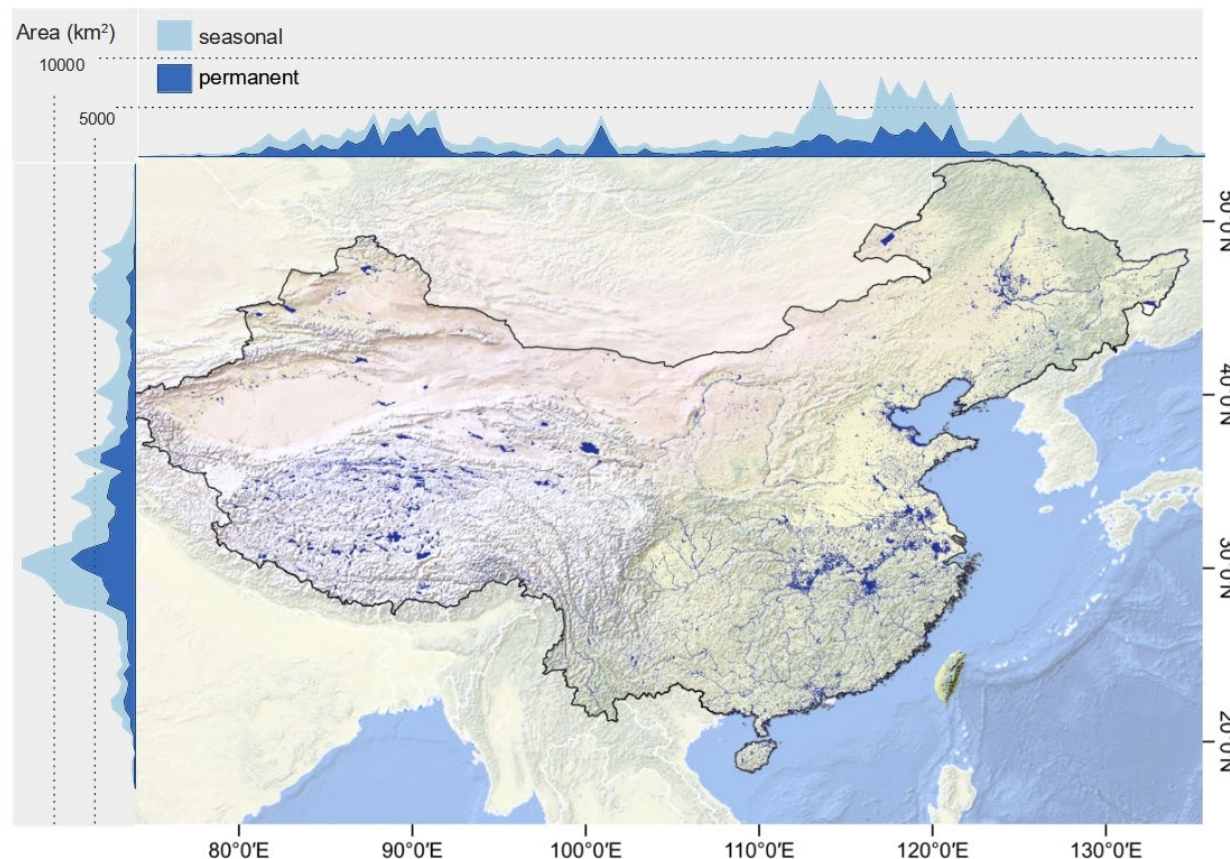
<https://map.sdg661.app/#>

Global data tend to have bias

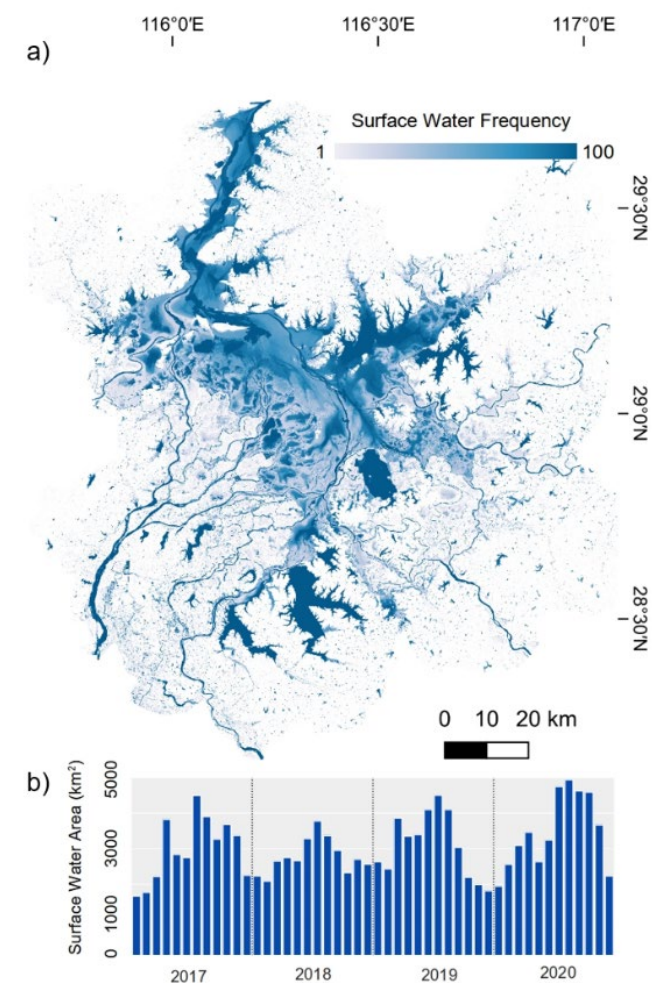
- 10-15% of global water is mixed with land at a 30 m resolution
- Next generation mapping
 - Capture more details
 - More consistent seasonal variations



Improved monitoring at national level



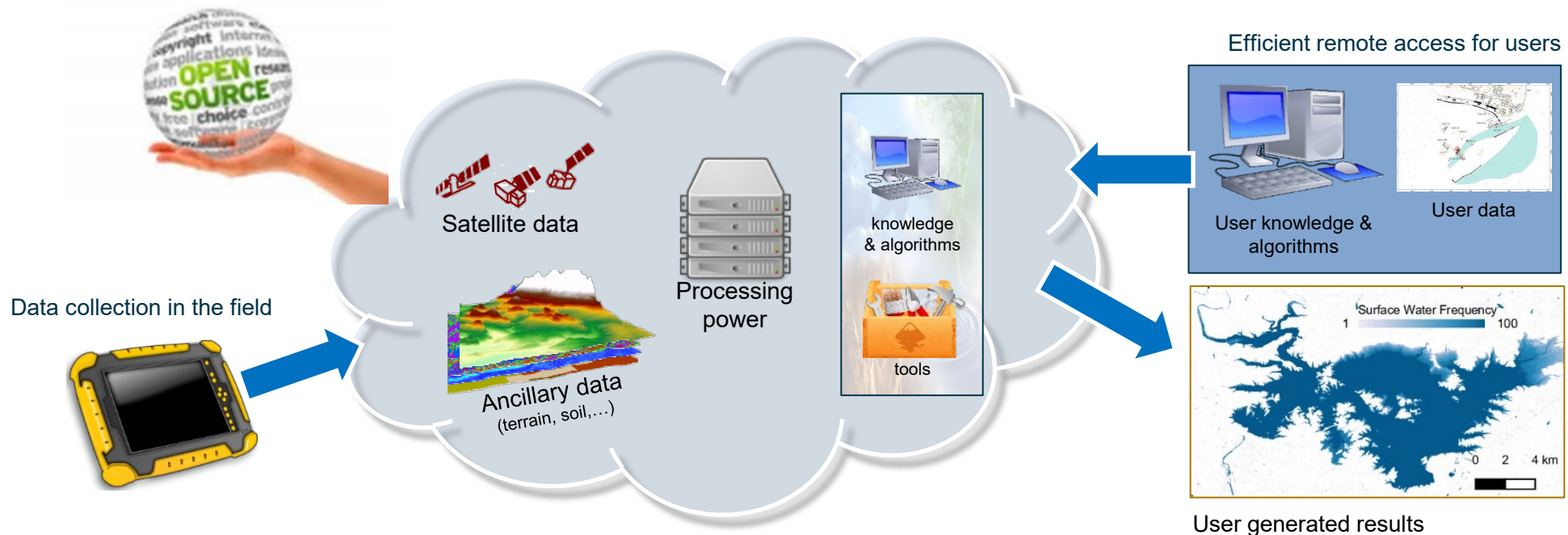
Druce, D., Tong, X., Lei, X., Guo, T., Kittel, C.M., Grogan, K. and Tottrup, C., 2021. An optical and SAR based fusion approach for mapping surface water dynamics over Mainland China. *Remote Sensing*, 13(9), p.1663.



Enabling EO based national monitoring



The power of the Cloud
“Bringing the users to the data”



Ecosystem extent at the core of main global agreements

