

MWBS - SESSION 1.2 GLOBAL DATA SETS AT MODERATE RESOLUTION

CONCLUSIONS

- Several major efforts mapping global water surface extent (see Santoro and in S1.3. Pekel and Airbus) and lakes quality (see GlobaLakes, Diversity II) as needed for Earth system model, regional processes modeling or as 'sentinels' (see Smisis) but proper monitoring activities is only achieved at 0.25° (see Prigent) or locally while of major interest
- Wetlands mapping and monitoring are very important but hardly investigated by on-going global mapping and monitoring efforts.
- Discrimination between lakes, rivers and oceans is much needed as they behave very differently for most processes.
- Water storage volume and its seasonal/inter-annual variability is the key variable of interest but currently only locally studied using water height
- Large range of spaceborne observations used (optical, active and passive microwave, 30 m to 25 km)
- All presentations relied on the use of a Digital Elevation Model to characterize the parameter of interest.

RECOMMENDATIONS

- Requirement to **maintain Sentinel data archive on-line or easily accessible** over long term (previous, on-going and forthcoming missions)
- **Multi-mission approach** combining optical and SAR capabilities should be considered to enhance water monitoring reliability and frequency
- **Already existing archives are major assets** for long term water surface time series analysis in our changing environment; similarly to global Landsat archives, global ERS-1 /2 archive could be made available to scientists and users for analysis (possibly on ESA G-Pod system).
- Sentinel-1 global coverage planned on 4 to 5 coverage per year will provide a snapshot but is insufficient to capture dynamics
- **Long term global acquisition plan with frequent observation** very much needed due to the dynamic nature of water, specifically systematic EWS acquisition by Sentinel 1 over all land areas for monitoring and in continuity of ASAR ScanSAR legacy (if no global repeated IWS coverage possible)
- **Building an independent validation of global data set** is a major issue due to the dynamic nature of the water extent (specific collaborative effort could be foreseen to tackle the difficulty to estimate omission error)