



SWOT

Lake Data product status

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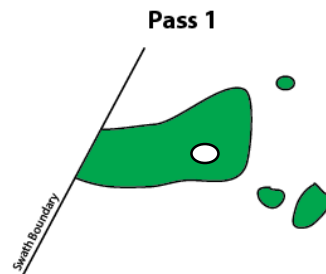
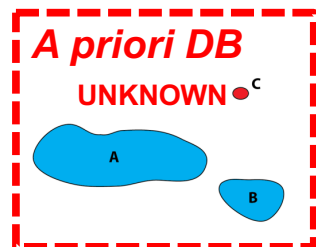
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The lake vector products – Single-pass (SP)

Polygon shapefile (WGS_84)

- ❖ 1 object = part of a lake/reservoir or “other” observed by SWOT
- ❖ Polygons = lake boundary + inner islands boundary
- ❖ Lake averaged values



Coverage = same as for river

- ❖ Intersection pole-to-pole pass (or orbit?) & continent
- ❖ Both swaths



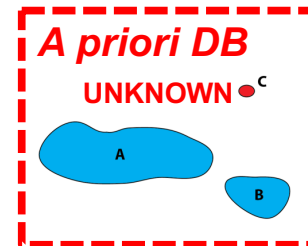
The lake vector products – Cycle-average (AVG)

Polygon shapefile (WGS_84)

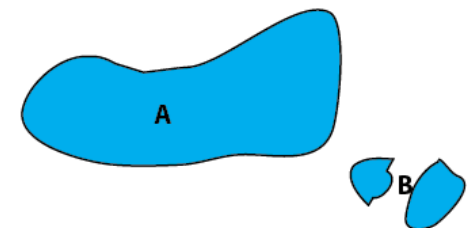
- ❖ 1 object = lake/reservoir **from DB** observed by SWOT during cycle
- ❖ Polygons = lake boundary + inner islands boundary: method to compute extent TBD (max or better: [see Yongwei's talk tomorrow](#))
- ❖ Cycle-averaged values per lake

Coverage = same as for river

- ❖ Stored per major river basin or continent (TBC)



Final Product Appearance



Attributes – Basic vs Expert

Identifiers and time

- ❖ Identifiers: `lake_id` (/ obs), `prior_id` (from DB), `grand_id`
- ❖ Time representations: official format (`time_day`, `time_sec`) and understandable (`time_string`)

Hydro parameters

- ❖ Water surface height with respect to geoid and ellipsoid and associated uncertainties,
- ❖ Areas and associated uncertainties: detected, total (= detected + dark water area), used to compute height,
- ❖ Cross-track distance,
- ❖ Metric of layover effect,
- ❖ Storage change and associated uncertainty

Attributes – Basic vs Expert

- ❖ Flags: dark water, layover, frozen surface, measurement quality, partial/fully observed, quality of cross-over calibrations
- ❖ KaRin σ_0 information:
 - Radar σ_0 and uncertainty, Radar σ_0 calibration, Radar σ_0 atmospheric correction from model data.
- ❖ Geophysical references:
 - Geoid model height,
 - Tides: earth, and pole.
- ❖ Geophysical range corrections:
 - Dry and wet tropospheric and ionospheric correction to heights.
- ❖ Instrument corrections:
 - Cross-over calibration, KaRin orientation (attitude), Overall instrument height bias, internal calibration.

On-going work

- ❖ Work almost finished on homogenization of attributes between river and lake products
 - Spring 2019: Product Description Document Rev A.
- ❖ When finalized: reported into prototypes to generate test products reflecting this new content