

SWOT

Lake a priori database

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Lake *a priori* database: what for?

→ Monitor temporal evolution of lakes

- ❖ water storage, rating curves, ...

Use for data dissemination:

- ❖ Search by name, river basin
- ❖ Look for orbits' number covering a lake, a basin

Use in processing steps:

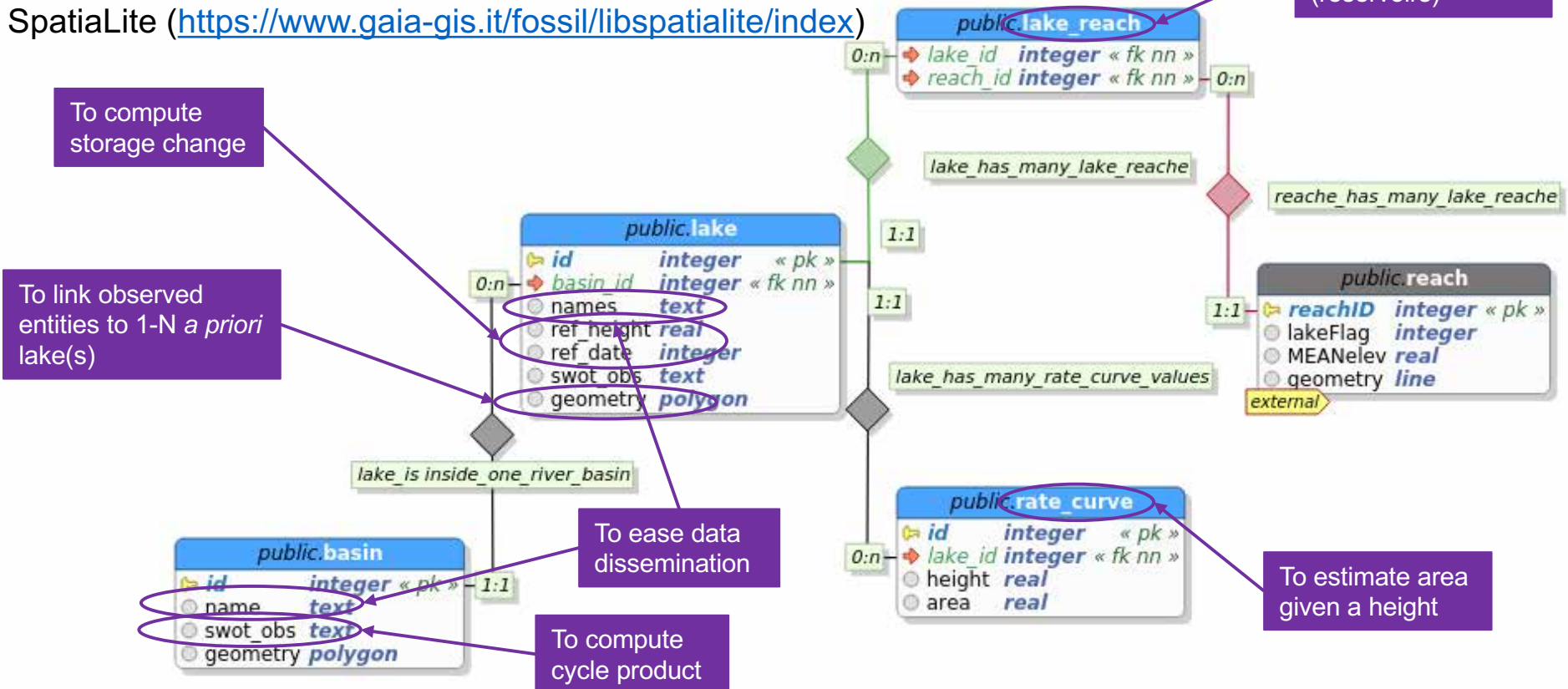
- ❖ Pass-based products:
 - Link observed water bodies to referenced lakes (intersection of polygons)
 - Compute water storage from reference
 - All new objects recorded in lake products; no update of the lake database on the flow
- ❖ Cycle-based products:
 - Produced only for lakes in database

4 versions:

- ❖ Before-launch (v1) : need to have as many lakes as possible
- ❖ T0+15m (v2) and T0+24m (v3), before a L2 products reprocessing
 - To add persistent new objects
 - To record max level/size of lakes
- ❖ At the end of the mission (v4), before the global reprocessing
- ❖ Updating process with SWOT data needs to be defined

Format and model

Current format under investigation = SpatialLite (<https://www.gaia-gis.it/fossil/libspatialite/index>)



Current version (0.1)

- ❖ Polygons from Sheng *et al.* CIRCA-2000 over France
- ❖ Names from IGN Carthage DB, GLWD, and vMap0
- ❖ Reference height and date from Sheng *et al.* DB only
- ❖ Link with river *a priori* DB (March 2017)
- ❖ Basin database = FAO (<http://www.fao.org/nr/water/aquamaps/>)
- ❖ No rate curve

Ongoing work

Status

- ❖ Tools developed:
 - To fill the database
 - To convert main DB attributes into shapefile
- ❖ v0.1 available over France

Next work

- ❖ Operational format under investigation on CNES SDS-side
- ❖ v0.2 with CIRCA-2015 over Europe available soon
- ❖ Other continents will be integrated as soon as CIRCA-2015 available