LAKE PROCESSING

Claire POTTIER

on behalf of the project team

SWOT Science Team Meeting

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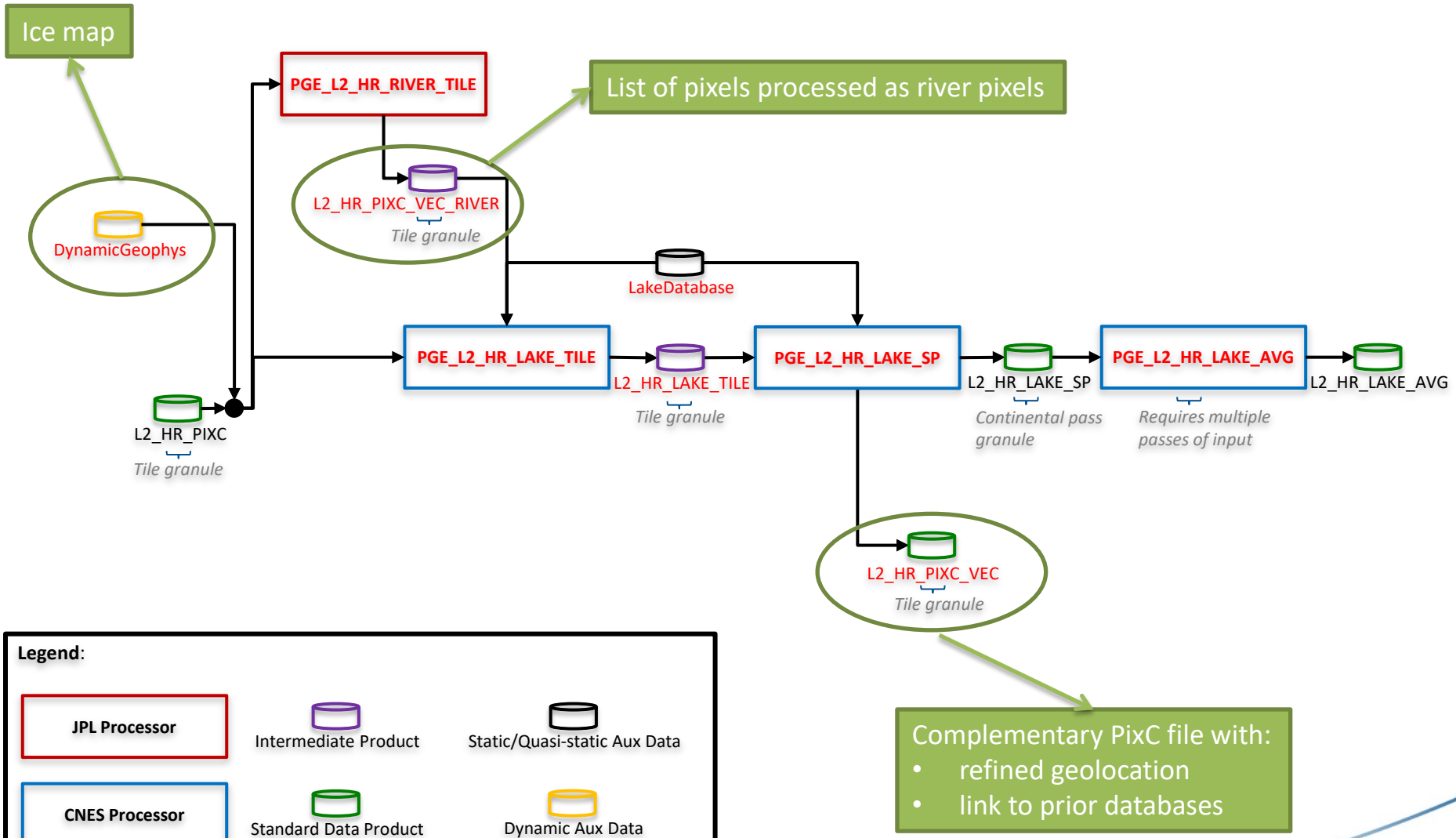
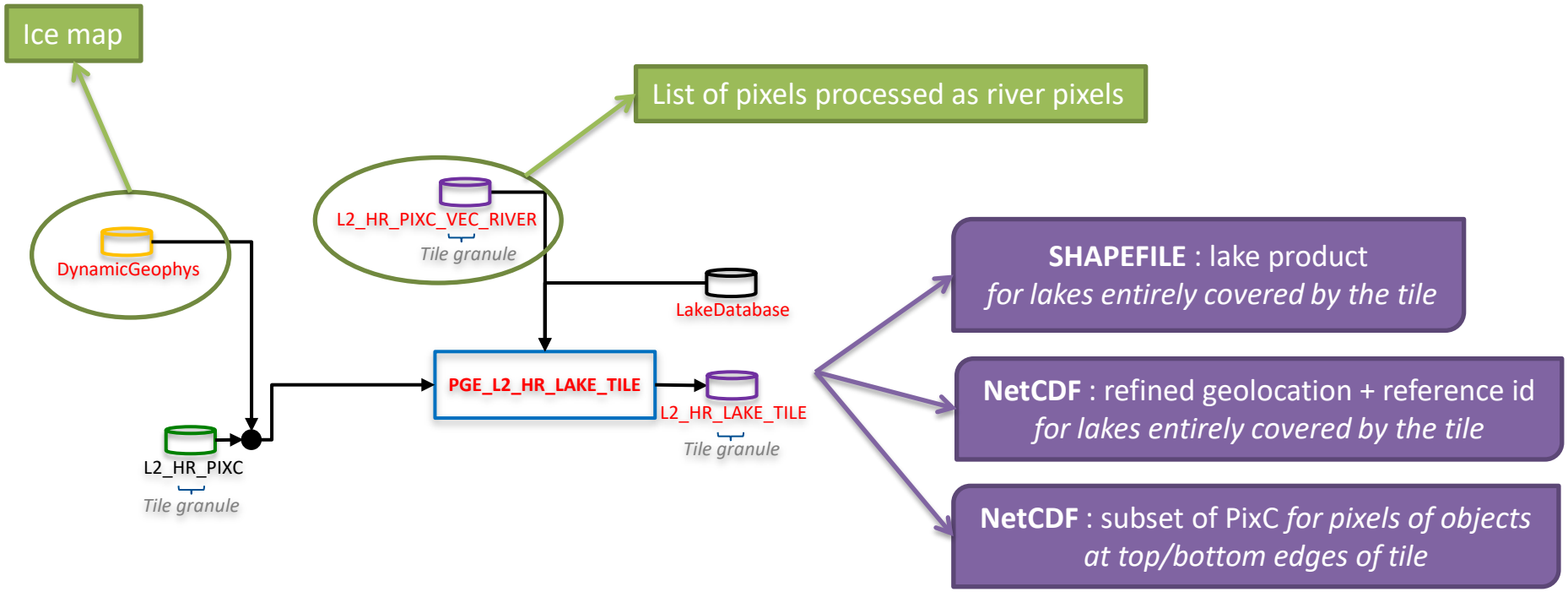
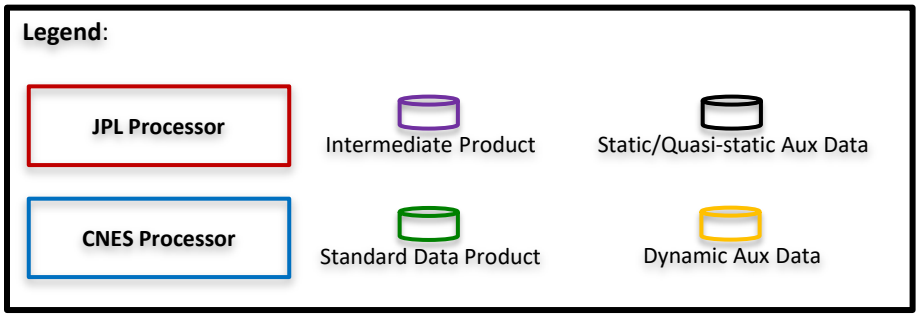
LAKE PROCESSING OVERVIEW



LAKE TILE PROCESSING – FLOW DIAGRAM





LAKE TILE PROCESSING STEPS

F1
- Identify all separate entities in the water mask
  = label connected regions in 2D pixel cloud in radar geometry

F2
- Retrieve pixels corresponding to lakes and new objects entirely inside the tile

F3
- Refine pixels geolocation

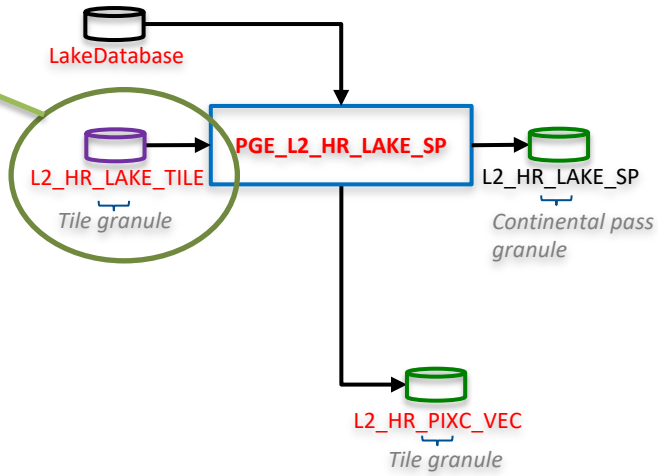
F4
- Compute lake product

F5
- Link to the *a priori* database (intersection of polygons)

Only for lakes and new objects entirely inside the tile

LAKE SINGLE-PASS PROCESSING OVERVIEW

All the tiles of a pass (full-swath), over 1 continent



Legend:

- JPL Processor
- CNES Processor
- Intermediate Product
- Standard Data Product
- Static/Quasi-static Aux Data
- Dynamic Aux Data

LAKE SINGLE-PASS PROCESSING STEPS

F1

- Gather pixels of objects at tiles edges

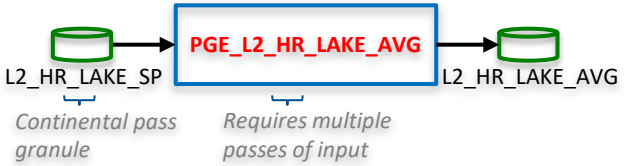
F2

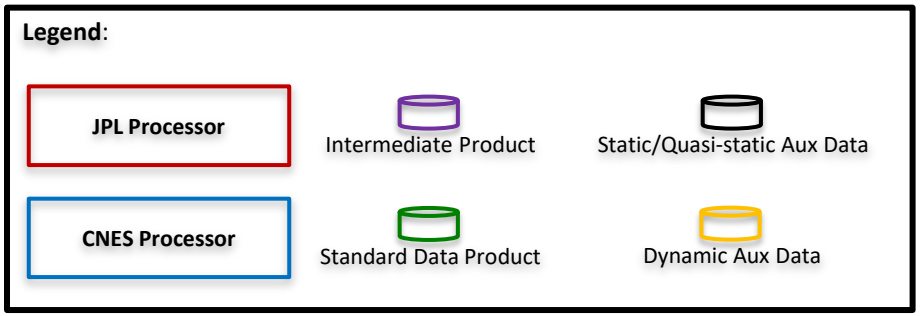
- Refine pixels geolocation
- Compute lake product
- Link to the *a priori* database

F3

- Gather polygons in a single shapefile

LAKE AVERAGE PROCESSING OVERVIEW





LAKE AVERAGE PROCESSING STEPS

FOR EACH a priori lake in specific river basin:

F1
- Identify all lake products linked to the current lake

F2
- Compute lake averaged product for the current lake

ON-GOING WORK: PROTOTYPING

For each module:

- Develop libraries in Python, following SDS documents
- Include them in the HR simulator → available for ADT/ST to test algorithms and products format relevance

Development schedule:

- ATBD version 1: mid-2018
- SAS Version 1: end-2018