



hydrOweb.next, hydrology datahub

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Foreword

hydrōweb.next is an ambitious project initially dealing with SWOT-HR and hydrology data distribution

Very recently, we also started working on a variant, dedicated to **SWOT-LR and ocean altimetry data distribution**

The first SWOT-LR user interviews confirm that hydrōweb.next will require marginal adaptations to cover ocean altimetry needs.

Contact us to participate @ hydroweb-ng@cnes.fr



hydrOweb.next, an ambitious Project

SWOT data distribution

Centralized access to hydrology data

Virtual Research Environment

Hydrology Data Production and Distribution

User Centered Development

For SWOT CAL/VAL, experts, institutional, private and outreach

Bring your code next to the data and have access to free resources (computing, storage). Over 30 PB of satellite data available on line

Added value products generated and distributed with high standards and globally (Snow cover, water masks, water temperature, water quality, etc.)

25 user interviews, 5 user brainstorming, 10 user tests, demos and feedback ...

Useful, usable, used !

File Edit View Run Kernel Tabs Settings Help

Launcher Load a local file

```

SMOT_PATH = "/work/ALT/swot/swotdev/xxx/riversp"
file_swot_riversp = os.path.join(SMOT_PATH, "nodes.shp")
swot_riversp = gpd.read_file(file_swot_riversp)

```

Create a Vector Layer

```

smot_layer = gpd.GeoDataFrame(
    "Columnlayer",
    swot_riversp,
    get_geometry=True,
    auto_highlight=True,
    get_elevation=True,
    radius=80,
    size=1000000000,
    pickleable=True,
    elevation_range=[50, 1000],
    get_fill_color=[50, 150, 200],
    extruded=True,
    coverage=True
)

```

Create View with both Layers

```

view_state = pdk.ViewState(latitude=41.96, longitude=-0.839, zoom=11, bearing=90, pitch=40)
r = pdk.Deck([terrain_layer, smot_layer], initial_view_state=view_state)
r.to_html("terrain_layer.html")

```

VRE JupyterHub

python DASK R QGIS

https://tu-hyseop2-d05.sis.cnes.fr

SWOT

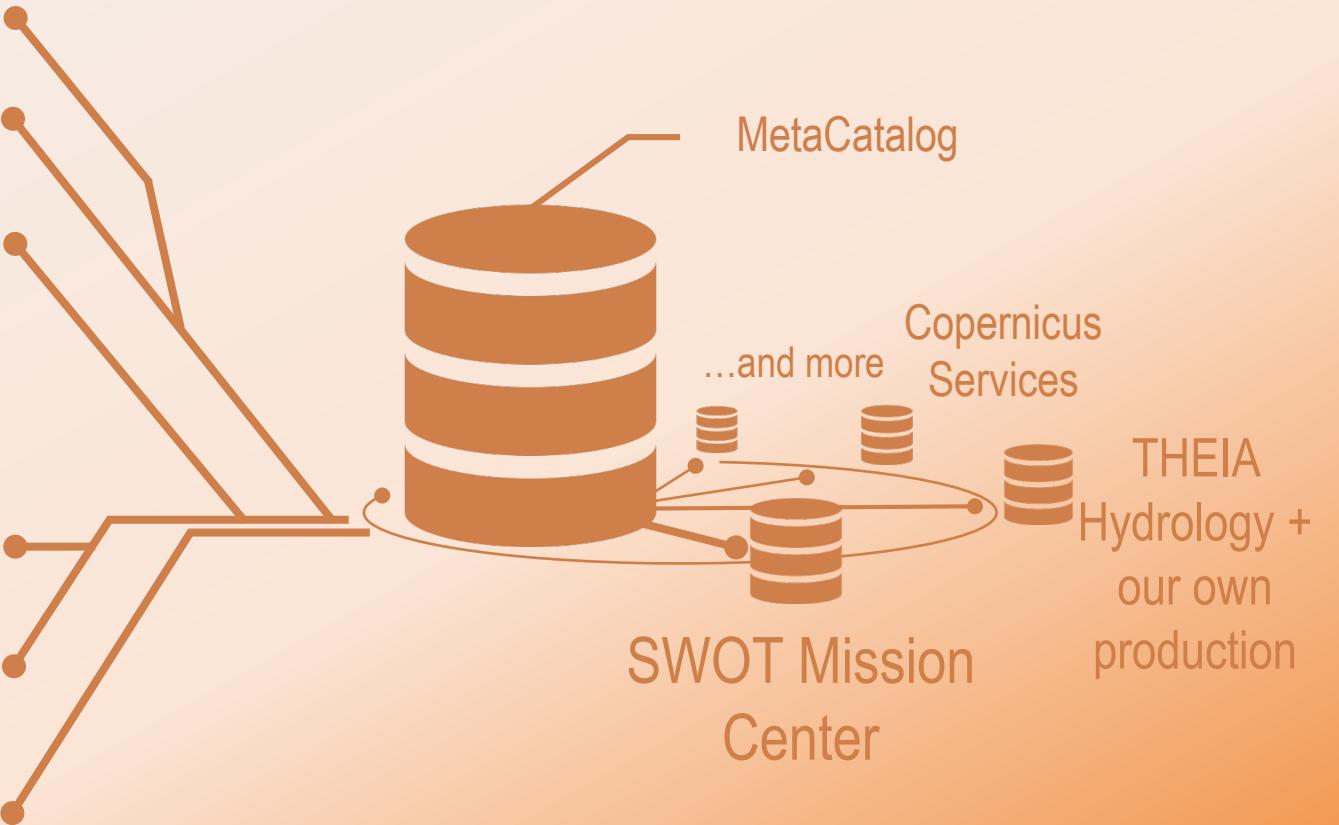
where when what now

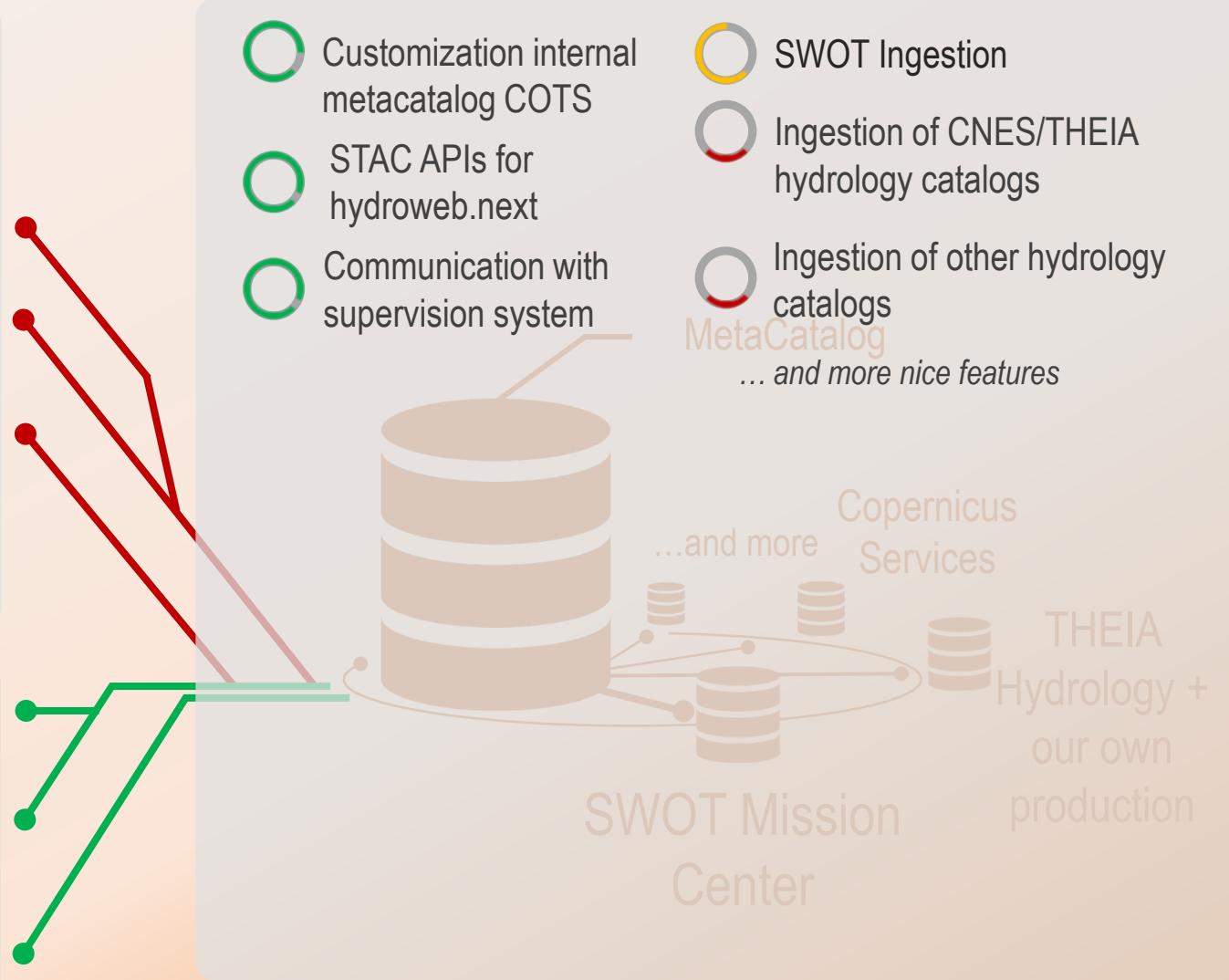
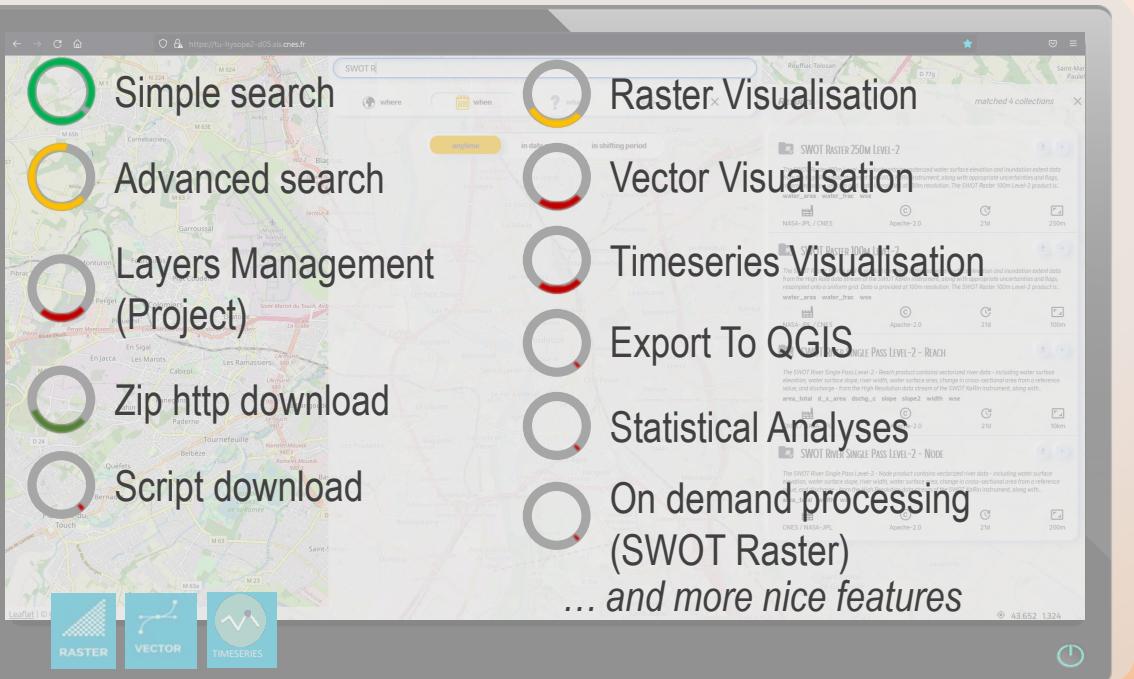
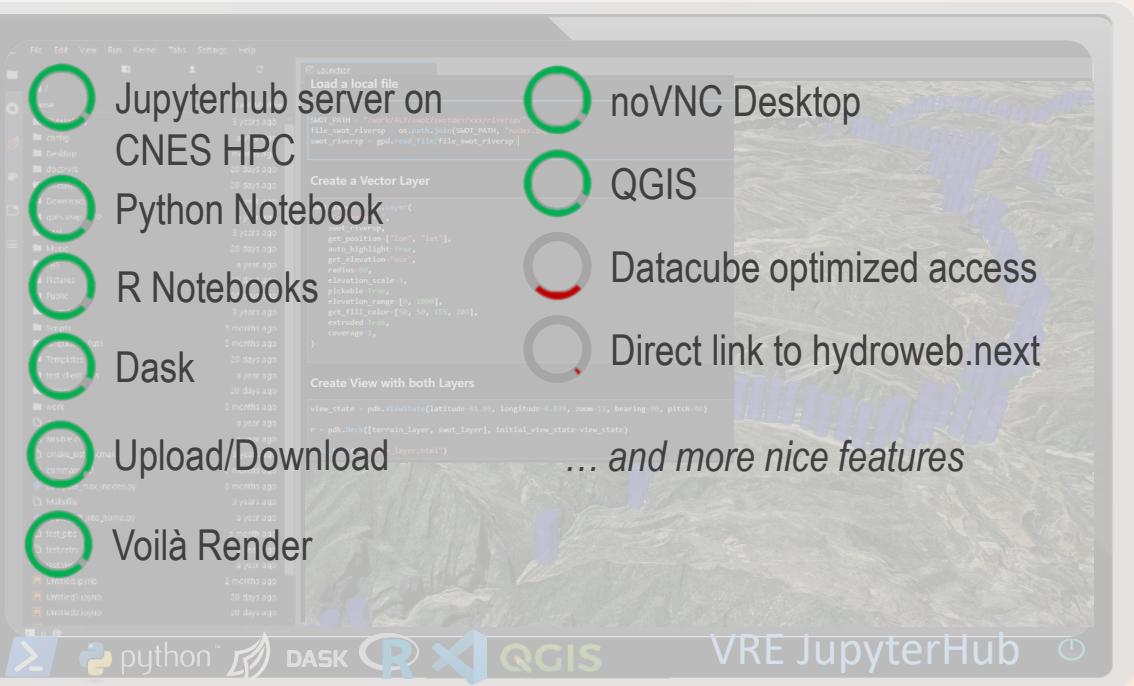
RESULTS matched 4 collections

- SWOT Raster 250m Level-2
- SWOT Raster 100m Level-2
- SWOT River Single Pass Level-2 - Reach
- SWOT River Single Pass Level-2 - Node

RASTER VECTOR TIMESERIES

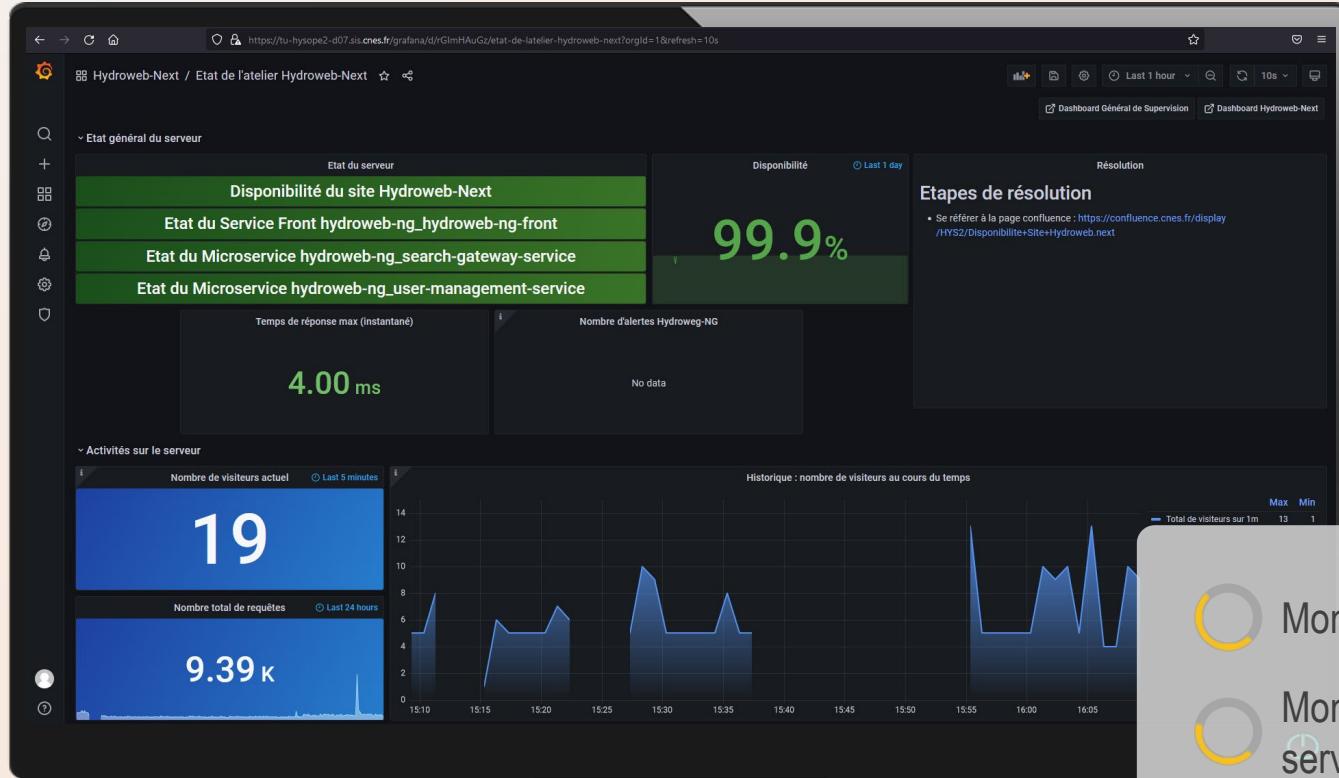
hydrweb.next



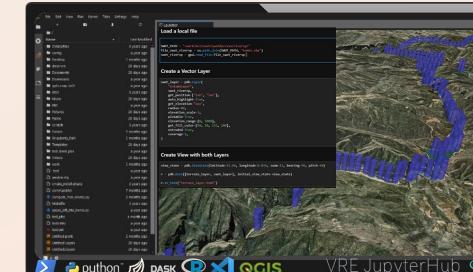


* snapshots of the virtual research environment (jupyterhub) & hydroweb.next





Supervision



- Monitor system health
- Monitor metacatalog services
- Monitor hydroweb.next services (*download, authentication, search, thesaurus...etc*)

- Monitor system Service Level
- Notifications to operator
- Monitor IT infrastructure

... and more nice features





Production

- Through the hydrOweb.next catalog will be available all the hydrology data routinely operated by our Production Baseline
- It runs the algorithms developed in the THEIA CES: initially OBS2CO (Water Quality), LetItSnow (Snow and Ice), SurfWater (Water Surfaces), MAJA, ...



Where are we heading ? Our ambitions





LES UTILISATIONS DE LA TÉLÉDÉTECTION POUR LA QUALITÉ DES EAUX CONTINENTALES ET AUX INTERFACES



hydr@web.next

Merci!



Help us specifying **your** distribution
platform :

hydroweb-ng@cnes.fr



Retrouvez toutes les présentations de l'atelier



**LES UTILISATIONS DE LA TÉLÉDÉTECTION
POUR LA QUALITÉ DES EAUX CONTINENTALES ET AUX INTERFACES**

sur www.theia-land.fr/eaux21

