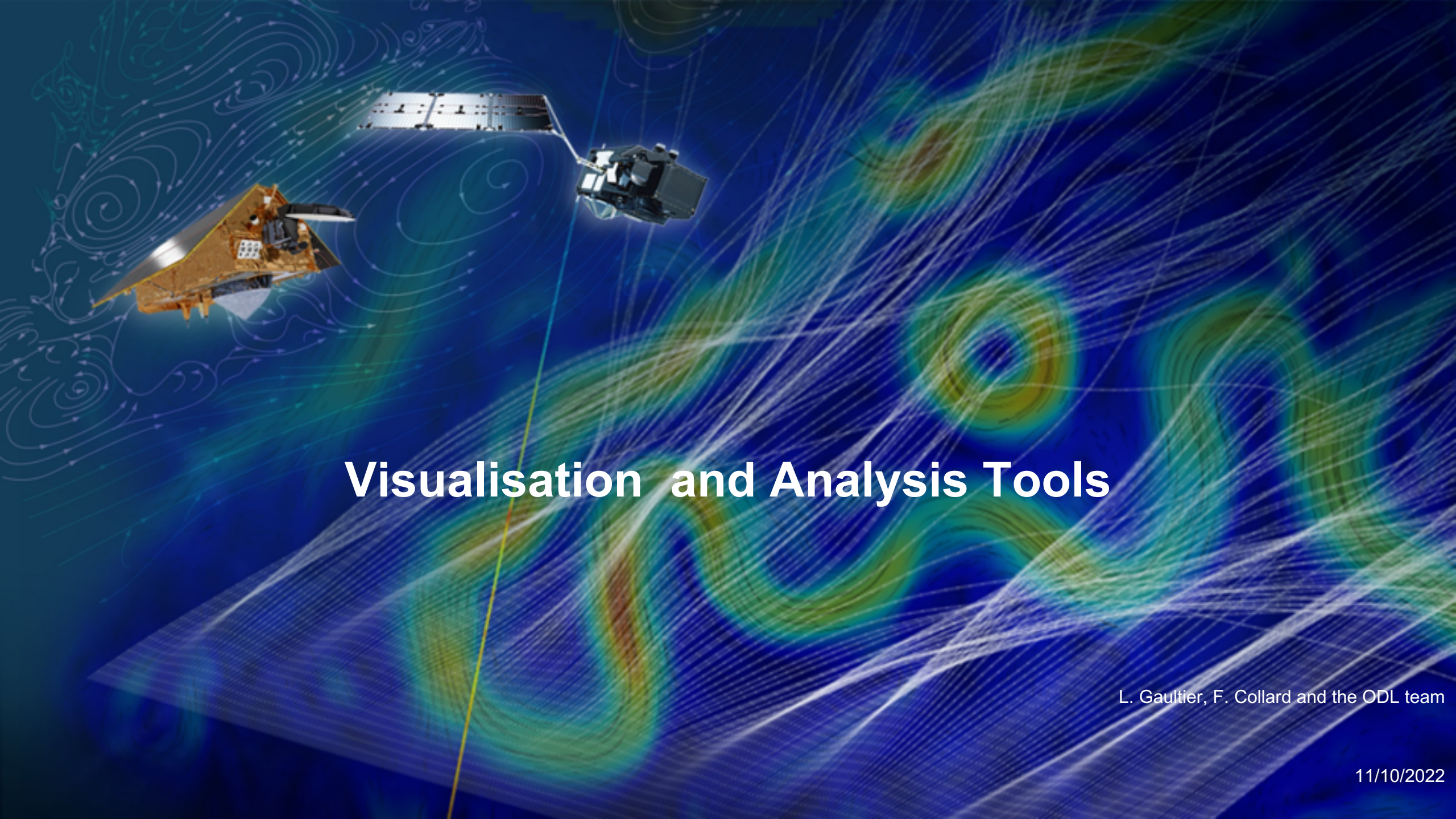

Visualisation and Analysis Tools

L. Gaultier, F. Collard and the ODL team

11/10/2022

Context

To ease browsing and intercomparing data, Visualisation and Analysis tools have been made available within the WOC project:

- SEAScope Stand alone application
- Dedicated WOC Syntool Web portals

Both tools enable you to easily open, visualize, compare and blend data that are collocated in time and space.
Using vectorfields representation and images, it is possible to compare data in term of structures rather than pointwise data.

Support for a wide variety of data, WOC data, Sentinel 1-2-3-6, as well as in-situ observations and model outputs

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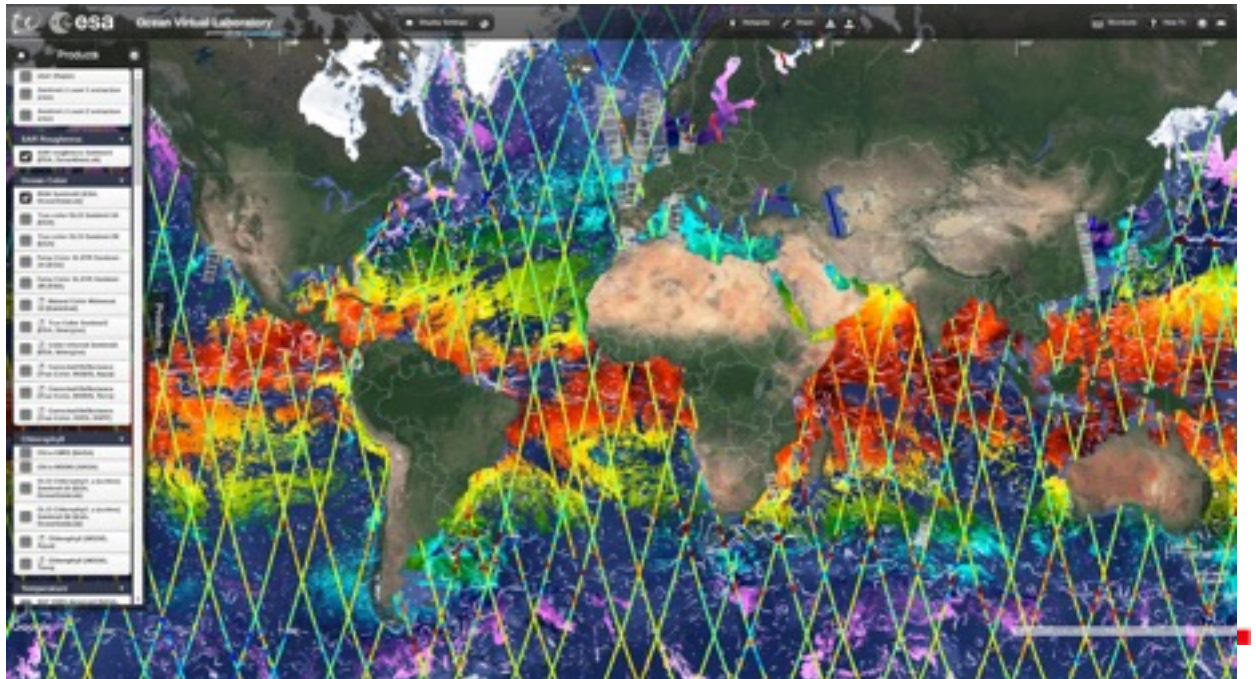
Visualisation tools: general overview

Syntool Web Portals

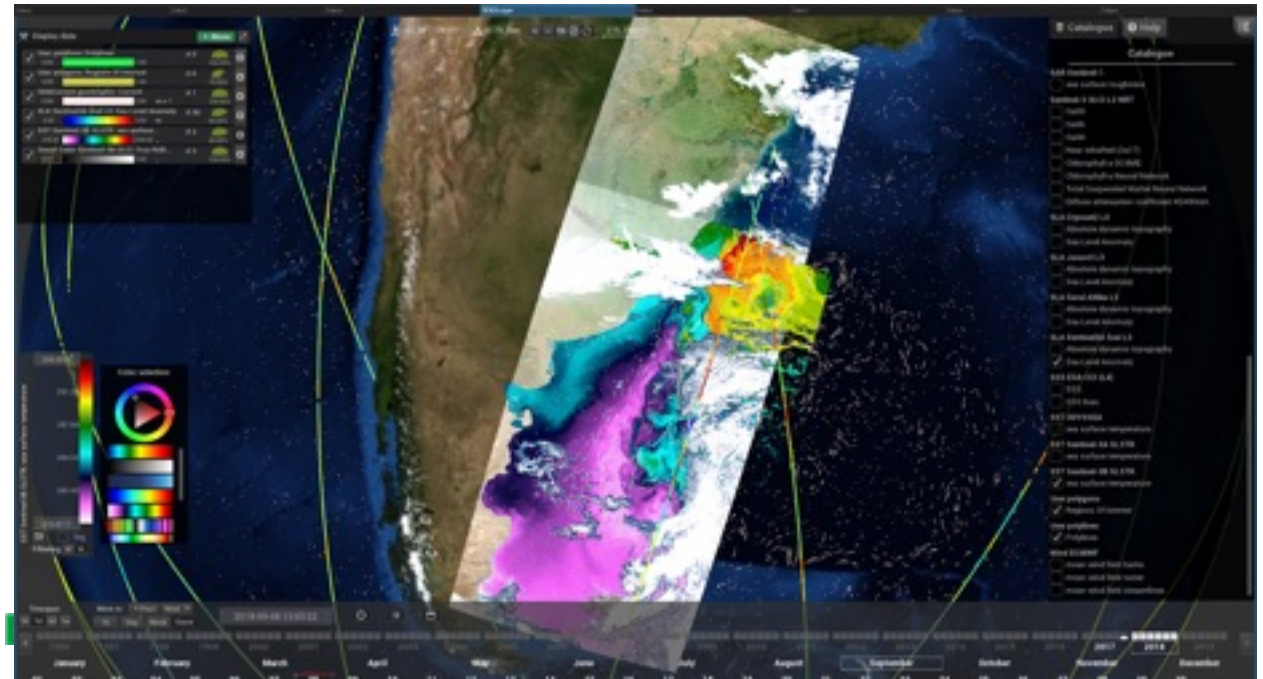
- Data are projected and tiled (preprocessed)
- Drawing capabilities for synoptic chart
- Portals available on any browser: https://woc.oceandatalab.com, https://ovl.oceandatalab.com

more than 200 products available, NRT processing



SEAScope Stand alone application

- Works on Linux, macOS and Windows
- 3D earth, no data projection , dynamical rendering
- Two-ways interaction with Python
- Available on https://seascope.oceandatalab.com



WOC Specific development

Syntool Web Portals

All products from WOC catalogue have been included in the WOC portals

Other relevant products made available

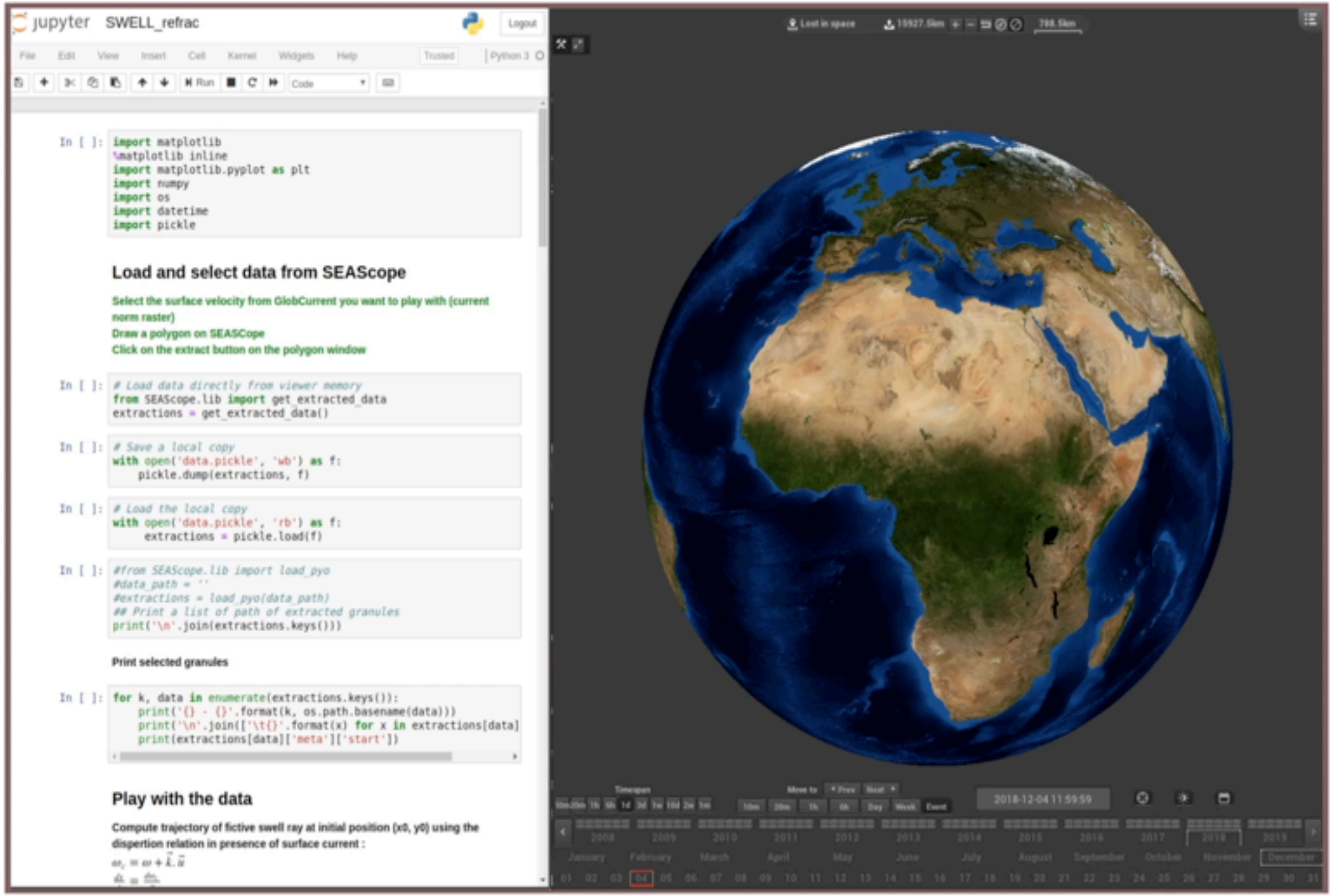
Short link with interesting test cases are being populated

SEAScope Stand alone application

All netCDF regular grid 2D products are compatible with SEAScope

IDF SEAScope format data are available at request for other

Jupyter python notebooks to perform analyses are available at requests


jupyter SWELL_refrac
Logout
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3
Run
Code
In [ ]:
import matplotlib
%matplotlib inline
import matplotlib.pyplot as plt
import numpy
import os
import datetime
import pickle
Load and select data from SEAScope
Select the surface velocity from GlobCurrent you want to play with (current norm raster)
Draw a polygon on SEASCope
Click on the extract button on the polygon window
In [ ]:
# Load data directly from viewer memory
from SEAScope.lib import get_extracted_data
extractions = get_extracted_data()
In [ ]:
Save a local copy
with open('data.pickle', 'wb') as f:
pickle.dump(extractions, f)
In [ ]:
Load the local copy
with open('data.pickle', 'rb') as f:
extractions = pickle.load(f)
In [ ]:
#from SEAScope.lib import load_pyo
#data_path = ''
#extractions = load_pyo(data_path)
Print a list of path of extracted granules
print('\n'.join(extractions.keys()))
Print selected granules
In [ ]:
for k, data in enumerate(extractions.keys()):
print('{} - {}'.format(k, os.path.basename(data)))
print('\n'.join(['\t{}'.format(x) for x in extractions[data]
print(extractions[data]['meta']['start'])
Play with the data
Compute trajectory of fictive swell ray at initial position (x0, y0) using the dispertion relation in presence of surface current :
Lost in space
15927.5km
788.5km
Timespan
Move to
Prev
Next
2018-12-04 11:59:59
Day
Week
Event
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
January
February
March
April
May
June
July
August
September
October
November
December

Syntool Web Portal

One general portal that contains all WOC products and other relevant upper ocean observations and model:

https://woc.oceandatalab.com

Three thematic portals with a focus on the studied region and the corresponding products:

1. https://woc-safe-navigation.oceandatalab.com
2. https://woc-sustainable-fisheries.oceandatalab.com
3. https://woc-clean-ocean.oceandatalab.com

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Illustration

- Theme 1, safe navigation:

Comparison WOC SAR Doppler and WOC BFN: https://odl.bzh/x7fY49FO

- Theme 2, sustainable fisheries:

Comparison with SST SLSTR and Microwave: https://odl.bzh/U8JJO8P
https://odl.bzh/6I5A_Bzd

- Theme 3, clean ocean:

Triggering of a large inertial oscilation: https://odl.bzh/OYIgbTUQ

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Demo today 17h-19h

Visualization tools are available on laptops and can be demonstrated on the big screen

Come at the demo area to have a tour or play with the tools

Today 17h - 19h CET

Tutorials available on our youtube channel:

https://www.youtube.com/channel/UCayVzsP1tMGofMxmxHarM9w

Send us your feedback at contact@oceandatalab.com

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