



H2020 SeaDataCloud Samenwerkingsdag 08/06/2018

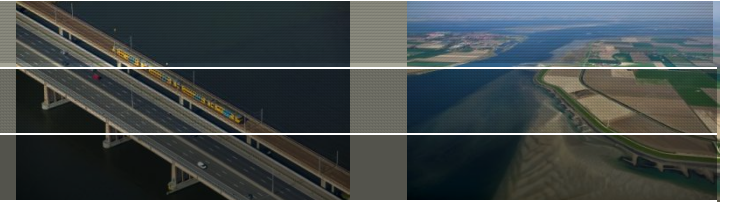
Giorgio Santinelli

30 november 2018

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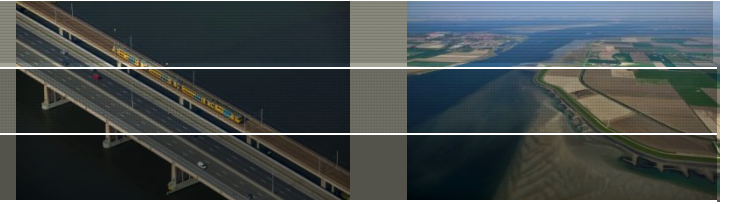
- Aanleiding
- Partners en Doelstelling
- Deltares WP
- VRE, Visualisatie en aansluiting met KPP-BnO kust kustviewer

Aanleiding

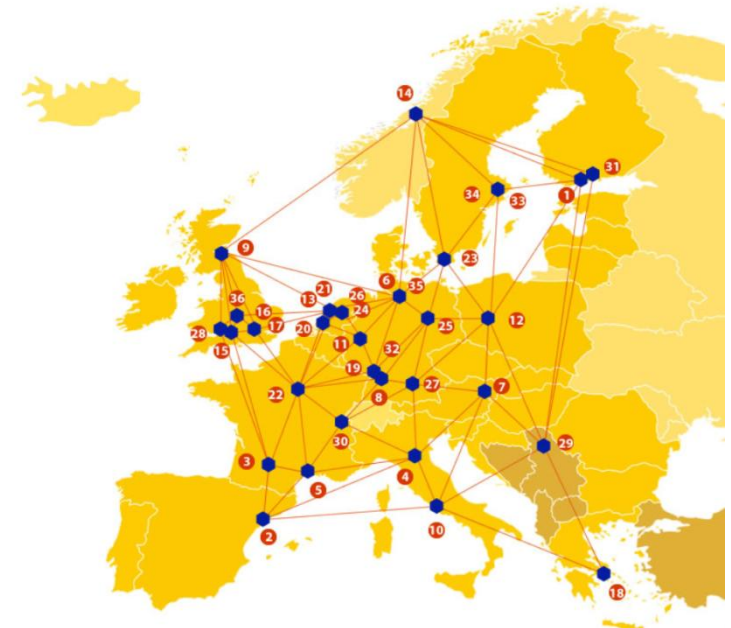


- EU H2020 project (2016-2020)
- Toegang tot mariene data van 100+ Europese data centres
- Fysische, chemisch, biologische data delen dankzij de SeaDataNet Infrastructuur.

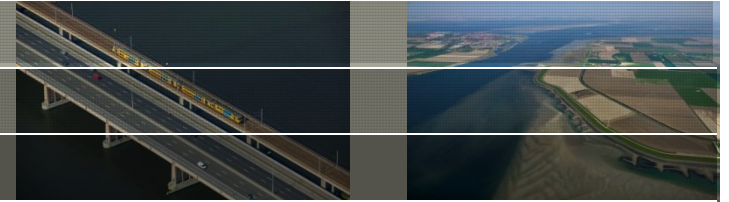
Partners en doelstelling



- 50+ partners
- In NL, MARIS, NIOZ, Deltares
- Samenwerking met EUDAT (35+ partners). In NL SurfSara, DANS, KNMI

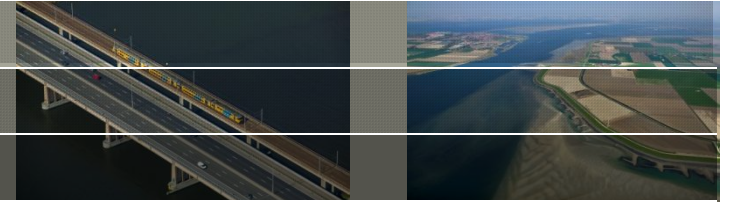


Partners en doelstelling

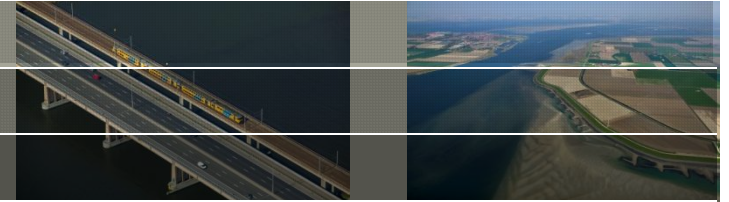


- SeaDataCloud brengt SeaDataNet Services verder, voor ontwikkelaars en data gebruikers. <https://www.seadatanet.org>
 - 1) MetaData (Content Management, Vocabularies, Datasets)
 - 2) Data (Quality check, CommonDataIndex, Data Shopping)
 - 3) Data Replication (Ingestion, Data Products, Catalogue, Services)
- Het geeft toe:
 - Discovery
 - Registration,
 - Access,
 - Downloading,
 - Analytics,
 - Viewing

Hoe? Componenten

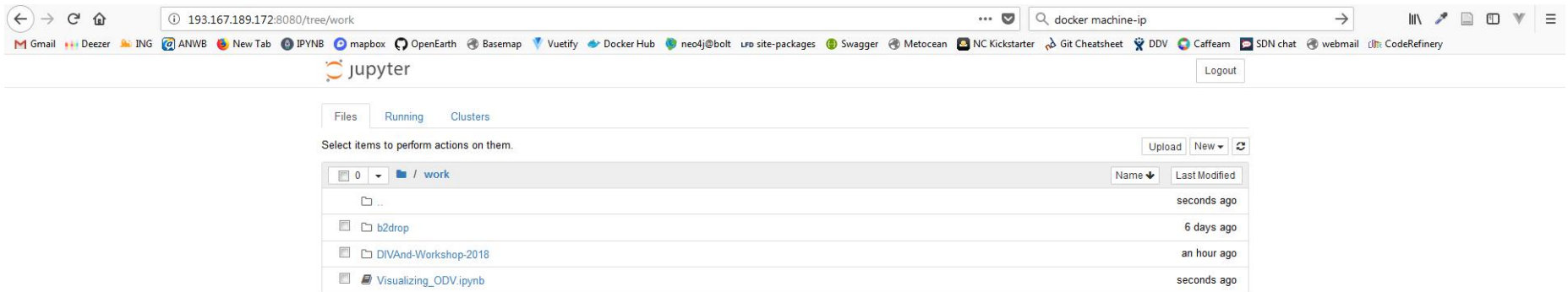


- Virtual Research Environment
- Advanced Services via de VRE:
 - Online Data Analyze
 - Datasets schoon maken
 - Quality checks (Wetenschappelijk + Metadata)
 - Formaat omzetten
 - Publiceren
 - Ingewikkelde Data interpoleren
 - Visualization (o.a. **Deltares**)



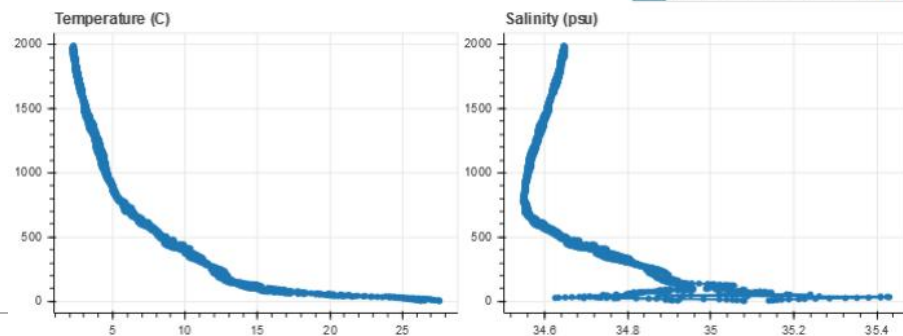
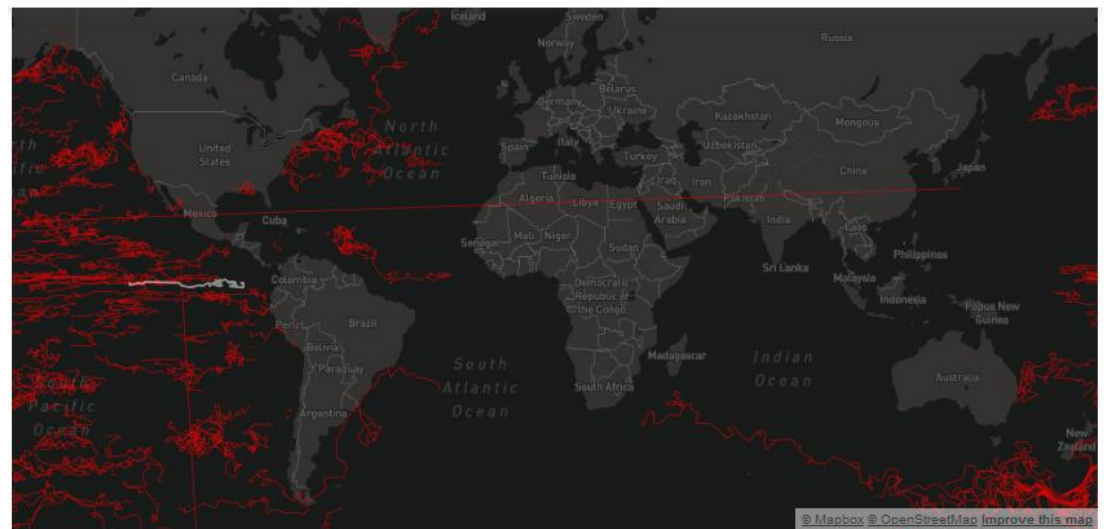
- Aansluiting met Kustviewer:
 - Data Management van verschillende soort van data
 - Data analyse
 - Formaat / Standaards
 - HTML output / Cloud omgeving
 - Interactive visualisatie
- Advanced Visualisation Services
 - Gereedschappen voor Interactive Computing
 - Interactieve visualisatie
 - 3D Mapping

Interactive Computing – Jupyter notebooks



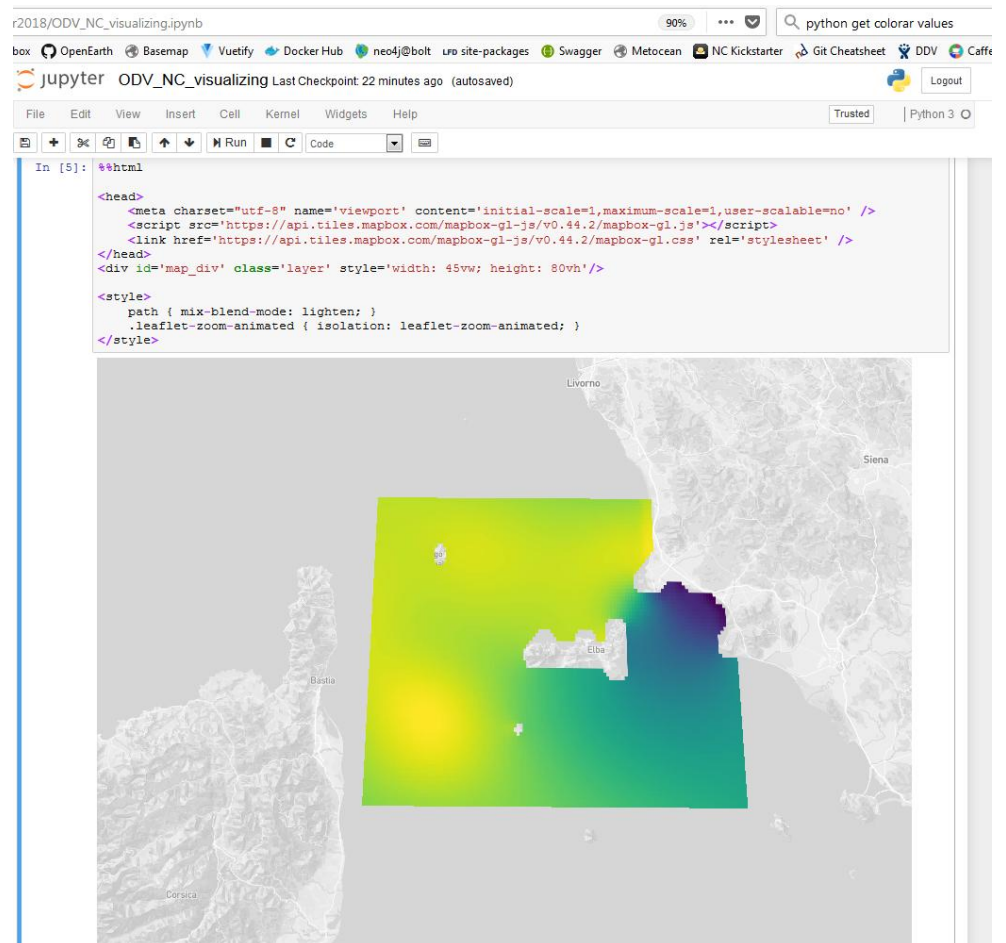
Interactieve visualisatie - Bokeh

Dynamically generated
Interactive
HTML output



Maps - Mapbox

Follow up of the mini use case
Interactive
HTML output

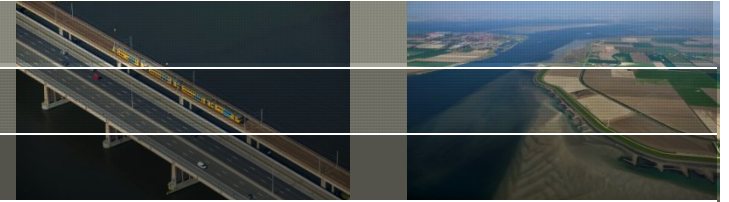


The screenshot shows a Jupyter Notebook interface with the following components:

- Browser tabs:** OpenEarth, Basemap, Vuetify, Docker Hub, neo4j@bolt, lno site-packages, Swagger, Metocean, NC Kickstarter, Git Cheatsheet, DDV, Caffe.
- Page Title:** r2018/ODV_NC_visualizing.ipynb
- Page Info:** 90% zoom, search for 'python get colorar values', Logout button.
- File Menu:** File, Edit, View, Insert, Cell, Kernel, Widgets, Help.
- Code Cell:**

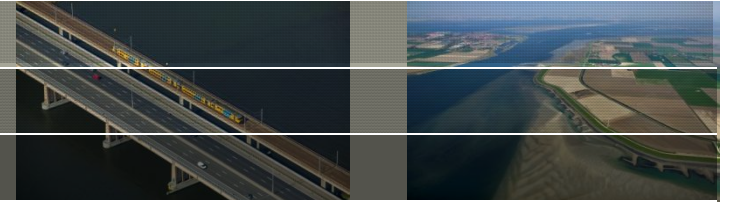
```
In [5]: %%html
<head>
<meta charset="utf-8" name="viewport" content="initial-scale=1,maximum-scale=1,user-scalable=no" />
<script src="https://api.tiles.mapbox.com/mapbox-gl-js/v0.44.2/mapbox-gl.js"></script>
<link href="https://api.tiles.mapbox.com/mapbox-gl-js/v0.44.2/mapbox-gl.css" rel="stylesheet" />
</head>
<div id="map_div" class="layer" style="width: 45vw; height: 80vh"/>
<style>
path { mix-blend-mode: lighten; }
.leaflet-zoom-animatd { isolation: leaflet-zoom-animatd; }
</style>
```
- Map Visualization:** A map of the Tyrrhenian Sea region in Italy, showing a heatmap overlay. The heatmap uses a color scale from yellow (low values) to dark purple (high values). Labels on the map include Livorno, Siena, Elba, Bastia, and Corsica.

Conclusie



- Deltares werkt samen met andere partijen om een VRE op te bouwen.
- Deltares krijgt ervaring door het werken op Advanced Visualization services on the Cloud voor gebruikers en ontwikkelaars.
- De ervaring kan overgedraagd worden aan de BnO-kust Kustviewer project.

Voortgang...



INHOUD

- Mini-Use cases voor biologische / chemische data afmaken
- Op Mini-Processes werken, zoals mini APIs die kleine taken kunnen voltrekken.
- Visualisatie service verder ontwikkelen.

PROCES

- Parallel met de andere Instituten de Virtual Research Environment ontwikkelen, en APIs genereren
- Samenwerking (remote en live) is “a must!”

Vragen?!

