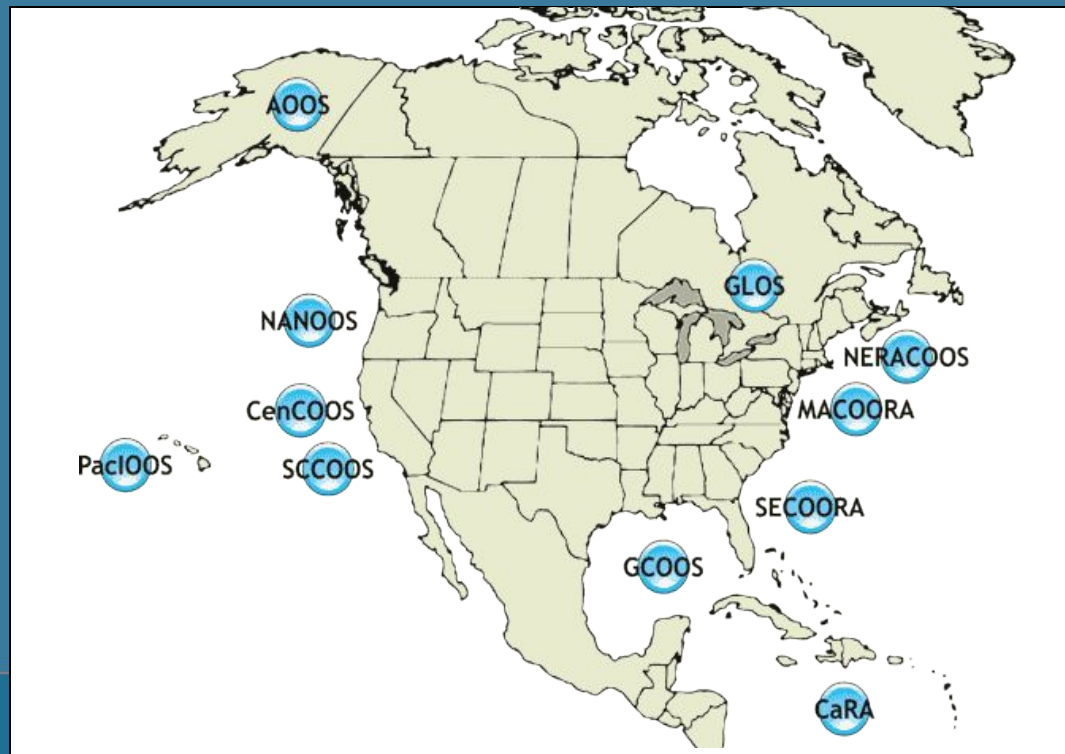


US Integrated Ocean Observing System (IOOS[®])

IOOS[®] Plan defines:

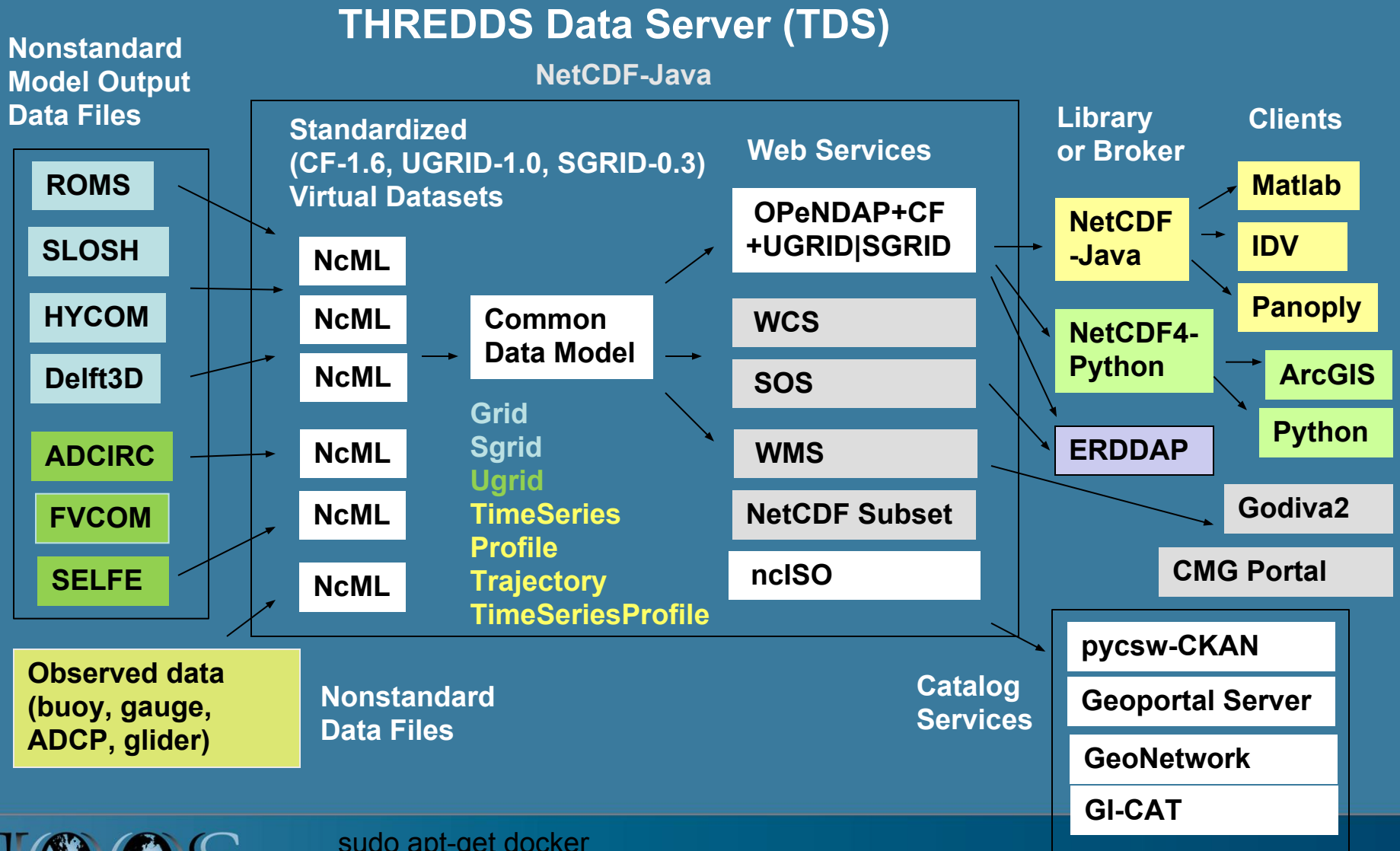
- Global Component
- Coastal Component
 - 17 Federal Agencies
 - 11 Regional Associations



IOOS Recommended Web Services and Data Encodings

Data Type	Web Service	Encoding
In-situ data (buoys, piers, towed sensors)	OGC Sensor Observation Service (SOS)	XML or CSV
Gridded data (model outputs, satellite)	OPeNDAP with Climate and Forecast Conventions	Binary DAP using Climate and Forecast (CF) conventions
Images of data	OGC Web Map Service (WMS)	GeoTIFF, PNG etc. -possibly with standardized styles

IOOS Model Data Interoperability Design



```
sudo apt-get docker
docker run -d unidata/thredds-docker
```

IOOS Catalog

The screenshot shows the IOOS Catalog website interface. At the top, there is a navigation bar with the IOOS logo (Integrated Ocean Observing System) on the left and 'Log in' and 'Register' buttons on the right. Below the navigation bar, there are tabs for 'Datasets', 'Organizations', 'Feedback', and 'About', along with a search box. The main content area is titled 'Datasets' and features a 'Filter by location' section with a world map and a 'Clear' button. To the right of the map is a search box for datasets. Below the search box, it displays '6,722 datasets found' and an 'Order by: Relevance' dropdown menu. The first dataset listed is 'Physical oceanographic data in the Gulf of Alaska/Sheликof Strait, September 2001', with a description of the Fisheries-Oceanography Coordinated Investigations (FOCI) effort. Below the description are links for 'OPeNDAP', 'WCS', 'SOS', and 'HTML'. The second dataset is 'AOOS/Models/SNAP/SNAP Climate Projections AR5, RCP 8.5', with a note that it has no description and links for 'OPeNDAP', 'WCS', 'WMS', and 'HTML'. The third dataset is '2MF05 SeaCAT Data', with a description of an ichthyoplankton survey and links for 'OPeNDAP', 'WCS', 'SOS', and 'HTML'. On the left side, there is a list of organizations and their dataset counts: NOAA CO-OPS (1199), NOAA NDBC (925), PacIOOS (806), GLOS (685), SECOORA (556), Glider DAC (485), and MARACOOS (476). The bottom of the page features the IOOS logo and a page number '5'.

Secure | <https://data.ioos.us/dataset> Log in Register

IOOS Integrated Ocean Observing System Datasets Organizations Feedback About

Filter by location [Clear](#)

Search datasets...

6,722 datasets found Order by: Relevance

Physical oceanographic data in the Gulf of Alaska/Sheликof Strait, September 2001
Fisheries-Oceanography Coordinated Investigations (FOCI) is an effort by NOAA and associated academic scientists. At present, FOCI consists of a Shelikof Strait (western Gulf...
[OPeNDAP](#) [WCS](#) [SOS](#) [HTML](#)

AOOS/Models/SNAP/SNAP Climate Projections AR5, RCP 8.5
This dataset has no description
[OPeNDAP](#) [WCS](#) [WMS](#) [HTML](#)

2MF05 SeaCAT Data
We will conduct an ichthyoplankton survey in the waters contiguous to Kodiak Island, Alaska. This work is needed to describe larval fish assemblages on the shelf and slope in...
[OPeNDAP](#) [WCS](#) [SOS](#) [HTML](#)

Organizations

- NOAA CO-OPS (1199)
- NOAA NDBC (925)
- PacIOOS (806)
- GLOS (685)
- SECOORA (556)
- Glider DAC (485)
- MARACOOS (476)

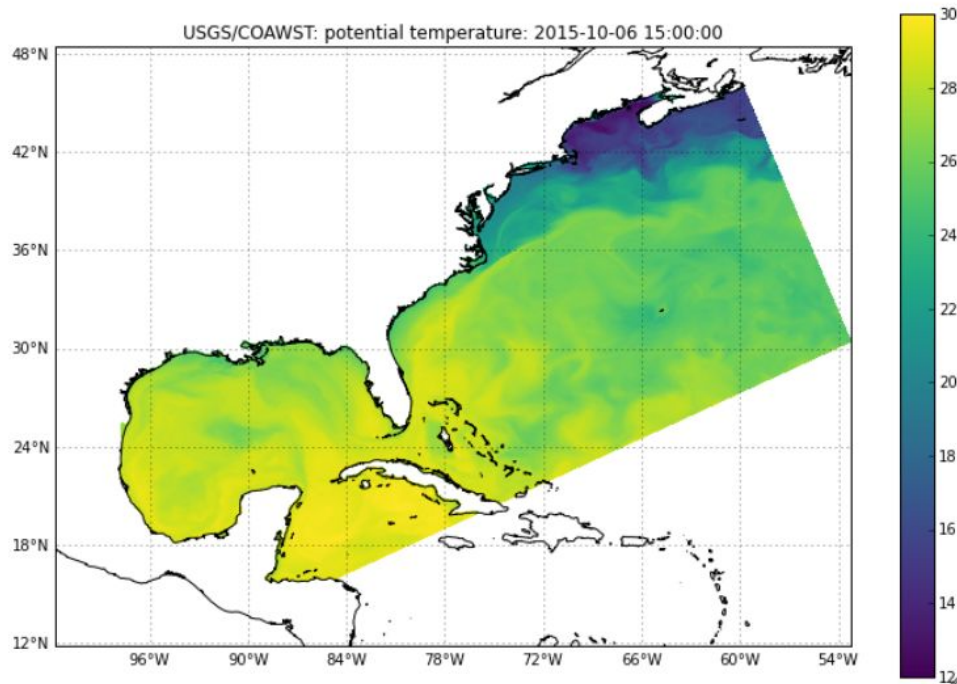
Map data © OpenStreetMap contributors
Tiles by Stamen Design (CC BY 3.0)

IOOS 5

Interoperable Access in Python (Iris)

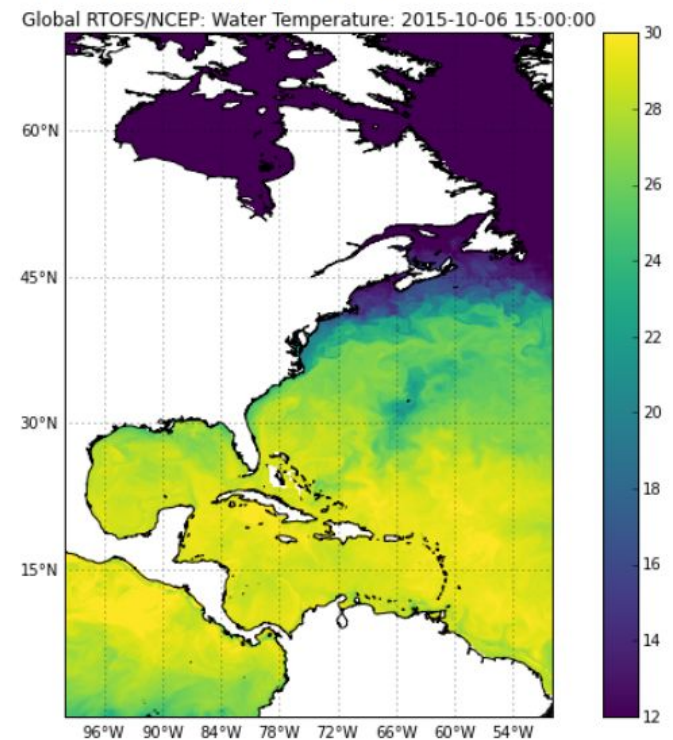
```
[13]: model = 'USGS/COAWST'  
url = 'http://geoport.whoi.edu/thredds/dodsC/coawst_4/use/fmrc/coawst_4_use_best.ncd'  
var = 'sea_water_potential_temperature'  
lev = -1  
icube = var_lev_date(url=url, var=var, mytime=mytime, lev=lev, subsample=1)  
map_plot(icube, model=model)
```

slice retrieved in 9.351569 seconds

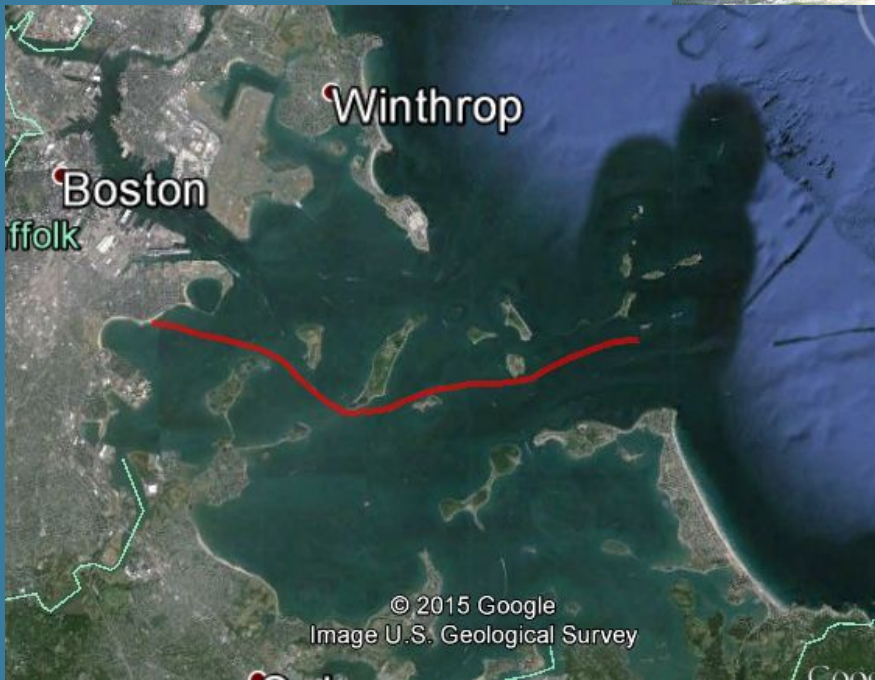
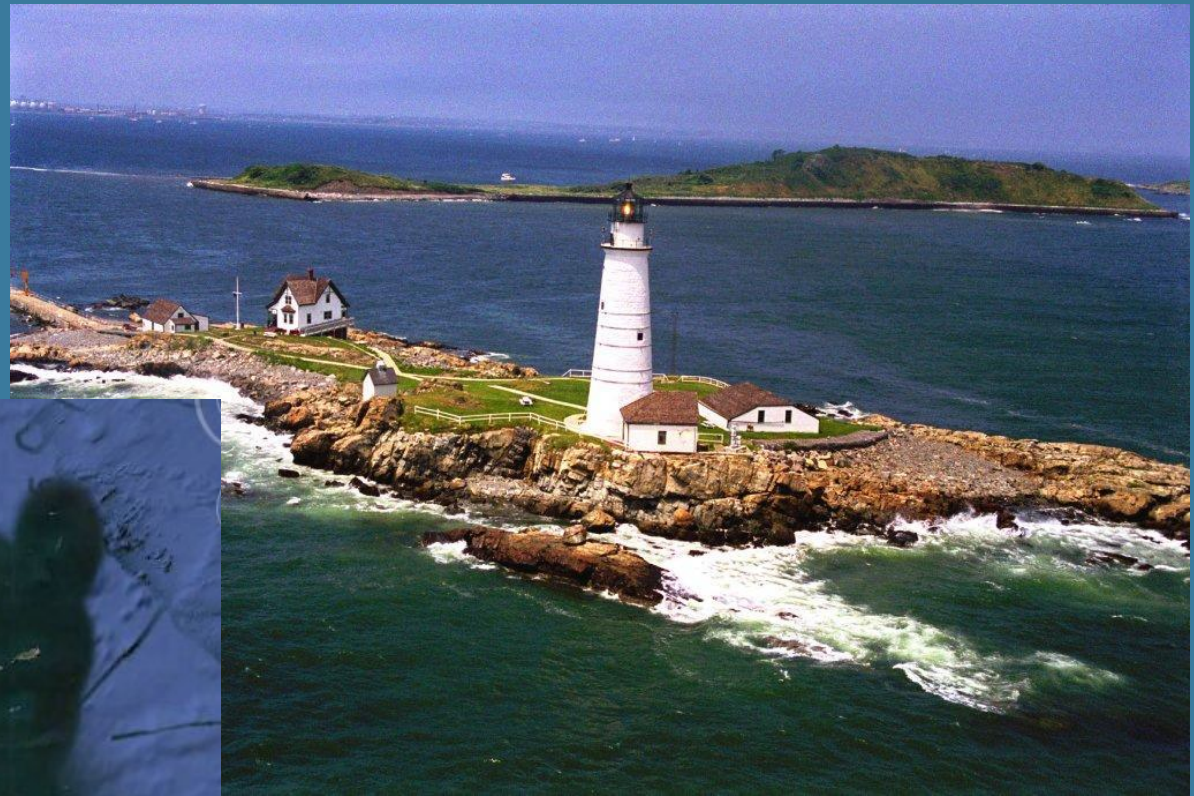


```
In [30]: model='Global RTOFS/NCEP'  
url='http://ecowatch.ncddc.noaa.gov/thredds/dodsC/hycom'  
var='sea_water_temperature'  
lev=1  
icube = var_lev_date(url=url, var=var, mytime=mytime, lev=lev, subsample=1)  
map_plot(icube, model=model)
```

slice retrieved in 2.475246 seconds



Boston Light Swim



8 mile swim
No wet suit
How cold will the water be?


Boston Light Swim Paper

www.mdpi.com/2077-1312/4/4/68

Menu Search MDPI — JMSE

Volume 4, Issue 4

Views 1838 Downloads 317

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- Full-Text Epub
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
More by Authors

- on DOAJ
- on Google Scholar

J. Mar. Sci. Eng. **2016**, *4*(4), 68; doi:10.3390/jmse4040068

[Open Access](#) [Feature Paper](#) [Article](#)

Dynamic Reusable Workflows for Ocean Science

Richard P. Signell ^{1,*} , Filipe Fernandes ²  and Kyle Wilcox ³ 




- U.S. Geological Survey, Woods Hole, MA 02543, USA
- Southeast Coastal Ocean Observing Regional Association, Charleston, SC 29422, USA
- Axiom Data Science, Wickford, RI 02852, USA

* Author to whom correspondence should be addressed.

Academic Editor: Dong-Sheng Jeng

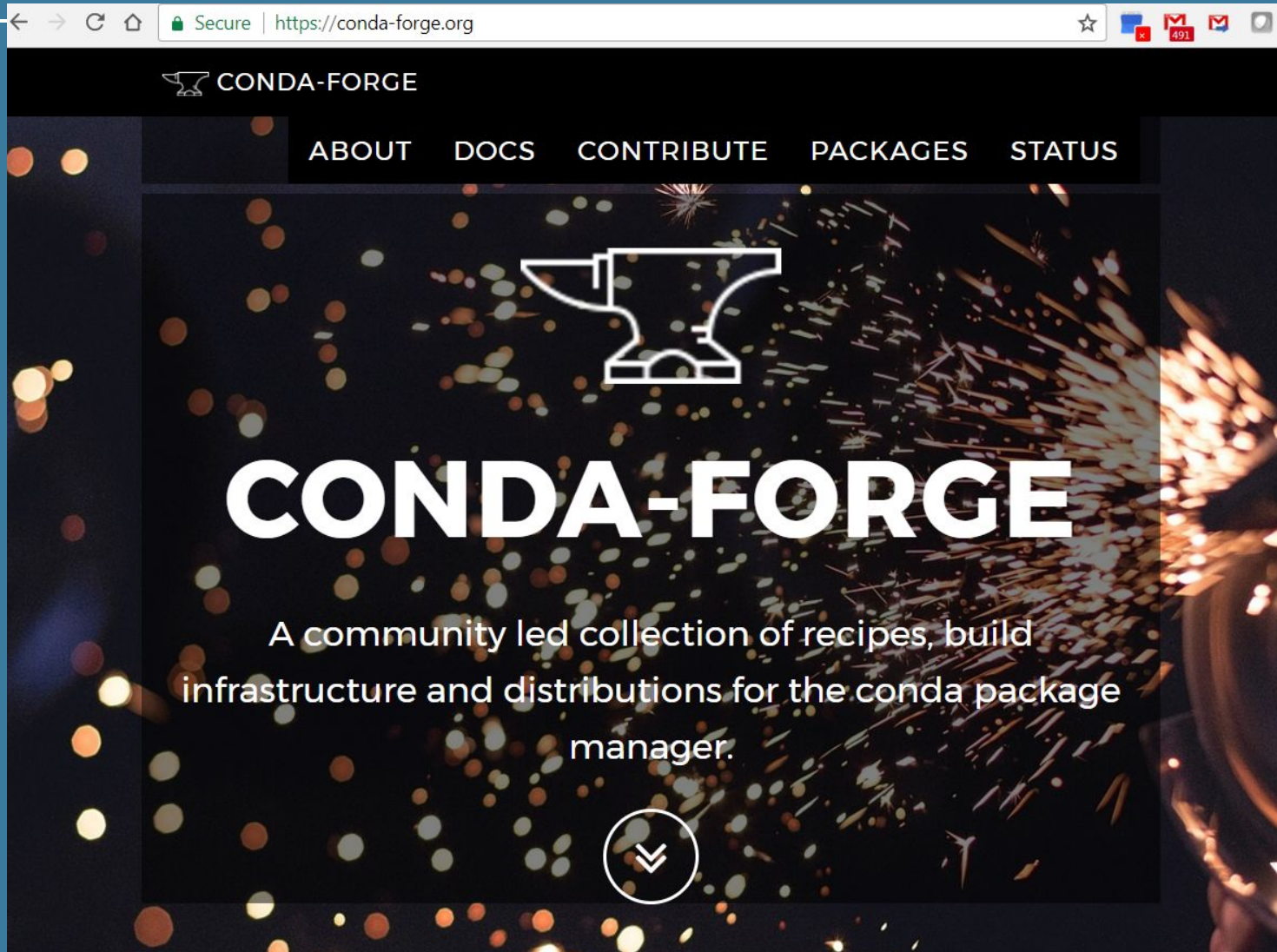
Received: 8 September 2016 / Revised: 18 October 2016 / Accepted: 19 October 2016 / Published: 25 October 2016

(This article belongs to the Special Issue Selected Papers from the 14th Estuarine and Coastal Modeling Conference)

 View Full-Text |  Download PDF [12639 KB, uploaded 25 October 2016]
|  Browse Figures

Demo

Conda-Forge is Awesome




The image shows a screenshot of the Conda-Forge website homepage. The browser's address bar at the top displays "Secure | https://conda-forge.org". The website header features the Conda-Forge logo (an anvil) and the text "CONDA-FORGE". Below the header is a navigation menu with the following items: "ABOUT", "DOCS", "CONTRIBUTE", "PACKAGES", and "STATUS". The main content area has a dark background with a bokeh effect of light spots and a central white outline of an anvil. Below the anvil, the text "CONDA-FORGE" is written in large, bold, white capital letters. Underneath this, a subtitle reads: "A community led collection of recipes, build infrastructure and distributions for the conda package manager." At the bottom center of the main content area, there is a white circular button containing a downward-pointing chevron symbol.

2900+ packages and growing!

The screenshot shows the Anaconda Cloud interface for the Conda Forge organization. The browser address bar displays "Secure | https://anaconda.org/conda-forge". The Anaconda Cloud logo is at the top left. The main content is divided into two columns. The left column, titled "Profile", shows the organization name "conda-forge", its logo (an anvil), and the text "Organization created on Apr 11, 2015". Below this is a partially visible URL "https://conda-forge.githu...". The right column, titled "Packages", features a "View all (2902)" link highlighted with a red box. Below the link is a scrollable list of packages with their names and upload times: "protobuf" (3 minutes and a few seconds ago), "fenics" (1 hour and 31 minutes ago), "ioos_tools" (2 hours and 47 minutes ago), "cxxopts" (3 hours and 42 minutes ago), "pycosat" (3 hours and 53 minutes ago), "xproperty" (6 hours and 28 minutes ago), and "cloudpickle" (8 hours and 1 minute ago). A scrollbar is visible on the right side of the package list.

Profile

conda-forge










Organization created on Apr 11, 2015

<https://conda-forge.githu...>

?

Packages

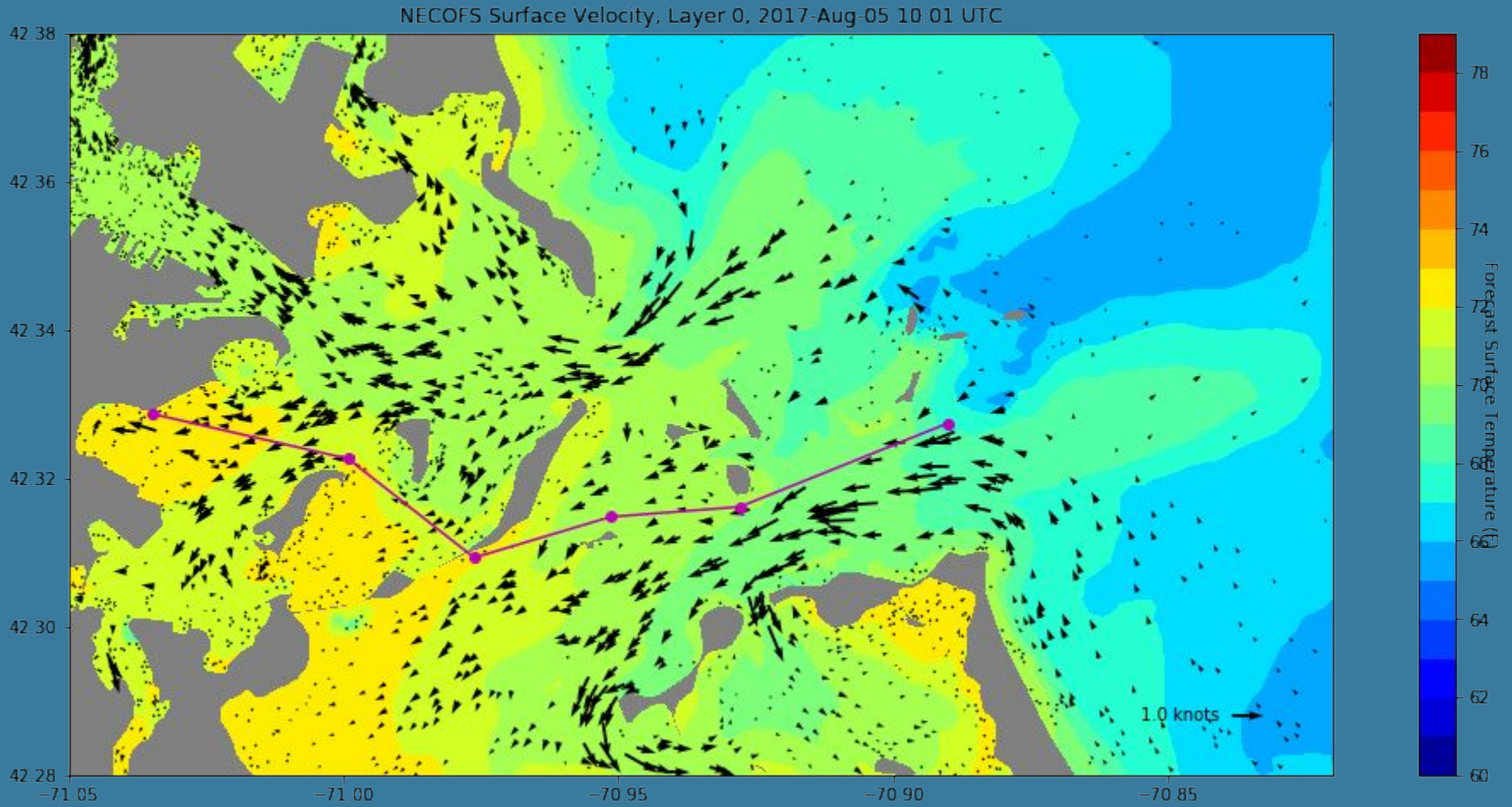
[View all \(2902\)](#)

-  **protobuf** 3 minutes and a few seconds ago
-  **fenics** 1 hour and 31 minutes ago
-  **ioos_tools** 2 hours and 47 minutes ago
-  **cxxopts** 3 hours and 42 minutes ago
-  **pycosat** 3 hours and 53 minutes ago
-  **xproperty** 6 hours and 28 minutes ago
-  **cloudpickle** 8 hours and 1 minute ago

Summary

- **Standardized framework makes skill assessment easy and powerful**
- **Services are now easy to install and maintain**
- **Skill assessment notebooks are reproducible by others (for free)**
- **More assessment leads to more appropriate use of modeling products**
- **More assessment of models leads to better models**

Demo



Boston Light Swim Notebook

https://hub.binder-beta.omgwtf.in/user/d27da825-6e1e-4101-9b3d-04d406a807f8/notebooks/notebooks/

jupyter 2016-12-22-boston_light_swim Last Checkpoint: 22 minutes ago (autosaved)

Control Panel Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python [default]

```
for station in dfs:
    sta_name = all_obs[station]
    df = dfs[station]
    if df.empty:
        continue
    p = make_plot(df, station)
    maker = make_marker(p, station)
    maker.add_to(m)
```

m

Out[24]:

44013

Name: global
Bias: -0.53
Skill: 0.65

- G1_SST_GLOBAL
- NECOFS_MassBay
- NECOFS_GOM3
- Observations
- SECOORA_NCSU_CNAPS
- COAWST_4
- dhw_5km
- HYCOM

7