

USER INTERFACE TESTS PROJECT DOCUMENTATION

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The objective of the project is to simulate a typical user interaction with the Ocean Navigator website. The results from these tests are defined by the presence of profile plots with a defined time frame. The tests are conducted on a Virtual Machine with a defined screen resolution and the test Scripts are written in the Python programming language. The results from these tests are made available in a log file and an Ocean Navigator slack channel.

Topics

1. Installation Instruction
2. Running the test interface
3. Expected results
4. Demo

Installation Instruction

1. Virtual Machine

Users need to [download](#) the Oracle VM VirtualBox. Users can download the box for different operating systems.

Setup

- a. There is an image of my virtual machine in an ova file format available on request. The ova file contains all the settings and python environments needed to run the test interface. The ova file will have to be imported into the Oracle VM VirtualBox downloaded to launch the file. Users can reach out to Samuel Babalola (Samuel.Babalola@dfo-mpo.gc.ca) or Dwayne Hart (Dwayne.Hart@dfo-mpo.gc.ca) to access this file.
- b. Users can also set up the Ubuntu virtual machine themselves. It is important to set the screen resolution to 1920 x 912.

2. Install Python and clone the Ocean Navigator repository

Users can [download](#) and install Python (if not already installed) and clone the Navigator repository to access the codes.

Install Git: `sudo apt install git-all`

Clone the Navigator repository: `git clone`

`https://github.com/DFO-Ocean-Navigator/Ocean-Data-Map-Project.git`
`navigator`

Install Python libraries:

Install python libraries for the UI tests.

- `pip install pyautogui`
- `pip install opencv-python`
- `pip install pyyaml`
- `pip install slack`
- `pip install slackclient`

Alternatively: A bash script is provided that will install miniconda, setup users' python environments, and install all required libraries for the user interface tests.

File : `install_pyenv.sh`

```
export MINICONDA_PATH= /$USER/miniconda
./install_pyenv.sh $MINICONDA_PATH
export PATH=$MINICONDA_PATH/bin:$PATH
pip install -e .
```

Running the test interface

Navigate to the **frontend_tests** directory: `cd $HOME/navigator/tests/frontend_tests`

Run Options:

1. Run all interface tests.
2. Run user-specified index test.

- Run all interface test:

```
$ python test_interface.py All
```

Progression: Navigate to the Ocean Navigator Webpage □ Checks for Temperature bar □
Point Index test □ Line Index test □ Area Index test □ Log results to configuration file
□ Update UI_tests slack channel.

- Run specific index test: Example

```
$ python test_interface.py Point_Index
```

Progression: Navigate to the Ocean Navigator Webpage □ Point Index test □ Log results to
configuration file □ Update UI_tests slack channel.

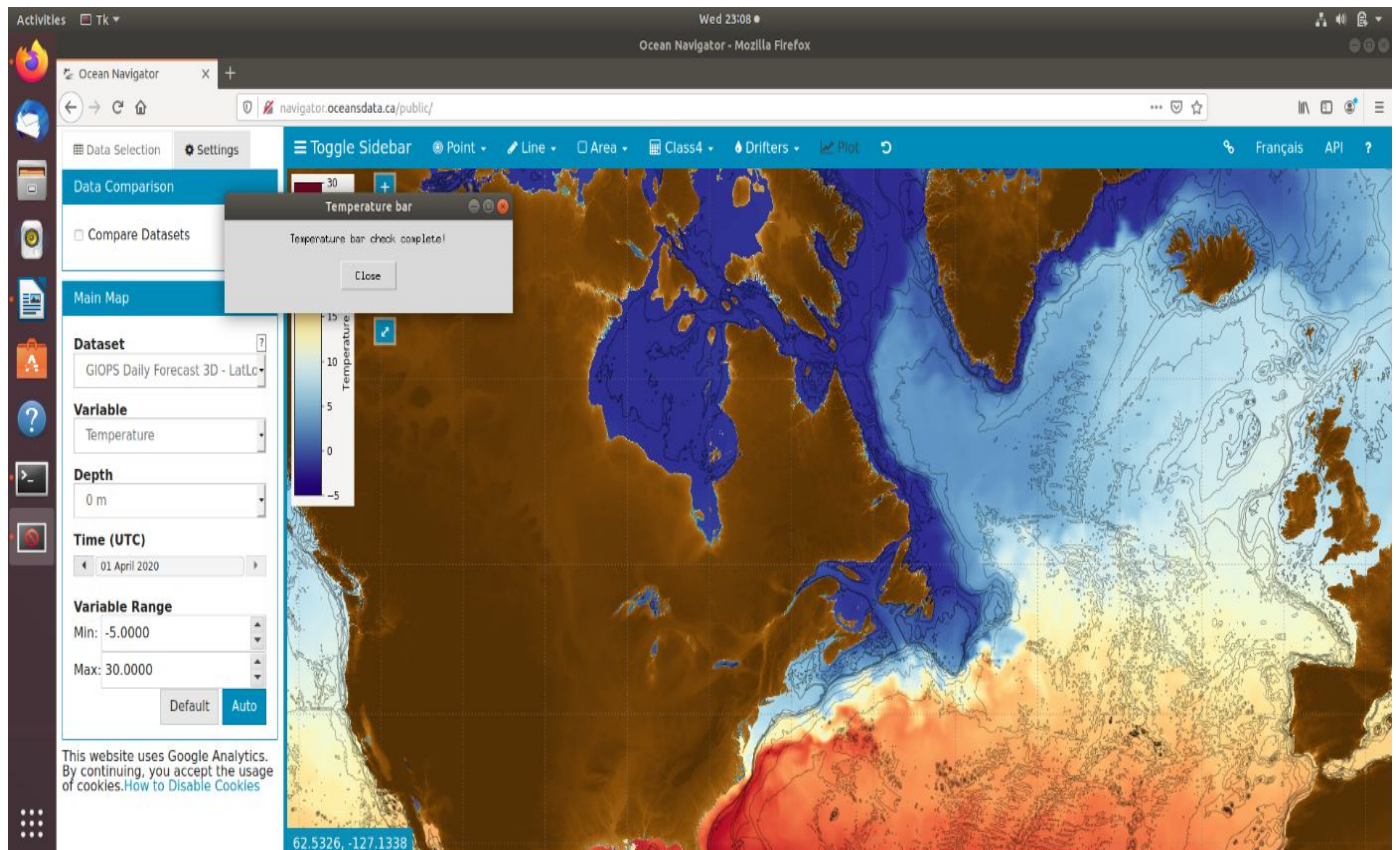
Note: Users need additional authentication to log results to the slack channel you can reach out to the system administrator (Dwayne.Hart@dfo-mpo.gc.ca) or any of the developers for the token required for the slack bot.

Expected results

All user interface tests will be performed on the most recent GLOPS Daily Forecast 3D - LatLon dataset. The date will be the day of the test or the previous day if the dataset is not available for the test date.

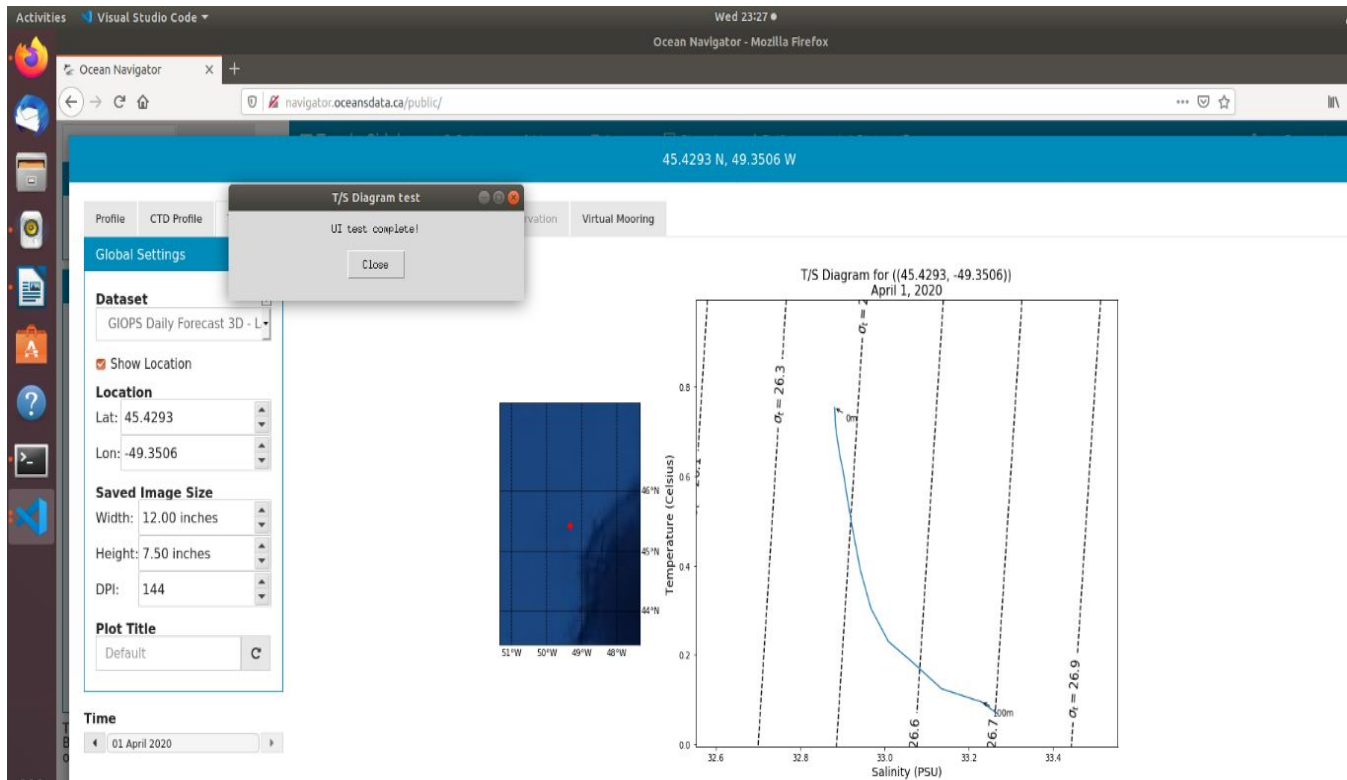
Tests

1. Temperature bar test : A simple screen check for the temperature color bar on the top left of the ocean navigator webpage.



2. Point Index test: This checks for plots from the profiles rendered under 15 seconds

- Profile
- CTD Profile
- T/S Diagram
- Sound Speed Profile
- Virtual Mooring



3. Line Index test:

- Transect
- Hovmoller Diagram

4. Area Index test

- Map plot
- Statistics (Not tested)

Demo

There is a video of the full tests. It is in mp4 format so VLC media player is the best option. I'm not quite sure of where to save the video for easy accessibility. (Github is an option)