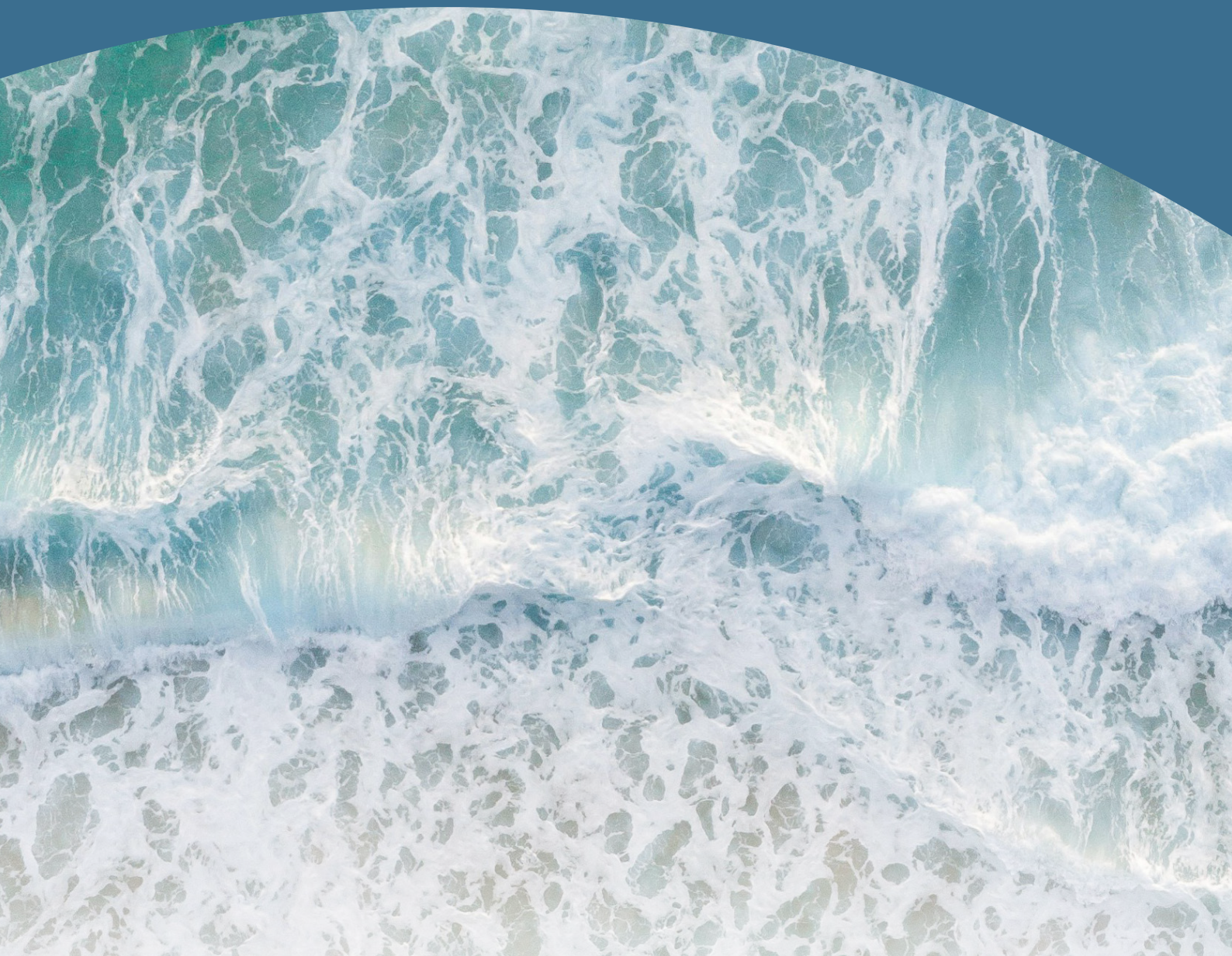
OCEAN
INFORMATION
RESOURCES

IMOS
Integrated **Marine**
Observing System



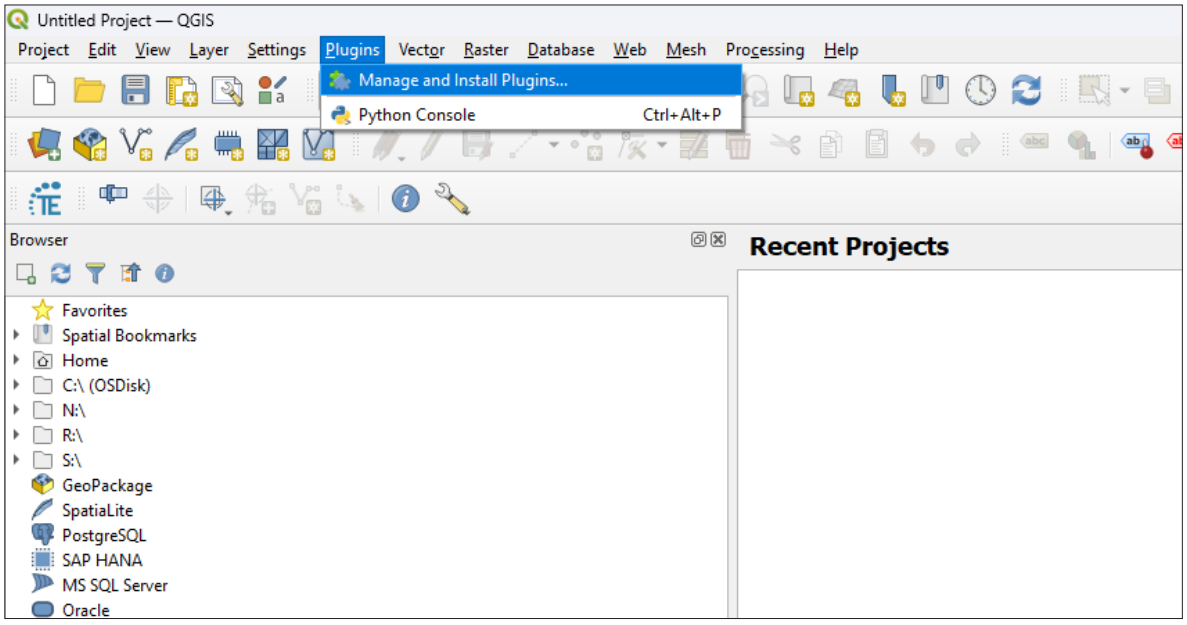
ACCESSING IMOS AUSTRALIAN OCEAN DATA NETWORK SEA SURFACE TEMPERATURE AND VELOCITY DATA USING QGIS

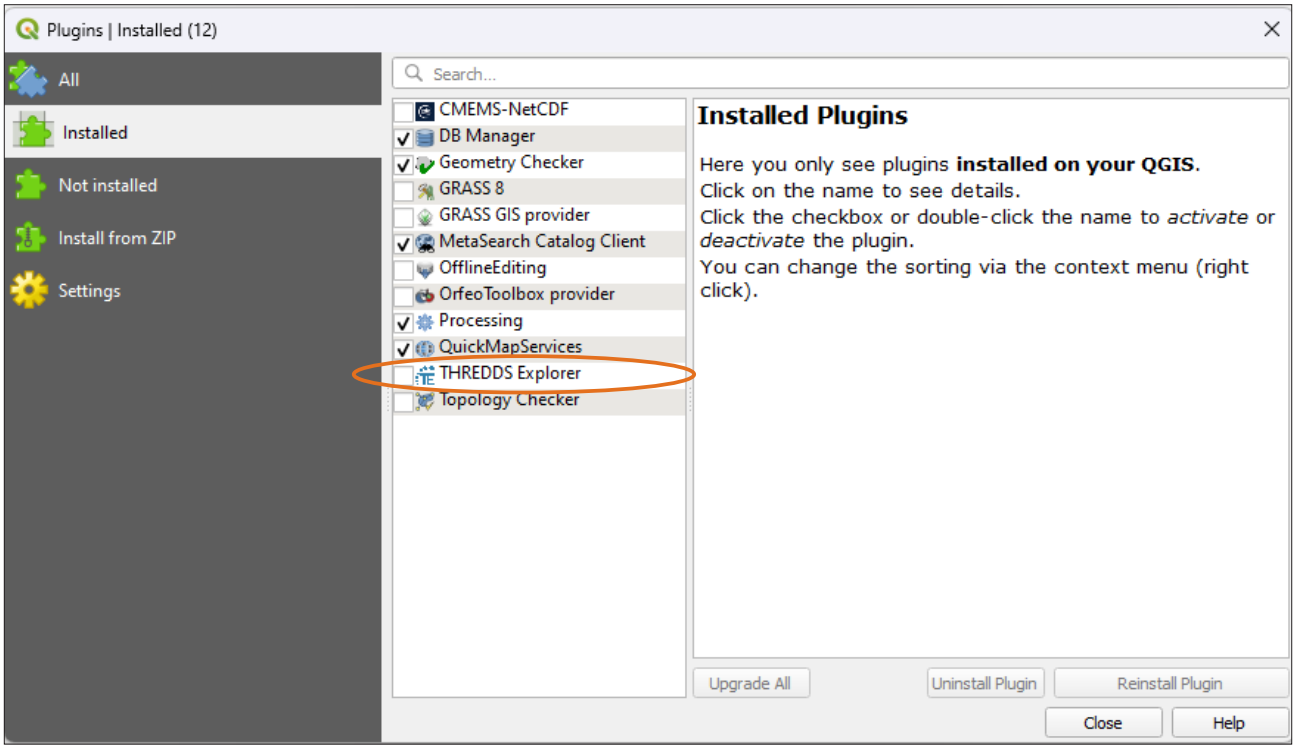
In this guide, we demonstrate how to use QGIS to access two IMOS gridded data products from the AODN using a THREDDS plugin. The two datasets are ‘Satellite Remote Sensing: Sea Surface Temperature 6 Day’ and ‘OceanCurrent Sea Surface Geostrophic Velocity’.

A) PREREQUISITE

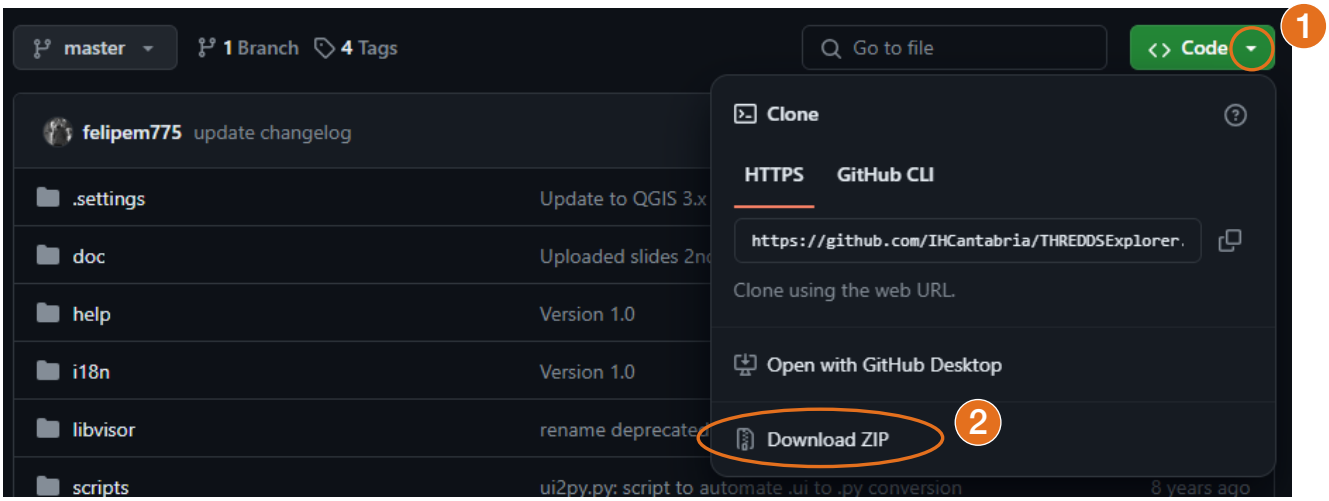
1. Open Qgis. We are using version Prizren 3.34. Other versions may present issues with THREDDS Explorer compatibility.

2. Check if THREDDS explorer is installed. (If known to be installed, skip steps 2-5). Navigate to Plugins > Manage and Install Plugins and check if the package is installed but not active. If it is installed but unchecked, activate it.



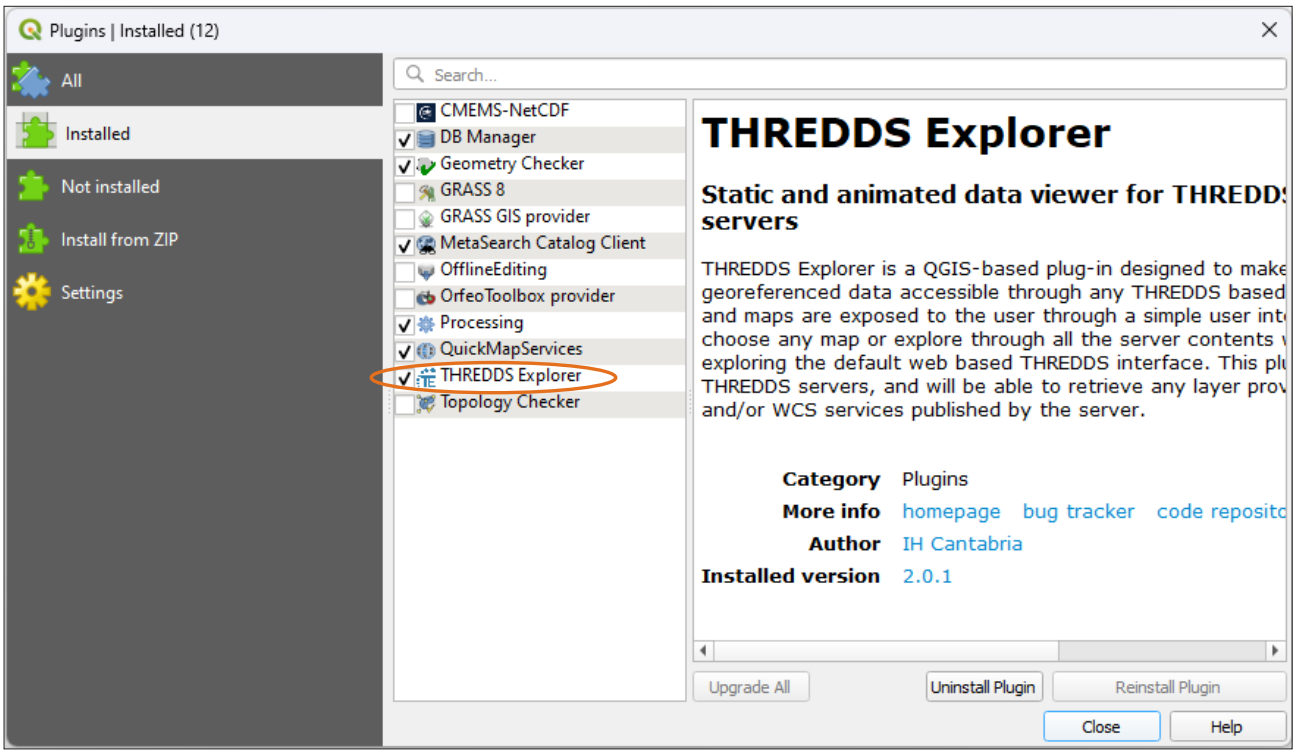


3. If not installed, navigate to the download site: https://github.com/IHCantabria/THREDDSExplorer, click on the 'code' button arrow, and select 'download zip'.

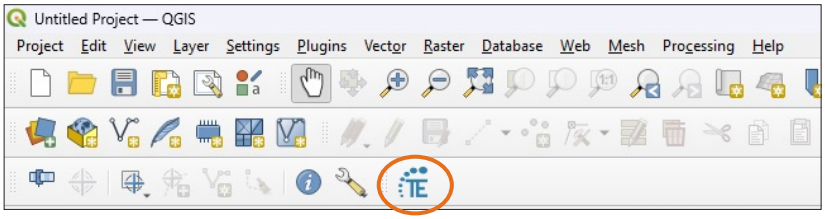


4. Extract the folder keeping the directory in tact to the plugins directory, located at: 'C:\Users***USERNAME***\AppData\Roaming\QGIS\QGIS3\profiles\default\python\plugins' where username portion to be replaced by the current user login.

5. Restart QGIS, and navigate once again to the Plugin Manager and activate 'THREDDS Explorer'.

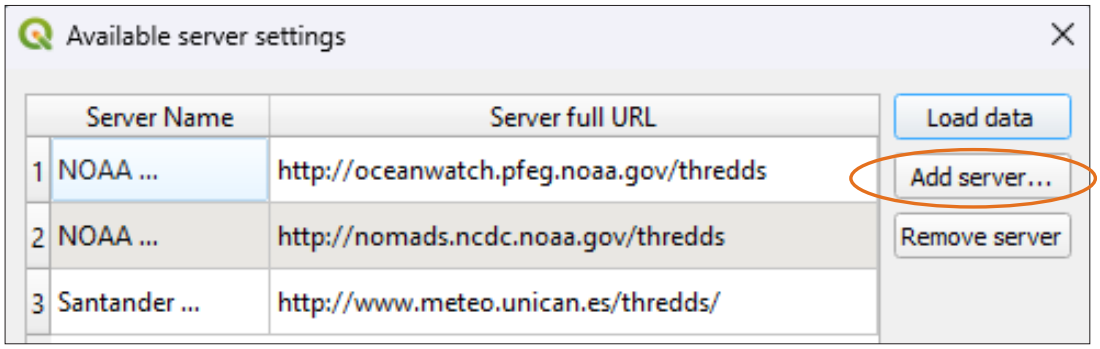


This icon should appear on the ribbon bar:

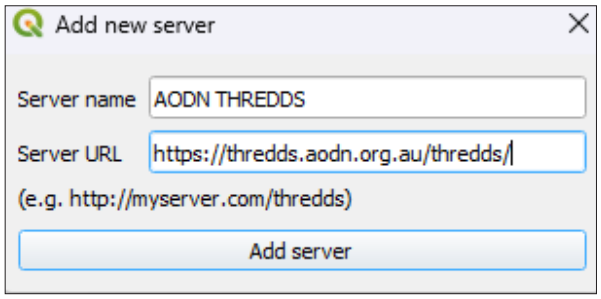


B) DATA ACCESS

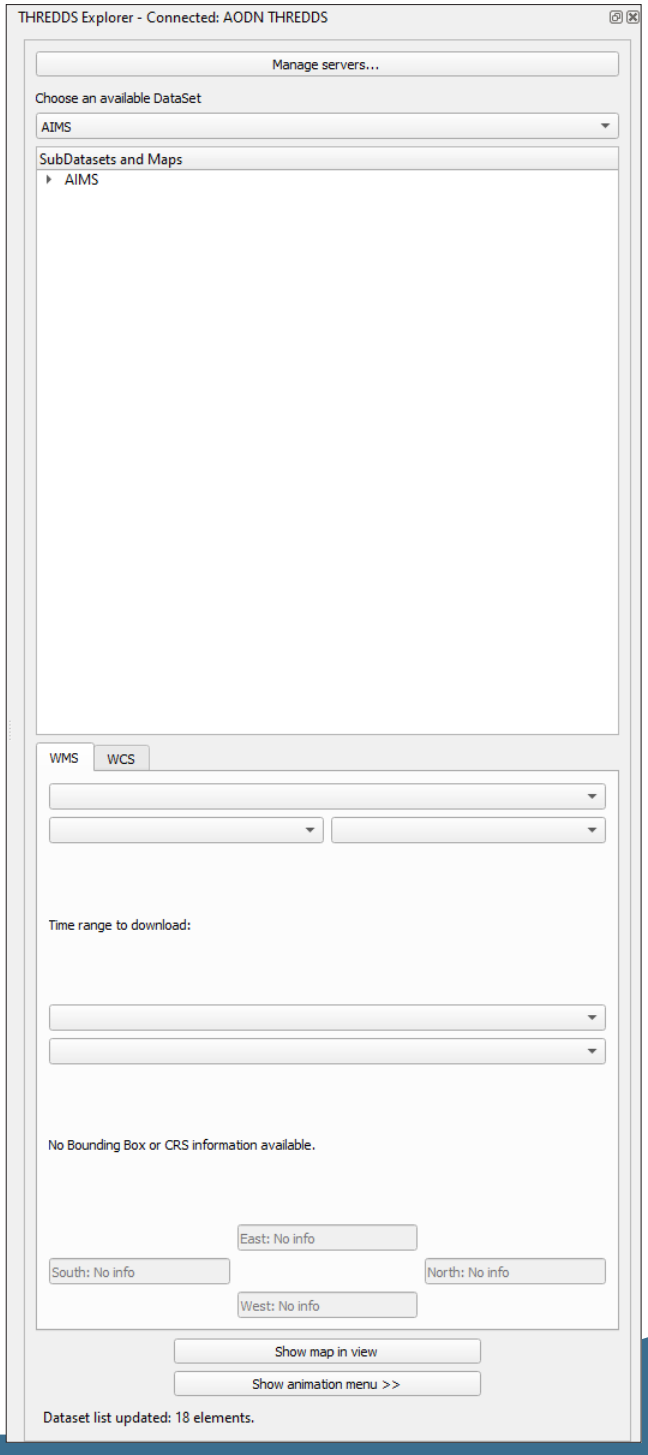
6. Load your base map if desired. In this tutorial, we will use the Esri Satellite XYZ. Open THREDDS Explorer, and click on 'Add Server'.



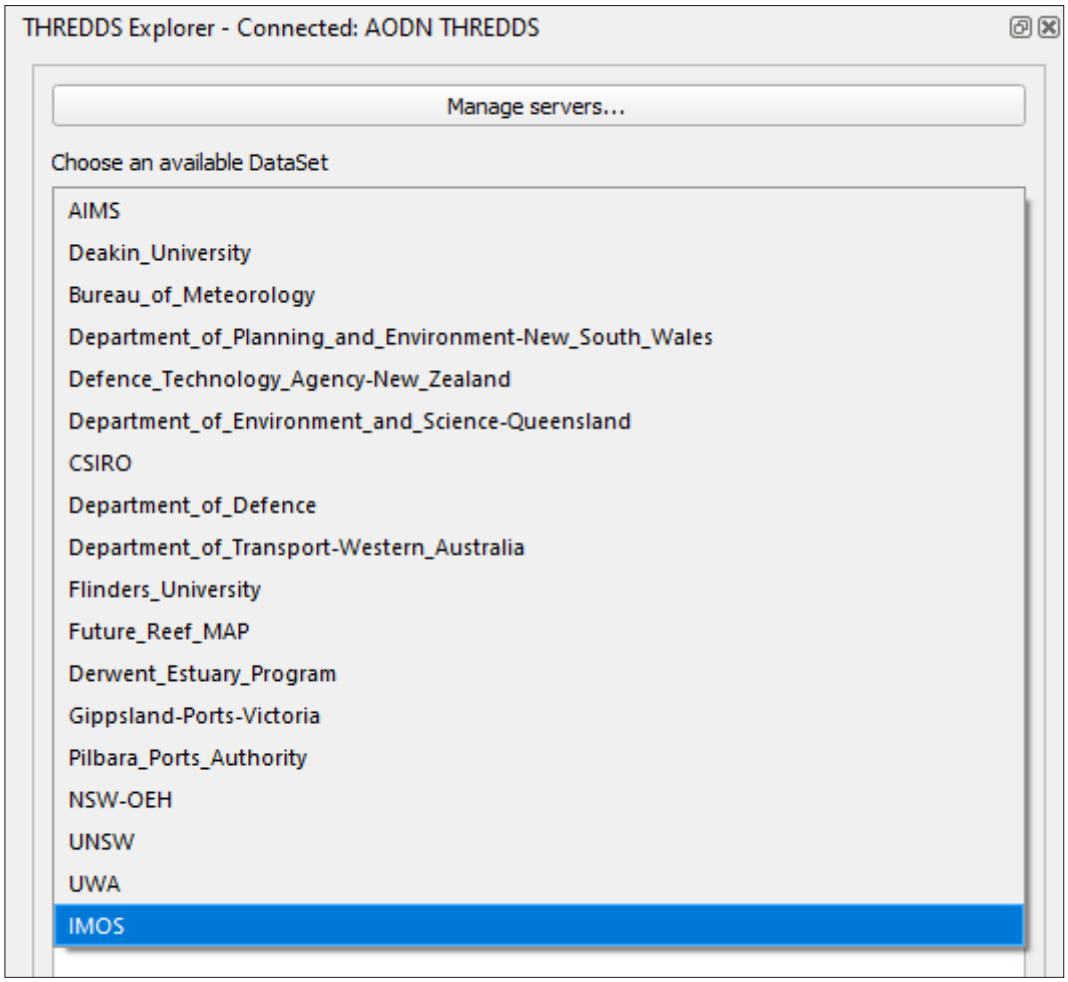
7. Add the AODN THREDDS server as the name and https://thredds.aodn.org.au/thredds/ as the Server URL.



8. You will be presented with a navigation window as per below, which may be embedded.



9. Select the IMOS dataset from the drop down menu.



Please note that not all datasets have GIS compatibility and will not display on a GIS software. Our main focus will be on importing sea surface temperature data and geostrophic velocity vectors (current).

10. In the example below, we will add a Sea Surface Temperature (SST) layer onto the map. For the most recent dataset in the 'SubDatasets and Maps' section, navigate to >IMOS/SRS/ghrsst/.

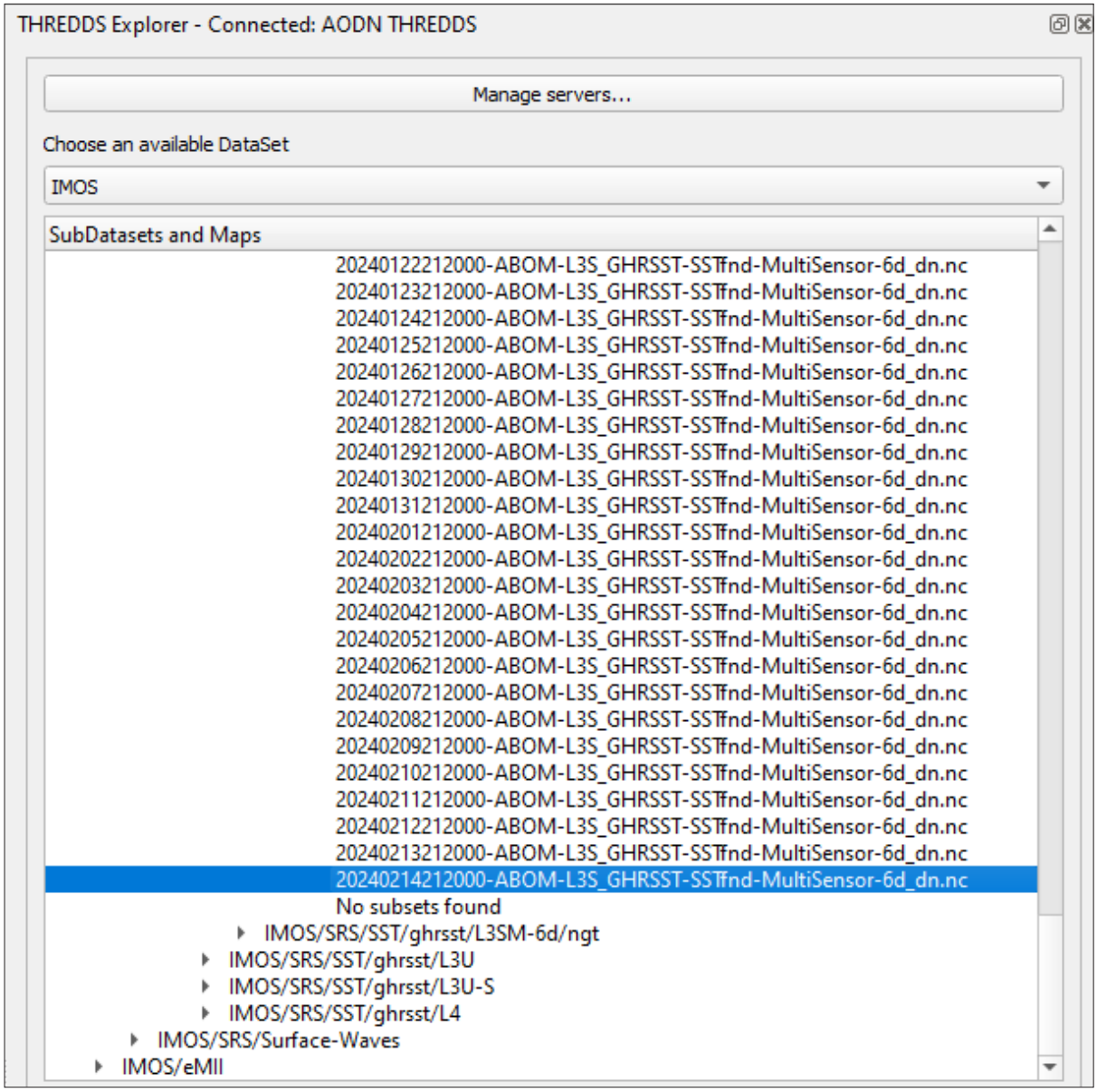
There are several types of satellite data available:

L2P -> Single swath, geolocated
L3U -> Single swath, gridded
L3C -> Single sensor, multiple swath, gridded
L3S -> Multiple sensors, multiple swath,
L3SM -> Multiple sensor types, multiple swath
L3SGM -> Multiple sensors, GeoPolar

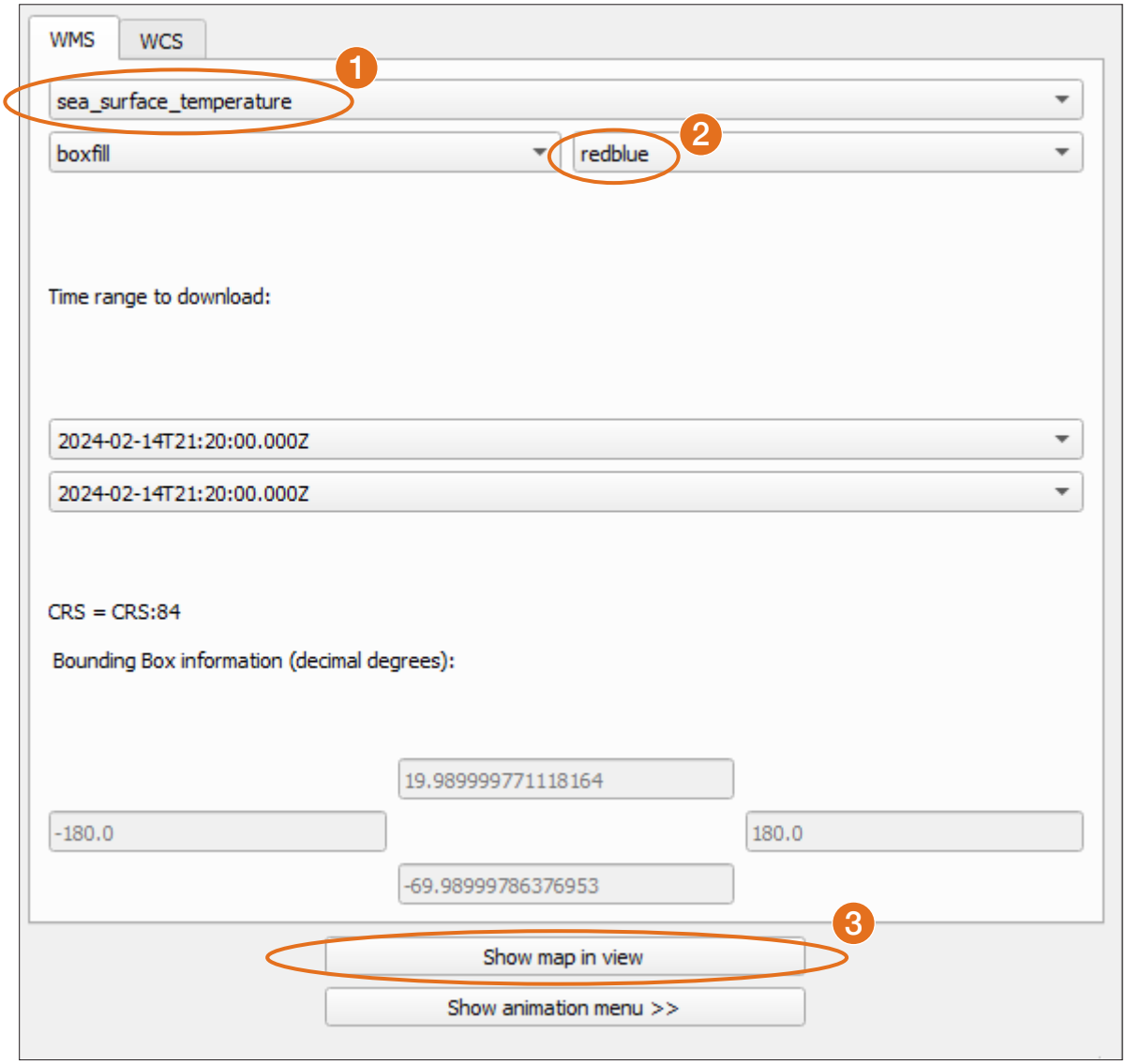
In this example we will use the 'L3SM 6 day average' dataset in order to get the most coverage, as the cloud cover gaps have been removed through modelling from previous days.

For more information regarding IMOS SRS products, visit the catalogue **here**.

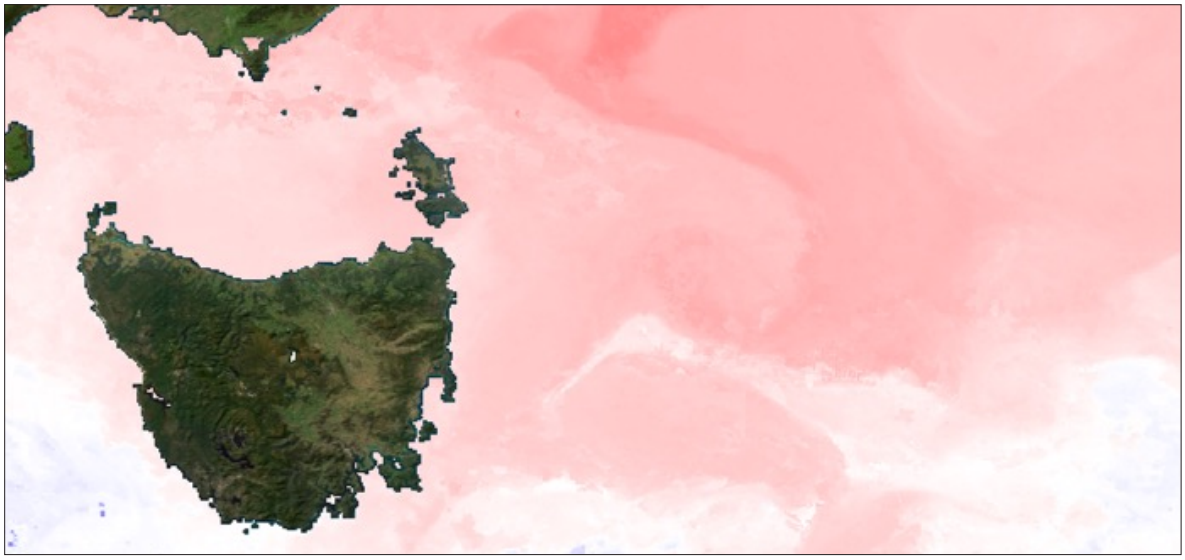
11. In the ghrsst folder, navigate to L3SM-6d, open the newest year and the latest dataset available to have the most up-to-date data. Once this is selected, the WMS tab of the THREDDS explorer will populate (shown over page).



12. Select ‘sea_surface_temperature’ as the dataset, and use the ‘redblue’ colour style to portray the surface temperature. Click ‘Show map in view’.



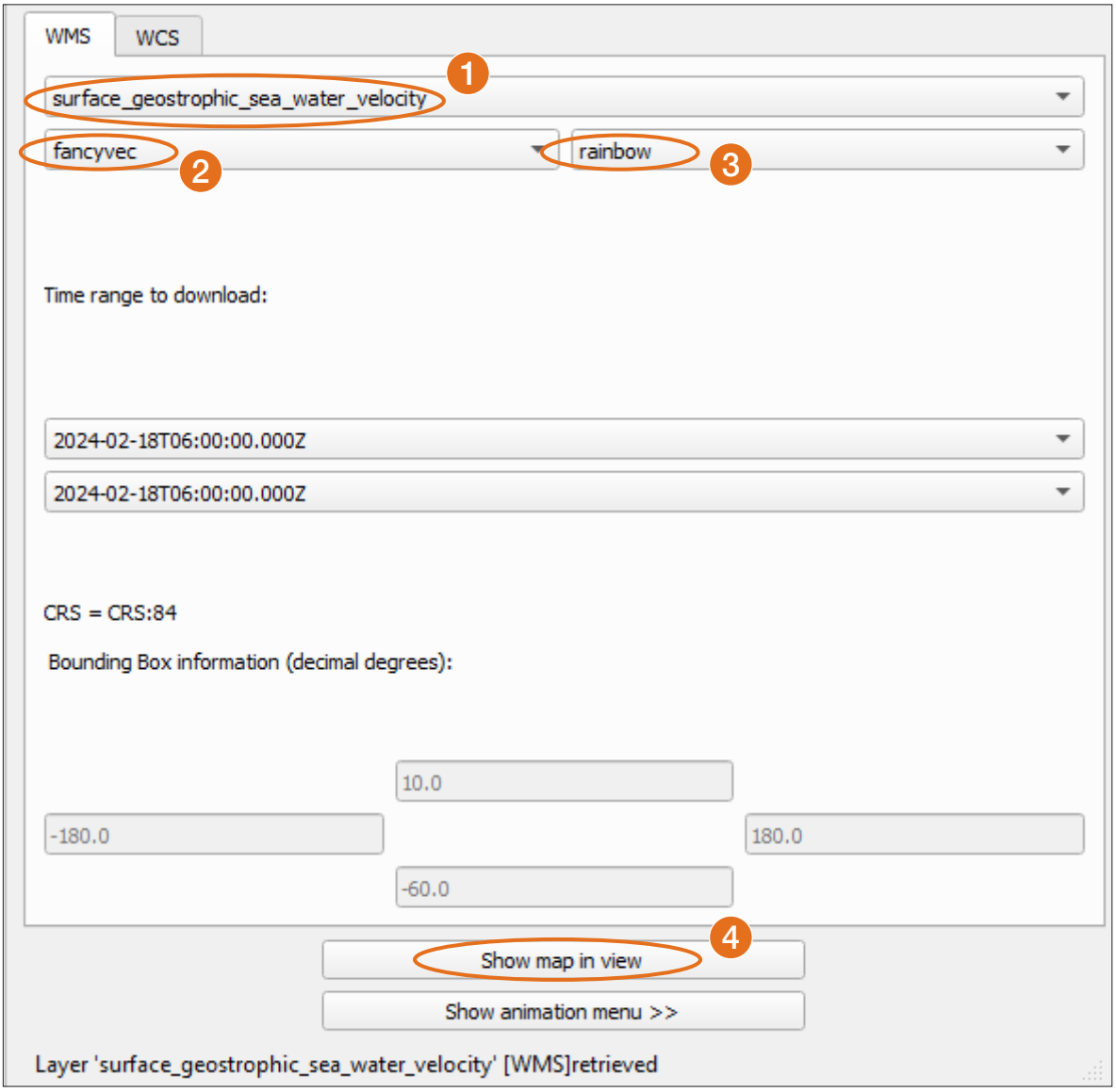
In this case we are focusing on Tasmanian waters and the layer should look similar to this:



13. We now want to overlay the current information using IMOS OceanCurrent calculations.

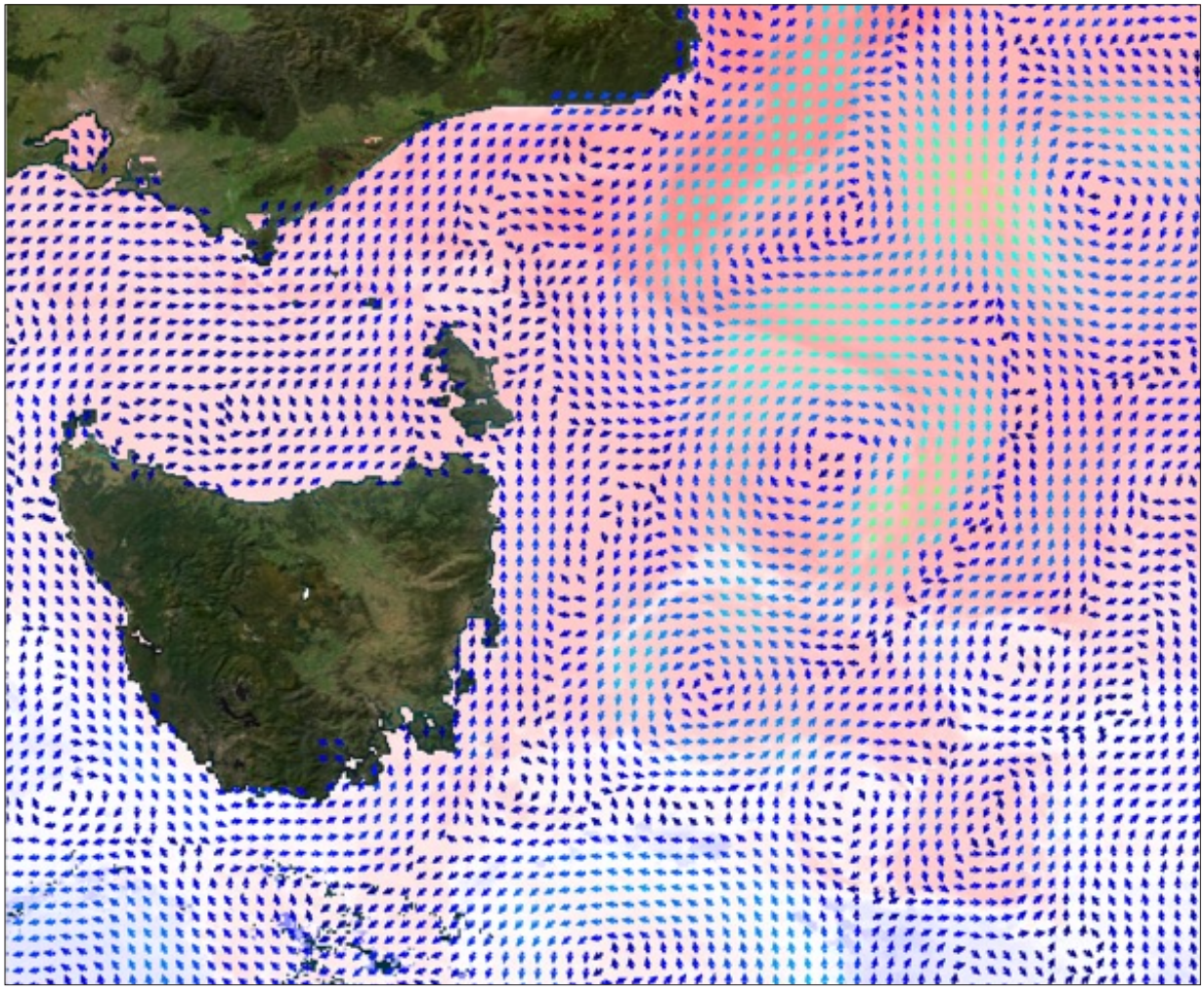
In the SubDatasets menu of the explorer, navigate to IMOS/OceanCurrent/GSLA/NRT and select the most recent year (in this case 2024), and select the newest dataset. This is crucial otherwise the layers wont match. Once selected, your WMS tab will populate with the options available.

i. Select the 'surface_geostrophic_sea_water_velocity' as the data
ii. Select 'Fancyvec' as the layer type
iii. Select 'rainbow' as the style, which will show velocities in terms of colour



For more information regarding the IMOS OceanCurrent product visit the catalogue here.

You will receive and overlay something like this, showing surface currents overlaid on sea surface temperature:



FOR MORE RESOURCES

For more Ocean Information Resources, visit **bit.ly/3U0yblZ**

CONTACT US

For more information, please email **info@aodn.org.au**

IMOS
Integrated **Marine Observing** System

NCRIS
National Research Infrastructure for Australia
An Australian Government Initiative

Australia's Integrated Marine Observing System (IMOS) is enabled by the National Collaborative Research Infrastructure Strategy (NCRIS). It is operated by a consortium of institutions as an unincorporated joint venture, with the University of Tasmania as Lead Agent. **www.imos.org.au**

PRINCIPAL PARTICIPANTS

University of Tasmania (Lead Agent)

Australian Government

Australian Institute of Marine Science

Australian Government Bureau of Meteorology

CSIRO

Government of South Australia

SARDI Research and Development Institute

The University of Western Australia

sims sydney institute of marine science

UTS

The University of Sydney

Macquarie University

UNSW Sydney

SIMS is a partnership involving four universities.

ASSOCIATE PARTICIPANTS

Curtin University

Australian Government
Department of Climate Change, Energy, the Environment and Water
Australian Antarctic Division

Australian Antarctic Program

Deakin University

The University of Melbourne

IMOS thanks the many other organisations who partner with us, providing co-investment, funding and operational support, including investment from the Tasmanian, Western Australian and Queensland State Governments.

IMOS acknowledges the Traditional Custodians and Elders of the land and sea on which we work and observe and recognise their unique connection to land and sea. We pay our respects to Aboriginal and Torres Strait Islander peoples past and present.