

Argovis API exposed in a Python Jupyter notebook: an easy access to Argo profiles, weather events, and gridded products

tyler tucker¹, Donata Giglio¹, and Megan Scanderbeg²

¹University of Colorado, Boulder

²Scripps Institution of Oceanography

November 24, 2022

Abstract

Web 2.0 data delivery and visualization services have improved Earth system science workflows, yet scientists and researchers working with these applications require customized features that are not available on an application running on the browser. Tailoring Argovis's data throughput so that users can gather data for their myriad tasks requires us to expose the underworkings of our Application Programming Interface (API). We provide a set of functions in a Jupyter notebook for users to retrieve Argo float profiles, platforms, metadata, spatial-temporal selections, and gridded products (including weather events) stored on Argovis. Charts and simple calculations made by the output of these functions provide users the means to write their python scripts. We have bundled the required libraries into a Docker container so that users do not need to install python libraries manually. All software dependencies are installed in the Docker container and run the notebooks within the docker environment. Instructions on how to build and run the container are included. We encourage users to improve, and expand these routines, and even extend them to other languages such as R, Matlab, or Julia, and share their work with us and the community. We welcome community feedback on these tutorial notebooks and are happy to support community-developed software on our platform.

Argovis API exposed in a Python Jupyter notebook: an easy access to Argo profiles, weather events, and gridded products

Tyler Tucker, Donata Giglio, Megan Scanderbeg

Web 2.0 data delivery and visualization services have improved Earth system science workflows, yet scientists and researchers working with these applications require customized features that are not available on an application running on the browser. Tailoring Argovis's data throughput so that users can gather data for their myriad tasks requires us to expose the underworkings of our Application Programming Interface (API). We provide a set of functions in a Jupyter notebook for users to retrieve Argo float profiles, platforms, metadata, spatial-temporal selections, and gridded products (including weather events) stored on Argovis. Charts and simple calculations made by the output of these functions provide users the means to write their python scripts. We have bundled the required libraries into a Docker container so that users do not need to install python libraries manually. All software dependencies are installed in the Docker container and run the notebooks within the docker environment. Instructions on how to build and run the container are included. We encourage users to improve, and expand these routines, and even extend them to other languages such as R, Matlab, or Julia, and share their work with us and the community. We welcome community feedback on these tutorial notebooks and are happy to support community-developed software on our platform.

https://github.com/earthcube2020/ec20_tucker_etal