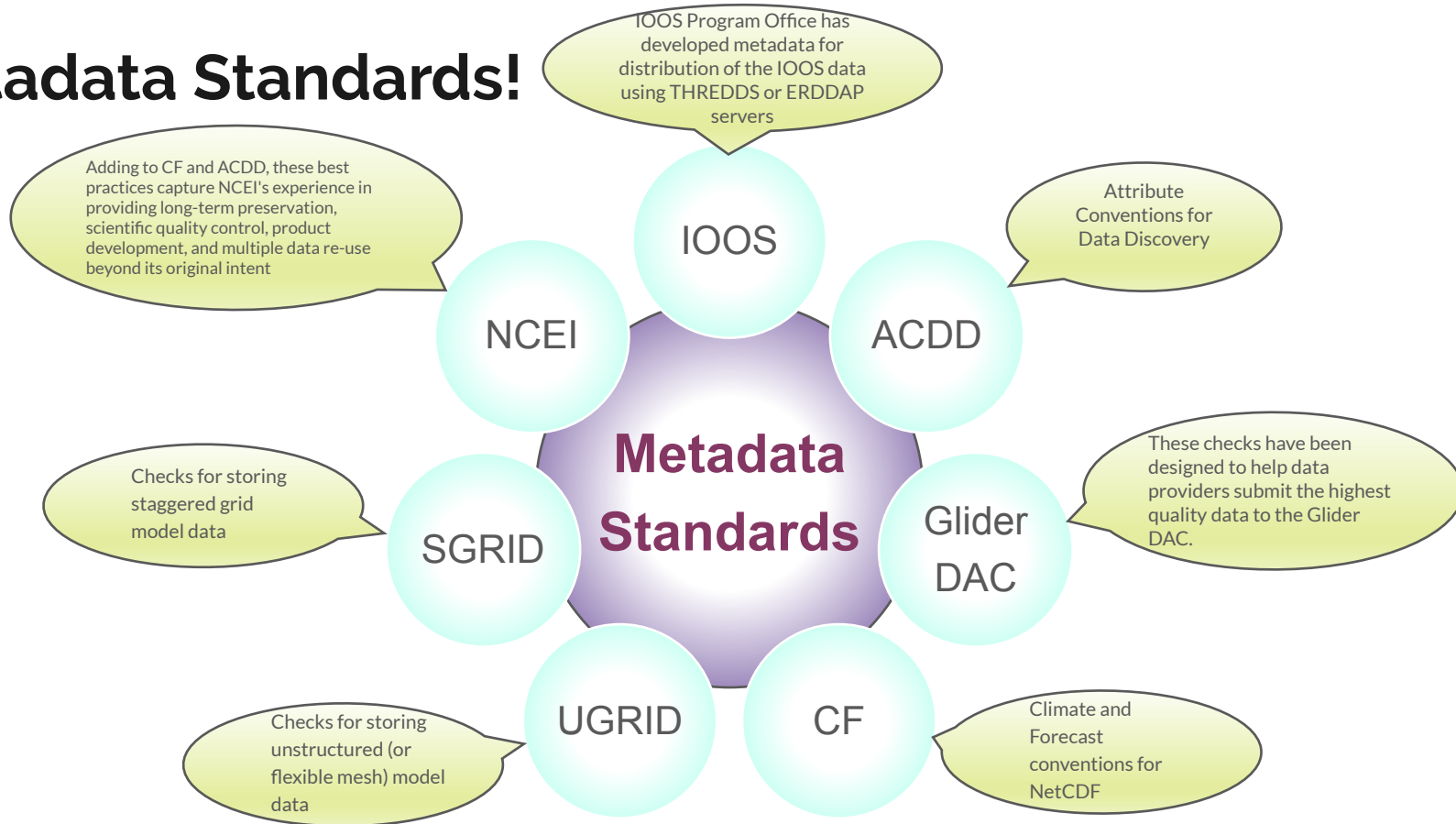# IOOS Compliance Checker

OceanHackWeek 2019

What Is It?

A python based tool for data providers to check for completeness and community standard compliance of local or remote **netCDF** or **CDL** files.

Use it as a command line tool or a library to integrate with other Python software

https://github.com/ioos/compliance-checker

Metadata Standards!

IOOS Program Office has developed metadata for distribution of the IOOS data using THREDDS or ERDDAP servers

Attribute Conventions for Data Discovery

Adding to CF and ACDD, these best practices capture NCEI's experience in providing long-term preservation, scientific quality control, product development, and multiple data re-use beyond its original intent

These checks have been designed to help data providers submit the highest quality data to the Glider DAC.

Checks for storing staggered grid model data

Climate and Forecast conventions for NetCDF

Checks for storing unstructured (or flexible mesh) model data

IOOS

ACDD

NCEI

Metadata Standards

Glider DAC

SGRID

UGRID

CF

Check the list of available tests

Test your datasets against the following standards, and then some:

```
$ compliance-checker --list
 - acdd:1.1
 - acdd:1.3
 - cf:1.6
 - gliderdac:3.0
 - ioos:0.1
 - ioos:1.1
 - ioos_sos:0.1
 - ncei-grid:1.1
 - ncei-grid:2.0
 - ncei-point:1.1
 - ncei-point:2.0
 - ncei-profile-incomplete:1.1
 - ncei-profile-incomplete:2.0
 - ncei-profile-orthogonal:1.1
 - ncei-profile-orthogonal:2.0
 - ncei-timeseries-incomplete:1.1
 - ncei-timeseries-incomplete:2.0
 - ncei-timeseries-orthogonal:1.1
 - ncei-timeseries-orthogonal:2.0
... more ...
```

Hack the Ocean, you must? Why use C-Checker?

Data Providers: Check your datasets to improve discoverability and usability for end users

Data Users: Sanity check datasets as a first step in the data preparation process to anticipate issues

Run it yourself in the ocean.pangeo.io environment via conda install:

```
conda install -c conda-forge compliance-checker
```

Run a simple CF check from one of the HFRadar datasets via Jupyter terminal:

```
compliance-checker -t cf:1.6 -f json \

http://hfrnet-tds.ucsd.edu/thredds/dodsC/HFR/USWC/6km/hourly/RTV/HFRADAR_US_West_Coast_6km_Resolutio
n_Hourly_RTV_best.ncd
```

Or via Python: https://github.com/mwengren/ohw19-compliance-checker-demo

```
git clone https://github.com/mwengren/ohw19-compliance-checker-demo.git
```

Plugin framework! Use one of ours or make one:

Optional plugins to Compliance Checker:

* **cc-plugin-glider:** test glider datasets for compliance with the IOOS Glider DAC netCDF [file format standard](#)

```
conda install -c conda-forge cc-plugin-glider
```

* **cc-plugin-ugrid:** test unstructured flexible mesh datasets for UGRID standard compliance

```
conda install -c conda-forge cc-plugin-ugrid
```

* **cc-plugin-sgrid:** test staggered grid model datasets for SGRID standard compliance

```
conda install -c conda-forge cc-plugin-sgrid
```

Contribute back!

Contributions/issues/feedback welcome: https://github.com/ioos/compliance-checker

```
$ git clone https://github.com/ioos/compliance-checker.git
```

Also, check out the web version to take if for a test run against your own dataset:

https://compliance.ioos.us/

IOOS Code Sprint Announcement

Enjoyed OceanHackWeek? Join the IOOS software and data manager community for the inaugural IOOS Code Sprint just around the corner. Details:

When: October 8 - 10, 2019

Where: Ann Arbor, MI (Great Lakes Observing System/GLOS)

Why: 3 days to work on software, standards and technology related to the IOOS DMAC data management system (ERDDAP, QARTOD, Biological observations, Pangeo, and more)

Who: You?

How: https://www.glos.us/code-sprint/ for more information or to register, or email me: micah.wengren@noaa.gov with any questions