



IOOS DMAC

Asset Identification

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6/2/2016

Current

<http://bit.ly/1XcYIkZ>

Station

x:station:authority:label[:version]
x:station:wmo:42001

Network

x:network:authority:label[:version]
x:network:NOAA.NOS.CO-OPS:WaterLevelActive

Sensor

x:sensor:authority:label:component[:version]
x:sensor:wmo:42001:wpm1
x:sensor:wmo:42001:wpm2
x:sensor:NOAA.NOS.CO-OPS:cb0201:Nortek-ADP-514

Survey

x:survey:authority:label:component[:version]

Proposal

Station

x:station:authority:label
x:station:wmo:42001

Network

x:network:authority:label
x:network:noaa.nos.co-ops:water_level_active

Sensor

x:sensor:authority:label:component[:discriminant]
x:sensor:wmo:42001:sea_surface_wave_peak_period:1
x:sensor:wmo:42001:sea_water_temperature:2
x:sensor:noaa.nos.co-ops:cb0201:sea_water_direction

Survey

x:survey:authority:label:component

Changes / Rationale

Changes

1. Lowercase everything
2. Component becomes a CF standard_name
3. Add an optional [:**discriminant**] to **sensor** URNs.
4. Remove [:**version**]
5. Add functional parameters
 - a. **cell_methods**
 - b. **interval**
 - c. **vertical_datum**

Rationale

1. Simplification
2. Allow metadata extraction from URN, rather than “free-text” field.
3. Allows for duplicate components at a authority:label
 - a. **sea_water_temperature**
 - b. **sea_water_temperature:top**
 - c. **sea_water_temperature:bottom**
 - d. **sea_water_temperature:nortek_adp_514**
4. Unused and better described in metadata
5. See next slide

Functional Parameters

Why

Identical phenomenon measured at the same station that underwent different processing are impossible to represent without additional parameters.

Examples:

- **cell_methods** and **interval** (mean over time, standard deviation over time, etc.)
- **vertical_datum** (pre-computing data to different vertical datums)

Use Case

```
temp1(time):  
  standard_name: air_temperature  
  cell_methods: time: mean (interval: 24 hr)
```

```
temp2(time):  
  standard_name: air_temperature  
  cell_methods: time: standard_deviation
```

Instead of

```
urn:ioos:sensor:foo:bar:temp1 // 'temp1' has no external meaning  
urn:ioos:sensor:foo:bar:temp2 // 'temp2' has no external meaning
```

We will use

```
urn:ioos:sensor:foo:bar:air_temperature#cell_methods=time:mean;interval=pt24h  
urn:ioos:sensor:foo:bar:air_temperature#cell_methods=time:standard_deviation
```

Mapping

NetCDF

water_level_1(time):

standard_name: water_surface_height_above_reference_datum

vertical_datum: MLLW

discriminant: 1

water_level_1_12h(time):

standard_name: water_surface_height_above_reference_datum

cell_methods: time: mean (interval: PT12H)

vertical_datum: MLLW

discriminant: 1

water_level_2(time):

standard_name: water_surface_height_above_reference_datum

vertical_datum: NAVD88

discriminant: 2

Note: the vertical_datum can also come from a variable with the standard_name water_surface_reference_datum_altitude, as defined in the CF spec

URN

x:sensor:foo:bar:water_surface_height_above_reference_datum:1#vertical_datum=mllw

x:sensor:foo:bar:water_surface_height_above_reference_datum:1#vertical_datum=mllw;
cell_methods=time:mean;interval=pt12h

x:sensor:foo:bar:water_surface_height_above_reference_datum:2#vertical_datum=navd88

Why does any of this matter?

URN

```
urn:ioos:sensor:foo:bar:  
water_surface_height_above_reference_datum:  
1#vertical_datum=mlw
```

URI

```
http://ioos.  
us/sensor/foo/bar/water_surface_height_above_reference_datum/1?  
vertical_datum=mlw
```

