

# OOI Decoder

Level	Example Code	Example Name
<b>1. Array</b>	GI	Global Irminger Sea
<b>2. Site</b>	GI01SUMO	Apex Surface Mooring
<b>3. Node/Platform</b>	SBD12	Surface Buoy
<b>4. Instrument (Sensor)</b>	06-METBKA000	Bulk Meteorology Instrument Package
<b>5. Method</b>	recovered_host	
<b>6. Stream</b>	metbk_a_dcl_instrument_recovered	
<b>7. Parameter</b>	7 1052 1056 (and a lot more)	Time Relative Humidity Sea Surface Temperature

## 1. ARRAY

The Ocean Observatories Initiative is made up of five major research components in the Atlantic and Pacific. Data are also available from the decommissioned Southern Ocean and Argentine Bay arrays. Each array is composed of a number of sites at which different stable and mobile platforms are deployed. Array locations and configuration were designed based on input from the scientific community in order to study a set of specific regional and collectively global science questions.

## 2. SITE

A site is a specific geographic location within an array that is the deployment area for one or more platforms. Each site has a defined depth range and a Latitude-Longitude defined zone within which instrument platforms are deployed for defined periods of time.

## 3. PLATFORM

A platform is a set of infrastructure that hosts a complement of integrated scientific instruments. A platform can be stable and fixed in place (e.g. a surface mooring) or mobile (e.g. a profiler mooring which has a component that moves up and down in the water column, or a glider which is free to move in 3 dimensions). Each platform can contain multiple “nodes” to which the instruments are attached, and a means of transmitting the data from the integrated instruments to shore. See “Platform Types” entries in the OOI Glossary for more details on specific platforms within the OOI.

## NODE

A node is a section of a platform that contains one or more computers and power converters. Instruments on a platform are plugged into a node, which collects the instrument data internally and/or transmit the data externally. Some platforms contain a single node, like a glider. Other

platforms have several nodes wired together. For example, a mooring that hosts a surface buoy, near-surface instrument frame, and seafloor multi-function node, each with a different set of instruments attached.

#### 4. INSTRUMENT

A scientific instrument is a piece of specialized equipment used to sample oceanographic attributes and collect data. There are 106 unique models of specialized instrumentation used throughout the OOI (850 total instruments deployed at any one time) that collect over 200 unique data products (>100,000 total science and engineering data products).

#### SENSOR

A sensor is the specific part of an instrument that measures a specific element of the surrounding environment. A single instrument can contain multiple sensors that are used to collect data on various environmental attributes, for example, a CTD is an instrument that contains specific sensors to measure conductivity, temperature, and pressure.

#### 5. DATA DELIVERY METHODS

- **Telemetered:** Data received through a wireless transmission over distance while the instrument is deployed. Examples are: surface buoy to satellite, glider to satellite, acoustic modem. Data received through satellite relay or other mechanisms results in “batch” receipt and may be decimated in time. These data have greater latencies than the streaming data.
- **Recovered:** Data downloaded directly from a recovered instrument or data logger after the instrument has been recovered. Data are downloaded either by connecting the instrument to a computer and writing to files, often onboard the recovery vessel. “Recovered-Host” data are downloaded from a computer that logs data from a set of attached instruments, after the platform has been recovered, while “Recovered-Instrument” data are recovered directly from an instrument’s internal storage, after the instrument has been recovered.
- **Streamed:** Data received via transmission over electro-optical cable. These include platforms connected to the Cabled Array as well as cabled portions of the Endurance Array. Streaming data are provided in near-real time and at full temporal resolution.

**6. DATA STREAM:** Raw data are read and separated by system code (aka “parsers”) into data streams (science, engineering, metadata, etc.) based on content. Each stream contains multiple parameters, including a time stamp. A single instrument can produce several data streams with many different parameters within them.

**7. PARAMETER:** There are many parameters (>100,000) collected by OOI instruments that are used for safety and engineering purposes only (e.g. battery voltage, internal housing temperature, leak detect, etc.), and a select few (~200, termed “Core Data Products”) that are the main science output of the OOI. All core data products are parameters, but not all parameters are core data products.

*For more information, please check out the OOI Glossary*

<http://oceanobservatories.org/glossary/>