SUBMISSION AGREEMENT
BETWEEN
THE NORTHWEST ASSOCIATION OF NETWORKED OCEAN OBSERVING SYSTEMS
AND
THE NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION
FOR PHYSICAL AND BIOLOGICAL DATA COLLECTED FROM BUOYS AND MOORINGS IN THE COLUMBIA RIVER ESTUARY AND NEARBY COASTAL OCEAN FROM OHSU AND CMOP, COMPILED BY NANOOS.

2017-03-13

Introduction

This document represents the agreement that the Northwest Association of Networked Ocean Observing Systems (NANOOS) (the "Provider") and the National Centers for Environmental Information (NCEI) (the "Archive") have reached for submitting the Provider's data, Physical and biological data collected from buoys and moorings in the Columbia River Estuary and nearby coastal ocean from OHSU and CMOP, compiled by NANOOS., to the Archive for long-term preservation. It represents a joint effort between the Provider and the Archive to accurately document the agreement and the expectations between the two groups.

In order to ensure that the quality and integrity of the archived data is not compromised, the Provider and the Archive agree to maintain this agreement with accurate and up-to-date information through the life of the data submission.

Add comments as needed

Contacts

Persons included in all communications regarding the data submission.

Provider Contacts

Point of Contact	Technical Point of Contact
Emilio Mayorga	Charles Seaton
NANOOS	Oregon Health & Science University
DMAC	n/a
n/a	seatonc@ohsu.edu
mayorga@apl.washington.edu	preferred method: e-mail
preferred method: e-mail	

Archive Contacts

Data Acquisition, NCEI-IOOS Point Of
Contact
Mathew Biddle
NCEI/CICS-MD
Faculty Research Assistant
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Data Overview

Data is predominantly long time series at fixed moorings and buoys with a variety of instruments including CTDs, Acoustic Doppler Profilers, CDOM fluorometers, chlorophyll fluorometers, phycoerthrin fluorometers, Seabird oxygen sensors, FLNTUs, optical turbidity sensors, pH sensors, and nitrate sensors (ISUS and SUNA).

The region we are collecting data in is the Columbia River estuary and nearby coastal ocean, approximately 124.5 W to 123 W by 46 N to 46.5 N.

Currently the intention is to archive the 2 different catalogs.
1. non-QC <- ongoing automation.
2. QC <- yearly update.

NANOOS is one of 11 Regional Associations established nationwide through the NOAA Integrated Ocean Observing System (IOOS). IOOS coordinates the multi-agency, cooperative effort to routinely collect realtime data and manage historical information based on a continuously operating network of buoys, ships, satellites, underwater vehicles, and other platforms. These data are needed for many purposes which include rapid detection and prediction of changes in our nation's ocean and coastal waters.

air_pressure
air_temperature
depth
eastward_sea_water_velocity
fractional_saturation_of_oxygen_in_sea_water
latitude
longitude
mass_concentration_of_chlorophyll_in_sea_water
mole_concentration_of_dissolved_molecular_oxygen_in_sea_water
mole_concentration_of_nitrate_in_sea_water
mole_concentration_of_phosphate_in_sea_water
northward_sea_water_velocity
raw_mass_concentration_of_chlorophyll_in_sea_water
raw_sea_water_turbidity
relative_humidity
sea_water_electrical_conductivity
sea_water_ph_reported_on_total_scale
sea_water_practical_salinity
sea_water_pressure
sea_water_temperature

sea_water_turbidity
surface_downwelling_photosynthetic_photon_flux_in_air
surface_partial_pressure_of_carbon_dioxide_in_sea_water
time
upward_sea_water_velocity
volume_absorption_coefficient_of_radiative_flux_in_sea_water_due_to_dissolved_organic_matter
volume_scattering_function_of_radiative_flux_in_sea_water
wind_from_direction
wind_speed
wind_speed_of_gust

Applicable and Reference Documents

Documents applicable to or referenced from this agreement.

None

Submission Scope

Active Submission Period

2016-12-02 -

Data Types

Below is a summary of the data sizing and submission schedule by data type group. Enter information on at least one data type.

Data Type Name	Data Sizing	Submission Schedule
air_pressure	multiple files	Monthly
air_temperature	multiple files	Monthly
depth	multiple files	Monthly
eastward_sea_water_velocity	multiple files	Monthly
fractional_saturation_of_oxygen_in_sea_water	multiple files	Monthly
latitude	multiple files	Monthly
longitude	multiple files	Monthly
mass_concentration_of_chlorophyll_in_sea_water	multiple files	Monthly
mole_concentration_of_dissolved_molecular_oxygen_in_sea_water	multiple files	Monthly
mole_concentration_of_nitrate_in_sea_water	multiple files	Monthly
mole_concentration_of_phosphate_in_sea_water	multiple files	Monthly
northward_sea_water_velocity	multiple files	Monthly

raw_mass_concentration_of_chlorophyll_in_sea_water	multiple files	Monthly
raw_sea_water_turbidity	multiple files	Monthly
relative_humidity	multiple files	Monthly
sea_water_electrical_conductivity	multiple files	Monthly
sea_water_ph_reported_on_total_scale	multiple files	Monthly
sea_water_practical_salinity	multiple files	Monthly
sea_water_pressure	multiple files	Monthly
sea_water_temperature	multiple files	Monthly
sea_water_turbidity	multiple files	Monthly
surface_downwelling_photosynthetic_photon_flux_in_air	multiple files	Monthly
surface_partial_pressure_of_carbon_dioxide_in_sea_water	multiple files	Monthly
time	multiple files	Monthly
upward_sea_water_velocity	multiple files	Monthly
volume_absorption_coefficient_of_radiative_flux_in_sea_water_due_to_dissolved_organic_matter	multiple files	Monthly
volume_scattering_function_of_radiative_flux_in_sea_water	multiple files	Monthly
wind_from_direction	multiple files	Monthly
wind_speed	multiple files	Monthly
wind_speed_of_gust	multiple files	Monthly

Reviews and Testing

Describe the reviewing and testing procedures done by the Archive for the Provider's data, transfer interface, etc., prior to the data submission.

Providing System

Identification of the system providing the data to NCEI.

System Name: Identification of the system supplying the data to the Archive.
System Owner: NANOOS
Physical Location: E.g., City, State
Additional Information: http://data.nanoos.org/ncei/ohsucmop/

Transfer Interface

Submission Information Packages (SIP) will be organized into 'bags'. Each 'bag' will contain data, metadata, and manifest files which fully document the files intended to be submitted. The 'bags' will be folders on

http://data.nanoos.org/ncei/ohsucmop/ which correspond to the name of the platform. E.g. abpoa/, riverrad/, saturn01/, etc. Within the station folder (or 'bag') there will be four standard files with the following names: bag-into.txt, bagit.txt, manifest-sha256.txt, and tagmanifest-sha256.txt as well as a data/ directory which will contain folders for all of the netCDF files to be submitted. Each of the folders within the data/ directory represent an instrument/instrument deployment.

Submission File Inventory

Information on each submitted file type from the Provider. Information on multiple file types can be added below.

File Type Name: manifest-sha256.txt
File Name Pattern:
manifest-sha256.txt
File Name Field Definitions:
Manifest file for the data files. Will always have the name "manifest-sha256.txt"
Example File Name:
manifest-sha256.txt
File Format: ASCII
File Compression: None
File Size Average: 26KB
File Size Range: 4KB to 48KB
File Count (Rate): 1 file per month
Data Volume (Rate): Total data volume and/or the data volume rate at which this file will be submitted
Submission Schedule: Every month.
Additional Information: Add comments as needed for this file type
Descriptive Information Attributes:

Attribute	Source	Use
Name of attribute	Source of attribute value, e.g., file name	For search, results display, and/or cross-referencing

File Type Name: tagmanifest-sha256.txt

File Name Pattern:

tagmanifest-sha256.txt

File Name Field Definitions:

Manifest file for the metadata files and manifest-sha256.txt. Will always have the name "tagmanifest-sha256.txt"

Example File Name:

tagmanifest-sha256.txt

File Format: ASCII

File Compression: None

File Size Average: 4KB

File Size Range: 4KB to 4KB

File Count (Rate): 1 file per month

Data Volume (Rate): Total data volume and/or the data volume rate at which this file will be submitted

Submission Schedule: Every month.

Additional Information: Add comments as needed for this file type

Descriptive Information Attributes:

Attribute	Source	Use
Name of attribute	Source of attribute value, e.g., file name	For search, results display, and/or cross-referencing

File Type Name: Data File
File Name Pattern:
YYYYMM-<deployment id>.nc
File Name Field Definitions:
YYYYMM - Four digit year and two digit month for the data in the file
<deployment id> - an internal number used to uniquely identify each time an instrument is deployed in the field at a specific location (in the case of instruments that are pumped water from multiple different depths, each depth gets a different deployment id).
Example File Name:
200805-699.nc
File Format: netCDF-4 Classic
File Compression: None
File Size Average: 2267.02KB
File Size Range: 56KB to 156040KB
File Count (Rate): 31 files per month
Data Volume (Rate): 2267.02 KB per month
Submission Schedule: Every month.
Additional Information: Add comments as needed for this file type
Descriptive Information Attributes:

Attribute	Source	Use
Keywords	global attribute	For compiling a list of keywords specified from NANOOS
creator_name	global attribute	For use in mapping institutions and projects.
institution	global attribute	For use in mapping institutions and projects.
contributor_name	global attribute	For use in mapping institutions and projects.

Submission Manifest

A submission manifest file with a 32-character MD5 checksum value is required for each submitted file in order to ensure the integrity of the submitted data.

File Content Specification:

A submission manifest file contains a tab delimited list of submitted file names and associated checksums for submitted files. The submission manifest will be in a file named 'manifest-sha256.txt'. There will be one manifest file in each Submission Information Package. The sha256 algorithm will be used to calculate each files cryptographic hash digest value. As new data files are generated, the manifest file will be updated to include the relative path to the new file and the sha256 checksum for that file. NCEI will monitor the manifest file(s) for changes and conduct the appropriate ingest task as noted in the Transfer Interface section.

File Transmission:

Every month.

File Name Pattern:
manifest-sha256.txt

File Name Definitions:
The file will always be named "manifest-sha256.txt"

Example File Name:
manifest-sha256.txt

Archive Ingest
Ingest processing steps at the Archive and communication with the Provider.

Receipt Verification:
The Archive will use the provided file name and SHA256 checksum value to verify the integrity of a delivered file.

Error Reconciliation:
The Archive will report any problems or errors with file integrity, file name, checksum validation, or other errors that inhibit the data ingest and archive to the Provider. A new corresponding submission manifest will be required for files re-submitted by the Provider.

Receipt Confirmation:
The Archive will provide an inventory of the data ingested once it is completed or as requested by the Provider.

Quality Assurance:
No quality checks on the submitted data are planned.

Archive File Packaging:
Submission Information Packages (SIP) will be organized into 'bags'. Each 'bag' will contain data, metadata, and manifest files which fully document the files intended to be submitted. The 'bags' will be folders on http://data.nanoos.org/ncei/ohsucmop/ which correspond to the name of the platform. E.g. abpoa/, riverrad/, saturn01/, etc. Within the station folder (or 'bag') there will be four standard files with the following names: bag-into.txt, bagit.txt, manifest-sha256.txt, and tagmanifest-sha256.txt as well as a data/ directory which will contain folders for all of the netCDF files to be submitted. Each of the folders within the data/ directory represent an instrument/instrument deployment.

NCEI will organize the Archival Information Packages (AIP) by station. Each time a new station arrives, a new AIP will be generated. If a station follows the 'bag' convention and has a name which matched a previously submitted package, NCEI will update the AIP and append the data from the new submission.

If the new submission has files with the same name as what we previously submitted, NCEI will assume that the most recent submission should replace the previous submission. Only the files that have the same name will be replaced with the newly submitted file.

Archive Storage
Archive attributes of each archived file type.

Archive File Type Name: Descriptive name for this archive file type

Archive File Attributes/IDs:

Attribute/ID Type	Value
	Attribute/ID value

Archive Updates

New, never-before seen data files will be archived based on which station they are: each station will be assigned an accession number.
New, data from a previously submitted station: The AIP for that station will be updated (NCEI-MD's major-revision) with the new data file.
Revised, data that was previously submitted that needs to be updated: If the naming conventions match and the checksums do not match, then the most recent submission of that file will be assumed to be the latest and greatest submission and will replace the previous file.

Each time a new station arrives, a new AIP will be generated. If a folder follows the 'bag' convention and has a name which matched a previously submitted package, NCEI will update the AIP and append the data from the new submission.

If the new submission has files with the same name as what we previously submitted, NCEI will assume that the most recent submission should replace the previous submission. Only the files that have the same name will be replaced with the newly submitted file.

Retention Schedule

The data will be retained in the Archive for long-term preservation in accordance with NOAA data management standards. Information on data usage and archive value may be used for making decisions on continuing the duration of the archive.

(Notional) Disposition: Unknown/TBD

Constraints

No constraints apply or will apply to the archived data.

User Community

Oceanographers. Integrated Ocean Observing System affiliates.

User Documentation and Metadata

The Provider will supply information to the Archive for writing and maintaining standard archive metadata, which includes data discovery information, references and data archive access links for users. The following published documents and archived items will be referenced from the metadata and made available to users.

Representation Information Items

For data to be useful to users, present and future, its format specification and characteristics must be documented and preserved with the data. Representation Information provides users with syntax (structure) and/or semantics (meaning) to decode the encoded data.

Item	Description
Item name or citation	Item description or intended use

Preservation Descriptive Information Items

Preservation Descriptive Information items contain context, provenance, and/or quality information for the data.

Item	Description
Item name or citation	Item description or intended use

Access and Dissemination

The Archive will provide access services for the data and supporting information to the designated user community.

Additional Terms

None.