

2016 Release Notes

Detailed release notes are available on [internal wiki](#) (requires login)

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30 November 2016

Data Search

- Improved the visibility of the line in min/max+avg plots.
- Restored the ability to easily add multiple data products to the same Data Search cart using different date ranges. When the data access restriction feature was introduced, whenever a data product was added to the cart and the date range was changed, all the options (clean/raw, resampling, etc) were reset. Now the options are not changed if the date range is changed, provided there are no data access restrictions for that device.

Dive Logging

- Added the ability to quickly add dive log observations without returning to the list of all annotations each time (although that is still available).
- Added the ability to limit certain users to editing only specific cruises, dives, and dive observations so that dive logging can be used by external clients.
- Added the ability to create and to query dive log entries directly by external computers using web services.
- Modified the dive log export feature so that if a dive log is filtered, the exported data will only contain what has been filtered. The export will also now include the Resource field in case the dive observation is made for a resource other than the Dive, such as an ROV camera or instrument.
- Added the ability to quickly edit dive log entry Descriptions "inline" without opening an edit form.

SeaTube

- In the rare case where there are dive log entries prior to where the video starts, when you select a dive the video will start playing at the beginning and the highlighted dive log entry will be the one at or the closest one prior to the start of the video. It used to be that you would see the message "Video is unavailable for this time period" which might lead you to believe that there was no video for that entire dive, which was usually not true. You can still view the dive log entries prior to this point but if you select one you will get a message that there is no video.
- The time to load the SeaTube page has been reduced.
- Restored the ability to click on the ROV track line to make the video and dive log jump to that point in the dive. Note that it is not necessary to position the cursor carefully so it changes into a pointing finger icon; you only have to be close to the track line, then click.

Instruments

- Developed a simulator for the Pro-Oceanus CO2-Pro FT
- Developed a parser for the EV Nautilus navigation device
- Developed a parser for autonomous temperature arrays
- Added additional configuration capabilities for the Nortek Signature 55 current profiler
- Develop a driver and parser for the Hemisphere GNSS V104S GPS Compass used on ships

Miscellaneous

- Added "deep link" URLs to the Data Monitoring feature in Device Console so that you can share results with others.
- Changed the way compression of hydrophone audio (.wav) files is done to reduce the loading on task machines.

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- Modified the link to the sensor map on the Earthquake Early Warning page to allow the map to be automatically updated if the original map is updated.
- Add the Earthquake Early Warning page to the Innovation menu.
- Adjusted the Mill Bay community observatory page to default to showing the last available data for all sensors.
- Started to prepare a website for the IGCP640 conference ("8th International Symposium on Submarine Mass Movements and Their Consequences").

1 November 2016

Data Search

- Added the ability to add attribution logos on hydrophone spectral plots (when defined in Network Console).
- The new feature mentioned in the previous release is now complete. That is, the ability to restrict access to certain data products on certain instruments at certain times using Data Search. It can be restricted for a fixed date range or it can restrict access until the data is older than a certain amount of time. Over time, these restrictions will be extended to other tools such as Plotting Utility. There are three levels of access that can be defined:
 - Full access ("Read Write")
 - Restricted Access ("Read Only") where you are allowed to know that the data and the data product exist but are not allowed to access it. You are also given a notification of the date range when it is restricted.
 - No access ("none") where the checkbox to download data is hidden during the restricted period.

SeaTube

- Added a link between digital still images (DSCs) and their annotations that works in both directions.
- Clicking on a DSC enlarges it.
- Timestamps are now displayed for DSCs.
- Scrolling through DSCs automatically jumps to the corresponding annotation in the dive log.
- Switching from a video to a DSC automatically stops playing the video (didn't used to).
- "Search All Videos" also works now for DSC annotations.

Device Console & Monitoring

- Added the ability to see statistics on only log files in the File Archiving tab on Device Console.
- Improved the appearance and operation of the Data Monitoring tab on Device Console.

Discovery Web Services

- Developed new web services that will eventually be used by external users to discover what kinds of data we have to offer. Part of this process will involve discovering the following parameters:
 - a list of our instruments and their device codes, filtered by property
 - details about each of our observatory locations including location codes
 - a list of sensor types that correspond to a given measurement parameter (eg. oxygen concentration, water pressure, etc)
 - details about each of our device categories
 - information about the location of each device
 - a list of all devices in a given device category
 - a list of data products

Miscellaneous

- Developed a driver and parser to accept data from Pro-Oceanus CO2-Pro FT to be installed on ferries.
- Improved the responsiveness of the Buoy Profiling System (BPS) to give more complete profiles and to allow the instrument package to be parked at maximum depth to reduce bio-fouling.
- Improved scheduled job 167 ("Upload data product files into AD") to make it more robust.
- Minor improvements in SeaScribe for an improved dive logging experience.
- Developed a User Interface web page where ERDDAP datasets can be created, edited, and deleted. Added it to the Admin menu.
- Added contact information in ERDDAP metadata.

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- Developed a new Earthquake Early Warning page which will be added to the menus under Innovation Centre > Smart Ocean Systems.
- Modified the Earthquake Dashboard to display seismograms in time order - ie. first sensor to detect is shown first, etc.

Android Applications

- The Entry Logger application mentioned in the previous release has now been integrated into the Community Fishers application.

3 October 2016

Data Search

- A new feature is being developed that will allow data access to be restricted to certain users. The primary use case is for companies that have data agreements with ONC to restrict access to specific data products over specified date ranges. The initial roll-out affects only Data Search and is 90% complete. Eventually it will affect all other methods of accessing data. It can also be used to restrict newly developed data products to ONC staff only until they are ready for public release.

- Also related to data agreements is attribution on virtually all data products available in Data Search. Attributions are defined on a highly granular level so that the metadata team can control the text, date ranges, logos and specific formats, products, sensors and devices to which the attributions are applied. Look for these attributions on FORCE and SIMRES data to start as they are activated by the metadata team. More to come: citations.
- Improved the performance of generating the metadata reports that are included with each data product.

Device Console & Monitoring

- A new tab has been added to Device Console: File Monitoring (later renamed to File Archiving). This feature reports on the completeness of the file archiving. Users, particularly the Data Team, will be able to quickly ascertain if any device fails to report data, if the system fails to archive any files, if post-processing is delayed, etc. This is done by showing statistics comparing the number and size of files archived in a day to the previous two weeks, broken down by device and format.
- Improvements to the Data Monitoring tab, which is the scalar (parsed) data equivalent of the File Monitoring tab. To do: make reports from both File and Data monitoring, which will provide service level statistics, pertinent to data agreements.

Android Applications

- A new Android tablet application has been released called Entry Logger. Its initial application will be to allow fishers using the Community Fishers app to log GPS-tagged comments (annotations) while they are collecting CTD data. It is a separate application at this time but will eventually be integrated into Community Fishers.

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- Prepared a page on oceannetworks.ca where video from the October in-shore cruise can be viewed in real time - see Installations >> Observatory Operations.
- Restructured the Sights & Sounds section.
- Started a new page to keep the public informed about developments in the Earthquake Early Warning project (not yet linked to the menus).

Miscellaneous

- For the first time **all users are now accessing data, both scientific and engineering, from a Cassandra database** rather than from Oracle. This has improved performance, including the responsiveness of Oceans 2.0 and the availability of real-time data. To do: transfer ERDDAP and SOS to Cassandra and shutdown archiving to Oracle.
- Added ability to manage alarm settings for TCM2 data from OWI nodes.
- Aquatic Aquascat .aqa files can now be archived.
- Coast Guard AIS data from 2012-2015 has been imported and archived for future use.
- Improved the way we import autonomous BPR data.
- Developed a more sustainable way to identify camera light positions that will not be affected by relocation during deployments.

1 September 2016

Data Search

- A new feature has started to be implemented but is not complete. That is the ability to restrict access to certain data products in Data Search to certain users. In the near future we will add date restrictions as well. This can also be tied to data access agreements with external companies. In today's release we have the ability to:
 - associate data access agreements with certain groups of users
 - restrict access to defined data products to those users (plus Administrators)

SeaTube

- Changed the way multiple cameras used on the same dive are displayed. Instead of being different branches of the "tree" they are displayed as different tabs above the video viewing area.
- Added a tab to allow still photos taken during the dive to be displayed. At this time the photos are not associated with dive log comments, so for example clicking on a photo will not advance the dive log to show you where in the dive the photo was taken; that will be added later.

Miscellaneous

- Kongsberg ASVP file are now being archived.
- Created a driver and parser for the Aanderaa Optode pCO2 device

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- The Learning section underwent a significant overhaul:
 - Reorganized the menus for the Learning pages. One of the purposes was to make it easier for users to find the community observatories.
 - Implemented an improved "Contact Us" form for the Learning pages.
 - Improved the appearance of the Educator Resources page to make it easier to use and more appealing.

8 August 2016

Data Preview

- You now have the ability to view daily seismogram plots for any of our seismometers for the first time. They will appear only on the Day tab since there is too much data to display in the Month tab. The data for these devices is stored and retrieved from IRIS - the Incorporated Research Institutions for Seismology.
- The popup message announcing the "new" Data Preview feature has now been removed.

Data Search

- You can now produce seismogram plots for any of our seismometers. They are structured as daily plots but you can request any time range. If you request more than one day of data you will get one plot for each day. For some time periods the high-rate data is not available; in that case the plot will automatically switch to low-rate (fewer samples per second) and change to a grey colour. There are several options including channels and filters. The data is also available in MATLAB and miniSEED format.
- Added heading, pitch, and roll to the CSV (comma separated value) header and metadata report to be consistent with the MATLAB data product.
- The hydrophone spectral probability density plot now has an "hour" option.
- Matlab scalar products can now access data in the Cassandra database
- The new State of Environment plots are ready, waiting on configuration to activate

SeaTube

- Refactored the software to make it easier and more reliable when making changes in the future (changes are in the works).

Community Fishers

- Started development on changes to the Community Fishers (PSF) tablet application to eventually allow users to take photos and add multiple annotations to accompany the data collected.

Miscellaneous

- Made long data searches more reliable and improved recovery after system outages.
- We can now monitor and control VENUS OceanWorks nodes using Device Console.
- Created a scheduled job to turn on the lights and record the video from the Barkley Canyon cameras every 2 hours.
- Data monitoring page improvements

5 July 2016

Data Preview

- Modified the way that Data Preview notifications (implemented as annotation) appear so that they can automatically disappear after they are no longer relevant.

Data Search

- Added a couple of options when requesting the Spectral Probability Density plots for hydrophones: a probability range of 0.12, and an intensity range of 40 to 160 dB. This will allow plots to be standardized for easier comparisons.
- Used standardized methods for computing the bin mapping for RDI ADCP data products for improved accuracy.
- Added a RAW data product for the SAS Solar Tracker Radiometer used on the B.C. ferries.
- Created data products for seismometers and made others available for the first time, including State of Health, Time Series Staircase, and the usual such as CSV and MATLAB.
- Added Power Spectral Density plots for all hydrophones.

Instruments

- Improved the driver for Kongsberg Rotary Sonars located at Barkley Canyon Hydrates.
- Wrote a parser to allow data to be received from the temperature probe on the Hercules ROV.
- We will soon have the ability to monitor and control VENUS OceanWorks nodes.

Miscellaneous

- Made progress on the eventual conversion to a Cassandra database from the current Oracle database. When this is complete, this should improve performance and reliability among other things.

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- Modified the web pages for the upcoming INCISE conference
- Started to prepare web pages for the upcoming CVAUI workshop (Computer Vision for Analysis of Underwater Imagery)
- Improved the way that data plots appear on some of the observatory pages (such as Bay of Fundy) and changed the behaviour of links from the plots to the Plotting Utility tool in Oceans 2.

- Made improvements to community observatory pages such as Campbell River and Kitamaat Village.
- Made updates to the Wiring the Abyss pages to support the recent Sikuliaq cruise.
- Improved the behaviour of the page that displays scientific papers that reference ONC (<http://www.oceannetworks.ca/science/publications/academic>). This includes:
 - greatly improved the loading speed
 - selecting an additional category now gives results almost immediately
 - now display a "loading" spinner to show that the list of publications is being loaded
 - each category that is selected now lists the number of papers found in that category
 - the search feature now works in all browsers

31 May 2016

Data Preview

- The ZAP/ASL Echosounder daily plots now also show the elevation of the sun (derived).
- Added an animated display of CODAR (surface current) data for the following new sites:
 - Prince Rupert (Chatham Sound)
 - Georgina Point on Mayne Island (Strait of Georgia)
 - Point Atkinson in North Vancouver (Strait of Georgia)

Data Search and Data Products

- Added an animated display (GIF) data product for CODAR data for new sites (see Data Preview).
- Improved the process to search for data so that 1) data products may be viewed before the metadata is available, and 2) the status messages are more clear to show the progress of producing data products and metadata products. This is especially useful for large searches.
- Revised the calibration information on hydrophone spectrogram plots.
- When downloading a WAV file for hydrophone data, you will also get the calibration file if available. This is also true if you download using Search Hydrophone Data.

Support for New Instrument Types

- Bottom Instrument Package (BIP) for Woods Hole Oceanographic Institution (WHOI). Device ID 22880
- Bore Hole Temperature (BHT), device ID 23457
- SeaEye Falcon ROV navigation device, device ID 23851
- Hercules ROV CTD, device ID 23609
- SiiTech AIS (Automatic Identification System for ship tracking)
- Ferry radiometers (Satlantic Surface Acquisition System Solar Tracker), device ID 13340

Miscellaneous

- Added a new tool called Data Monitoring on the Admin menu (available only when logged in). This produces reports that indicate how many data samples were expected for each instrument on a given day, and how many were actually received and archived. The "Maximum Delta T" column shows the size of the largest data gap on that day.
- Modified the way data will be collected on the Queen of Oak Bay ferry, by running shorestation code on the ferry rather than sending the data via FTP to an existing shorestation. This will eventually allow data to be reviewed in real time.
- SeaTube was redesigned internally in order to support new features that will be added next month. At this time the only change you are likely to see is the display of time, latitude, longitude, and depth above the video. This will update on a regular basis, as opposed to the values shown in the Dive Log Entries below the video which only update when a dive log annotation is made. So this will explain why the values will often differ.

9 May 2016

Data Preview

- Added a Data Preview Management feature (on the Admin menu) to allow ONC staff to manage the Data Preview tree more easily. For example certain branches can be hidden if devices on that branch are not working at the moment and so would have no recent data plots to show. Or a particular time range tab can be disabled if it doesn't apply to a particular device.

Data Products (Data Search)

- Created wave data plots and MAT file data products for the Nortek AWAC at the FORCE observatory (Atlantic). This includes wave height, wave period, and wave direction. These are available in Data Preview and Data Search in Oceans 2.0 as well as on the Installations page in oceannetworks.ca.
- When creating data searches, removed the option to select only the sensors that are used for State of the Environment plots.
- Updated matlab to R2014a to enable Video QAQC. Bonus: all matlab processing should be about 30% faster.
- Added a prototype version of a Data Monitoring page for the Data team (Admin menu).
- Added more calibration information to spectrograms, added calibration text files to hydrophone WAV file searches

Miscellaneous

- Updated OpenDAP to use ERDDAP version 1.68
- Added support for adding new ERDDAP dataset definition
- Added support for controlling access to certain data in cases where there is a data ownership agreement. Note that this is not fully implemented yet, just the underlying framework.
- Added data acquisition for the SIMBA Ice Mass Buoy near Cambridge Bay
- Refactored the dive log entries to use the existing annotation system. This will make the data centralized and easier to manage.

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- Created a "Wiring the Abyss" section for the maintenance cruises that start May 10.
- As mentioned above, added wave plots for the Nortek AWAC device at the FORCE observatory (Atlantic).
- Added additional plots and camera videos to some of the community observatory pages.

5 April 2016

Data Preview

- Performed maintenance on the Data Preview tree to remove sensors inappropriate in this context, and to add new sensors for the Atlantic observatory.
- Refactored the way the Data Preview tree is pruned to show only certain devices and sensors. This is in preparation for a user interface that will allow internal users to manage the tree more easily in the future.

Miscellaneous

- SeaScript scheduled jobs now support multiple scripts to control multiple devices that use the same control schedule.
- Tested many devices before they were deployed to the new Smart Oceans sites (Campbell River, Prince Rupert, Kitamaat)
- All servers are now running OSGi model (Open Services Gateway initiative) software.
- Added a QAQC test runner job that runs QAQC on demand or on a schedule. This will allow us to run tests that use a large cache of data (Hampel filter tests, spike, gradient, etc.).
- Added infrastructure for video QAQC (available soon).
- Various improvements to scalar data products

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- Added community observatory web pages (or added sensors to existing pages) for the new Smart Oceans observatories at Campbell River, B.C. (Discovery Passage), Kitamaat Village, B.C. (Douglas Channel), and the first station of two (Ridley Island) at Prince Rupert, B.C. These can be found under the Learning / Ocean Sense page at <http://www.oceannetworks.ca/learning/ocean-sense>
- Modified the earthquake information block on the Home Page to now show the most recent local and global earthquakes that have happened in the past two weeks (used to be 24 hours).

15 March 2016

Data Preview

- It is now possible to annotate any branch of the Data Preview tree including search tree nodes, devices, and sensors. This is useful for posting status messages in the Data Preview display area. The usual data-related annotations will not appear.
 - When creating an annotation, select the search tree node, device, or sensor you want it to apply to. Note that the annotation will also appear on every branch below the one you annotate.
 - Select "Shared", and fill out the Data Preview comment section.
 - Select an appropriate date range. Note that the date range controls when the annotation appears. It relates to the date range of the data you are viewing. For example if the annotation applied for one day two weeks ago, it will not appear in the Day tab but will appear in the Month tab. The Summary tab shows all applicable annotations regardless of date range.
 - To cancel the annotation, either delete it (there is a link to it titled "More" where the annotation appears) or select a Date To in the past.
- Added data preview plots for the inshore profiler in Saanich Inlet.

Miscellaneous

- Sensor names can now be 50 characters long.
- Improved the code that parses the data from the Jason ROV navigation device.
- Improved the driver for the FORCE (Atlantic) RBR tide gauge.
- Added a parser for the Hecules ROV navigation device.
- Started to convert the Oceans 2.0 software to the OSGi model (Open Services Gateway initiative). This will make the code more modular and will help to reduce the number of bugs in future.

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- The home page underwent a significant redesign. New features include:
 - a News Flash section at the top, highlighting the most recent important news story
 - Other blocks related to Science, News, etc.
 - A Systems Status section was added to display the current status of the three main features of Oceans 2.0.
 - These features are:
 - "Database" shows whether the database is online
 - "Data Acquisition" shows whether data is being acquired from instruments
 - "Oceans 2.0" shows whether the Oceans 2.0 website (dmas.uvic.ca) is online
 - The indicators have three states (pausing your cursor over the indicator will remind you of the following):
 - green circle indicates normal behaviour
 - orange triangle indicates slow behaviour
 - red "X" indicates that that feature is not working
 - Note that the indicators will only be updated when you load or refresh the page.
 - An Earthquake Data blocks shows if any significant earthquakes have been registered in the past 24 hours. The definition of a "significant earthquake" is the same definition that is used by the Earthquake Data Dashboard page; earthquakes that are close to southern British Columbia can have a lower magnitude to be considered "significant" compared to remote earthquakes. Clicking on the chevron (">") or the map takes you to the Earthquake Data Dashboard.
 - There is an Events section that shows the events that are on today, and events that are coming up. Events include Alerts, Conferences, Expeditions, Meetings and Workshops, and Public Events.

INCISE website

- created a website to promote the INCISE International Submarine Canyon Symposium to be held in Victoria, Canada this July. This was released some time ago but this month we added a page to submit abstracts and have them approved. See <http://incise2016.oceannetworks.ca/>

1 February 2016

Data Search and Data Products

- A new "Sort by" option has been added, called "Variables by Location". Some refer to this as a "primary sensor" search and is the same feature that was added to Plotting Utility a couple of months ago. You first select a location, then a variable (for example an ocean property such as Salinity). If there is more than one sensor at that location that can measure the same property, the sensor defined as the "primary sensor" will be used. This is the sensor that is the most accurate of the sensors available. It is possible that the primary sensor can change over the time range of a data product; the primary sensors used and their corresponding date ranges are listed in the metadata report as well as in the header of the data product or as colours in plots.
- Search results will now remain in the search cart ("Step 3") for 14 days, after which they will automatically be removed from the cart. This matches the changes to the FTP storage made in the January 5 release.
- Imagenex 881a products now make use of an orientation attribute so that the seabed will be located at the bottom of the plots or manufacturer's software. Formats affected: .81a/MAT/TXT files, PNG/GIF/AVI plots.
- The ADCP (both RDI and Nortek) Daily Current Plot (PNG) now has options for the limits to be plotted; users can choose from a set of fixed limits or automatic. This allows plots to be compared when the automatic limit may vary: large time ranges over varying conditions or different devices. The automatic limit is based on the 5% and 95% percentile rounded outwards to the nearest fixed limit value.
- Completed a new CSV engine to support variables by location search, which is also used for location and instrument searches (unifies the code base). Benefits include speed, future-proofing, among other various improvements.
- Removed the deployment legend and markers in time series scalar plots to support variables by location search.

Data Preview

- You can now open the Data Preview tree to any location or device or sensor, select the URL, and give that to someone else (for example) who can then automatically open Data Preview at this same location, including which tab you have selected (Summary, Day, or Month).
- Removed devices from the tree that are not currently deployed and added devices that are deployed but that had been missing from the tree.

Miscellaneous

- Improved the way Device IDs are used during dive logging.

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- Improved the earthquake data dashboard (www.oceannetworks.ca/data-tools/earthquake-data-dashboard) so that you can now select any earthquake from the table, which will display as usual. You can then use the URL to pull up this same earthquake at a later date.

5 January 2016

Data Preview

- Inactive locations are no longer visible on the Data Preview tree.

Data Search and Data Products

- Data product search results will now be available for 14 days rather than 7 days, but only in the FTP folder (see the More directory). Currently the results in the search cart are still only available for 7 days but this will increase to 14 days in a later release.
- Made some changes to allow Data Search and other features to work for users in China. It will not appear exactly the same as it does in other countries (for instance there will be no map) but it is functional.
- Improved the rendering of hydrophone spectrograms to reduce distortion.
- Improvements to hydrophone spectral probability density plots – limits, colours and scaling.

QA/QC

- "Station" QAQC tests now automatically also apply to all child nodes under those stations. This also applies to all new data for these child nodes even if the station test was created before this new feature was added.
- The new "region" QAQC test results now have priority over "station" test results.

Miscellaneous

- Improvements to file postprocessing infrastructure to reduce data processing backlogs and maintain better near live data, particularly for hydrophone spectrograms.

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- Added support code for a new feature to display the current status of Oceans 2.0. However this will not be visible until the home page redesign is complete.