Sealog User's Guide

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Introduction

Sealog is a general purpose event logging framework built to support research vessels and deployed underwater vehicles.

It provides vessel/vehicle operators with an event-logging solution that can be customized to support the operator's unique needs and provide a science party with a tool that allows them to design and enforce standardized documenting procedures and vocabularies.

Core Concepts

To better understand how to best leverage Sealog during a cruise or vehicle lowering it is important to understand the underlying concepts and terminology.

Events and Ancillary Data

An 'event' is any observation, whether scientific or operational in nature, that is worth recording and that may not already be directly captured in by other data logging systems.

Examples of scientific events include in-situ biological and geological observations. Examples of operational events are things such as cruise/dive milestones (I.e. 'on-station', 'vehicle-in-water', 'vehicle-on-bottom', 'start-of-survey', etc).

Within Sealog an event is comprised of a timestamp, an author, the event's high-level value, optional free-form text and an optional list of event-specific key/value pairs.

An example of an event that would have a list of event-specific key/value pairs would be the event to document a sample collection. This event should not only capture when a sample was collected but should also document important data points such as it's unique sample id, the type of sample and where it was stored on the vehicle.

With all events it's also important to include ancillary data, for example, where the ship/vehicle was when an event occurred. The Sealog data model provides the ability to associated multiple ancillary data points with an event. Examples of ancillary data points typically added to events include: real-time ship/vehicle navigation, frame capture filenames, real-time sensor data, etc.

Ancillary data points can be added at the time the event is created or at anytime after the event is created. Taking this decoupled approach adds some complication to the overall architecture but enables the flexibility to deal with sensor failures or the need to associate datasets that were unavailable when the event was created.

Cruises and Lowerings

Sealog events are not internally organized by cruise or by lowering. Cruise and lowering information is stored in separate cruise and lowering records that include an ID, start time, stop time, and optional data points such as location and description. When events for a cruise or lowering need to be exported, Sealog uses the information stored in the cruise and lowering records to extract events based on the event timestamps.

Likewise lowerings records do not include which cruise they occurred in. The list of lowering for a given cruise is determined by querying the list of lowerings with start/stop times that occur within a cruise record's start/stop times.

Event Templates

Event templates are records that define what event-specific key/value pairs should be defined when submitting that event type. In the case of the sample event, the event template for the sample event would also prompt the user to specify the sample ID, type and storage location. The event template may also define the acceptable values for each of the key/value pairs and a default value.

The Sealog Client Interface

The Sealog Client is the web-based UI. It can be used on any device with a modern web-browser including smart phones and tablets. The only other requirement is that the device have network access to the sealog server.

Login Screen

The first screen users see when they connecting to Sealog is the login screen. The login screen include a login form containing the standard username/password elements, a login button, a link to create a new account and a link to retrieve a forgotten password.

Logins are required however there is a "Login as Guest" button for operators that do not wish to manage individual user accounts.

Passwords for accounts are also optional. This is useful for operators that prefer to use general accounts that are role-based (i.e. Port Observer, Starboard Observer).

Main Screen

After logging into the system the user is taken to the main event logging screen. The main event-logging screen is where users submit new events and can view recently submitted events. The main screen includes:

- Navigation Bar
- Event templates (blue buttons),
- Free-form text field,
- Recent event history,
- Sealog Auto-Snapshot (ASNAP) service status

Navigation Bar

The navigation bar at the top of the interface includes links and dropdown menus to the various parts of the client. The role of the user determined what appears in the navigation bar.

Event Templates

Below the navigation bar is a row of event template categories followed by an array of event templates (blue buttons). Clicking on the blue buttons will open a dialog window for defining the event options defined in the event template. If an event templates does not require the user to provide any additional information the event will be submitted but the dialog window will NOT appear.

Free-form text field

The free-form text field is a text input field for submitting in-situ events for which there is no event template already defined. To add a free-form event simple type the text you wish to record and click the submit button.

Recent Event History

The recent event history card displays recently submitted events. There are two parts to this UI elements.

The top part contains the most recent event. It also shows any event options and ancillary data associated with the event. The bottom part displays the last 20 events submitted by all users.

This element is updated automatically as new events are submitted. Clicking on the text for an event in the event history list will display a modal containing all event options and ancillary data related to the event. If desired either of these elements can be hidden to simplify the UI.

ASNAP Service Status and Free Disk Space

The bottom element of the UI displays the status of the ASNAP service and the amount of free disk space left on the server running Sealog.

Submitting Events

There are two ways to submit events from the Sealog client: the event templates (blue buttons) and the free-form text field.

Using the Event Templates

To submit and event via an event template, simply click on the desired template (blue button). Clicking the event template may open a dialog window providing additional

Using the Free-form Text Field

To submit a free form event simply type text into the text field and click the “Submit” button located to the right of the free-form text field. The free-form text field is for summiting events for which there is no event template.

Event Comments

Event comments provide a mechanism for user to add additional context to an event after it’s been created. Examples of comment content include:

- An observation is incorrect
- Additional observations not included in the original event submission
- Preliminary notes on the importance of an event

Reviewing Events from a Cruise/Lowering

To review the events from a lowering, click the “Review Cruises/Lowerings” link from the top navigation bar. This will display the cruise/lowering selection page.

Use the interface to select the desired year, cruise and lowering. The interface will display the information stored within the selected cruise and lowering metadata records. Once the desired lowering is selected, the UI will be present four options for reviewing the lowering.

- Replay → VLC-style controls and a slider for scanning through a lowering. All associated data for a given event is displayed including preview of image data.
- Review → Similar to Replay but with a focus on just the events and without the VLC-style controls, slider or display of associated data. Users can choose to display the associated data for and event by clicking the window icon next to the desired event.
- Map → Similar to Replay and Review but with a focus on the position where the event was created. This interface includes a map of the lowering trackline and a slider for quickly scanning through the lowering.
- Gallery → Displays only the image data collected for each event, organized by camera name.

Filtering Events

The Replay, Review and Map interfacing include an event filter form. This form is used to filtered the events shown. Events can be filtered by text author or, time. The search form is case insensitive and partial matching is supported. Use commas between event values to search for multiple event values (i.e. FISH, CORAL). Prefixing an event value with a "!" character will perform a logical NOT operation.

Exporting events

Sealog allows users to export all or a subset of events from the database. Events can be exported with or without their associated ancillary data and the data can be exported in either JSON or CSV format.

To export the events, click the Download icon in the upper-right of the event list and select the type of export. The export is for the current list of events shown in the Filtered Events card.

Event Templates (those blue buttons)

Event templates can be added and/or changed at anytime. To add/edit an event template go to the "System Management" dropdown menu in the navigation bar and select "Event Templates" This will take you the Event Templates section of the Sealog interface. This option is only available to Event template managers and Admins.

The Event Templates section has 4 parts:

- A list of system event templates
- A list of non-system event templates,
- A button to add a new event template
- A form used for creating/editing event templates

System vs Non-System Event Templates

There are 2 classes of event templates: system and non-system.

System event templates can only be created/edited/deleted by Admin users. System templates are for vessel operators to define and should not be modified by the visiting science party. System templates can also be hidden from non-admin users to prevent accidental use by non-admin users.

Non-system events can be created by Event template managers or Admins. These are the events that can change from cruise to cruise to meet the science party's needs.

Adding/Editing Event Templates

When first arriving in the Event Templates section the create event template form is ready for the user to immediately start building a new event template.

To edit an existing template click the blue pencil icon next to the template you wish to edit. To preview what the template will look like in the main event-logging section click the green test tube icon next to

the template you wish to preview. To delete an existing template click the red trash can icon next to the template you wish to delete. The Sealog client will prompt the user to confirm any delete operations.

The most basic event template includes:

- Button Name → the name that will appear on the blue button.
- Event Value → the string that will be submitted as the event's value.
- Free text Required → whether or not the observer MUST add some free-form text before submitting the event.

By default a new event template does not have any event options. To add an event option click the blue "Add Option" button. There are five types of event template options:

- Text → allows entering free-form text.
- Static Text → defines the exact text to be used for the option and this cannot be changed when submitting the event.
- Dropdown → allows selected one value from a pre-defined list.
- Radio Buttons → allows selected one value from a pre-defined list.
- Checkboxes → allows selected one or more from a pre-defined list.

These additional optional are for customizing the event template so that users are aware of what additional information can/must be included when submitting a particular event. Each additional element includes a "Require" switch. If the Require switch is enabled then the user must enter/select a value for that option before the event can be submitted.

Exporting Event Templates

It is possible to export event templates to file. There are two reasons to export event templates:

- Include the event templates as part of the end-of-cruise data package
- Desire to use the same event templates from a previous cruise or another instance of Sealog.

To export event templates to file, click the download icon in the header of the event templates tables.

Admin users can export system and non-system event templates. Event template managers can export only the non-system templates.

Importing Event Templates from file

To import event templates from a file, use the blue "Import From File" button located below the Event Templates table. This button is only available to Admin users.

Clicking the import button will open a modal window that presents the user with the option to select the file to import. After selecting the file the modal will display the number of event templates found in the

file and real-time status messages displaying the number of event templates pending, imported, skipped (because they already exist) and errors (problem with the event template data in the file).

Cruise and Lowering Records

Cruise and Lowering records are used to organize events for review and export. These records contain information such as the cruise name, vessel name, PI, cruise/lowering locations, start/stop times, participant lists, description/summaries, etc.

The links to navigate to the cruise and lowering sections of the Sealog client are in the “System Management” dropdown of the top navigation bar. These sections are only available to Cruise Manager and Admin users.

General Layout

The Cruise and Lowering sections are organize in a similar manner. Each section has 2 main components:

- Table of cruises/lowerings
- Form to Add/Edit a cruise/lowering
- Button to Import cruises/lowerings from file.

Table of Cruises/Lowerings

The cruise/lowering table displays all cruises/lowerings available in Sealog. The search text field at the header of the cruise/lowering table can be used to filter the list. The download icon next to the search text field can be used to export all the cruises in the table to file.

To edit an existing cruise/lowering click the blue pencil icon next to the cruise/lowering you wish to edit. To delete an existing cruise/lowering click the red trash can icon next to the cruise/lowering you wish to delete. The Sealog client will prompt the user to confirm the deletion.

To hide a cruise/lowering from non-admin users click the orange eye icon next to the cruise/lowering you wish to hide. To un-hide a cruise/lowering from non-admin users click the grey slash-eye icon next to the cruise/lowering you wish to un-hide.

Adding/Editing Cruises/Lowerings

When a user first arrives in the Cruises or Lowerings section the create cruise/lowering form is ready to immediately start creating a new cruise/lowering.

To edit an existing cruise/lowering click the blue pencil icon next to the cruise/lowering you wish to edit. This will populate the form with the contents of the selected cruise/lowering. Required fields are designated with a red asterisks.

When done completing or updating the form, click the blue “Create” or “Update” button to save the cruise/lowering.

Exporting Cruises/Lowerings

It is possible to export cruises/lowerings to file. There are two reasons to export cruises/lowerings:

- Including the cruise/lowerings as part of the cruise data package
- Wanting to move/copy the cruises/lowerings to another instance of Sealog

To export cruises/lowerings to file, click the download icon in the header of the cruise/lowering table.

Only Cruise managers and Admins can export Cruises/Lowerings.

Importing Cruises/Lowerings from file

Use the blue “Import From File” button located below the Cruises/Lowerings table to import cruises/lowerings from file. This button is only available to Admins. Clicking the button will open a modal window with the option to select a file for import. After selecting the file the modal will display the number of cruises/lowerings found in the file and real-time status messages displaying the number of cruises/lowerings pending, imported, skipped (because they already exist) and errors (problem with the cruise/lowering data in the file).

Additional Lowering Functionality

For installations where vehicle navigation is integrated as ancillary data for the events there is additional functionality in the Lowerings section. This additional functionality includes the ability to use the navigation data to refine lowering start/stop times as well as capture additional metadata such as a geographic bounding box for the lowering, max depth and on-bottom/off-bottom times.

To access this additional functionality, click the orange “Milestones/Stats” button in the Update Lowering form.

Event Management

The Event Management section allows Admin users to view all events in the Sealog database. The Event Management section is available from the System Management dropdown on the top navigation bar.

The Event Management section includes a table of events and an event filter form.

Filtering Events

The Event Filter form is used to filtered the events shown. Events can be filtered by text author, or time. The search form is case insensitive and partial matching is supported. Use commas between event values to search for multiple event values (i.e. FISH, CORAL). Prefixing an event value with a “!” character will perform a logical NOT operation.

Exporting events

The events shown in the table of events can be exported to file. To export the events, click the Download icon in the header of the Filtered Events card and select the type of export. The export is for the exact list of events shown in the Filtered Events card. Use the Event Filter form to construct the desired list of the event prior to exporting.

Users

Users can be added and/or changed at anytime. To add/edit a user go to the “System Management” dropdown menu in the navigation bar and select “Users” This will take you the Users section of the Sealog interface. This option is only available to Admins and Cruise managers.

The Users section has 4 parts:

- A list of system users
- A list of non-system users,
- A button to add a new user
- A form card used for creating/editing users

System vs Non-System Users

There are 2 classes of users: system and non-system.

System users can only be created/edited/deleted by Admin users. The reason for system users is to allow the vessel operator to define a set of users that should not be modified by the visiting science party.

Non-system users can be created by Cruise managers and Admins. These are the users that can/should be managed by the science party to support their specialized needs.

Table of Users

The user tables displays all users available in Sealog. The search text field at the header of the System Users and Users cards can be used to filter the users displayed in the corresponding table. The download icon next to the search text field can be used to export all the cruises in the table.

To edit an existing user click the blue pencil icon next to the user you wish to edit. To delete an existing user click the red trash can icon next to the user you wish to delete. The Sealog client will prompt the user to confirm the delete to prevent accidental deletion.

Adding/Editing Users

When a user first arrives in the Users section the create new user form is already displayed. This allows the user to immediately start building a new user.

To edit an existing cruise/lowering click the blue pencil icon next to the user you wish to edit. This will populate the form with the contents of the selected user. Required fields are designated with a red asterisks. When done completing or updating the form, click the blue “Create” or “Update” button to save the user.

Admin users can promote/demote a user to system-user. This option appears as a “System User” checkbox on the user create/update form.

Admin users can disable user accounts. User accounts can be disabled if the operator wants to temporary prevent the account from being used. This option appears as a “Account Disabled” checkbox on the user create/update form.

Exporting Users

It is possible to export users to file. There are three reasons to export users:

- Wanting to make a backup of the users table.
- Wanting to move/copy the users to another instance of Sealog
- Wanting to use the same users on a future cruise aboard the same vessel.

To export users to file, click the download icon in the header of the users tables.

Only Admin users can export system users. Cruise Managers and Admins can export non-system users.

Importing Users from file

To import users from a file, use the blue “Import From File” button located below the Users table. This button is only available to “admin” users. Clicking the button will open a modal window that presents the user with the option to select a file for import. After selecting the file the modal will display the number of users found in the file and real-time status messages displaying the number of users pending, imported, skipped (because they already exist) and errors (problem with the user data in the file).

Sealog Client Customization

./src/client_config.js

Refer to src/client_config.js for client configuration options. Client must be re-built to apply changes

SERVER_PROTOCOL: Set whether the server is using http/https. Default is http. This can be overridden at runtime via the SEALOG_SERVER_TLS environment variable.

SEALOG_SERVER_HOSTNAME: Set the server hostname. Default is to use the same hostname as specified in the client URL. This can be overridden at runtime via the SEALOG_SERVER_HOSTNAME environment variable.

SEALOG_SERVER_PORT: Set the server port number. Default is 8000. This can be overridden at runtime via the SEALOG_SERVER_PORT environment variable.

API_ROOT_URL: Complete URLs for the Sealog Server API. This is based on the SERVER_PROTOCOL, SERVER_HOSTNAME and SERVER_PORT varialbles

WS_ROOT_URL: Complete URLs for the Sealog Server Websocket connection. This is based on the SERVER_PROTOCOL, SERVER_HOSTNAME and SERVER_PORT

ROOT_PATH: URL Root path to the client. This MUST match where the client is being hosted by the webserver. Default is ‘/’. Change this if the client is NOT hosted at the webserver's document root. i.e. '/sealog/’. This can be overridden at runtime via the SEALOG_ROOT_PATH environment variable.'

IMAGE_PATH: Where the images are hosted on the webserver. Default is '/files/images' and rarely needs to be modified.

RECAPTCHA_SITE_KEY: Optional reCaptcha bot abuse protection. This can be overridden at runtime via the SEALOG_RECAPTCHA_SITE_KEY environment variable. Set to null if not using reCaptcha.

LOGIN_SCREEN_TXT: Text show on the login page to the right of the login form.

LOGIN_IMAGE: Optional image file shown on login page. Will appear under the

LOGIN_SCREEN_TXT. Image filename must end in ".jpg", "jpeg", ".png" format and

be located in the ./assets/images folder. Set to null if not showing an image.

MAIN_SCREEN_HEADER: Text shown on the main page above the cruise list and MAIN_SCREEN_TXT

MAIN_SCREEN_TXT: Text shown on the main page below MAIN_SCREEN_HEADER and above the cruise list.

HEADER_TITLE: Text displayed on the left side of the title bar.

DEFAULT_VESSEL: Default vessel used when created new cruises

USE_ACCESS_CONTROL: Add cruise-level and lowering-level authentication. This needs to match the 'useAccessControl' setting on the sealog-server. Default: false

DISABLE_EVENT_LOGGING: Remove ability to add new events. Set to true for read-only instances of Sealog. Default: false.

CRUISE_ID_PLACEHOLDER: Optional placeholder text displayed in CruiseID textfield. This is just a helpful hint to user on how to properly format the cruise ID. i.e. OXR20210101. Set to null to show nothing.

CRUISE_ID_REGEX: Optional RegExp object to use when verifying a cruise ID. Non-compliant cruise ID are allowed but a warning message will be shown. i.e. RegExp(/^OXR20[0-9]{2}[0-1][0-9][0-3][0-9]$/). Set to null to disable.

export const CRUISE_ID_REGEX = null

CUSTOM_CRUISE_NAME: Optional customization for cruise nominclarture. Format: ["single version","plural version"]. Specify lowercase versions, will be capitalized within the client as needed. Default is ['cruise', 'cruises'] if variable set to null.

export const CUSTOM_CRUISE_NAME = null

LOWERING_ID_PLACEHOLDER: Optional placeholder text displayed in LoweringID textfield. This is just a helpful hint to user on how to properly format the lowering ID i.e. CHR0001. Set to null to show nothing.

LOWERING_ID_REGEX: Optional RegExp object to use when verifying a lowering ID. Non-compliant lowering ID are allowed but a warning message will be shown. i.e. RegExp(/^CHR[0-9]{4}$/). Set to null to disable.

CUSTOM_LOWERING_NAME: Optional customization for lowering nominclarture. Format: ["single version","plural version"]. Specify lowercase versions, will be capitalized within the client as needed. Default is ['lowering', 'lowerings'] if variable set to null.

export const CUSTOM_LOWERING_NAME = null;

POSITION_DATASOURCES: List of aux data datasources that should be interpreted as vessel/vehicle position. List should be defined in order of importance.

EXCLUDE_AUX_DATA_SOURCES: Optional list of aux data datasources that should NOT be displayed in the event history, lowering replay or lowering map.

IMAGES_AUX_DATA_SOURCES: Optional list of aux data datasources that should be interpreted as imagery and formatted as such in the event history, lowering replay and lowering gallery. Set to [] if not used.

AUX_DATA_SORT_ORDER: Optional list defining how to order aux data data sources in the event history and lowering replay. Set to [] if not used.

AUX_DATA_DATASOURCE_REPLACE: Optional key/value pairs for how to format aux data data source names in event history and event replay. Format: {<auxdata_datasource>: <display text>} i.e. { vehicleRealtimeCTDData: 'Vehicle Realtime CTD Data', ... }. Set to null if not used.

export const AUX_DATA_DATASOURCE_REPLACE = null

map_tilelayers.js

TILE_LAYERS: List of tile layer options for sealog maps. Format conforms with Leaflet tilelayer object definitions. More information available at: https://leafletjs.com/reference.html#tilelayer.

Sealog Server and Backend Services

RESTful API

The core concept behind the sealog architecture is that the server's functionality remain small and concise. The sealog-server is simply an API that other programs, scripts and application can leverage to submit and retrieve event data. Data can be retrieved as needed via the RESTful API or clients can be notified of changes asynchronously by connecting to the server via websockets and subscribing to one of the many subscription channels.

Swagger/OpenAPI online documentation:

http://<server_url>:<server_port>/sealog-server/documentation

ASNAP

Auto-Snapshot (ASNAP) is a background service that will submit “ASNAP” events at a specified interval. ASNAP events ensure a cruise/lowering has a minimum resolution of events. This is useful on vehicle decents/ascents or long transects where users may not submit events for long periods of time. The service listens to the “asnapStatus” custom variable from the sealog-server API. When the variable is set to “On”, the ASNAP service will submit ASNAP events to the sealog server at the set interval until the “asnapStatus” is set to “Off”.

The automatic snapshot service is controlled by the ./misc/sealog_asnap.py program. To install copy distributed version (./misc/sealog_asnap.py.dist) and rename to ./misc/sealog_asnap.py. Requires valid ./misc/python_sealog/settings.py file.

```
usage: sealog_asnap.py [-h] [-v] [-i INTERVAL] [-t TIMEOUT]

ASNAP event submission service
options:
  -h, --help            show this help message and exit
  -v, --verbosity       Increase output verbosity
  -i INTERVAL, --interval INTERVAL
                        ASNAP interval in seconds. Default: 10
  -t TIMEOUT, --timeout TIMEOUT
                        set a timeout (in minutes) to stop submitting ASNAP events
```

Auto-Actions

Auto-Actions is a customizable background service that listens to sealog events and performs additional actions. The most common use of the auto-actions service is to set lowering milestones and turn on/off the ASNAP service.

The auto-action service is controlled by the ./misc/sealog_auto_actions.py program. To install copy distributed version (./misc/sealog_auto_actions.py.dist) and rename to ./misc/sealog_auto_actions.py. Requires valid ./misc/python_sealog/settings.py file. May require additional changes to match desired behavior.

```
usage: sealog_auto_actions.py [-h] [-v] [-i INTERVAL] [-t TIMEOUT]

Auto-Actions Service
options:
  -h, --help            show this help message and exit
  -v, --verbosity       Increase output verbosity
```

AuxData-Inserter-Influx

The AuxData-Inserter-Influx is a service that listens to sealog events and associates InfluxDB data with the events by submitting aux_data records to the sealog-server. The number, contents and format of the aux_data records is determined by an inline yaml-formatted data structure or via a configuration file command-line argument.

Sealog/InfluxDB Aux Data integration service is controlled by the ./misc/sealog_aux_data_inserter_influx.py program. To install copy distributed version (./misc/sealog_aux_data_inserter_influx.py.dist) and rename to ./misc/sealog_aux_data_inserter_influx.py. Requires valid ./misc/python_sealog/settings.py and ./misc/influx_sealog/settings.py files. Will require additional changes to inline yaml configuration OR a custom yaml-formatted configuration file. Can be setup as a service for realtime aux data association or used to retroactively associate data from InfluxDB to a particular cruise/lowering.

```
usage: sealog_aux_data_inserter_influx.py [-h] [-v] [-f CONFIG_FILE] [-n] [-e
EVENTS] [-c CRUISE_ID] [-l LOWERING_ID]

Aux Data Inserter Service - InfluxDB

options:
  -h, --help            show this help message and exit
  -v, --verbosity       Increase output verbosity
  -f CONFIG_FILE, --config_file CONFIG_FILE
                        use the specifed configuration file
  -n, --dry_run         compile the data but do not push to server
  -e EVENTS, --events EVENTS
                        list of event_ids to apply the influx data
  -c CRUISE_ID, --cruise_id CRUISE_ID
                        cruise_id to fix aux_data for
  -l LOWERING_ID, --lowering_id LOWERING_ID
                        lowering_id to fix aux_data for
```

Cruise Sync

The cruise-sync service can be configured to synchronize the cruise records across multiple sealog-server instances.

Cruise Sync service is controlled by the ./misc/sealog_cruise_sync.py program. To install copy distributed version (./misc/sealog_cruise_sync.py.dist) and rename to ./misc/sealog_aux_data_inserter_influx.py. Requires valid ./misc/python_sealog/settings.py file. Will require changes to SEALOG_SERVER_INSTANCES variable.

```
usage: sealog_cruise_sync.py [-h] [-v]
```

```
Cruise Sync Service

options:
  -h, --help       show this help message and exit
  -v, --verbosity  Increase output verbosity
```

Data Export

Data Export service is controlled by the ./misc/sealog_data_export.py program. To install copy distributed version (./misc/sealog_vehicle_data_export.py.dist OR ./misc/sealog_vessel_data_export.py.dist) and rename to ./misc/sealog_data_export.py. The distributed version used will depend on the type of install (vehicle vs vessel). Requires valid ./misc/python_sealog/settings.py file. The distributed versions include the most common types of data export requirements but will likely require customizations to meet the operator's needs.

```
usage: sealog_data_export.py [-h] [-v] [-c] [-L LOWERING_ID] [-C CRUISE_ID]

Sealog Explorer Data export

options:
  -h, --help            show this help message and exit
  -v, --verbosity       Increase output verbosity
  -c, --current_cruise  export the data for the most recent cruise
  -L LOWERING_ID, --lowering_id LOWERING_ID
                        export data for the specified lowering (i.e. S0314)
  -C CRUISE_ID, --cruise_id CRUISE_ID
                        export all cruise and lowering data for the specified
cruise (i.e. FK200126)
```