

## Major changes in AMVERSEAS V 9.1 compared to the previous version

### AMVERSEAS system wide

- Adding databases to store data and settings. This feature will increase the abstraction level of the applications allowing remove hard coded text messages in the program code. Also it will make the system more robust eliminating some critical and very sensible to be changed text files.
- Implementing new feature that should help to identify exactly which version is running. This is the **Revision date** field in the application's About dialog. The format is YY.MM.DD.HH.MM = Year.Month.Day.Hour.Minute. This field will be updated each time that a new version is built.
- Making AMVERSEAS system Windows 7 and United States Government Configuration Baseline (USGCB) complaint with no adjustment of UAC required. AMVERSEAS will be installed in a separate folder - per default in C:\Program Files\AMVERSEAS\_V9 in Windows XP or C:\Program Files (x86)\AMVERSEAS\_V9 in Windows 7. It doesn't attempt to modify or create any new files under this folder tree while running. The programs settings and user data will be stored in the common documents folder where the applications attempt to modify and create new files under this folder tree while running. By default its content is available to read and write by all users. So storing files here will be exposed uniformly to all users without need to adjusting write access for non-admin users.  
The folder for documents shared among users:  
C:\My Documents on 95/98/ME  
C:\Documents and Settings\All Users\Documents on NT/2000/XP  
C:\Users\Public\Public Documents on Vista/7/8
- New AMVERSEAS versioning convention. A unique version number will be assigned to the AMVERSEAS components and installers for keeping track of different software versions at a fine-grain level.

### SEAS Console: Interface application to manage the AMVERSEAS programs' activities.

- Adding progress bar that will be show during loading process.
- Adding a check box which indicates if the ship has IMO number or not. If the **Has IMO number** check box is checked the **IMO Number** field is mandatory. If not, is the opposite. It is useful for smaller vessels that do not have an IMO Number [Main menu|Setup|Administration].
- Adding the Marine Mammal Sighting Reporter. This reporter helps determine the distribution and behaviors of marine mammals throughout the world. Collected sightings data will be integrated into the National Marine Mammal Laboratory's Platforms of Opportunity database, which has data dating back to 1958 [Main menu|Reports|Marine mammal Sighting].
- Adding the Buoy Deployment Logger. This application is used for saving buoy deployment information that should be sent to the Global Drifter Center [Main menu|Reports|Buoy deployment logger].

**SEAS Transceiver Interface:** Real-time application which combines reception of GPS data and transmission of collected data via several devices.

- Placing the GPRMC sentence on a serial port.
- Integrating XverXface component. This allows reuse the existing component for XBT profiles transmission.

**SEAS XBT Data Recorder:** Real-time application which obtains information on the temperature structure of the ocean to depths of up to 2000 meters.

- Instant access to the archive directory [Main menu|Tools|Open folder containing archived data...].
- Adding the deployment height to the profile as metadata [Main menu|Setup|Auto launcher|Setup].
- Adding the probe serial number to the profile as metadata [Main menu|Setup|Auto launcher|Setup].
- Adding the course over ground (COG), and speed over ground (SOG) to the profile as metadata using as input source the connected GPS transceiver.
- Adding Night mode function. The profile screen turns much darker than the normal "Day mode". It is better for the riders, which work around the clock and often have to wake up in the middle of the night to check the system.
- Archiving raw data in addition to the binary profile after an XBT drop. The file **CallSign\_TimeStamp\_NXX\_RawData\_XBT.zip** will be generated.
- Allowing the user to edit the profile metadata including the position after a drop [Main menu|Edit|Last profile or Selected profile].

**SEAS TSG Data Recorder:** Real-time application to collect thermosalinograph data.

- Instant access to the archive directory [Main menu|Tools|Open folder containing archived data...].

## **Meteorological Observations**

**SEAS Met Observations Logger:** Manual component that provides accurate meteorological and oceanographic data in real time from ships at sea.

**SEAS AutoIMET Data Logger:** Real-time application to produce automatically high quality marine weather observations. It connects to a Remote Computer System using sockets to retrieve a data stream containing the measured weather parameters.

- Generating IMMT-5 formatted message.
- Supported Minimum Quality Control Standards MQCS-7.
- Outputting IMMT data for Ancillary ships.

## **SEAS Met Observation Logger**

- Adding a map that shows the observation position to decrease the possible user error. The Mercator projection was implemented to convert latitude/longitude to x/y coordinate to plot the point on the map [Observations Wizard|Page1].
- Adding toolbar to allow the user direct access to the commands Start manual observation, Start automatic observation, Show observations as quick form, Show observation as report, Save BBXX message, Print BBXX message, Send BBXX message, Archive meteorological data, List Help topics and Display program information.
- If was elapsed one hour or more after confirming an observation, the input pages are still containing the inserted data but it must be confirmed again by pushing Next> button on each input page to allow the transmission.
- Adding the command to setup the transmission method [Main menu|Setup|Transmission method...]. Before the user can transmit the observation he/she has to define the drive where the observation will be stored and the transmission method to be used (INMARSAT C CODE 41 (ASCII), INMARSAT C SPECIAL ACCESS CODE (SAC) SEAS (BINARY), NOAA MAILER SERVICE (BINARY) and EMAIL (ASCII)).
- Adding the option to send the observation metadata in ASCII format automatically using the default email client [Main menu|Setup|Meta Data|Save and Transmit button]. It depends on the predefined transmission method. Once this button is pressed the default email client (Thunderbird, Outlook, etc.) opens with the **MetaData.txt** file attached, and a subject line of **"METADATA"**. The user would have to add the servicing PMO email address.
- Adding the option to send the Archived Meteorological Data automatically using the default email client [Main menu|Utilities|Archive Meteorological Data]. When the file is saved, an additional dialog box opens to prompt the user to send it via email using the default email client. If the user click **Yes** the default email client opens with the archived file attached and subject line of **Archive Meteorological Data**. The user would type in the appropriate PMO's email address.
- When the Warnings/Errors dialog appears after to complete an observation, the user can double click on the message line to go instantly to the correspondent observations wizard page to make corrections.
- Adding meteorological glossary which contains information on used terms [Main menu|Info|Glossary].

#### **SEAS AutoIMET Data Logger**

- Adding three new instruments - Ship's heading, Relative wind direction, and Relative wind speed. This is an additional requirement for VOSclim.

**AMVER Reporter:** Submits four types of reports used by the U.S. Coast Guard to update their data base for search and rescue operations.

- Increasing to an unlimited number the waypoints in the Sailing plan.

**SEAS PC-Watchdog:** to monitor the proper operation of the AMVERSEAS components. It is designed to keep the applications running continuously.

- None

## **High quality documentation**

- *Marine Mammal Sighting User's Guide*