

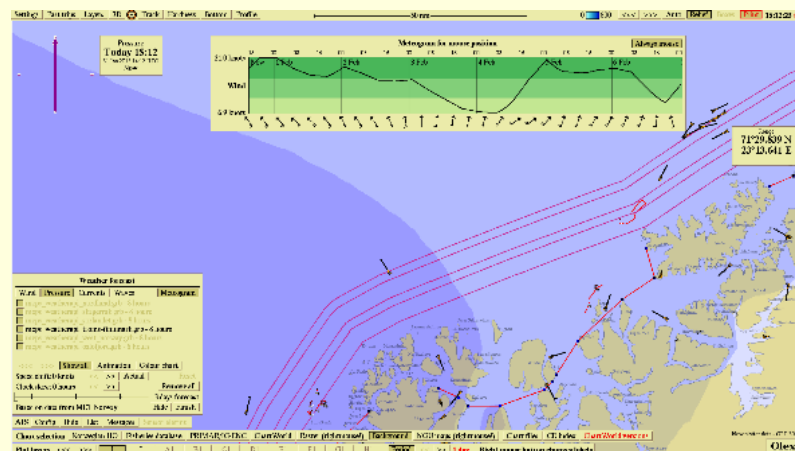
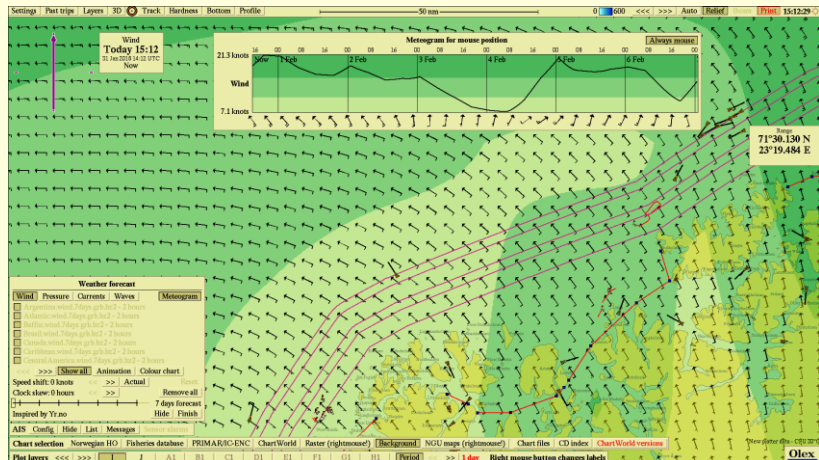
The GRIB module allows Olex to download and show weather forecasts from GRIB1 files; GRIB2 file support is planned. Note that Olex cannot verify the soundness of random URLs. All kinds of bad data can indubitably be downloaded. The Downloads window shows what URLs the system has been set to collect data from and this can be configured from 1 to 24 hours. One can also set 0 hours, and rather collect them manually with the "Download all now" button. New URLs are configured by the "Create new" button. URLs can be found by "resting" the mouse on web links in a web browser. Lists of URLs can be exported and imported. Moreover, if Internet is not connected, data can also be imported from USB memory.

### WEATHER FORECAST

Display parameters are selected from the lower left main control window; which files make up the dataset, they can selectively be disabled; a button to animate the weather, i.e. replay it at 5 hours per second; slider and buttons to control how far into the future the display should be for.

Either a fixed or speed-dependent offset can be configured. The speed can be varied, or the vessel's actual speed can be used.

There are also buttons to call up the color legend, minimize the window, or terminate the weather display and return to classic Olex depth view.



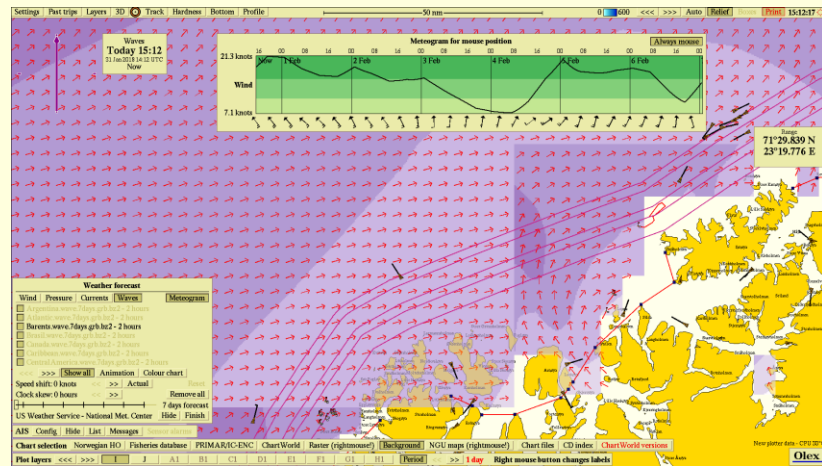
To the right there is a status for last download, and how long ago it happened. If something went amiss, a red error is shown with a cryptic error code from 1 to 8. Technically, this is an error code from the wget utility, on which information can be found by Google. So many things can go wrong - is the cable connected? Internet down? Something wrong with the remote server? With the local computer? URL misspelled? - That was found

futile to detail; it suffices to say something went wrong.

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At the top, a wind meteogram is shown, for the currently chosen mark, or wherever the mouse is pointing. The wind meteogram is shown even if some other parameter is active. The windows described are controlled by buttons on the main Settings menu ("Weather forecasts", "Downloads") or in the weather control window. Various presentations are available for wind, air pressure, waves and surface currents as follows:

In the presentation for **wind** the colors show strength, while the arrows show direction and strength. The mouse is in the middle, and a marker shows the local wind speed and direction. A small window in the upper left shows the data to be valid for right now. The view slowly changes according to the weather forecast.



Changes of atmospheric pressure are shown in the presentation of **air pressure**. These changes are indicated with corresponding colors change every 4 hPa.

Regarding the **waves**' presentation, colors show wave height and the arrows direction. All arrows are equal length, regardless of wave height while data close to shore are not presented.

In the **surface currents**' presentation, the arrows are longer for stronger currents. Some "holes" might also be apparent; these are reflecting decisions made by the data provider.

## INTERNET CONNECTION

When the system is configured for Internet access an Ethernet hardwire is recommended but depending on the particular installation a "Wi-Fi Extender" may be used, commonly found in houses to increase Wi-Fi coverage. These often contain an RJ-45 jack, to provide wired Ethernet. Other routers might also be used; for example, 4G wireless routers often offer some RJ-45s. The center window shows how DHCP has been activated. DHCP may not be needed with some routers. A little green marker in the upper right corner confirms Internet connectivity while a red marker would mean no connection. In some cases the system might be configured with several static IP addresses to reach various sensors; the top address provided by DHCP.

Most of the old Olex machines can be connected to Internet. For some of these older systems, Linux might need re-installation, to gain modern Linux. Traditionally, Olex was set up without any firewall, which may be activated by running "system-config-firewall-tui" while in maintenance mode. We have noted that connected systems may try to synchronize their clocks against Internet time servers. This may fail, putting the clock off several hours. Proper disabling of this synchronizing is still under development.

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