Welcome to NaviWeather Help Section

Version 2.0.2

A new era in weather forecasting has just begun.

NaviWeather by NavSim TECHNOLOGY.

BEFORE YOU START

It is recommended to **use a mouse with a scroll wheel**, as this enables one to Zoom in and out of Basemap with great ease. Before beginning to use NaviWeather, please take a minute to get familiar with Screen Layouts and Basic Operations.

Abbreviations:

LMB – Left Mouse Button
RMB – Right Mouse Button

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1. System Requirements

Minimum and recommended system requirements for NaviWeather are as follows:

Minimum:

- Operating system: Windows XP, Windows Vista or Windows 7, Linux, Mac Os (coming soon)
- Processor: Pentium 3 500 MHz frequency
- System Memory RAM: 512 MB
- Hard Disk: 500 MB free disk space
- Network bandwidth: 2.4 kb / s
- Video Card: with support for OpenGL and 3D graphics equipped with 64 MB VRAM
- Screen: 1024x768, High Color 16-bit, OpenGL (to run in OpenGL mode)

Recommended:

- Operating system: Windows XP, Windows Vista or Windows 7, Linux, Mac Os (coming soon)
- Processor: Pentium 4 2.4 GHz or faster, or AMD 2400xp processor or higher
- System Memory RAM: 1 GB
- Hard Disk: 2GB free space
- Network speed: 64 kb / s
- Video Card: with support for OpenGL and 3D graphics with 256 MB VRAM
- Screen: 1280x1024, True Color, 32 bits

It is recommended to **use a mouse with a scroll wheel**, as this enables done to Zoom in and out of Basemap with great ease

2. Basic Operations

Panning	Hold down LMB and move the mouse	Hold down LMB and move the mouse Panning is the act of moving a chart up, down, side-to-side, or diagonally. When holding down on the Left Mouse Button (LMB) the chart will move as the mouse moves. The arrow keys on the keyboard can also be used to Pan the chart.
Zooming	Scroll the mouse wheel, or Use the + and – keys on the keyboard	To Zoom in and out, use the plus (+) and minus (-) keys on the keyboard. If the mouse has a scroll wheel (between the left and right mouse buttons) it can be used to Zoom in and out.
Rotate	Alt+LMB, or F5 - North Up F6 - West Up F7 - South Up F8 - East Up	Use **left Alt+LMB**, or function keys (F5, F6, F7, F8) to rotate the Basemap

3. Downloading GRIB files

To download a GRIB file:

- Select your desired area on the Basemap (**use Shift+LMB**)
- Click '**Download**' button in the Grib Browser and then '**From chart selection**'.

- Enter the GRIB file name, specify data quality and parameters that you want to download. NOTE: the higher the data quality, the longer the computing process and the more computer resources are required and used. We recommend to use 0,5 or 0,25 resolutions. However, if your computer specification is very high (i.e. 4GB RAM, fast processor and dedicated at least mid-end graphic card) you can use even the highest resolution of 0,0625.
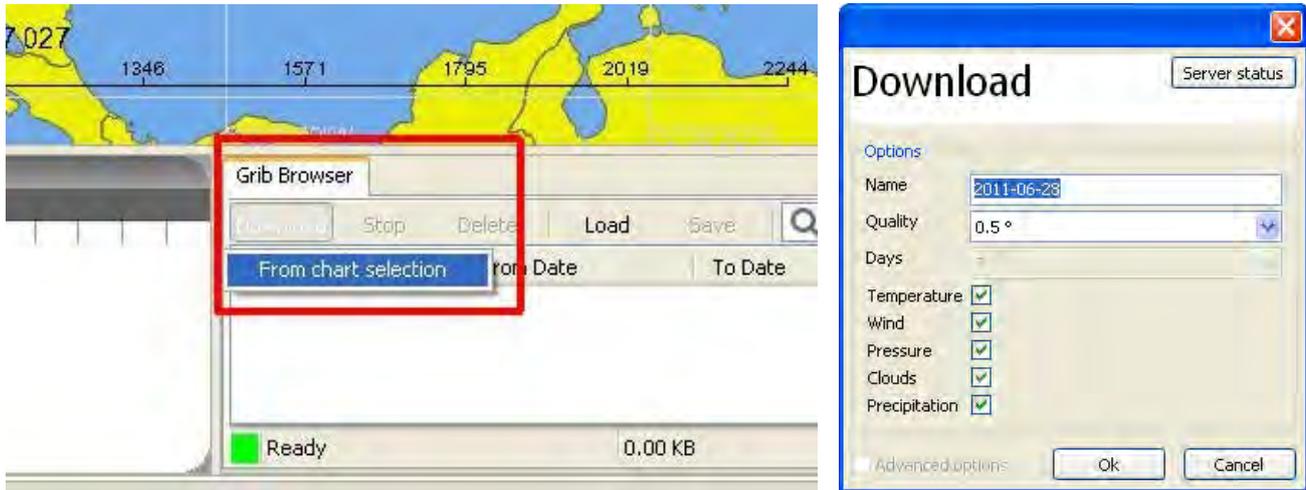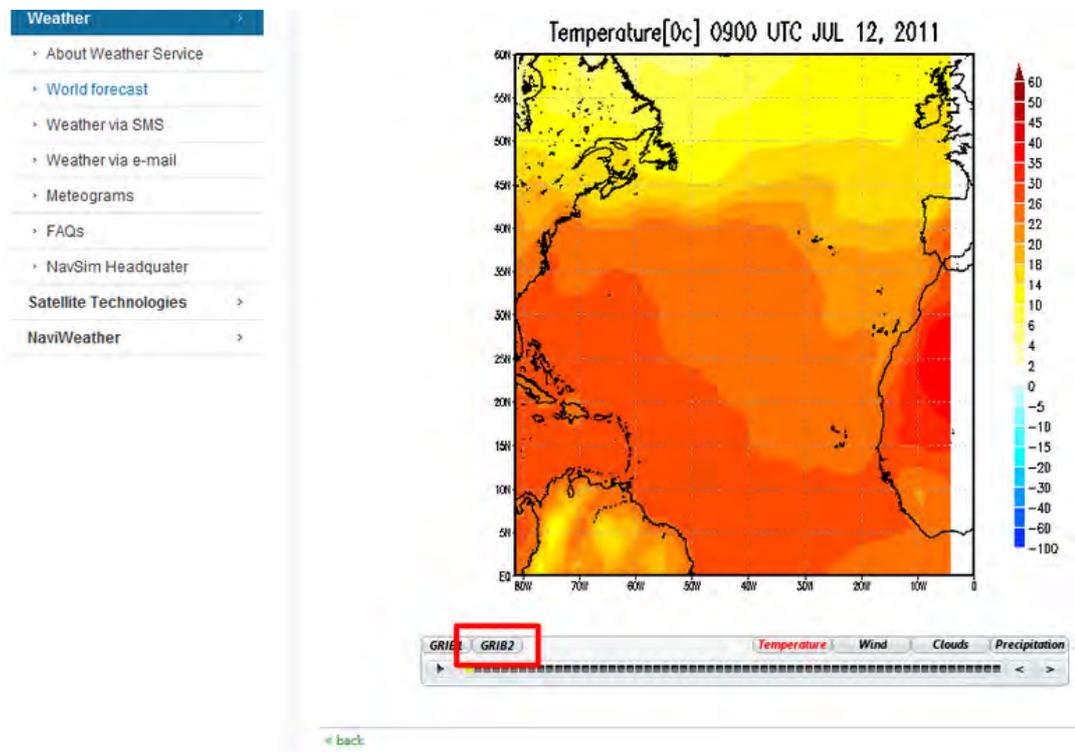

At the bottom of the Grib Browser container there is Progress Bar indicating the Download (step 1/2) and Computing (step 2/2) progress.

Once the Computing process has started you can use TimeShift to preview the weather forecast

4. Loading GRIB files (from external source)

To load a GRIB file from an external source (i.e. website, e-mail)

- download and save the GRIB file [NOTE: NaviWeather supports only GRIB2 standard] file from an external source (for example: http://www.navsim.pl/for_sailors_and_boaters/weather/world_forecast)

- Click 'Load' button in the Grib Browser and select previously downloaded and saved GRIB file.
- Enter the GRIB file name, and specify data quality. NOTE: the higher the data quality, the longer the computing process and the more computer resources are required and used. We recommend to use 0,5 or

0,25 resolutions. However, if your computer performance is high (i.e. 4GB RAM, fast processor and dedicated graphic card) you can use even the highest resolution of 0,0625.

- At the bottom of the Grib Browser container there is a Progress Bar indicating the Loading (step 1/2) and Computing (step 2/2) progress

Once the computation process is finished you can use TimeShift to preview the weather info (you can use F2 and F3, Spacebar keys to control TimeShift).

5. Updating GRIB files

Quick help: Check **Autoupdate** box in the Grib Browser to update GRIB files automatically or click the GRIB file name and then '**Download' > 'Update selected item'**.

You can check the **Update** box (in the 11th column in Grib Browser) if you want the GRIB file to be updated automatically every time an update of the GRIB file is available (and you are connected to the Internet). Alternatively you can update a GRIB file manually by clicking its name in the Grib Browser and then clicking '**Download' > 'Update Selected Item'**. Normally GRIB files are updated six times per day. The newer the GRIB file the more accurate the weather forecast is. It is recommended to update GRIB files as often as possible.

6. Viewing Weather Forecast. Changing Displayed Weather Parameters

Quick help: Click **RMB** on a weather area and choose the weather parameter that you want to be displayed (e.g. 'Temperature' > 'As Gradient'). NOTE: Remember to choose 'Not Show' if you don't want a specific weather parameter to be displayed (e.g. 'Wind' > 'Not show').

To start viewing weather forecast press the **Spacebar** on your keyboard or move the time using **TimeShift**.
By default once a GRIB file has been downloaded wind information is displayed.
Changing Displayed Weather Parameter. To change a weather parameter that is displayed (e.g. from wind to pressure) click the **RMB** on the weather area and from the context menu choose your desired weather parameter.
Currently, NaviWeather supports following types of weather information (weather parameters):

- Temperature
- Pressure
- Clouds cover
- Precipitation rate
- Wind

You can determine how a weather parameter is displayed:

- ➢ **'Not shown'** – weather info will not be displayed
- ➢ **'As Isolines'** – weather info will be displayed as isolines
- ➢ **'As Gradient'** – weather info will be displayed as gradient
- ➢ **'As Isolines and Gradient'** – weather info will be displayed as gradient and isolines
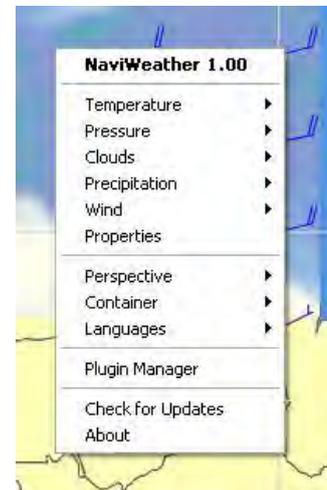
You can display two, three, four or even all five weather parameters at the same time.

To see how the weather changes over time use **Time Shift** (Hold LMB on TimeShift and move the mouse left (+3 hrs) or right (-3 hrs). Alternatively you can use your keyboard to control Time Shift (**F3**, **F2** and **Spacebar**). (Read more about TimeShift).

7. Time Shift. Using Time Shift

Using the concept of a Time Shift, the program allows the capability to move backward or forward in time and seeing how the weather changes over time. The Time Shift can be viewed by choosing any Perspective containing the Time Shift container or through any custom Perspective that is created.

Time Shift can be controlled quite easily using either the mouse or keyboard.

Using mouse to control Time Shift. Click and hold **LMB on the Time Shift** container and move your mouse right (+3hrs) or left (-3hrs). Use the scroll wheel to **adjust time scale**: zoom in to increase the scale and zoom out to decrease it.

Using keyboard to control Time Shift. Use **F3 button** to move +3 hrs and **F2 button** to move -3 hrs in time. Press the **Spacebar** to come back to current time.

Key	Action
F3	+ 3 hours
F2	- 3 hours
Spacebar	Current time

8. Grib Browser

Grib Browser is your center for downloading and managing GRIB files. Using Grib Browser is quite intuitive, once mastered. For example in the GRIB browser you can specify which GRIB files will be displayed and which not.

Columns in the upper menu bar:

- **'Download'** – click to download a GRIB file for selected area (choose: From Selected Area); click to update previously downloaded GRIB file (choose: Update Selected Item)
- **'Stop'** – click to stop current action performed by Grib Browser
- **'Load'** – click to load a GRIB file from your pendrive and/or computer hard drive
- **'Save'** – click to save downloaded GRIB file (.grb2)
- **'Search bar'** – use to search GRIB files listed in Grib Browser
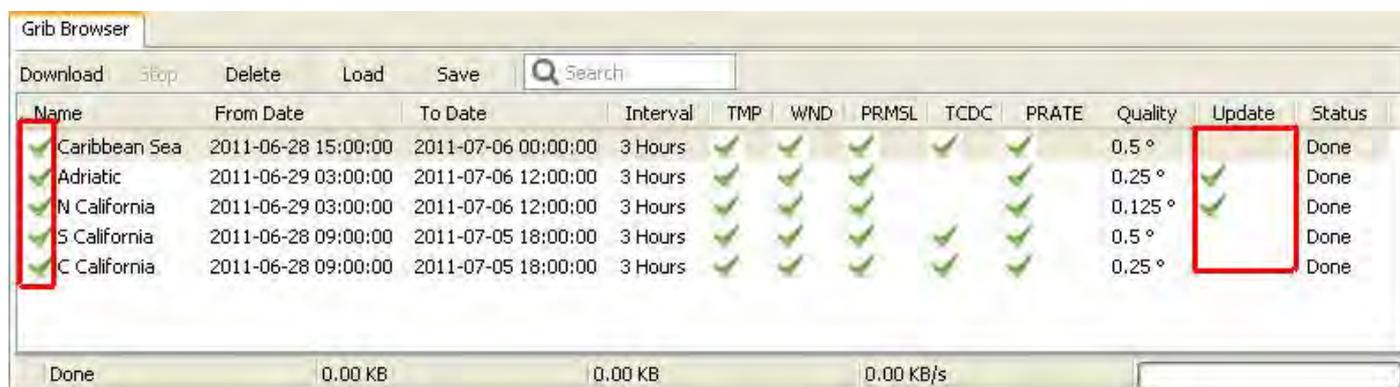
Columns in the Grib Browser are as follows:

- **Name** – you can check/uncheck a GRIB file. Only checked GRIB files are displayed; you can also change the GRIB file name here
- **From Date/To Date** – time bounds for which weather forecast is available for a particular GRIB file
- **Interva**l – interval of the GRIB file (currently only 3 hrs interval is available)

- **TMP (Temperature)** – shows if a GRIB file contains temperature data (NOTE: see below)
- **WND (Wind)** - shows if a GRIB file contains wind data (NOTE: see below)
- **PRMSL (Pressure)** - shows if a GRIB file contains pressure data (NOTE: see below)
- **TCDC (Total clouds cover)** - shows if a GRIB file contains clouds cover data (NOTE: see below)
- **PRATE (Precipitation rate)** - shows if a GRIB file contains precipitation rate data (NOTE: see below)

NOTE: TMP, WND, PRMSL, TCDC and PRATE columns only shows which weather parameter (information) is available. You specified which weather information should be downloaded in the Downloading dialog box.

9. Perspectives. Switching between perspectives. Adjusting, creating and deleting perspectives

Quick help: To **add** a Container: '**RMB' > 'Container' > choose container type** (you can blend the container into desired place by dragging and dropping it). To **delete** a container: Click the 'x' mark on a container (right up corner) you want to delete. NOTE: you have to unlock the Perspective first.

Action	Description
Switching Between Perspectives	Click LMB on the tab with a Perspective name (lower left corner)
Creating New Perspectives	RMB > Perspectives > New
Deleting Perspectives	Click 'x' mark on the tab with a Perspective name
Renaming Perspectives	RMB on the Perspective tab > Rename
Changing Container's Width/Height	Hold LMB on the edge of a container > move the mouse
Adding Containers	RMB > Containers > choose container type
Blending Containers	Hold LMB on the added container > move to blend between other containers
Deleting Containers	Click 'x' mark in the upper right corner of the container

Default Perspectives/Switching Between Perspectives. NaviWeather has two default perspectives: Basic and Weather Forecast. To switch between perspectives click LMB on its name (lower left corner of the screen). Each perspective is built of different Containers.

Adjusting Perspectives (Adding, Blending, Deleting Containers). You can adjust Perspectives by changing width/height of each container and/or by adding/deleting containers. To **change width/height of** a container click and hold **LMB** on the edge of a container and move the mouse towards a desired direction. To **add a container** click: '**RMB' > 'Containers' > choose container type**. Click and hold LMB on the added Container and **blend** it into desired place.


To delete a container click the 'x' mark in the right up corner of the container. NOTE: If you don't see 'x' marks you have to unlock perspectives first: RMB > Perspectives > Unlock).

Creating New, Renaming, Deleting Perspectives. To **create a new perspective** click: **'RMB' > 'Perspectives' > 'New'**. Specify a name for the perspective and click OK. A new, empty perspective will be created. Now you can start adding containers. To **rename a perspective** click **RMB** on the Perspective tab and choose '**Rename'**. Enter a new name and click 'OK' to accept changes. To **delete a perspective** click the 'x' mark next to the perspective name. Click 'OK' to confirm.

10. Containers. Adding containers. Type of containers. Container Properties

Quick Help: Almost every Container has its own properties. To access them click '**RMB' on the container** > '**Properties'**.

Adding containers. NOTE: To add a container you have unlock a Perspective first ('Perspective' > 'Unlock').
To add a container click '**RMB' > 'Container' > choose container type**. **Types of Containers**. There are 10 types of containers, specifically: Basemap, Cursor Position, Clock, Grib Browser, Infobox, Weather Info, Gradient Editor, Meteograph, Console.
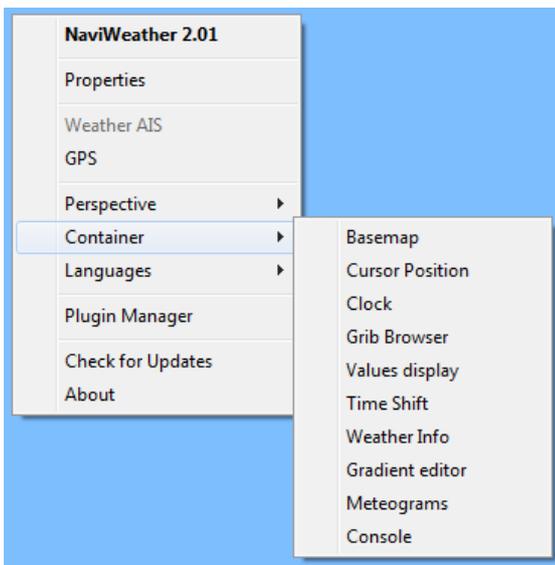
Below is a detailed list of Containers and their Properties.

Basemap – the vector Basemap of NaviWeather. **Properties**. To access properties of the Basemap container, click RMB on the container and choose 'Properties' from the context menu. A dialog box with Clock properties will pop up. You can adjust colors settings of the Basemap and show/hide grid.
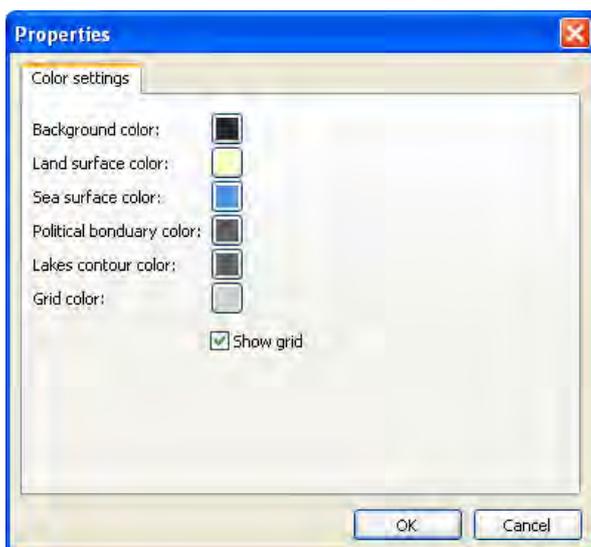
Cursor Position – displays actual position of the mouse cursor. **Properties**. To access properties of the Cursor Position container, click RMB on the container and choose 'Properties' from the context menu. A dialog box with Clock properties will pop up. You can change the container name, adjust colors and Lat/Lon Format.

Clock – displays time and/or date. **Properties**. To access properties of the Clock container, click RMB on the container and choose 'Properties' from the context menu. A dialog box with Clock properties will pop up. You can change the container name, adjust colors and choose the clock type.
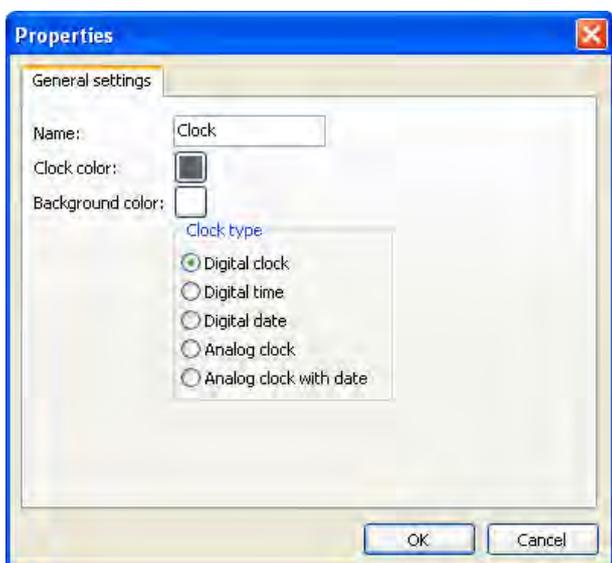
Grib Browser – is the center of all GRIB files. It is used to download, delete, update and search GRIB files. (Read more about Grib Browser).

Name	From Date	To Date	Interval	TMP	WND	PRMSL	TCDC	PRATE	Quality	Update	Status
Caribbean Sea	2011-06-28 15:00:00	2011-07-06 00:00:00	3 Hours	✓	✓	✓	✓	✓	0.5 °		Done
Adriatic	2011-06-30 09:00:00	2011-07-07 18:00:00	3 Hours	✓	✓	✓		✓	0.25 °	✓	Done
N California	2011-06-29 15:00:00	2011-07-07 00:00:00	3 Hours	✓	✓	✓		✓	0.125 °		Done
S California	2011-06-28 09:00:00	2011-07-05 18:00:00	3 Hours	✓	✓	✓	✓	✓	0.5 °		Done
C California	2011-06-28 09:00:00	2011-07-05 18:00:00	3 Hours	✓	✓	✓	✓	✓	0.25 °		Done

Time Shift – allows the capability of moving backward or forward in time and seeing how the weather changes over time. (Read more about Time Shift).

Weather Info – contains weather information. **Properties**. To access properties of the Weather Info container, click RMB on the container and choose **'Properties'** from the context menu. A dialog box with Weather Info properties will pop up. It has two tabs: General Settings and Control Settings. Under the **General Settings tab** you can change the weather parameter that should be displayed in the Weather Info container, choose units for the parameter and the number of decimal places. (Read more about Units). Under the **Control Settings tab** you can change name of the container and adjust its colors.

Gradient Editor – allows editing colors, setting different gradients and transparency level (alpha) of displayed GRIB files. (Read more about Gradient Editor). NOTE: Gradient Editor is only available in NaviWeather Trial and PRO versions.

Meteo Graph – displays detailed weather forecast for a chosen area. (Read more about Meteo Graph).

Infobox - infobox container shows detailed information about an object (e.g. AIS target with weather information). Once you click (or double-clck) **LMB** on an object (e.g. AIS target) detailed information about the object will be displayed in the Infobox.

Console – used for communication with NaviWeather root files.

11. Units. Changing Units. Available Units.

In order to change units of a Weather Info container, click **RMB** on the Weather Info container and choose **'Properties'**. A dialog window with the container properties will pop up. Here you can adjust units of weather parameters and set the number of decimal places for each parameter.

The table below summarizes available units for each weather parameter

Parameter	Units
Temperature	Celsius, Fahrenheit, Kelvin, Rankine
Wind Speed	m/s, km/h, kt, mph, NMPH, ft/s, Bf
Wind Direction	°, NSWE
Pressure	Pa, hPa, kPa, MPa, bar, atm, PSI
Precipitation	mm/s, mm/h, m/h
Clouds	%

12. Meteo Graphs

NOTE: Data for the Meteo Graphs is downloaded from NaviWeather servers. Therefore to be able to use Meteo Graph you need access to the Internet.
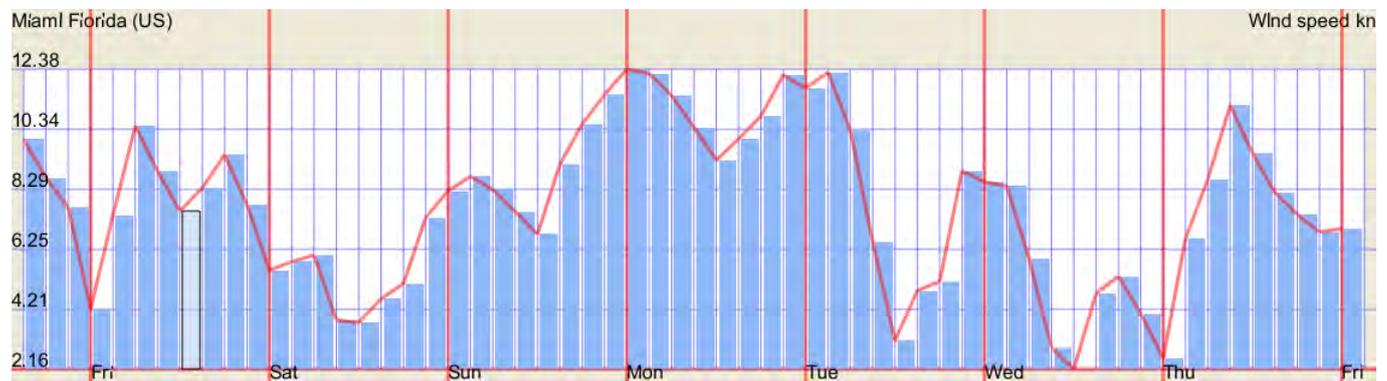
Meteo Graphs are graphical representation of weather forecast for a specific point (coordinates). First you have to search a place you want the weather forecast for. Click RMB on the Meteo Graph container and choose '**Search**'. In the search dialog box type in name of a place (e.g. city, lake, bay etc.). As soon as you start typing, NaviWeather offers autocomplete option by displaying places that match the letters you have typed. Choose the desired place from the list and click '**Go**' (or **Enter** on your keyboard). A Meteo Graph for your chosen area will be displayed. Now you can change the weather parameter that is displayed. To do so click RMB on the Meteo Graph container and choose '**Meteo Graph**' > **desired weather parameter**.
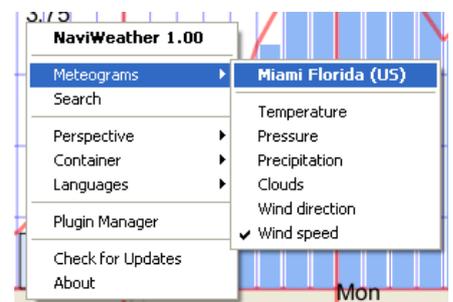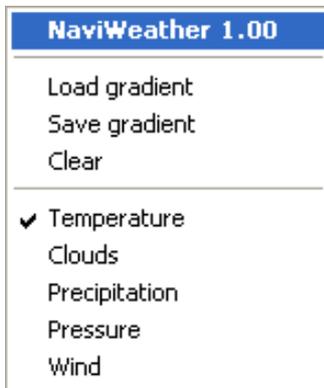
13. Gradient Editor. Save/Load Gradient. Edit Gradient. Smoothing Gradient.

NOTE: Gradient Editor is an advanced function and is only available in NaviWeather TRIAL and PRO versions.

You can change the colors of the displayed weather parameter overlay by using Gradient Editor. Gradient Editor allows you to carry out an advanced weather forecast analysis (e.g. by showing only areas with wind speed greater that 20 kts). There are a few actions that you can perform with Gradient Editor.

- **Changing Displayed Gradient.** To change the parameter for which the gradient is shown click **RMB** on the Gradient Editor container and choose your desired parameter.

- **Clearing Gradient**. To clear current gradient colors for a weather parameter click RMB on the Gradient Editor container and choose '**Clear'**.
- **Saving/Loading Gradient**. To save gradient to file click RMB on the Gradient Editor container and choose '**Save gradient'**. To Load previously saved gradient from a file click RMB on the Gradient Editor container and choose '**Load gradient'**. Save/load gradient option allows you to easily transfer/exchange designed gradients with other users.
- **Editing Gradient**. To edit gradient, select a sector on the Gradient Editor (use LMB), click RMB on it and choose '**Edit Gradient'**. A dialog box with gradient settings will pop up. You can specify colors of the gradient (**From color/To color**) and the **transparency level** (**alpha**).
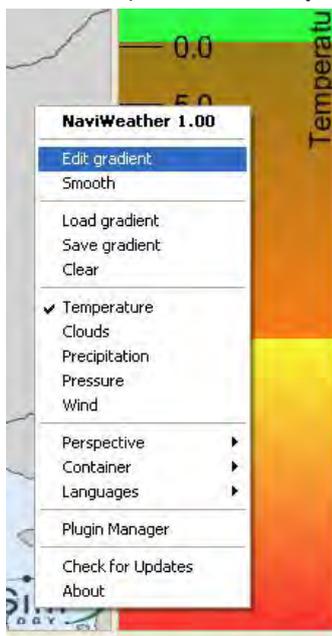

The **alpha** can range from 0 (fully transparent colors) to 200 (non-transparent colors). Once you change any settings, confirm them by clicking OK.
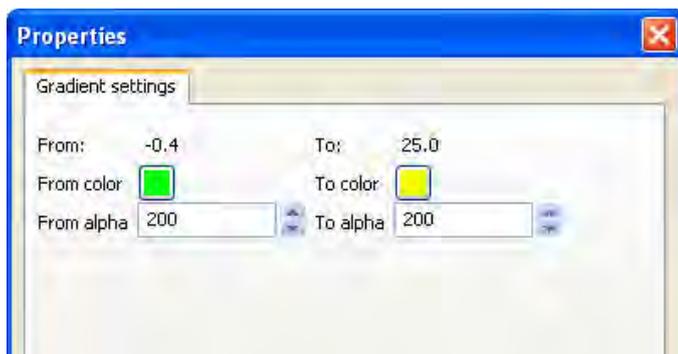
Transparency level	
Alpha	Transparency
0	Fully transparent
200	Non-transparent

- **Smoothing gradient**. In order to smooth gradient choose the sector you want to smooth using LMB (usually you want to smooth sectors of the Gradient Editor were the colors changes from one to another sharply), then click RMB and choose '**Smooth'**.
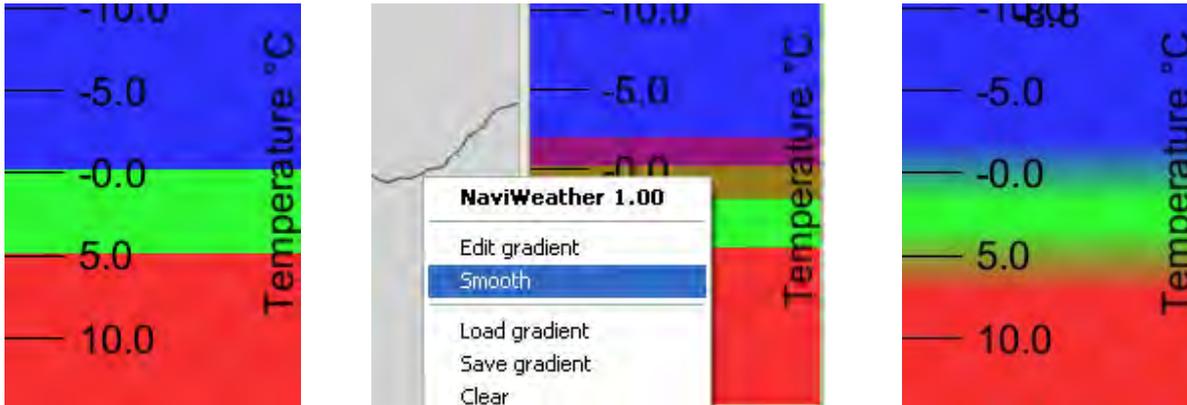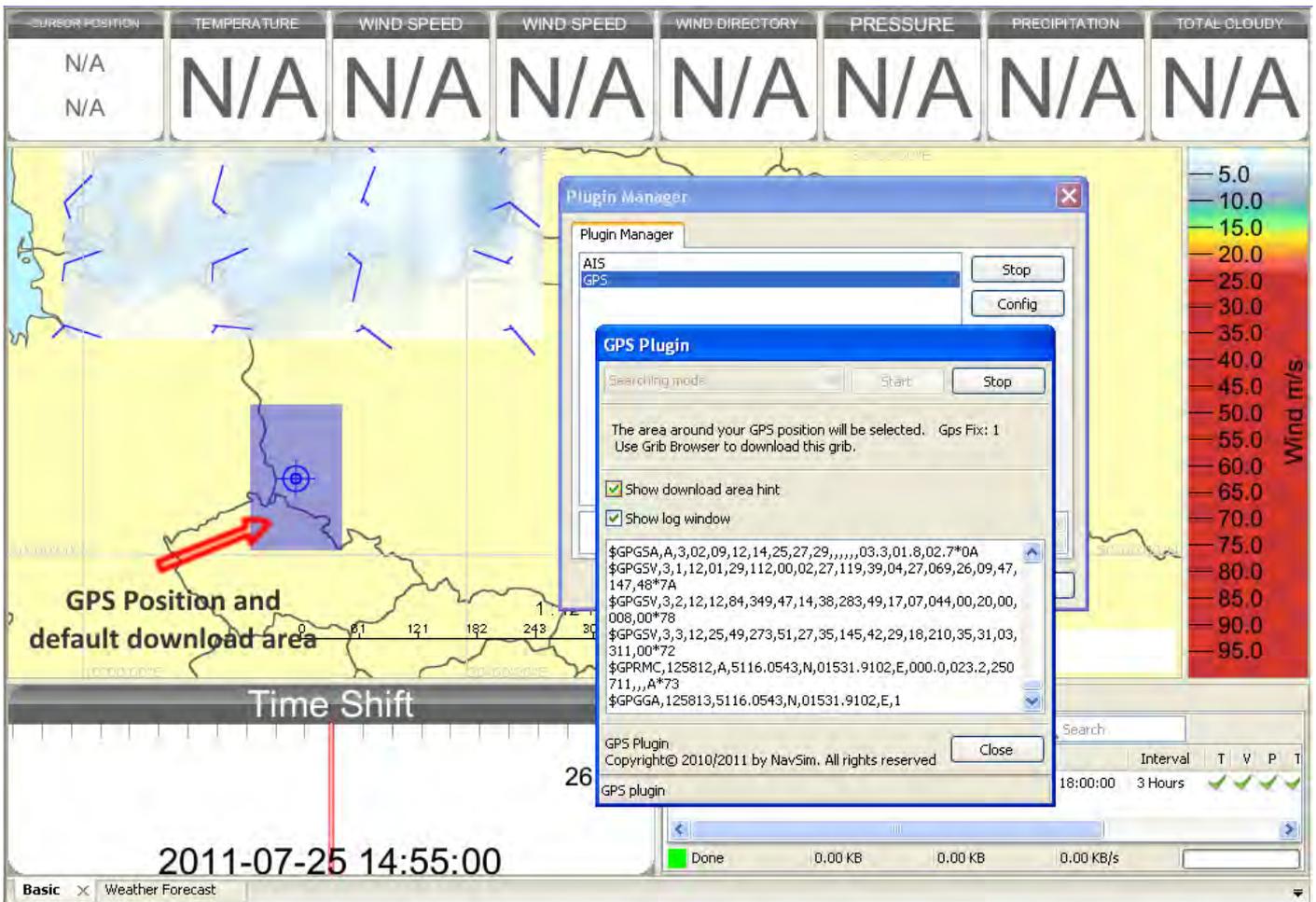

14. Using GPS

In order to connect GPS to NaviWeather click **'RMB' > 'GPS'**. NaviWeather will automatically search for any GPS that is connected to your computer (NOTE: make sure all necessary drivers are installed).

Configuring GPS. You can manage the GPS connection using the **Plugin Manager**. To open the Plugin Manager click **'RMB' > 'Plugin Manager'**. In the Plugin Manager dialog box you can **Configure** or **Stop** the GPS device. To configure GPS, choose GPS device from the list and click **'Config'** button. In the GPS Plugin dialog box you set: show/hide download area hint, show/hide log window.

GRIB files for your GPS position. When the GPS is connected you will be able to download GRIB file for your GPS position (and surrounding area). To do so, click '**Download**' in the Grib Browser and choose **'From GPS Position'**.

15. Using AIS

AIS is the Automatic Identification System is a system that utilizes special radio hardware to broadcast information about their current position, heading, speed, etc. (for ships) or navigational or weather information for AIS base stations. NaviWeather supports AIS message type 8 (binary broadcast message) which provide information about real-time weather, water levels and currents and/or lock orders.

Connecting AIS. To connect AIS device click '**RMB' > 'AIS'**. NaviWeather will automatically search for any AIS that is connected to your computer (NOTE: make sure all necessary drivers are installed).

Configuring AIS. You can manage the AIS connection using the **Plugin Manager**. To open the Plugin Manager click '**RMB' > 'Plugin Manager'**. In the Plugin Manager dialog box you can Configure or Stop the AIS device. To configure AIS choose AIS device from the list and click **'Config'** button. In the configuration dialog box you can specify which type of connection you would like to use:

- **Serial Port** - if you have an AIS device physically connected to your computer; or
- **Internet Connection** - for TCP/IP AIS connection type.
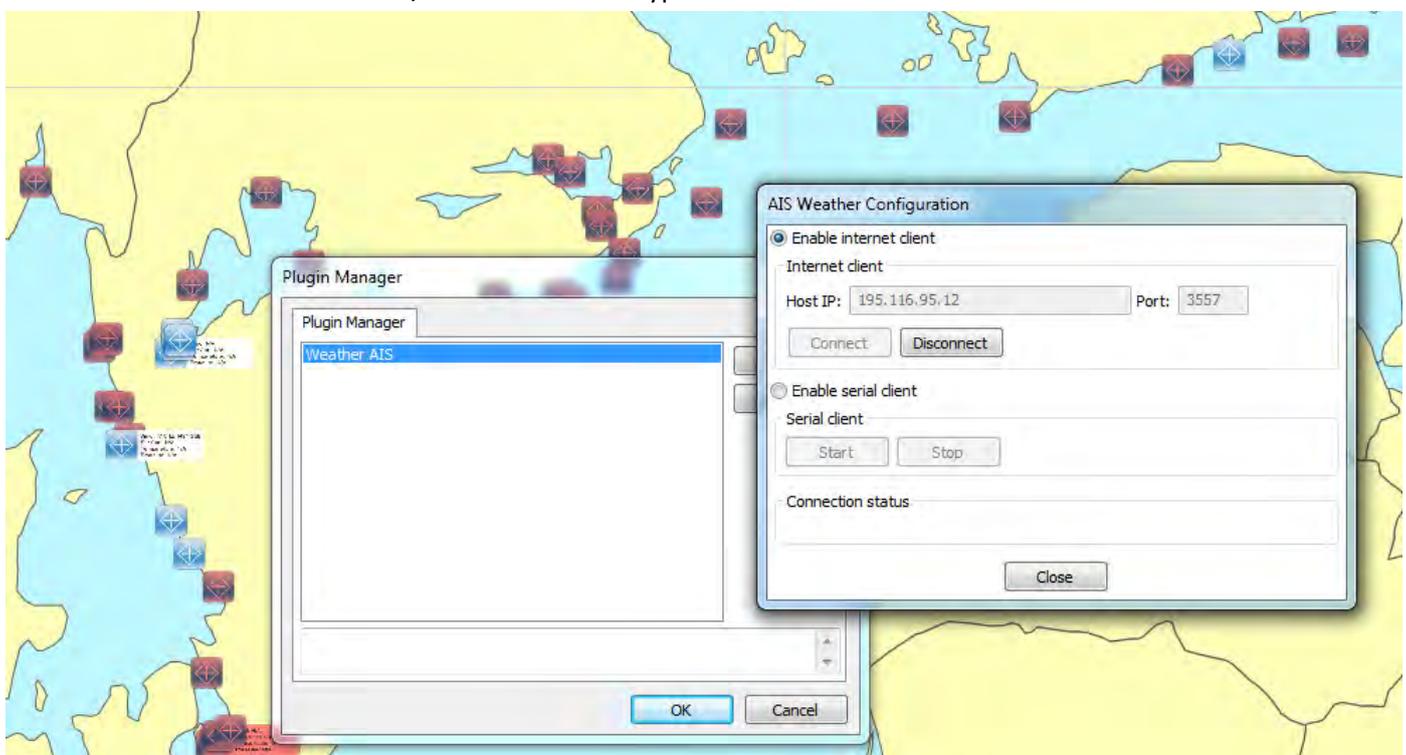
Weather AIS Object. ATONIS is an aid to navigation system that utilizes the AIS technology. An ATON device is able to send different aid to navigation information (including real-time weather information). NaviWeather supports and displays all ATON stations that sends weather information (message #8). Once signal from an ATON station is received it will be displayed as a Weahter AIS Object on the Basemap (in blue color). Once the signal from the ATON station is lost the object's color will change to red.

Actions that can be performed with respect to Weather AIS Objects displayed on the Basemap:

- **Click LMB** on the Weather AIS Objects - displays all available information about a Weather AIS Object in the Infobox Container
- **Double-click LMB** on the Weather AIS Objects - revels more detailed information about the object. To hide more detailed information double-click on it again.