

ScanNav Documentation

SNTides Module (Water Heights)

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Introduction

The "SNTides" water height module is an integral part of the ScanNav software. It is included in the basic ScanNav license, as long as it is up to date.

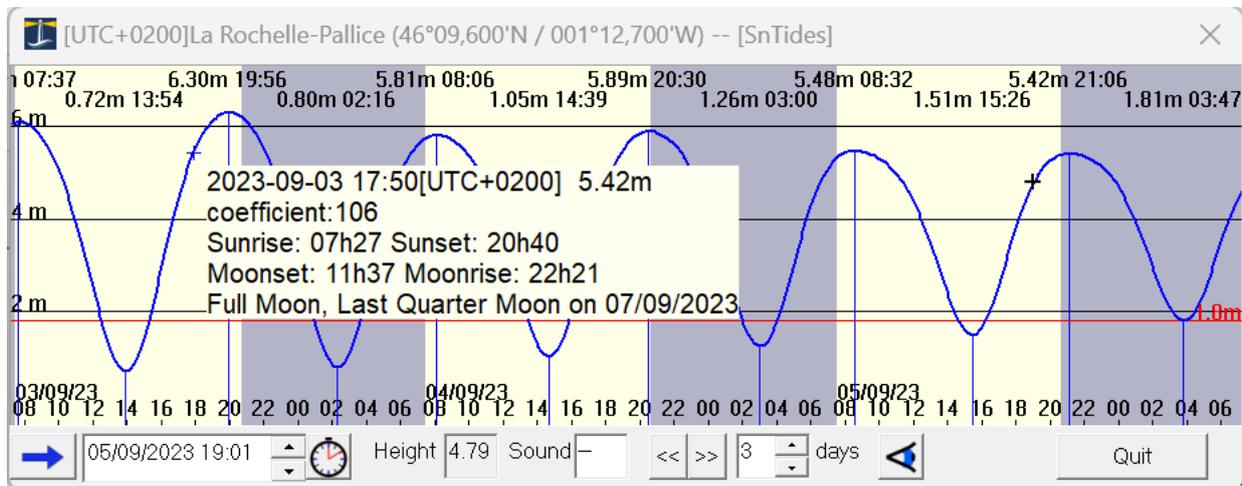
SHOM has decided for internal reasons to interrupt our current contract without notice. SHOMAR data is therefore only available until December 31, 2023.

A new engine for calculating water heights was therefore developed in collaboration with Jacques Tiphine from Marées dans le Monde. The results are very satisfactory and close to those of SHOM. They are, however, not strictly identical, and SNTides does not exempt you from the obligation to use the official nautical documents provided for by national or international regulations.

An alternative implementation allows Navionics data to be used when Navionics charts are loaded on the area. The graph line is then in red, and the mention [Navionics] indicated in the title bar.

Main window

The predictions are presented in the form of a dynamic window including the tides graph, and indication of water height and the hours / height / coefficients of the high and low tides.



The period displayed can range from one to 30 days (the window can be enlarged if necessary). The background color alternates between yellow and gray to represent day and night.

Click on the curve to instantly know the height and coefficient at a given moment, as well as the ephemeris of the day (tooltip window).

Double-click on the curve or use the appropriate fields to choose a date from the calendar; or go from slack water to slack water.

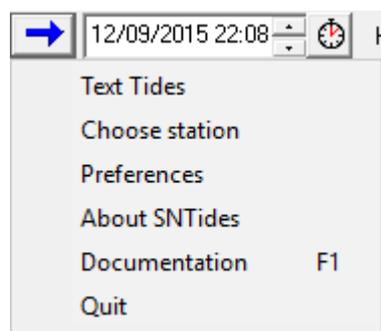
The date selected in the lower part is marked with a thick cross on the curve, thresholds can be displayed according to the user's preferences (a threshold in relation to the hydrographic zero, and one in relation to a probe).

You can easily change the scale and move the displayed period by using the mouse wheel, and/or dragging the mouse while holding down the middle mouse button, or with 2 fingers in touch mode, or by using keyboard shortcuts.

The time system can be configured in the preferences. Heights are always given in meters.

Note on the coefficients: For better accuracy on the tidal currents, SNTides takes into account a coefficient for the falling tides which is generally not indicated in the official tables. Nevertheless, **the official coefficient of a tide remains that of the rising tide**. Also note that the coefficient is a purely French concept, and only applies to ports on the Channel and Atlantic coasts of mainland France.

Description of the toolbar



The blue arrow opens a menu to perform several actions.

- Text Tides: displays a window with tide schedules and any threshold crossings.
- Choose station: allows you to choose the port from a list
- Preferences: opens the preferences window
- About SNTides: Provides version information
- Documentation: Displays this document.
- Quit: Exits the application

The selected date sets the next height and sounding fields, and is marked with a thick cross on the graph. To modify it, double-click in the date field to open a calendar, or modify the values directly in text. You can also double-click on the curve. It is also possible to select each

individual component and use the up / down arrows to scroll. See also "keyboard shortcuts" below. When used in accordance with the ScanNav Currents module, this date also indicates the date chosen for the representation of the currents on the map view.

To keep synchronized with the present date, use the  state button. When pressed, the date automatically updates every minute. Just click again on this button to switch to un-pressed state, and disable synchronization..

The "**Height**" field indicates the height in meters at the selected date relative to the hydrographic zero.

The "**Sound**" field allows you to enter a sound value read from your sounder, or on the chart. It will then be updated continuously according to the selected time, and will also appear in the tooltip window. It allows you to predict the height of water with respect to a given sound at any time.

1. Either enter the value read on your sounder, making sure before hand to have selected the current time. This allows, for example when anchoring, to check that you will have enough water at low tide, or if not, at what time you need to leave. Please note, the value entered must indicate the depth relative to the surface, and not that under the keel. If your depth sounder is set to indicate the value under the keel, you must therefore add the height of your draft.
2. Or enter the sound indicated on the map: Enter the sound preceded with the letter "S" (case insensitive). For example :
 - "S3,3" : For a positive sounding (does not uncover) of 3.3m
 - "S-3,3" : For a negative sounding (uncovers) of 3.3m

As soon as you validate the change, the edit field will revert to the value of the corresponding real time sounding, and will evolve with time as in case 1. This lets you easily know the water level at any time over a given location by entering the sound value on the map.

A second threshold is also materialized in magenta on the graph, in order to quickly visualize the possible hours of crossing it, depending on the height marker set in the preferences. Please note that this indicates the chart sound value entered or deduced (plus the height mark), which will therefore remain fixed over time, unlike the value indicated in the "sound" field which indicates the deduced value of the sounder at a given time and will therefore evolve over time.



These two buttons allow you to switch quickly from stall to stall backwards or forward.



3 jours : Number of days represented on the curve (from 1 to 30). You can also use the mouse wheel by rotating it forward or backward, or with 2 fingers in touch mode, or using the keyboard shortcuts.



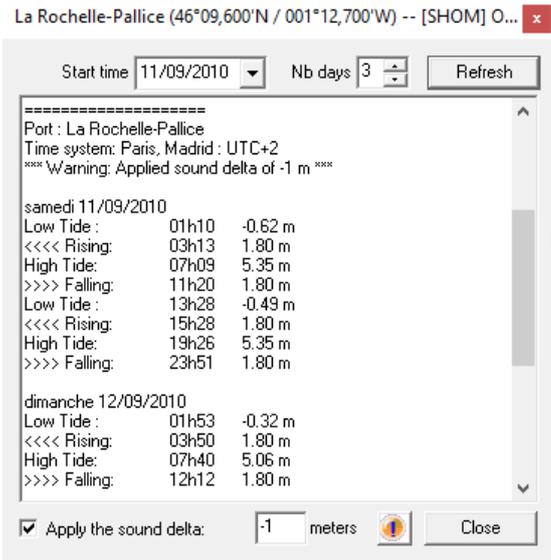
: Click on this button to center the map in ScanNav on the location of the currently selected port, and at the highest available chart scale.

Text Tides window:

The "Text Tides" window shows the times and heights of the tides, as well as the passages of the threshold set in the preferences.

"Apply the sound delta" allows to know the height on a given sound. **Warning, when checked, the heights are not the official ones, but those corrected for a given sounding.** The sounding value is initialized according to the sound indicated in the main window.

It is possible to modify the starting date and the number of calculated days (initialized from the parameters of the main window at launch)



Display of ports on the map, and choice of ports

Preliminary notice: This chapter does not apply to the Navionics source, which can only be viewed via the Navionics chart query tool. Refer to the Navionics chart documentation.

From version 23.2, water heights use the same principle as of the guides databases, to display/hide the representation of tidal ports available on the map (see guide documentation) When the layer is active, simply hover over the tide symbol and click on the tooltip that appears to open SNTides on this port.

You may also change port directly from ScanNav:

- Right-Click on the map at the desired location, and in the menu, choose « Water levels » and then «SNTides source »
- ==> The nearest port to the clicked point will be selected in the SNTide window.

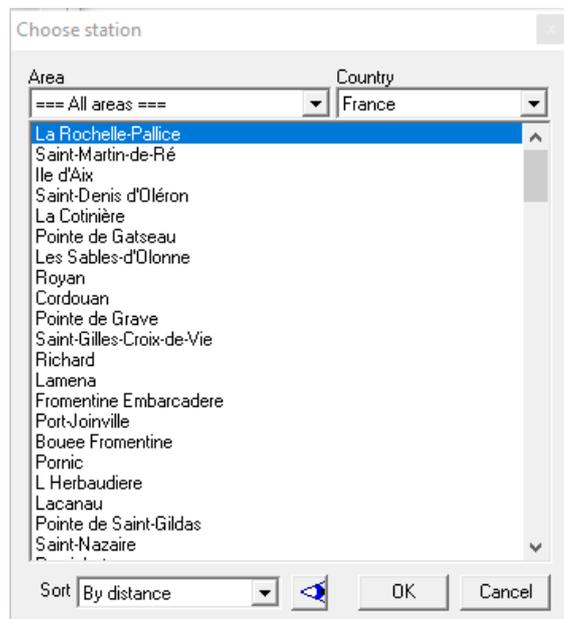
Stations list:

The "Choose station" entry in the menu allows you to choose ports from a list. There are 2 versions of this window, depending on whether SNTides is launched from ScanNav, or independently.

- In the version integrated with ScanNav, "Choose station" opens a window similar to those of the guides, except that it only includes the "nearby sites" tab. Simply click on the desired port to display it in SNTides, and you can also use the search tools in this window to search for a port by it's name. See [guides documentation](#) for more details.

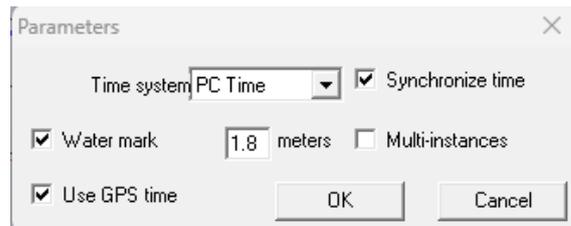
- In the independent version of ScanNav, the window opposite is displayed. The list can be sorted alphabetically, or by distance from the currently selected port. You can filter the displayed ports by Area and / or country.

Button  centers the map in ScanNav on the location of the selected (highlighted in blue in the list) port, at the highest available chart scale



Preferences window:

This window allows you to define the general parameters



- Time system: can be specified in UTC +/- a fixed value, or follow the current parameters of the PC. In the latter case, the time takes into account the system parameters of the PC, including those of the winter / summer time.
- Synchronize time: see next chapter on interactions with the different modules.
- Water mark: Enter a threshold that will be taken into account when displaying the graph and text tides, corrected or not with a sound indicated in the main window.
- Multi-instances: If this option is checked, a new SNTides window will be opened for each query from ScanNav. Otherwise, the active window will be recycled for the new port. Note that the notion of Multi-instance is per data source. So if you choose a SNTides source and a Shomar source, it will open 2 independent windows, even if the box is not checked. This will allow you, for example, to make comparisons of the new SNTides calculation engine compared to Shomar (for the year 2023 or earlier).
- Use GPS date: allows you to adapt the reference of the current date to that of the track when using the NmeaPlayback module to replay a past track, or visualize a routing with the grib, currents, and water heights of the corresponding date. Note that the option is global between the Grib, currents, and water heights modules
- Always visible: this option only appears for the version launched independently of ScanNav. It tells the window to always display on top of the others. In particular, it allows you to display over ScanNav even when the latter has the focus.

Keyboard shortcuts:

- Left and Right arrows: Scroll right or left. Combine with the <Shift> key to scroll faster.
- Up and Down Arrows: Scroll the date / time cursor in time:
 - default one hour step
 - combined with the <shift> key: one day step
 - combined with the <ctrl> key: 5 minutes step
- <PgDn> and <PgUp> keys: Increase / Decrease the number of days displayed (minimum 1 day, maximum 30 days)
- <Home> key : Resets the time cursor to the current time.
- <F1> key : displays this document.

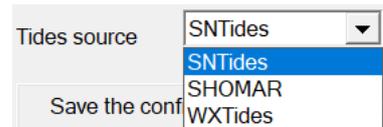
Interactions between SNTides, Currents, and Grib modules:

It is possible to synchronize the time between the different modules taking a date into account (SNTides, Currents, and Grib). This is done independently in each window with the “synchronize time” option in each module’s settings. You can synchronize some windows and leave others independent.

The desired time can then be chosen in SNTides or one of the Currents or Grib modules, the date will be propagated to all other windows which have the “synchronize time” option checked.

The ScanNav currents module requires the calculation of water heights to determine the coefficients and forces/direction of currents. Since version 23.2, it uses the calculation engine by default without displaying the heights window. However, it is possible to display it by checking the “display curve” option in the currents module settings. In this case, a water height window dedicated to currents is opened on the reference port of the current file, independently of other water height windows that may be open. The time taken into account in this window will be systematically synchronized with that of the currents.

Note concerning the use of WXTide: In previous versions, the water height data provided with SNTides (based on the SHOMAR harmonic constants) was limited in time to 2 years from the year of the version (for example years 2010 and 2011 for a version released in 2010). To calculate currents or water heights beyond this limit, it was therefore necessary to use the WXTide alternative, although the precision of water heights and tide times given by WXTide may vary from one port to the other. Since version 23.2, the default reference source is SNTides which is not limited in time. This possibility is therefore less useful but remains accessible, for example to choose the Shomar source until the end of December 2023. To do this, in the current module control window, click on  button to open the parameters, then in the “General” tab, choose the desired Tide source.



Generally speaking, we recommend using the SNTides engine (or Shomar until 12/31/2023) rather than WXTides. If you use WXTides temporarily, don't forget to return to the “SNTides” Tide source when done for better accuracy.