



AngelNavNeo- User Guide

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Introduction

AngelNavNeo is a new version of the AngelNav App which was launched in 2023. It has a radically different interface and makes use of operating system improvements included with iOS 26. It has all the features of AngelNav, along with many additions and improvements.

Which app should I use?

AngelNav is still available and will continue to be supported, so if you prefer the original interface then please stick with it. If your device will not run iOS 26, then your only option is to continue to use the original AngelNav.

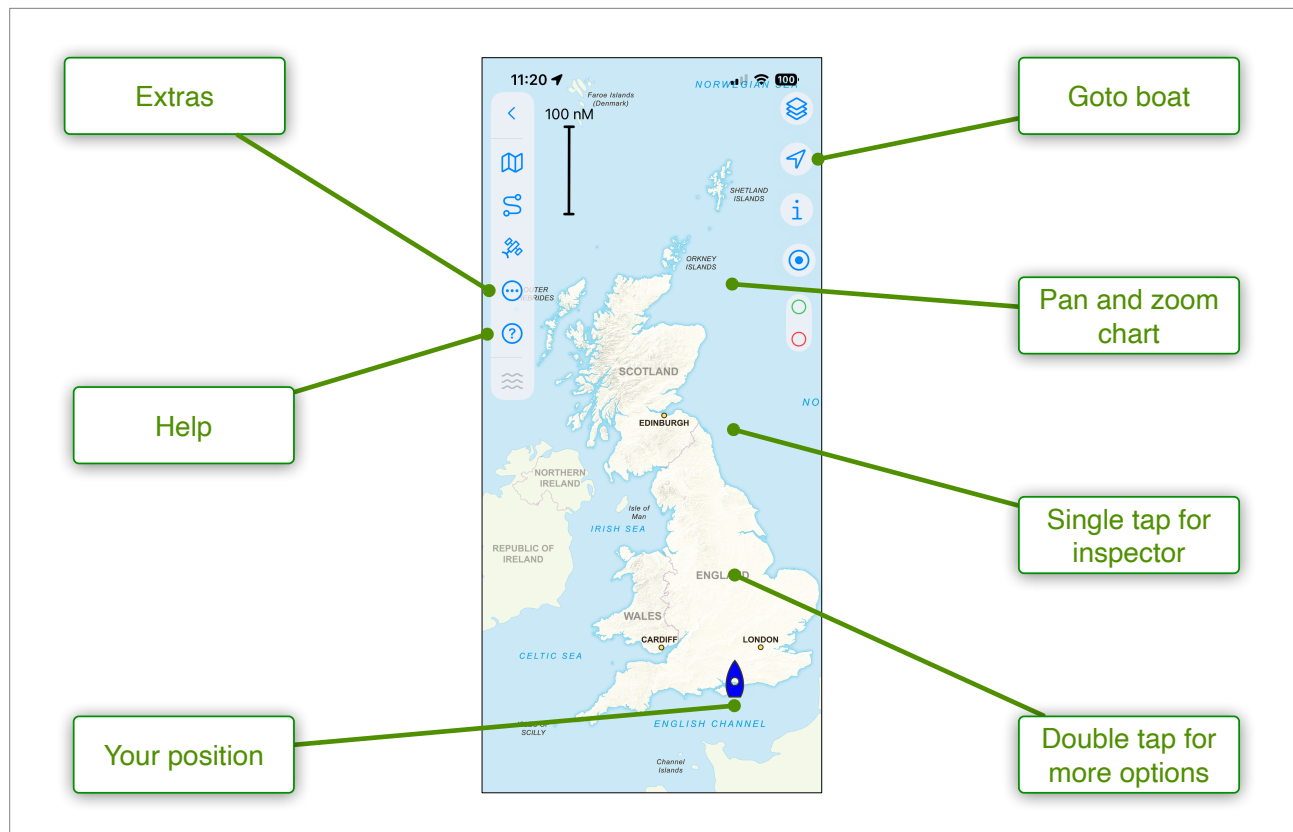
What happens with in app purchases and subscriptions?

If you have in-app purchase and subscriptions in AngelNav, and want to switch to AngelNavNeo, then there is no need to purchase them again. They can be transferred and detailed instructions are included in this manual.

Quick start

When AngelNavNeo is launched, you are presented with a free chart to allow evaluation of the app (contains OS data © Crown copyright 2026). If you have enabled Location Services, and your location is within the chart, then your location will be shown.

- Zoom in and out by pinching, and scroll to view the chart.
- Single tap on the chart to display the chart inspector.
- Double tap on the chart to display a menu of options.



You can fully evaluate the app for free, but for in-depth use you may wish to purchase a chart subscription, or a capability in **Extras: Store**.

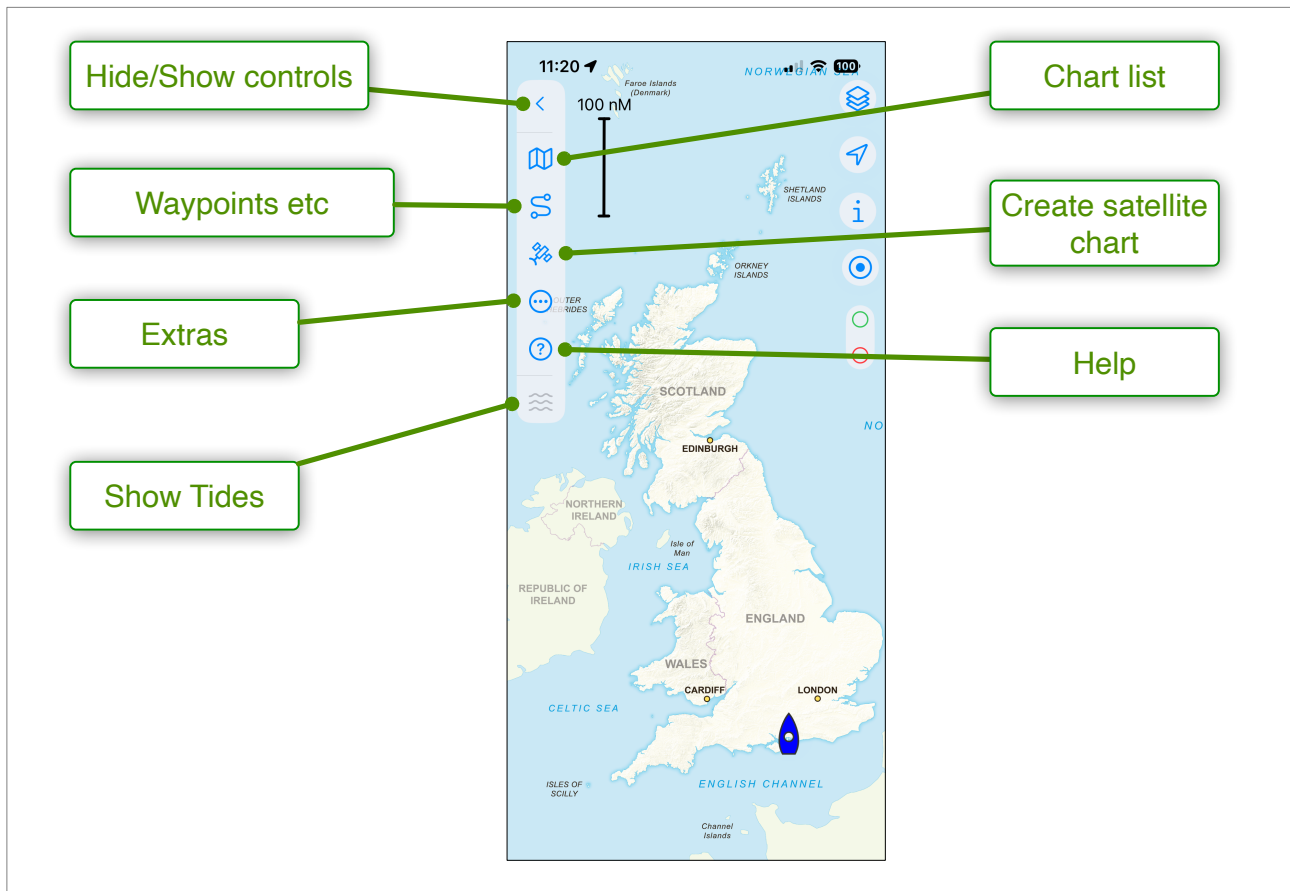
See [Simulation Mode](#) for instructions on how to simulate movement of the boat and demonstrate features of the app such as going to waypoints, or following routes.

When you run AngelNavNeo for the first time, you will be asked whether you wish to receive notifications. We keep notifications to the absolute minimum required, but they are useful for the following:

- Downloading and updating of subscription charts
- The anchor alarm
- Important notices relating to the app or specific navigation issues

App Controls

The controls, functions and settings of the app are grouped together in the app control strip at the top left of the screen.



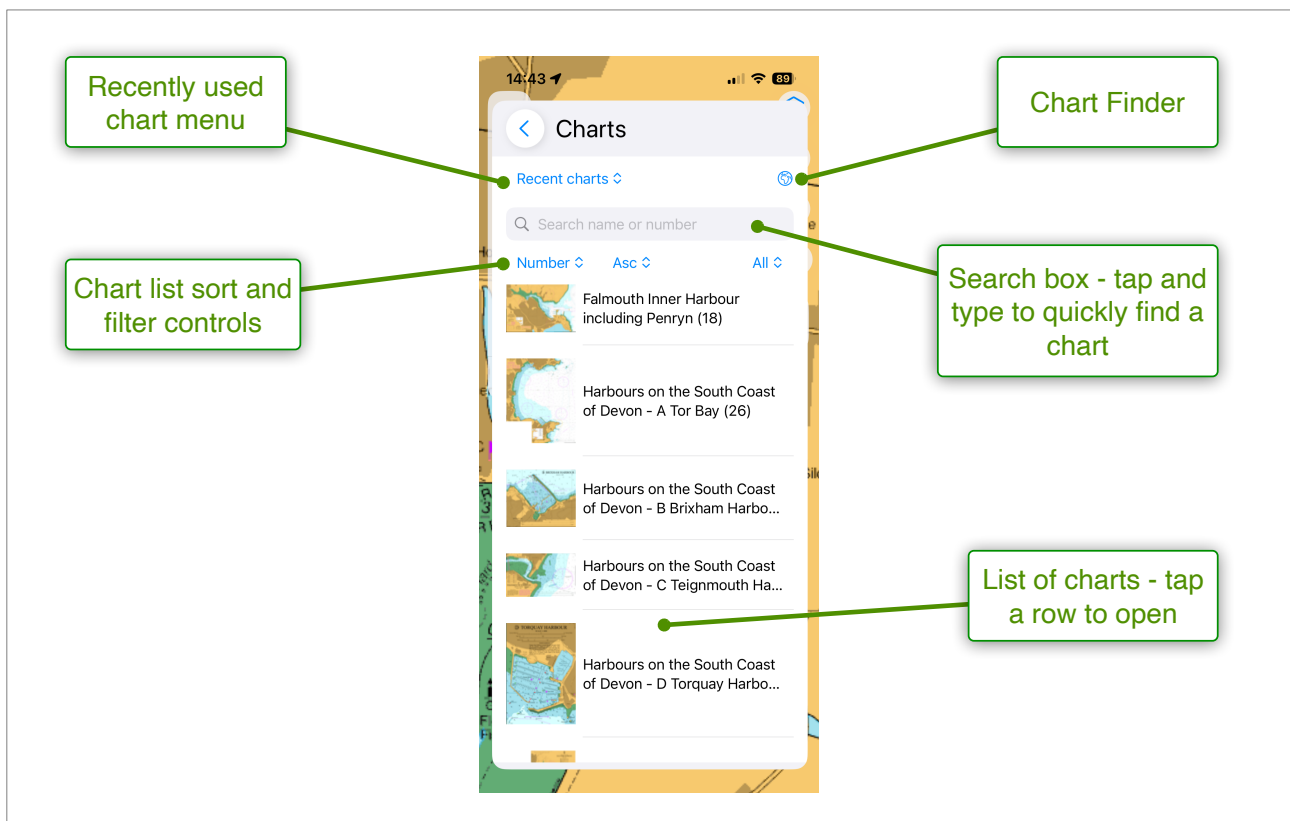
Hide/Show Controls

When navigating, the script can be hidden to allow more space for viewing the chart by tapping the back arrow at the top.

The Chart List

Adding Charts to the list requires either a subscription or a capability, which can be purchased in **Extras: Store**. Charts may be added in three different ways:

- Subscribe to a folio of charts. Once subscribed, the charts contained in the folio will download and appear on the chart list.
- Purchase a capability (for example the ability to open BSB/KAP files). Download free charts from the internet (see [here](#) for an example), and move them to the file system of your iOS device using the 'Files' app. Go to the Charts section in **Extras: Settings**, and tap on [Browse](#) to choose the folder which contains the downloaded charts. Return to the chart list and your downloaded charts will be there available for use.
- Create a Satellite chart. Further details are given later in this guide. Once created the chart will appear in the chart list for selection. You can create a satellite chart for free, but in order to view it you will need to purchase the Satellite Chart capability.



Finding a chart

Once you have purchased a subscription, or downloaded some charts, the list of available charts becomes too long to easily find a chart by scrolling. However, there are several ways to make it easier to locate the chart you want.

- The Recent charts menu (top of the screen) displays a list of recently opened charts.
- If you know the name (or part of the name) or the chart number, type this into the search box and the list will be filtered to include only charts that match.
- If you are looking for a planning chart, change the 'Sort by:' values to 'Scale' and 'Desc', and charts covering the largest area will appear at the top of the list.
- Use the 'Filter on:' setting to show charts of a particular type (eg subscription charts).
- Set the 'Filter on:' to 'Favourites' which will show only those charts that you have marked as favourites
- Use the Chart Finder (see below) to search your charts graphically

To set a chart as a favourite, load it and tap the star shaped button at the top of the screen which will change to a filled star. Tap again to remove it from your favourites.

The Chart Finder

The chart finder displays the outlines of all your charts on a scrollable and zoomable map. Once you have found the chart you want, a long tap within its outlines will load it.

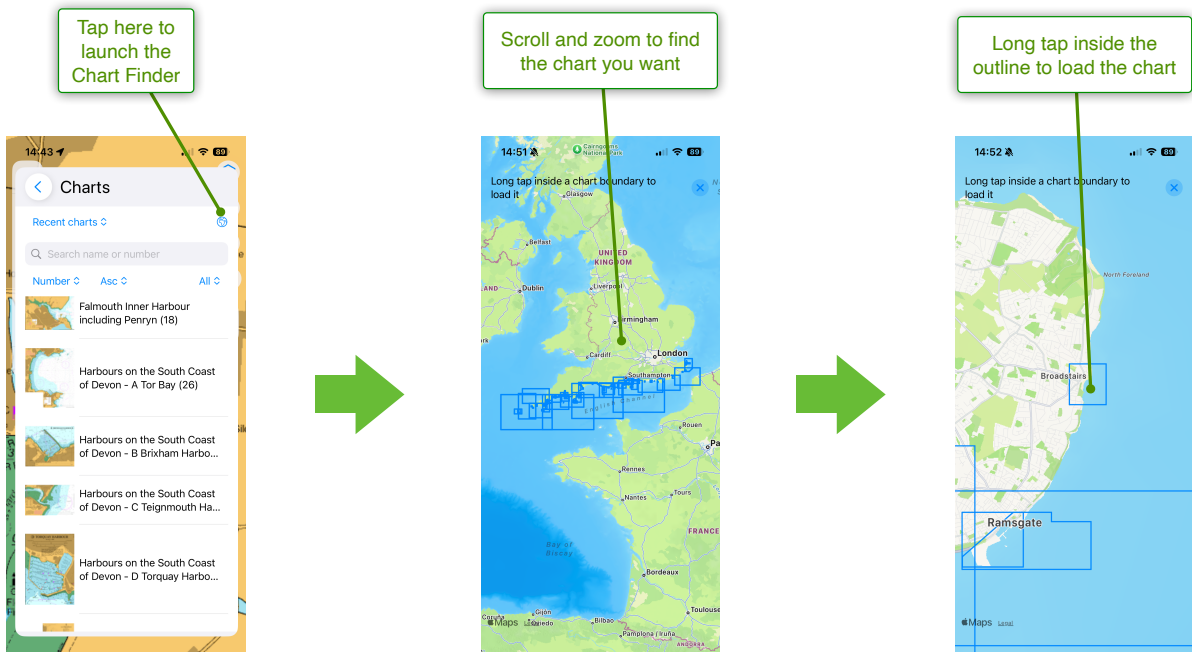
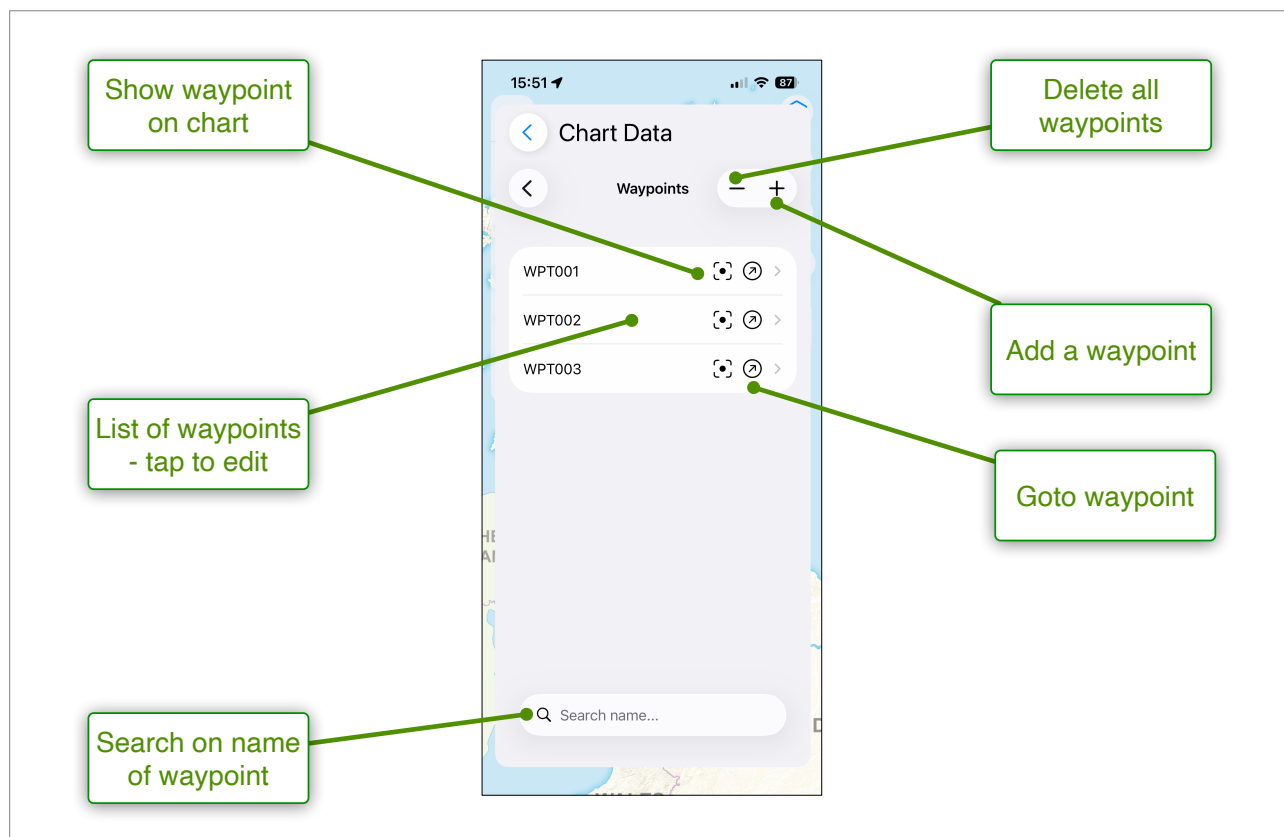


Chart Data

Tapping this button displays additional tabs which are used to access waypoints, routes, tracks and tools for data management.

Waypoints

The waypoints list allows the addition, deletion, and editing of waypoints.



Add a waypoint by tapping **+**. Waypoints can also be added by double tapping the chart at the desired position, and selecting **Add Waypoint** from the chart menu. A double tap on a boat (either your own boat or an AIS target) displays a menu which allows you to add a waypoint at its current position.

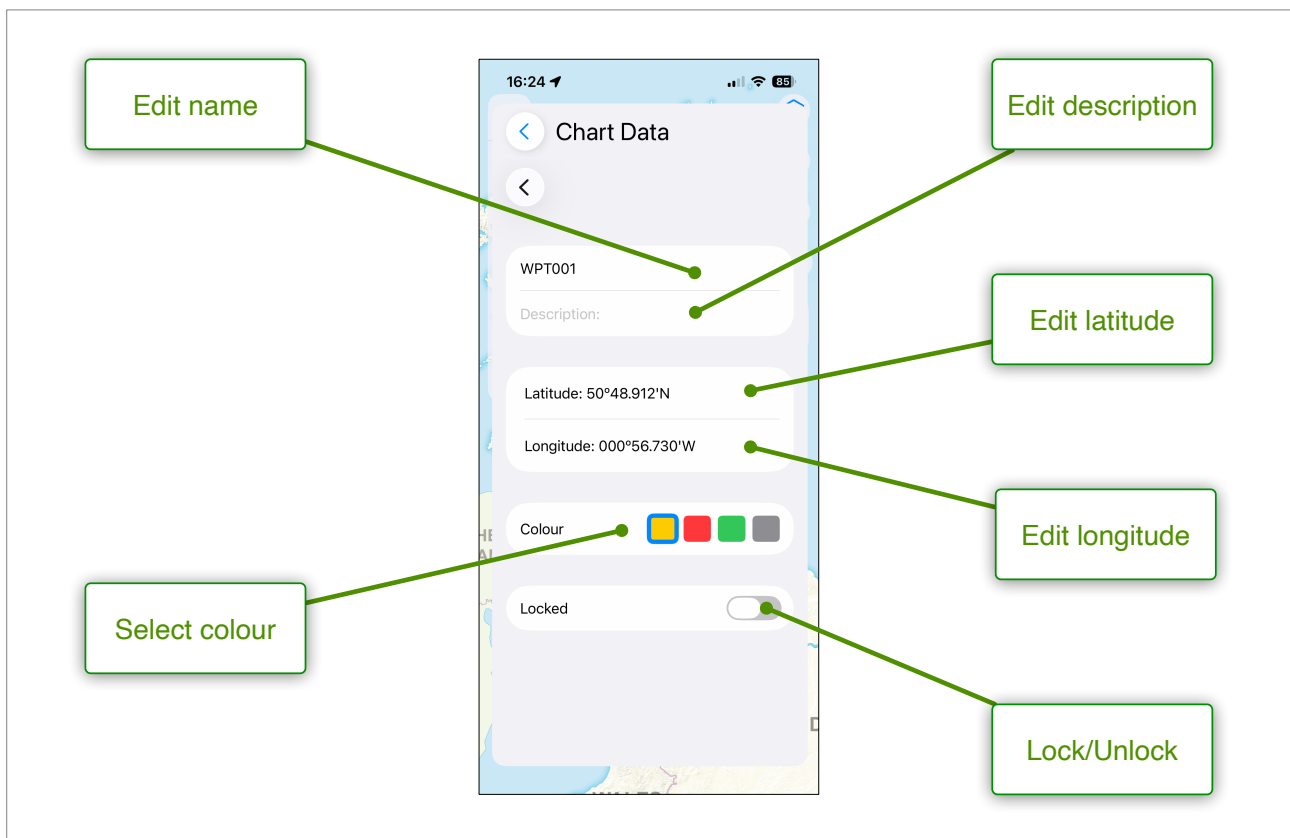
Tapping **—** presents a dialogue box giving the choice of deleting all unlocked waypoints, or all waypoints.

Tapping the  symbol will display the waypoint on the largest scale chart available.

The Goto Waypoint can be selected from the list by clicking on the  symbol adjacent to your chosen waypoint, and deselected by clicking on the  symbol.

Tapping any waypoint on the list will display a screen which allows editing of the name, description, latitude and longitude, and lock status.

A fill colour of the waypoint as displayed on the chart can be selected here. The colour scheme matches that used by the Solent Cruising and Racing Association (SCRA) who publish a GPX file [here](#). If their GPX file of Solent racing marks is imported, the colours of the waypoints match those seen on the water. For example port markers are shown as red, though cardinal marks are NOT shown with black and yellow stripes. Waypoints can

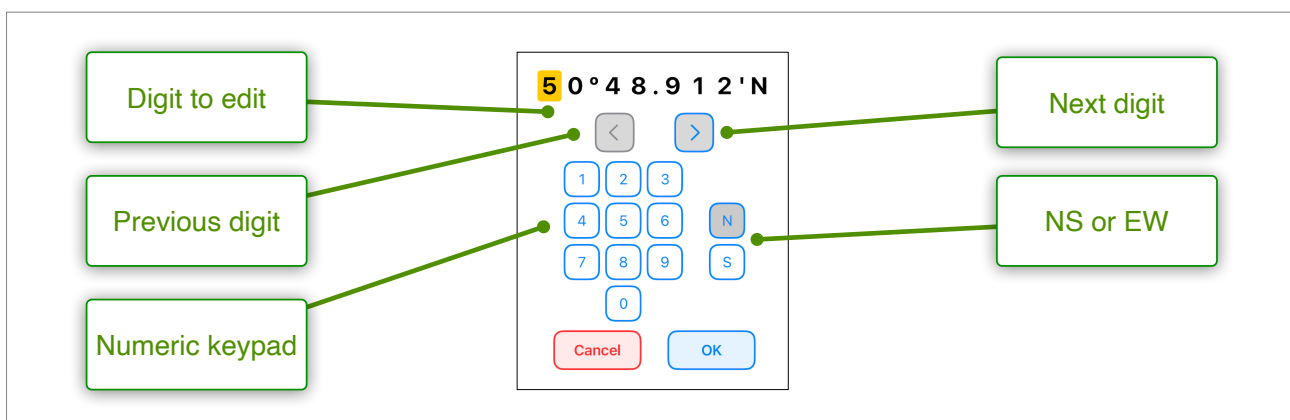


be locked or unlocked using the 'Locked' control on this screen. Locked waypoints are displayed on the chart with a central padlock symbol, and when selected do not display a move handle.

Locking a waypoint removes the risk of moving it accidentally. In addition, locked waypoints are preserved when 'Delete All' is selected, followed by 'Delete All Unlocked'. This provides a useful way of managing waypoints in that you can lock the ones that you want to keep, delete the others, and then export the remainder to a GPX file for storage.

Locking a waypoint does NOT prevent it being deleted via the waypoint menu, or by swiping left on a waypoint in the waypoint list and tapping 'Delete'.

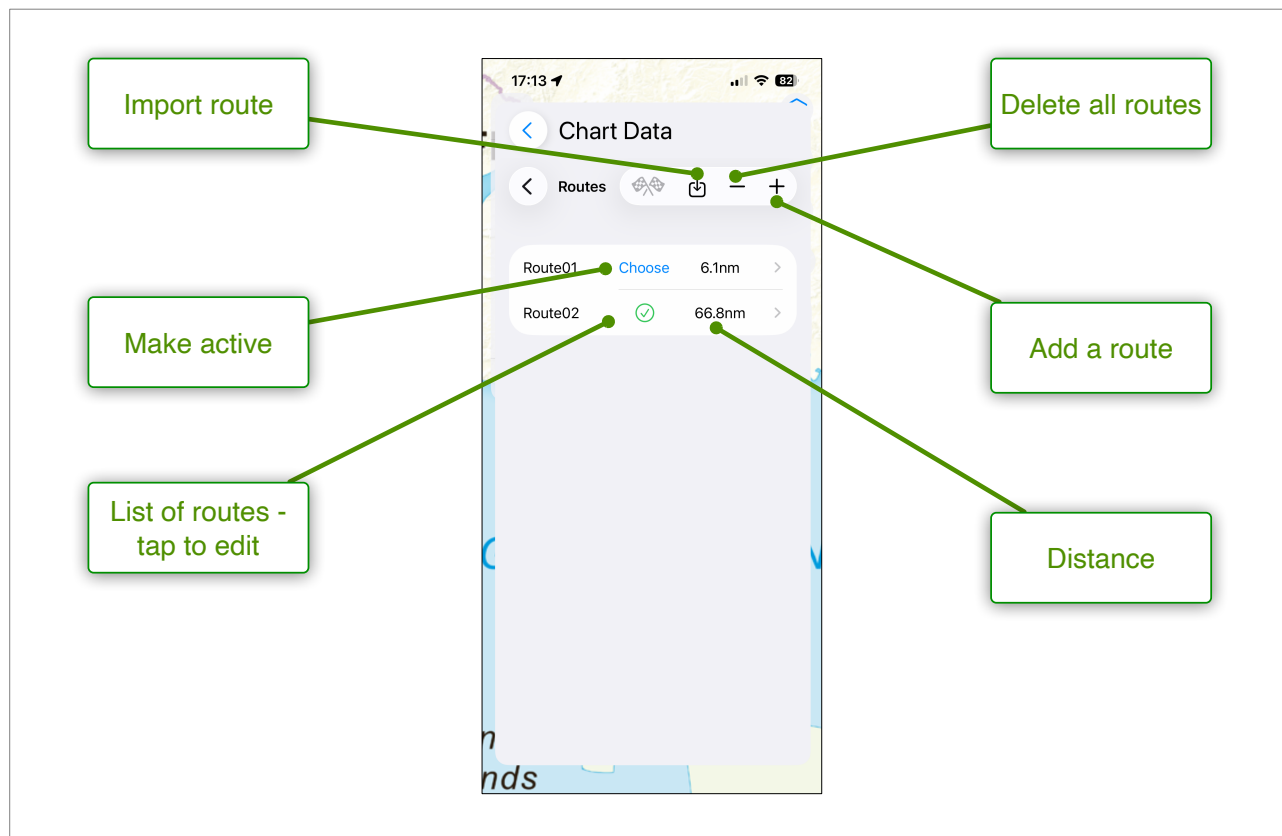
In order to rapidly enter waypoints from printed latitude and longitude data (for example waypoints in a pilot book), AngelNavNeo includes a dedicated keyboard to make the process as painless as possible. To use the keyboard, tap on any waypoint in the list, and



tap on the latitude or longitude value.

Routes

A route is an ordered collection of waypoints. There is no limit to the number of routes that can be created and listed, but only one can be active at any time. The active route can be edited directly on the chart and is followed if one of its waypoints is set as the 'Goto' waypoint.



Create a route by tapping **+** or by double tapping the chart at the desired start position, and selecting **Start Route** from the chart menu. Subsequent waypoints can be added to the route using the chart menu (**Add to Route**), or by editing the route in the Routes tab.

Individual routes can be deleted by swiping the selected route left. Tapping the **-** button will delete all routes.

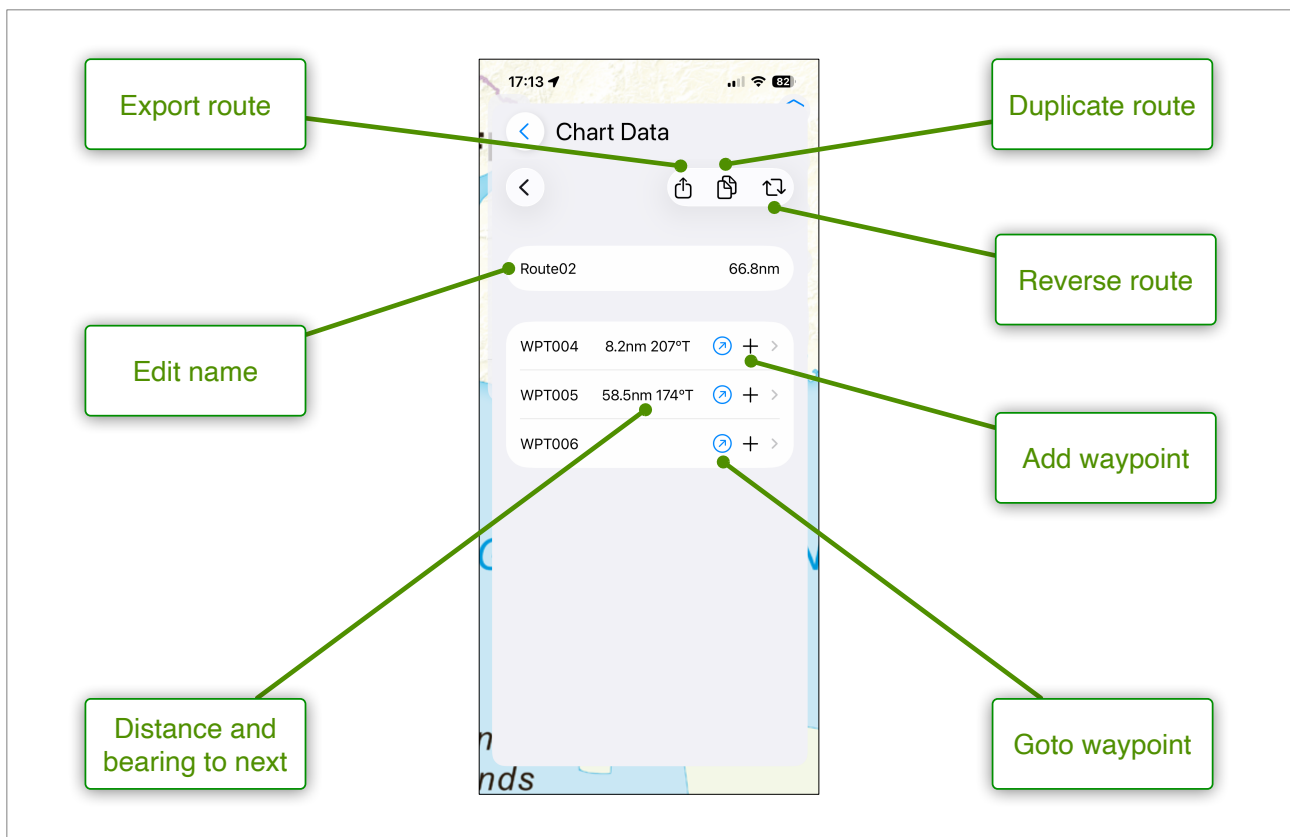
Import a route by tapping the **↓** button and selecting a GPX file.

An intermediate point can be added to a route, by using the chart menu near to a segment between two waypoints. If the location of the double tap is near to the segment, a waypoint will be added between the two ends of the segment. Otherwise it is added to the end of the route.

A route can be activated by tapping **Choose**. An active route is displayed on the chart as a series of blue dotted lines. The selected active route is indicated in the list by a green tick symbol **✓**.

The course and distance of each segment is displayed around the middle of the dotted line if **Settings: Show course and distance** is selected.

Tapping on a route entry displays another screen which allows detailed editing of the route.



A route can be exported as a GPX file by tapping the  button, and can be copied by tapping the  button (A new route is created and visible in the list of routes). The order of waypoints in a route can be reversed by tapping the  button.

Adding another waypoint to the route can be achieved by tapping the  button which inserts the chosen waypoint in the selected position (i.e. after the waypoint whose row contains the  button).

Each row containing a waypoint displays the distance and bearing to the following waypoint in the route. Tapping the  button will make the selected waypoint the goto waypoint.

Tapping a row will display the detailed editing screen for that waypoint.

Tracks

AngelNavNeo can record a track and save it as a GPX file. To start recording, tap the  button on the main screen (further instructions are here)TODO

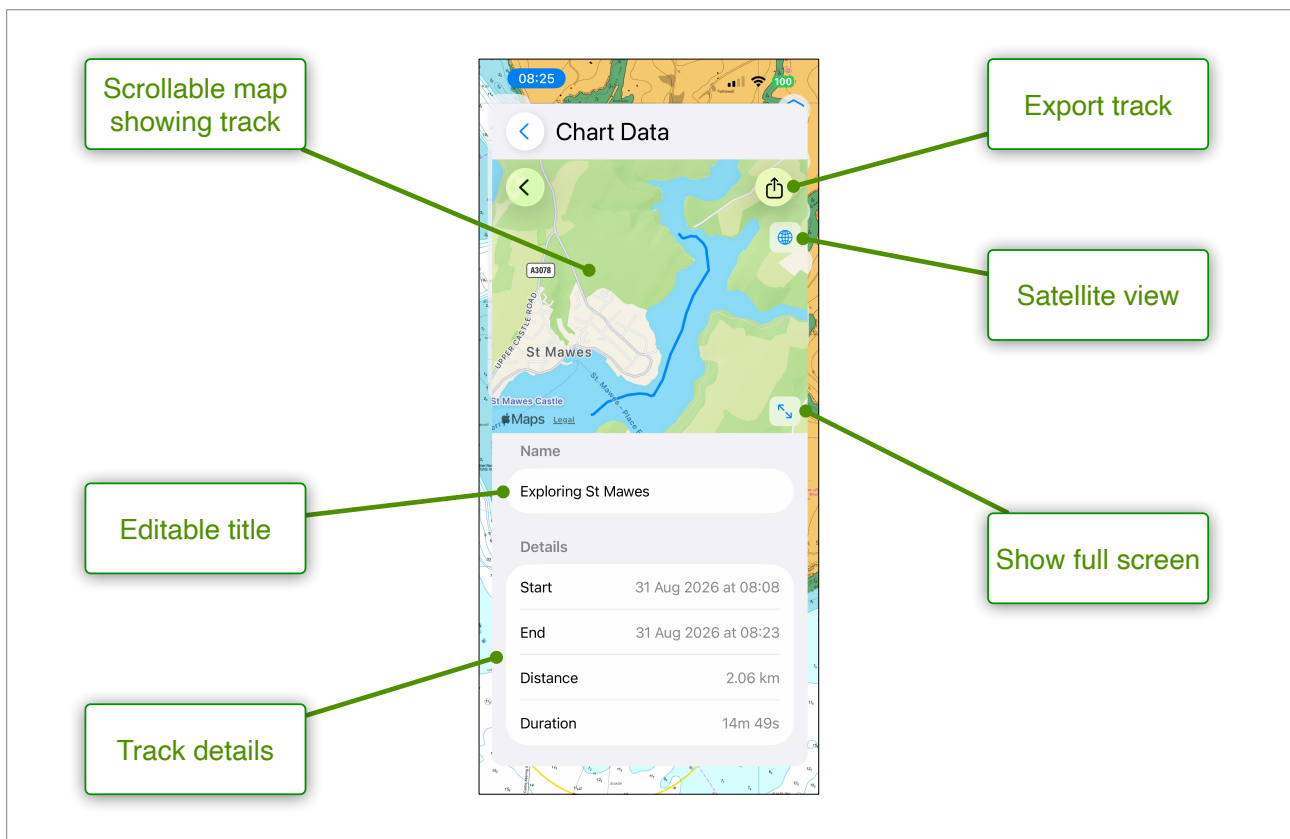
Recorded tracks are displayed in the track list.



Tracks can be individually deleted by swiping left. Tapping the  button deletes all the tracks.

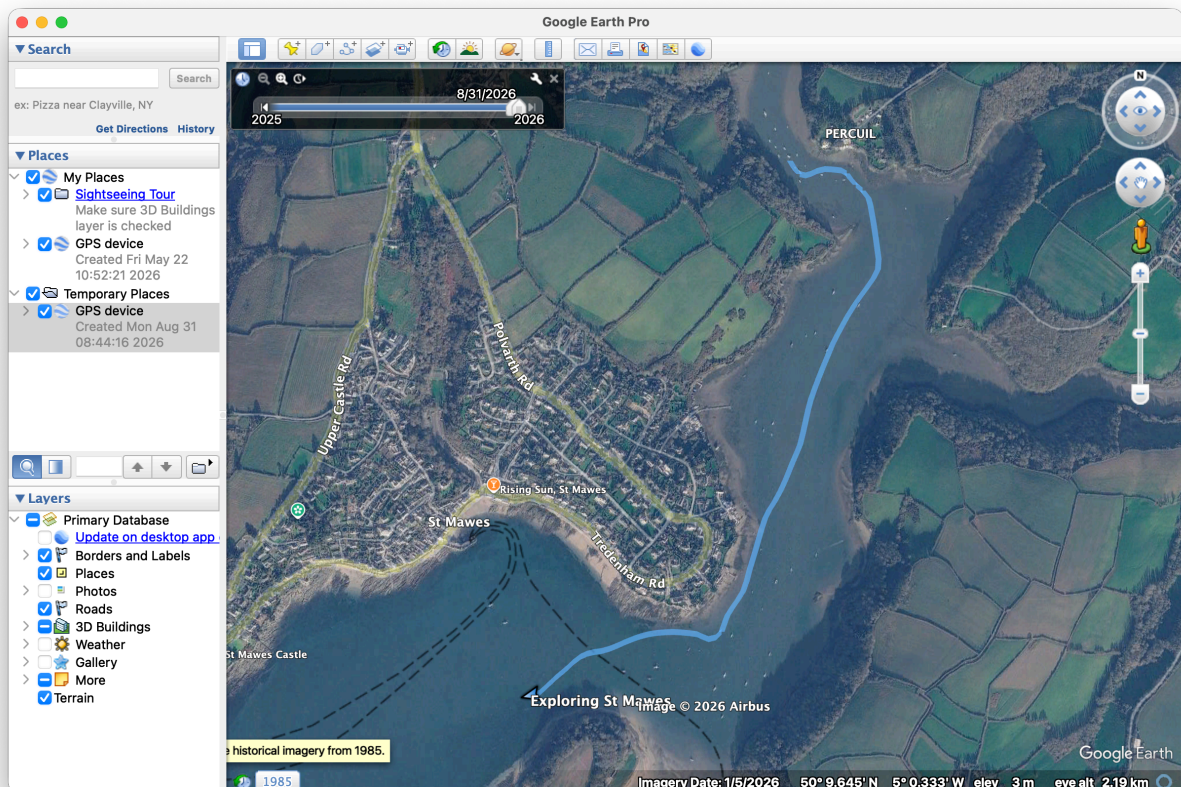
Each track has a toggle button next to it. When on, the track is displayed on the chart.

Each track has a unique name made up of the date and time that the recording started. Tapping a track will bring up a display and editing screen.



The track is displayed on a map which can be scrolled and zoomed in the usual way. There are buttons on the map to switch to and from satellite mode, and to and from full screen.

Tap the name of the track to edit it, and use the export button  to save it to a GPX file which can be shared and displayed in other software such as Google Earth.



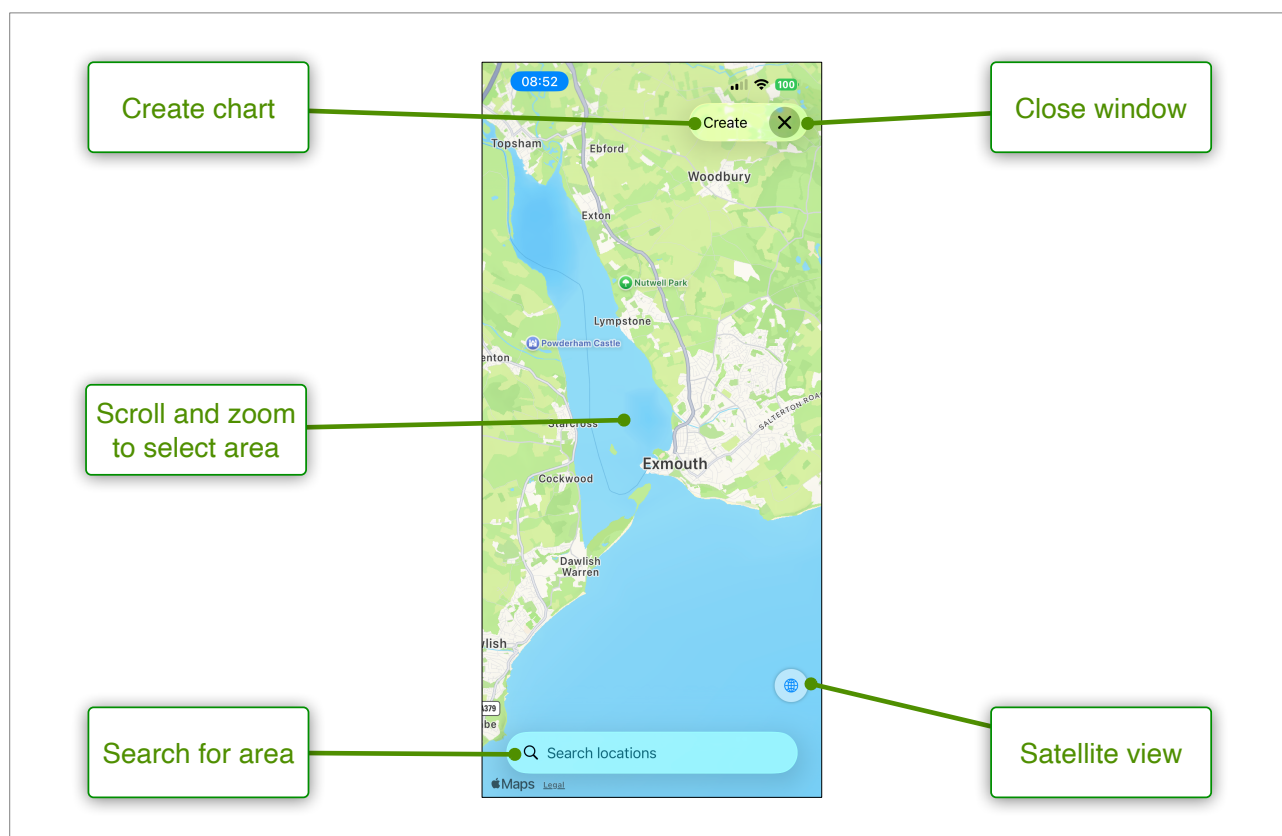
Data Management

This section has controls for deleting, exporting, backing up and restoring chart data.

Create Satellite Chart

AngelNavNeo has the capability to create a geo-referenced satellite image that can be used in the same way as a conventional navigational chart. You can create any number of charts while online for later offline use. They are particularly useful for pilotage in shallow areas to identify hazards (eg coral reefs) that may not be visible on a conventional chart.

Tap the  button to bring up the screen to create a satellite chart. An outline map is shown which is centred on the current position if available. To find the area of interest you can either scroll to it, or search for it by typing in the search box.



You can preview the detail available by selecting Satellite view.

You can use the device in either portrait or landscape mode depending on the desired aspect ratio of the chart. When you are happy with the area covered, tap the create button.

You will be prompted for a name for the chart. Tap Save and the chart will be saved to your device and will appear in the chart list for selection and viewing.

NB You need to purchase the Satellite chart capability in order to view satellite charts.

Extras ☰

Tapping the Extras button ☰ brings up a view with three tabs, Settings, Store and About.

Settings

Store

About

Help ?

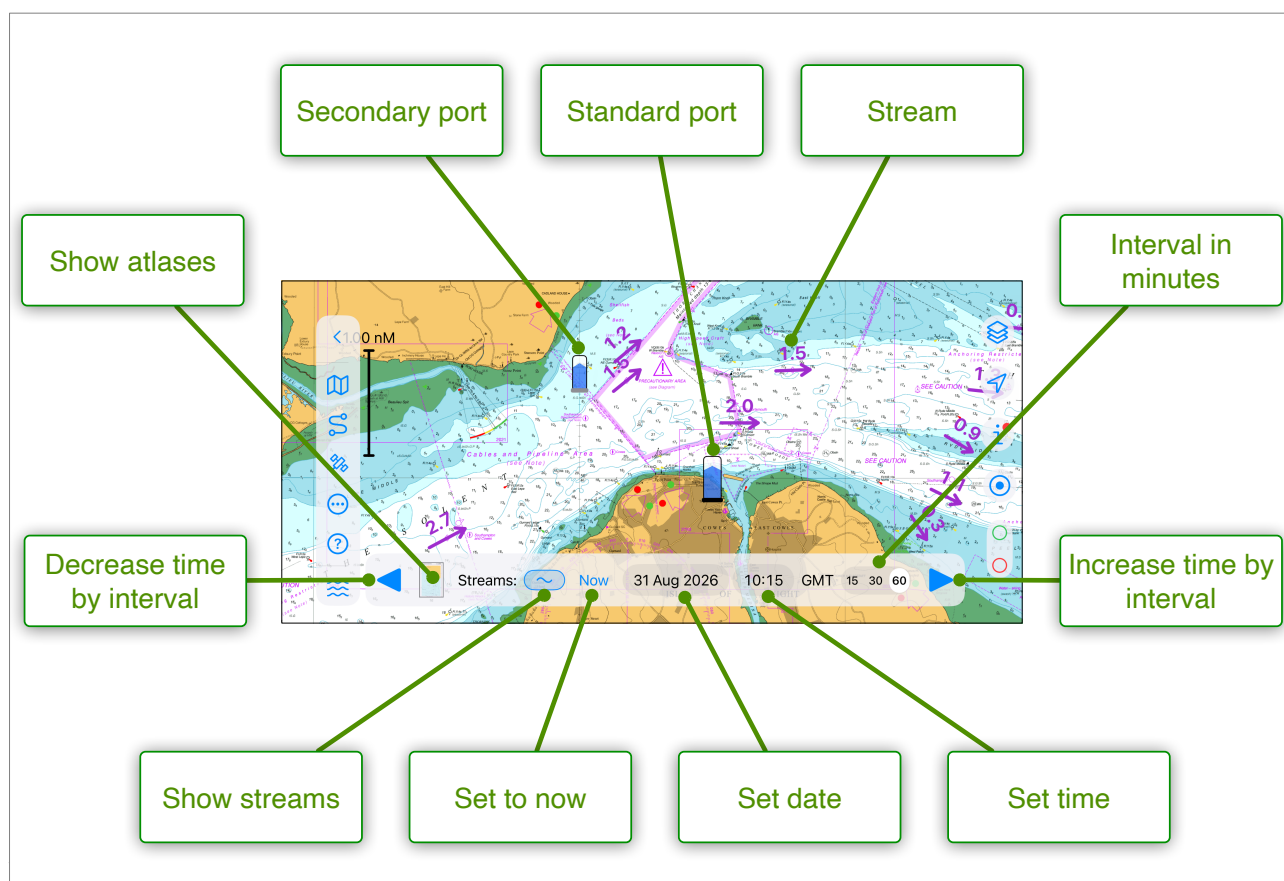
Tapping the help button shows a screen with links to our support website and a copy of this manual.

Tides ≡

The tides module provides predictions of tidal heights and streams derived from data supplied annually by the UKHO. Accessing the tides module requires the purchase of a licence for a geographic area and a full calendar year (for example the United Kingdom and Ireland for 2026).

Operation

Tidal information is displayed overlaying the chart by tapping the ≡ button in the App control strip. When this option is checked, an overlay appears showing tidal ports (standard and secondary), and optionally tidal streams. The data shown is for the date displayed on the date controller bar at the bottom of the screen, which defaults to the current date (provided that there is tidal information available).



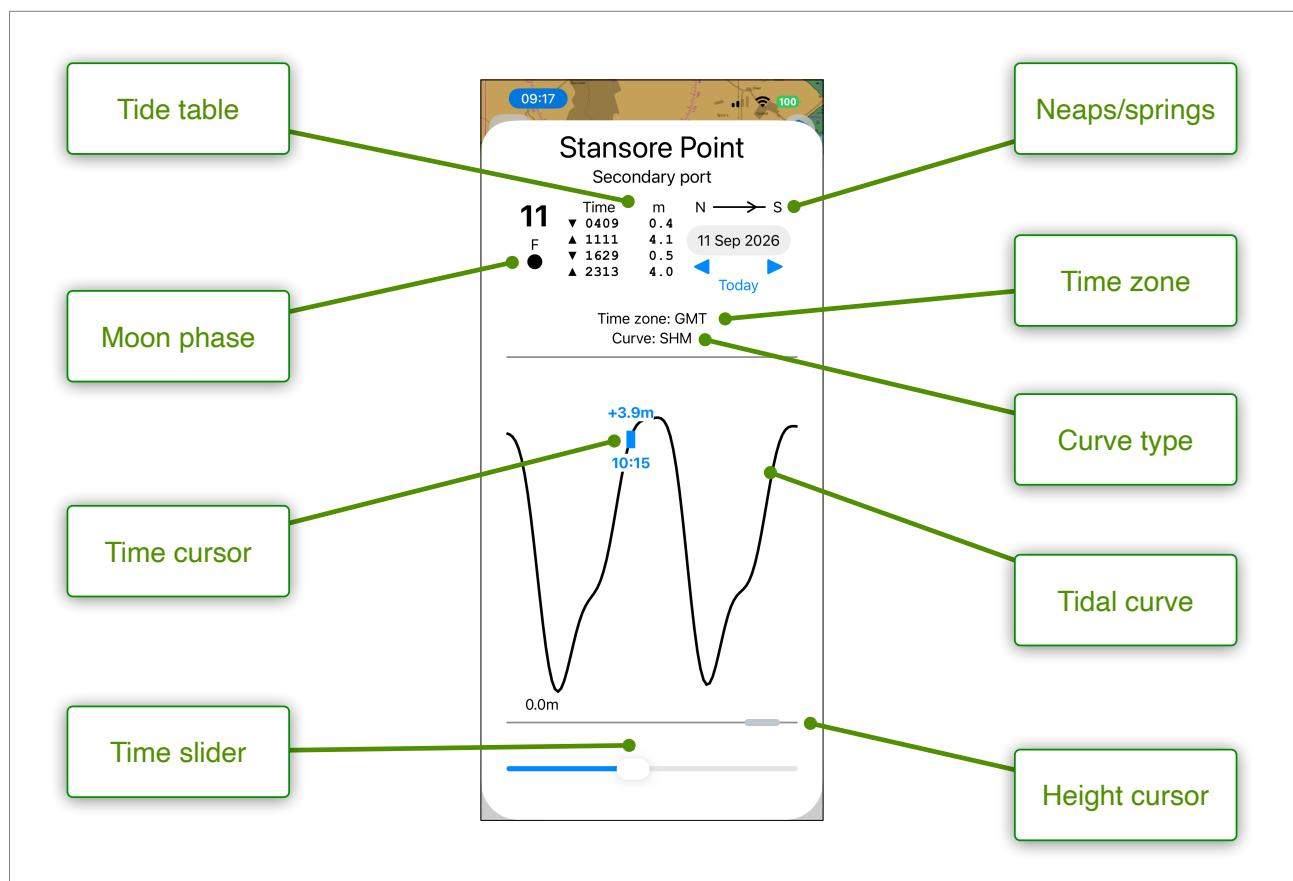
The date can be changed either by tapping on the date or time in the control bar and editing them accordingly, or by tapping the arrow heads at the right and left of the display. Each tap on an arrow advances or retards the time by the number of minutes selected as the interval (15, 30 or 60). Long tapping on an arrow head will keep changing the date at the rate of three intervals per second.

Ports are indicated by an icon representing a tide gauge, with a level (between LT and HT), and an arrow indicating the direction of travel. The icon for primary ports have a black base, and those for secondary ports are slightly smaller with a grey base.

Tidal streams are indicated by an arrow showing the direction of the tide at that geographical point. The length of the arrow is related to the speed of the tide, which is also shown as a value in knots in adjacent text. The streams are usually at the location of a tidal diamond and give the same information on speed and direction.

Port display

Tapping on a port icon displays additional detailed information about the port.



Tables of predicted heights are displayed for all primary and secondary ports in the purchased area for the duration of the year. The daily times and heights of high and low waters for standard ports are exactly the same as those published in Admiralty tide tables, and are presented as such, with a familiar layout of date, day of week and time information. Secondary port information is presented in the same format and is derived from reference port data using the UKHO time and heights differences method.

In addition to the information you will find in paper tide tables, there is a date selector which allows data for any day in the year to be displayed, along with buttons that change the date by plus or minus one day. A neaps to spring indicator shows where the selected

date is in relation to the lunar cycle, along with an arrow head which shows the which is next.

Below the tabulated information, there is a graph of the tidal height throughout the selected day. The derivation of the curve depends on the information available, and is described in detail in the following table:

The SHM (also known as the 'Admiralty method') uses a subset of the most important harmonic constants in order to derive the predicted height. Standard ports have HT and LT predictions supplied by the UKHO, and these are based on up to 200 harmonic constants. As such they are likely to be more reliable than the results of the SHM. Therefore, when available (ie for standard ports), these predictions are used to modify the curve to enhance its reliability.

For secondary ports, the graph may produce values which are slightly different from the HT and LT points displayed in the tide table (which are calculated using the differences method). When no harmonic constants are available (for some secondary ports), then a simple sin curve is drawn through the HT and LT points predicted using the differences method.

There is a cursor which shows the time and height at any point during the day, and it can be moved using the slider at the bottom of the screen, allowing the predicted height at intervals of 15 minutes to be read easily.

Finally there is a 'height' cursor which can be dragged up and down and intersects with the graph. This can be used to predict when a particular tidal height is reached. For example if you decide that your boat requires a minimal height of 1.5 metres above chart datum, set the height line to 1.5. You can then move the cursor to the intersections to display the times of your chosen height.

Times

The times shown on the date controller and in the port view are GMT by default (in order to match the convention with Admiralty Tide Tables. However, if you prefer to use the local time zone set on your device (typically BST in the summer), then go to Settings and uncheck 'Display times in GMT'.

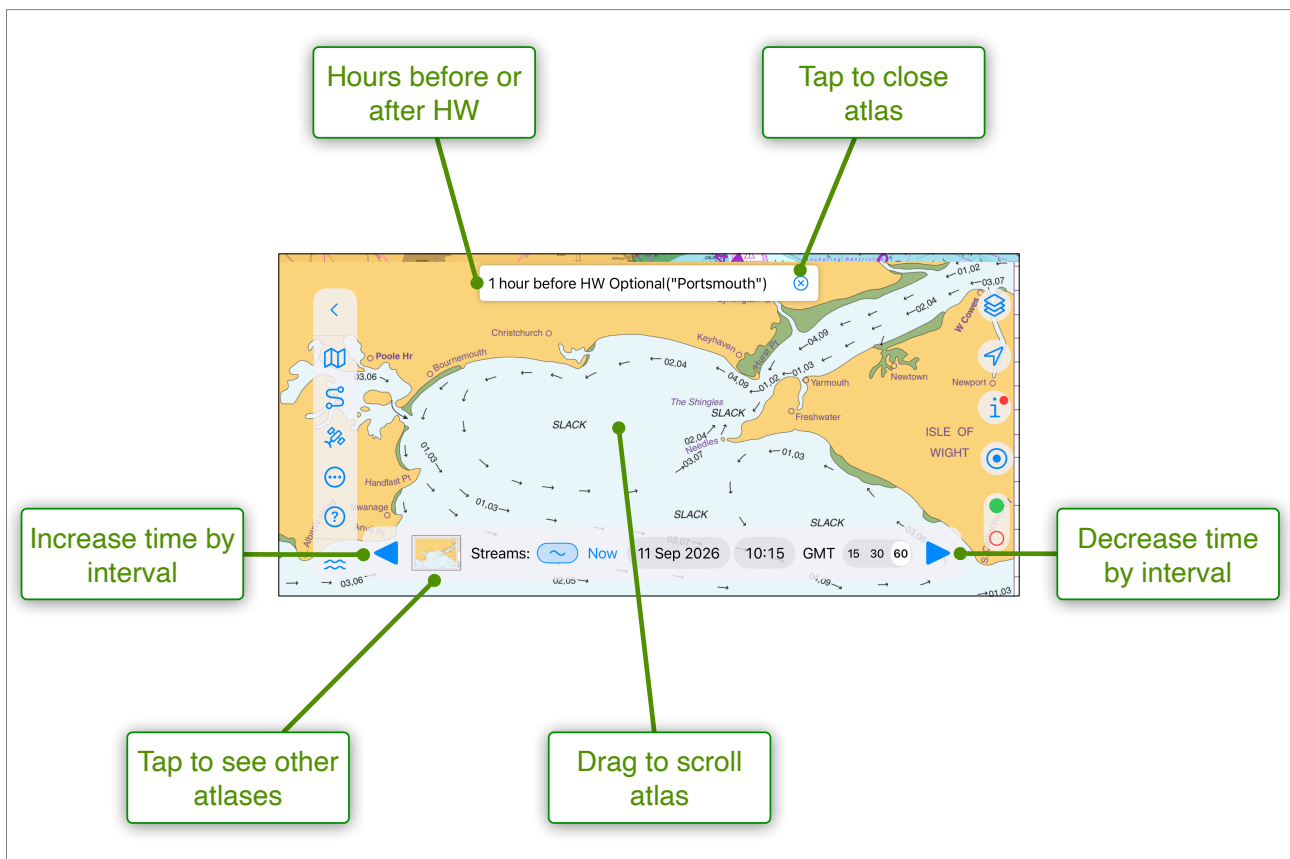
Tidal Streams

Tidal Streams are shown as purple arrows with an adjacent number indicating the speed of the time in knots at the selected date and time. All available streams are displayed including those for larger scale charts contained within the displayed area. This may result in a cluttered display on smaller scale charts with many tidal stream arrows. Zooming in will separate the arrows and reveal more detail. Alternatively switching on 'Filter streams' in Settings will suppress display of densely packed arrows at lower zooms.

Tidal Stream Atlases

There are a number of tidal stream atlases which give more detail than tidal diamonds for 32 different areas around the UK. If there is an atlas covering an area which intersects with the current chart, then a thumbnail will appear in the date control bar. Tapping on the thumbnail will either display the atlas, or if there is more than one, display a menu of atlases for selection.

Each atlas contains a separate page for different states of the tide relating to a reference port from 6 hours before to 6 hours after HT. The selected page is controlled by the date



control bar. The atlas can be scrolled in order to view all of it, and can be dismissed by tapping the ⊗ button (see diagram below).

Warning

The tidal predictions displayed in AngelNavNeo do NOT allow for the effect of wind, atmospheric pressure, and weather, all of which will affect the tidal heights and streams that are actually experienced. They are NOT to be relied upon in situations where precise information is needed to avoid death, injury, or damage to property.

Interacting with the Chart

There are a limited number of ways that the user can interact with a tablet, and we have tried to maintain a consistent approach. In general a single tap on something means 'show information', and a double tap means 'change something'.

'Move handles' are used throughout AngelNavNeo to move objects on the screen. The concept is that the handle is displaced from the object being moved, so that its exact location is not obscured by the user's fingertip.

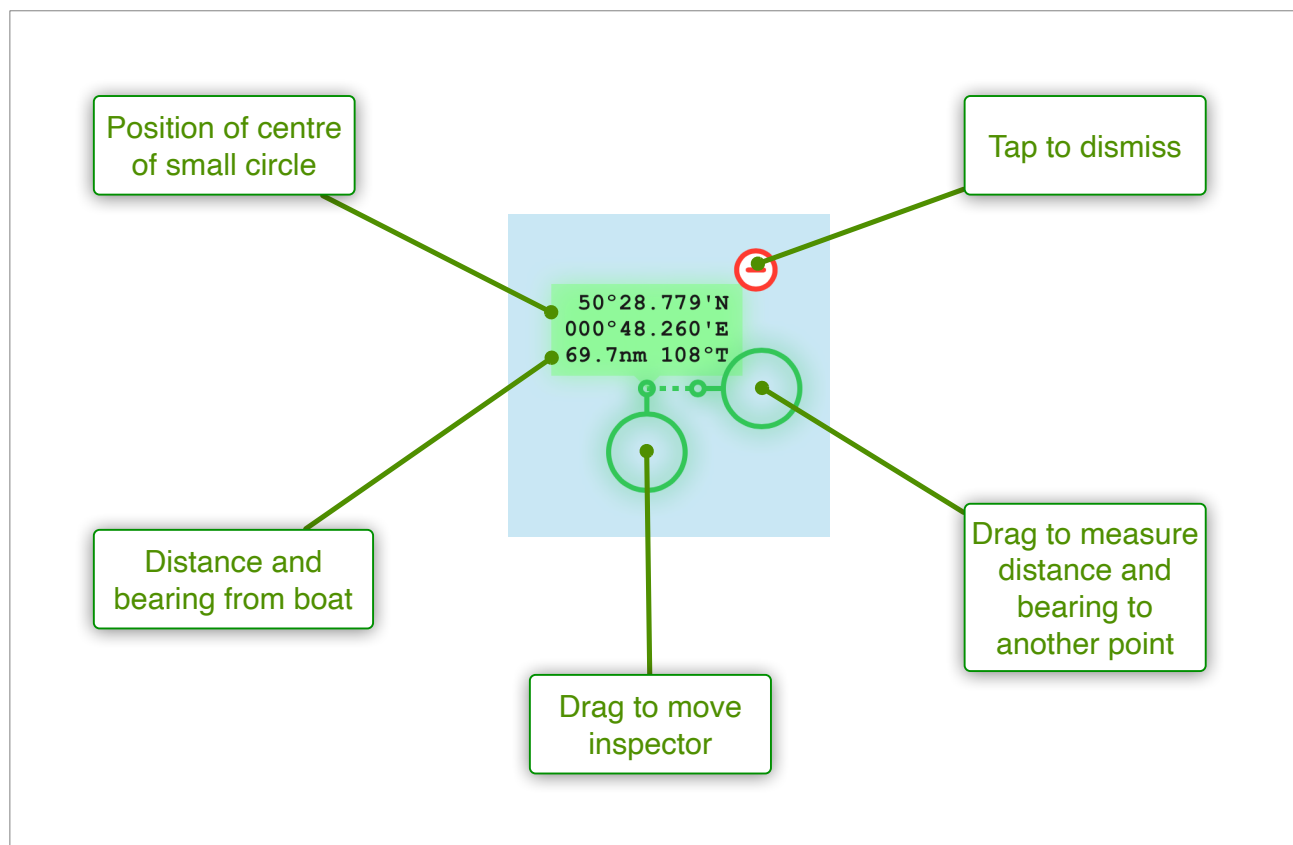
The handles appear following a single tap on an object, and disappear when the movement is finished, or after a short delay if no movement takes place. The duration of the delay can be set in **Settings:Charts:Information duration**.

Tapping the chart

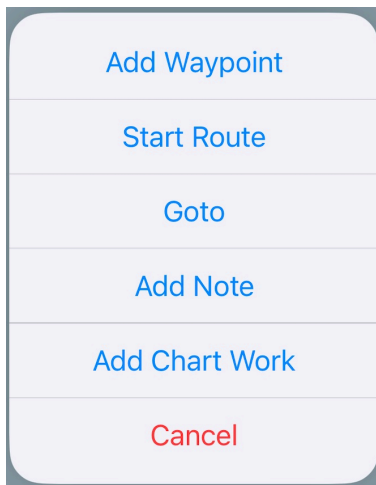
A single tap anywhere on the chart displays the chart inspector which provides a simple method of displaying the latitude and longitude of a point on the chart. If the boat position is available the distance and bearing from the boat will also be displayed. It is invoked by a single tap anywhere on the chart, and dismissed by waiting a few seconds, or by tapping the delete icon. It can be positioned precisely using the central drag handle.

Dragging the other handle creates a 'ruler' to measure distance and bearing to another point on the chart.

It is quite easy to call up the chart inspector by accidentally brushing your finger on the screen (ie a single tap). If you find this undesirable, then it can be switched off in **Settings:Charts:Single tap shows Chart Inspector**.



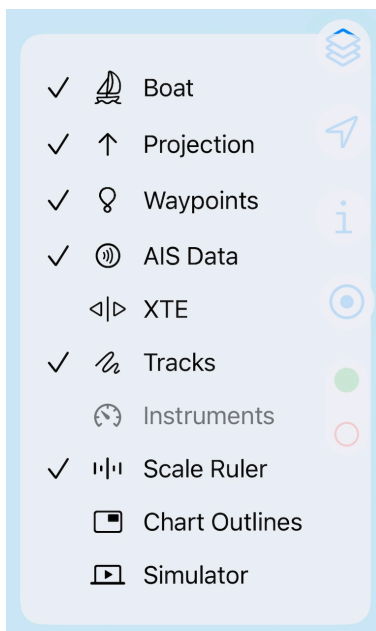
A double tap on the chart will display the Chart Menu with various options relating to the position that was tapped.



Add Waypoint	Adds a new waypoint at the tapped position
Start Route	Adds a new waypoint at the tapped position and creates a new route
Goto	Adds a new waypoint at the tapped position and sets it as the Goto waypoint
Add note	Adds a new note at the tapped position
Add Chart Work	Displays a submenu with a selection of chart work to add at the tapped position

The Layer Menu

Tapping the layer menu button displays a menu which controls what is displayed in layers over the chart.



Boat	Displays a boat at the current position
Projection	Displays a line in front of the boat indicating its future position
Waypoints	Displays waypoints
XTE	Displays cross track error
Tracks	Displays any tracks that are selected in the track list
Instruments	Displays instruments (if purchased)
Scale Ruler	Displays the scale indicator
Chart Outlines	Displays a blue outline around a chart
Simulator	Shows the NMEA simulator

The Location Button

Tapping the location button has the following actions (assuming there is a valid position available).

- If the position is included on the currently displayed chart, the chart is scrolled so that the position is in or near the centre of the screen.

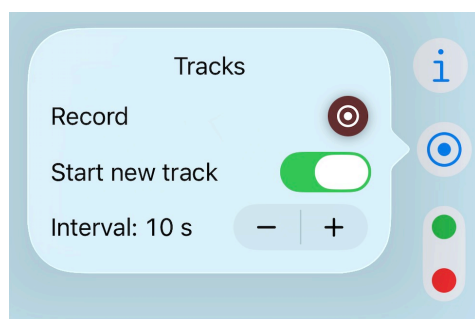
- If the position is not included on the currently displayed chart, but is included in one or more other charts, the one with the largest scale is loaded, and scrolled so that the position is in or near the centre of the screen.
- If no charts include the position, then no action is taken.

The Chart Information Button ⓘ

Tapping the chart information button displays a screen with information about the currently loaded chart.

Track Recording 📍

Tapping the Track Recording button will bring up a submenu with options for recording a track.

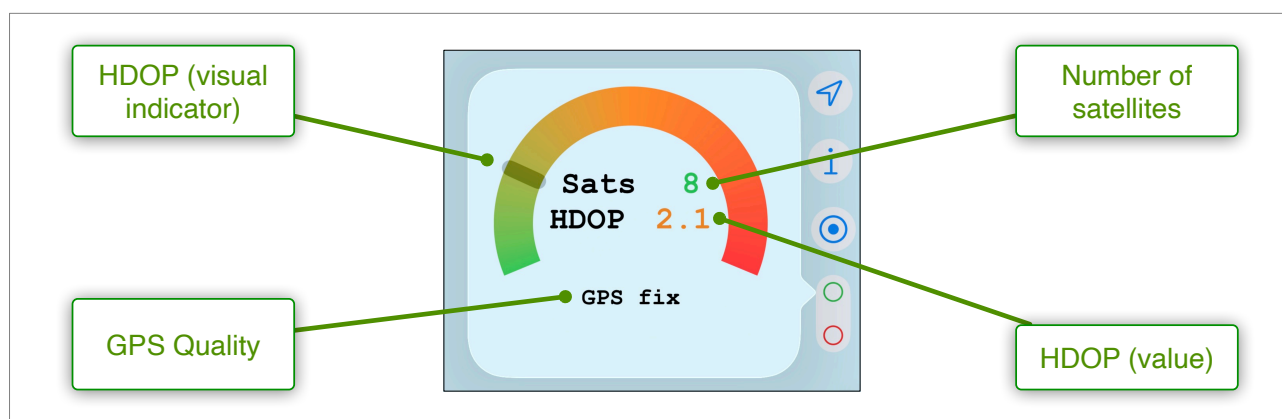


Record	Starts the track recording
Start new track	If on, starts a new track. If off, adds to an existing one
Interval	The time interval in seconds between track points

GPS and AIS info

These are a pair of indicators that show when new navigation information is received. The green circle flashes whenever a new position is received. And the red when a new AIS message is received (assuming that the AIS capability has been purchased).

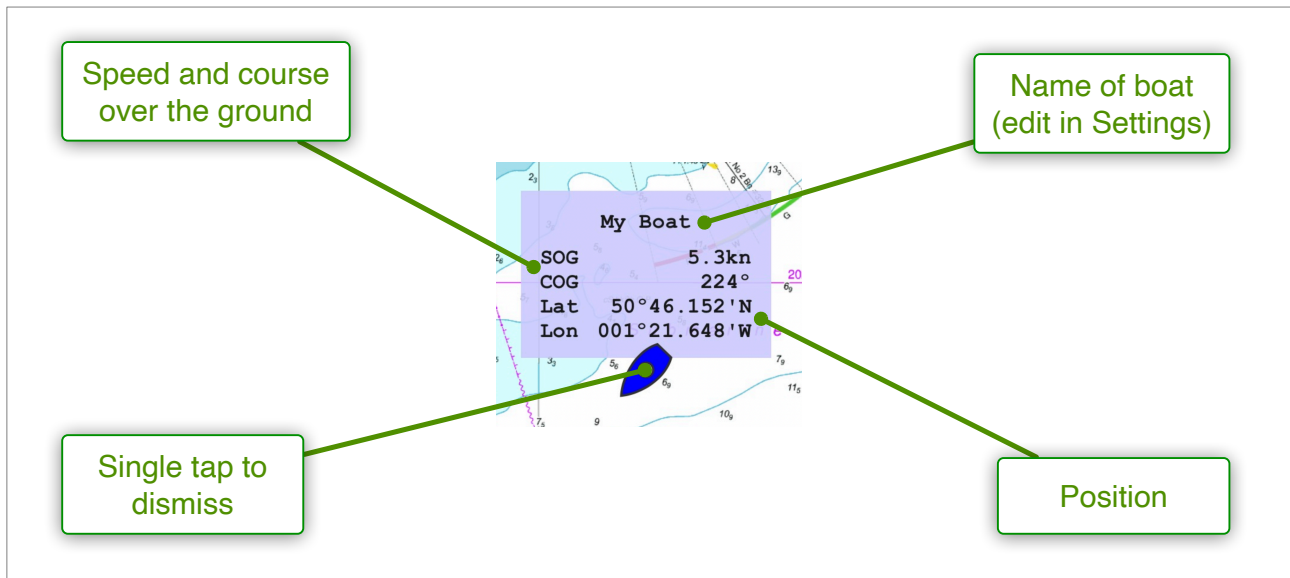
If you are using NMEA as a source of navigational data, tapping on the green circle will display information about the quality of the GNSS fix (type of signal, number of satellites and the HDOP (horizontal dilution of precision)). If using Location Services, an estimation of the HDOP will be displayed, but iOS does not provide additional information such as the number of satellites, or the GNSS quality.



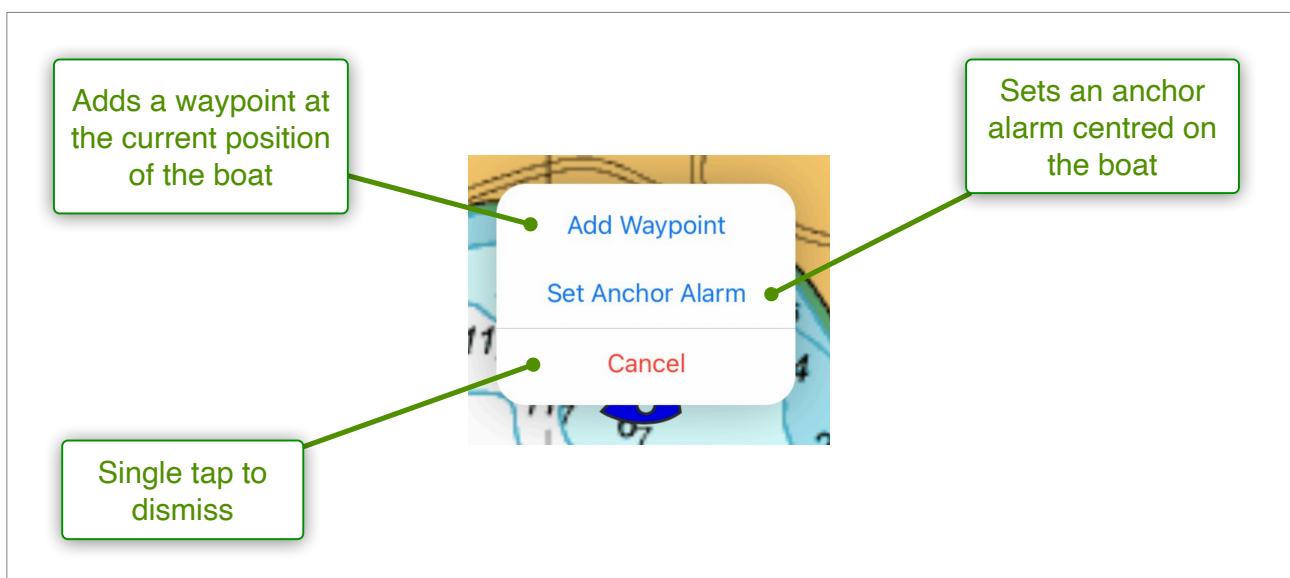
Interacting with Chart Objects

Boat

A single tap on the boat will display relevant boat data as shown in the following diagram. The display will disappear after a short interval. A long tap will also trigger the display, but it will remain visible until there is another single or long tap on the boat.

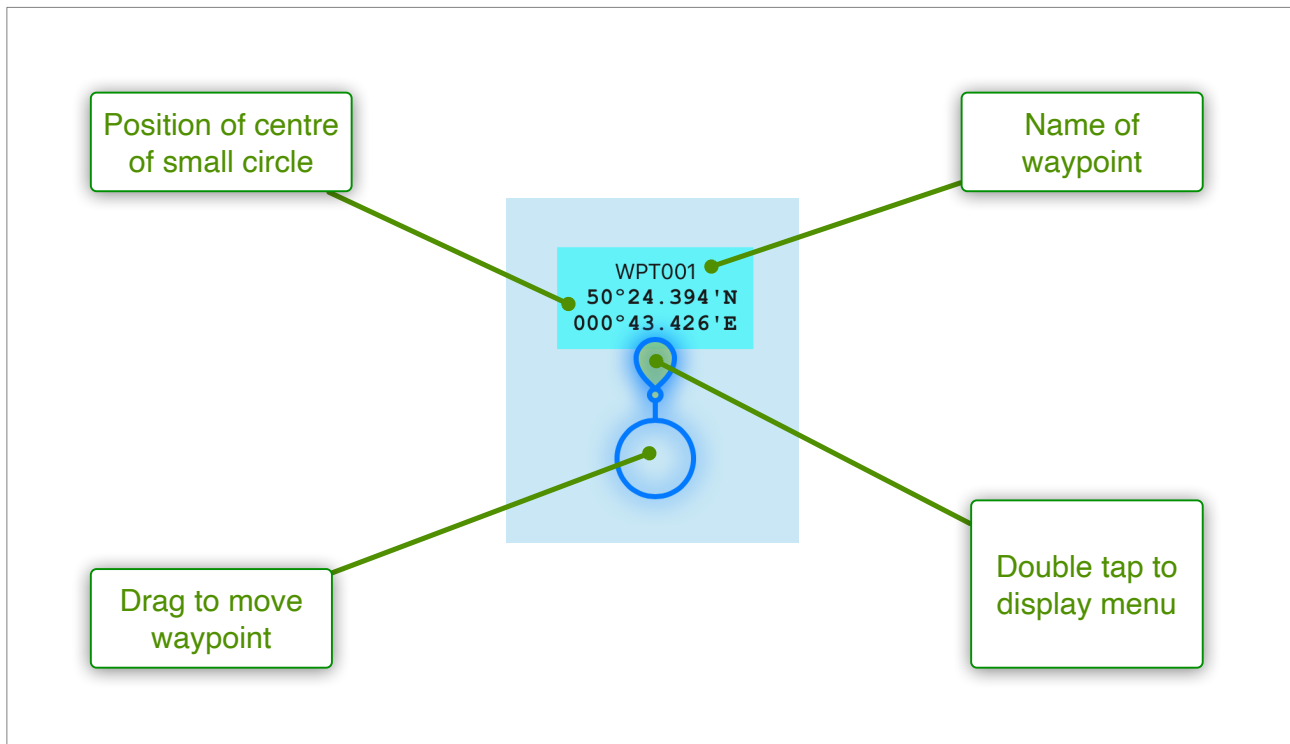


A double tap on the boat will reveal a menu of options including adding a waypoint at the current position of the boat, and setting an anchor alarm. *NB The anchor alarm option is only available if the source of navigation data is set to Location Services.* This is the only source of data which functions while the app is in the background, or when the device is locked.



Waypoints

A waypoint can be added using the chart menu (double tap on the chart), or from the Waypoints screen. A single tap on a waypoint displays its position and a move handle. A double tap displays a menu of options



Notes

A note can be added using the chart menu (double tap on the chart). A single tap on the note displays move handles. A double tap displays the keyboard for editing the text.

The Note function supports 'Rich Text' which allows the use of bold, italic, and underlining, as well as different font styles and colours.

In addition, the colour of the note itself can be edited allowing more the addition of more expressive notes to the chart.

Editing a note is triggered by double tapping on the body of the note.

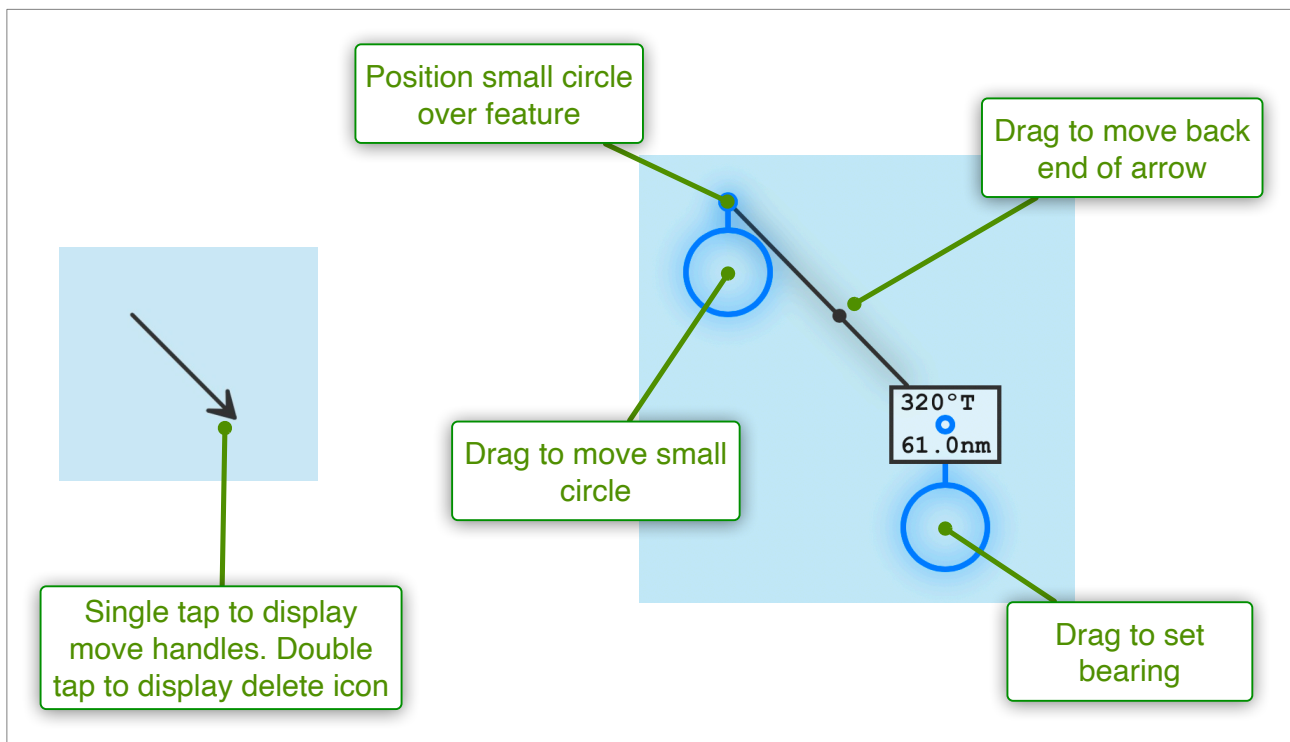
An editing window appears with additional menus allowing access to the text modifiers, fonts and colours as well as additional writing tools.

The modifiers can be selected in advance by placing the cursor and following the menus. Alternatively they can be applied to selected text by double tapping on the text (see sequence of diagrams below).

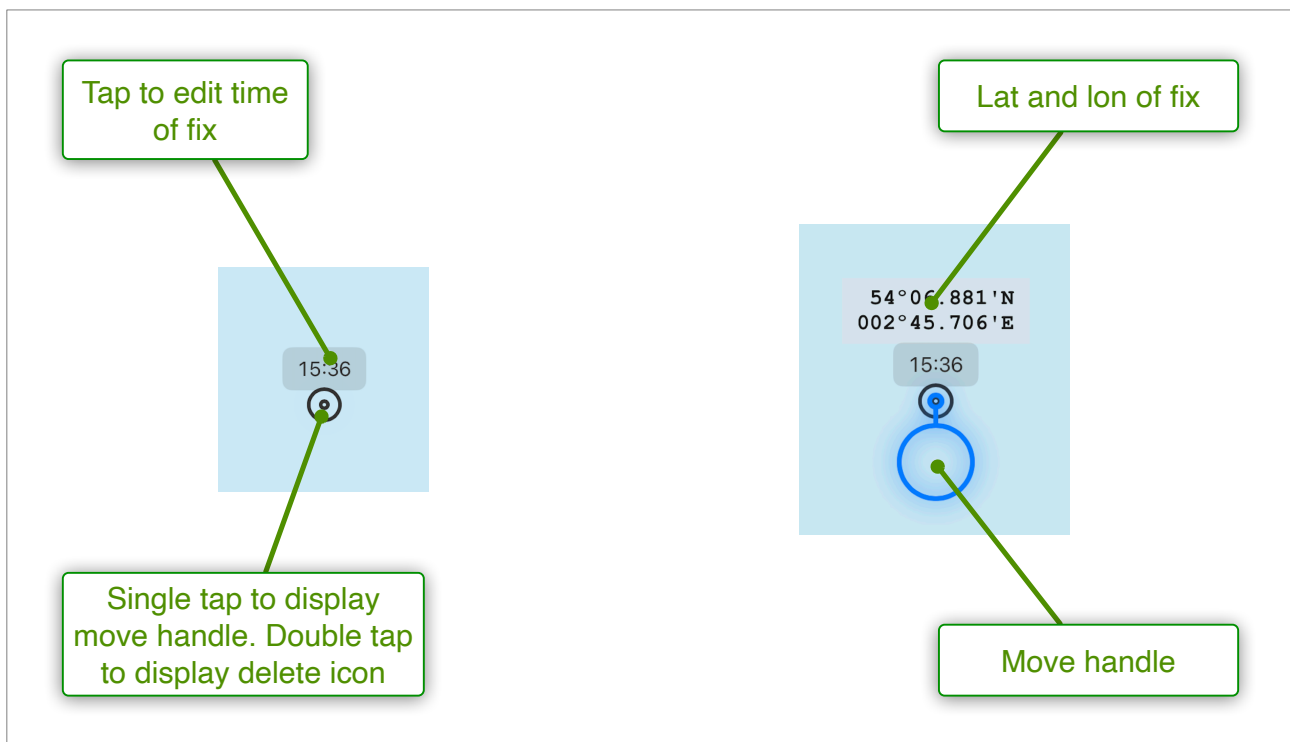
The editor has buttons at the top which allow changing the colour of the note, dismissing the editor (with saving of the changes) and deleting the note itself.

The illustrations on this page show the appearance of the editor on an iPhone screen). On devices with larger screens, some of the controls are found at the top of the keyboard display.

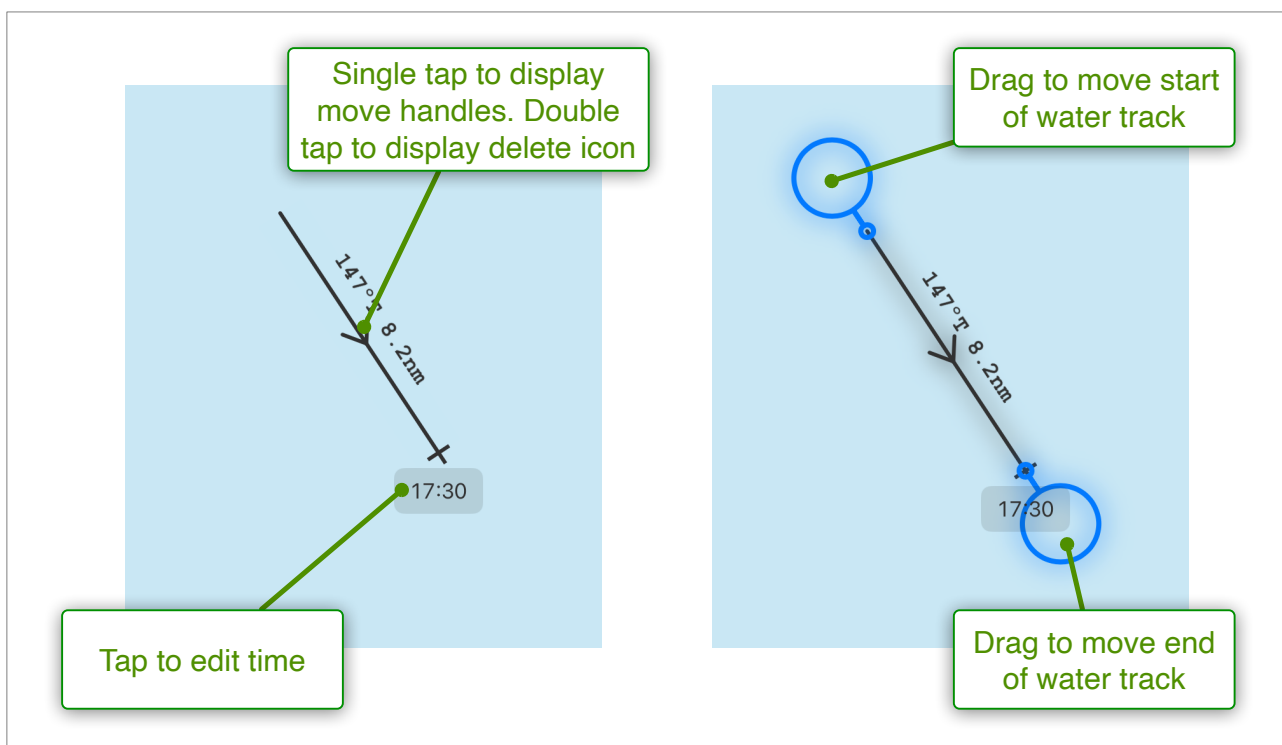
Position Lines



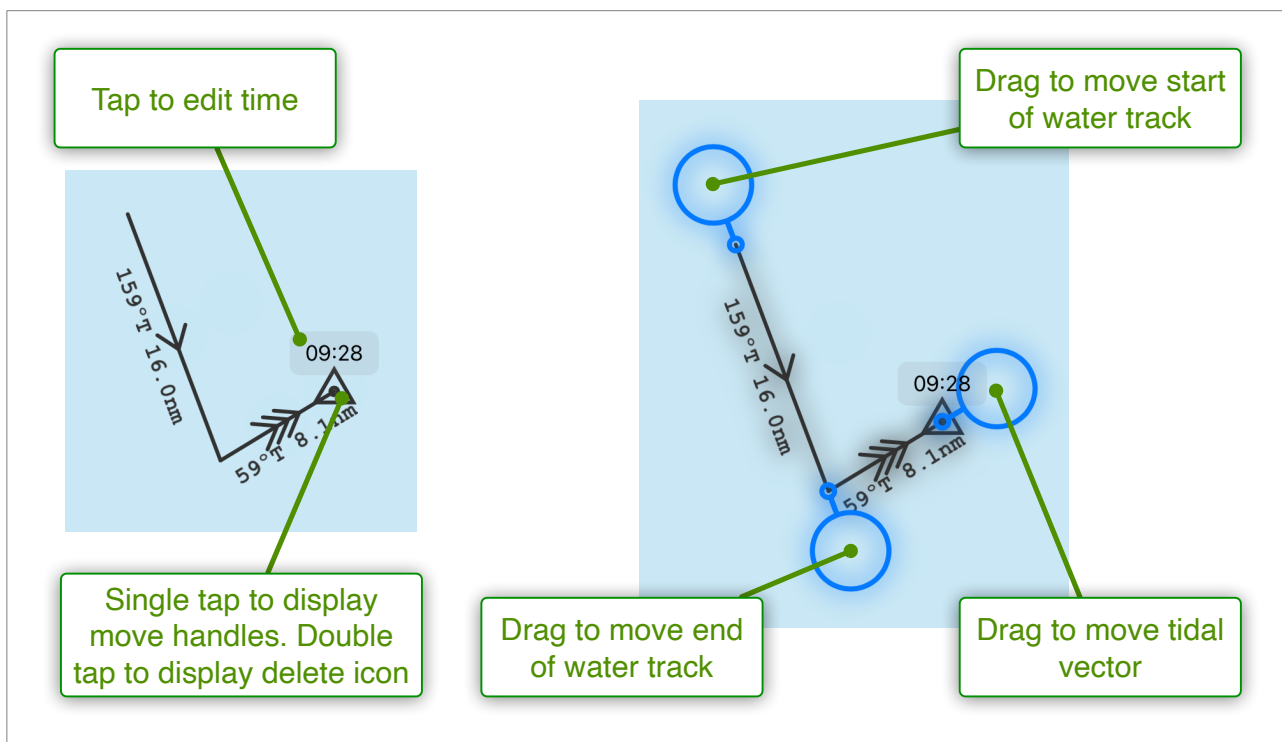
Fix



Dead reckoning

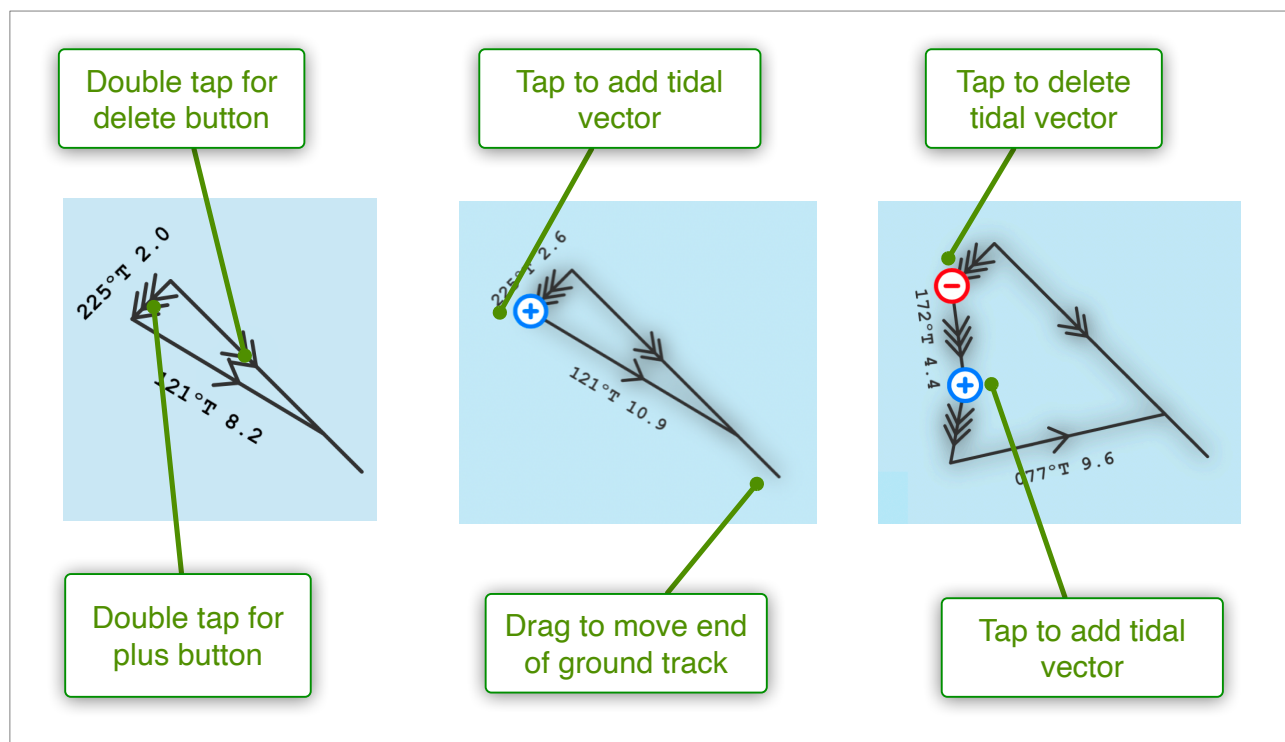
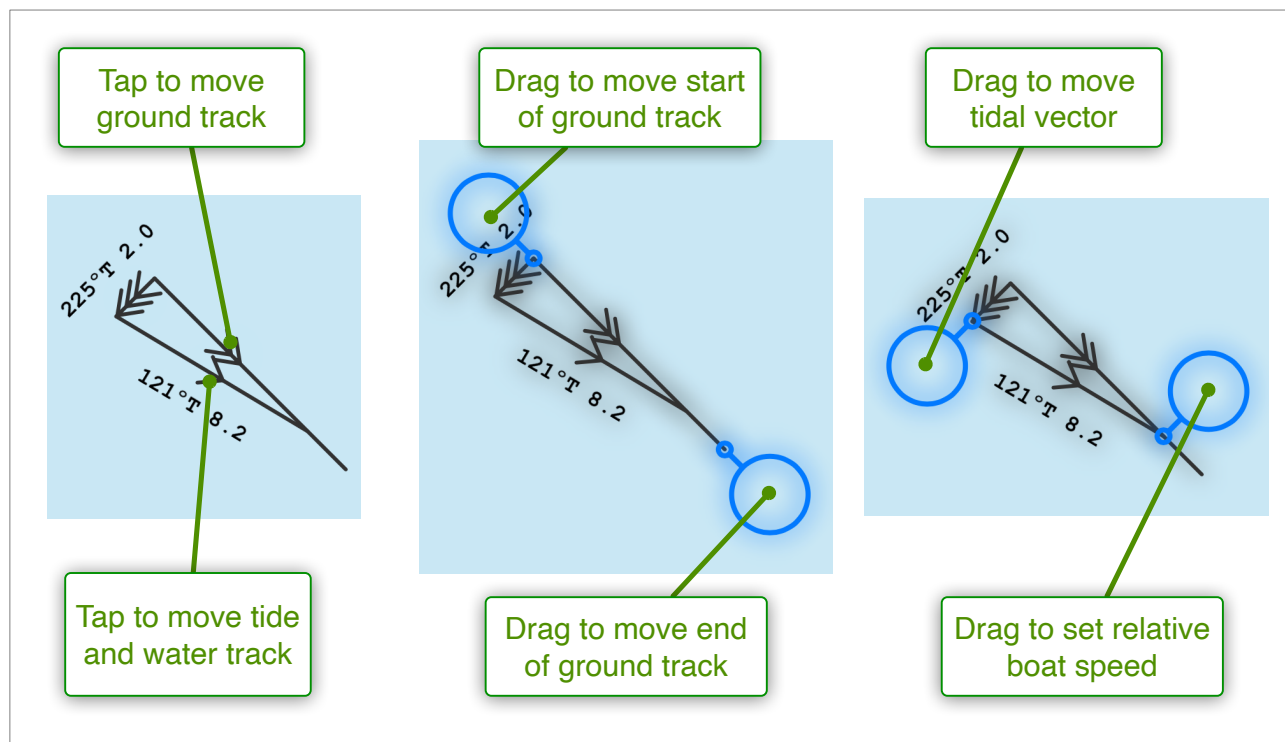


Estimated position



Course to Steer

For long legs (eg a channel crossing), it can be helpful to have multiple tide vectors. This can be achieved by double tapping the tide vector and tapping the + button.



Exclusion Zones

An exclusion zone can be added using the chart menu (double tap on the chart).

The default zone has 4 markers, each of which can be selected and moved. A marker can be deleted (a minimum of 3 markers is required to define the zone). Markers can be added by double tapping on the zone and tapping the + button.

The entire zone can be deleted by double tapping on the zone and tapping the delete icon.

When the boat enters an exclusion zone, an alarm sounds for 10 seconds and the borders of the zone flash red.



Anchor alarm

An anchor alarm can be a useful aid for detecting dragging of the anchor. A circular zone is set and the app then monitors the position of the boat. If the boat moves outside the zone, an audible alarm sounds.

WARNING:

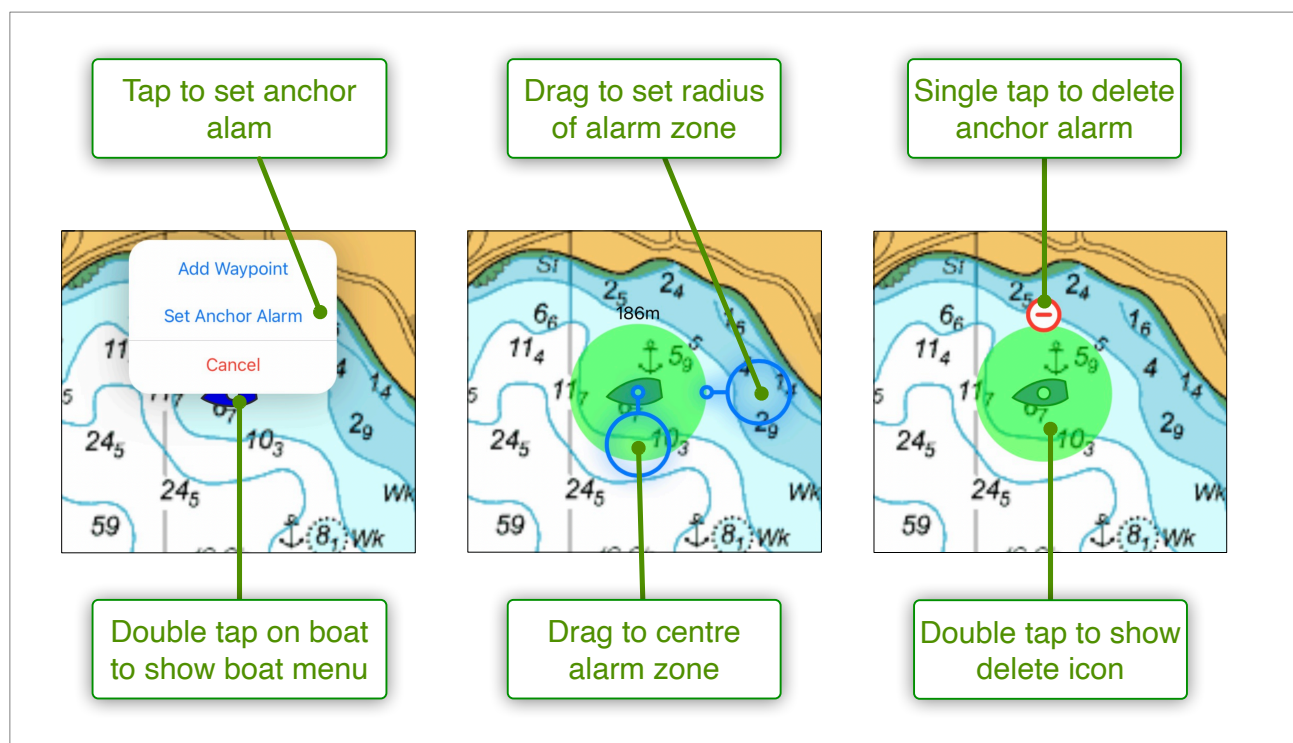
The anchor alarm functions in the background, so requires a device with a built in GPS, or one linked to a bluetooth GPS. It will NOT function with a Data source from an NMEA or SignalK network, both of which require the app to be in the foreground.

In order for the anchor alarm to work effectively the following points are vital:

- **Settings: Data source** is set to “Location Services”
- Location Services for AngelNavNeo is set to “While Using the App”
- The anchor alarm is set appropriately (try to centre the zone over the anchor position, not the boat position)
- The volume on the device is turned up to a level sufficient for the alarm to be heard (switching silent mode on or setting ‘Do not disturb’ does not suppress the alarm)
- The device is connected to a power source (using location services in the background uses significant energy)

Setting the alarm

Double tap on the boat icon to show the boat menu, and follow these steps:



GPS spoofing alarm

Background

Signals from global navigation satellite systems (GNSS) satellites are weak, and a portable and powerful transmitter can be used to swamp their signals. This is known as GPS jamming, and is easily detected in AngelNavNeo by the colour change in the boat's icon (turns to pale blue when regular position updates stop).

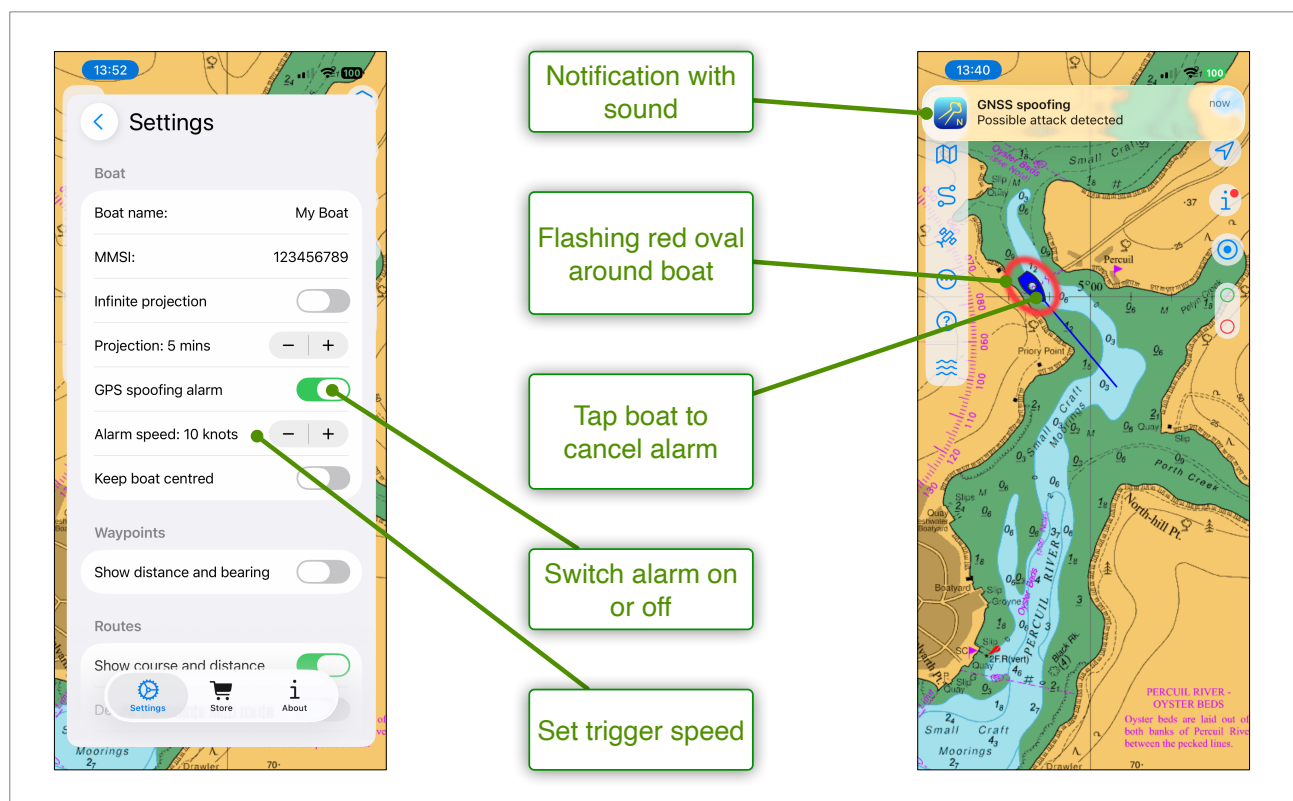
GNSS signals are also insecure, so that a ground based transmitter can replace them with apparently genuine but deliberately incorrect position messages. This is known as 'spoofing' and is more difficult to detect.

The spoofing alarm in AngleNavNeo uses a published detection technique known as 'Physical Cross Check' (PCC). AngelNavNeo takes consecutive pairs of incoming position messages and calculates the distance and time interval between them. From that data it calculates a speed and compares it with a set value.

At the moment your boat comes under the influence of a spoofing attack, the apparent position will shift and therefore cause a spike in the calculated speed. Even a small shift of 20 metres with messages arriving every second will result in a spike of 20 m/s (39 knots), and this is used to trigger the alarm.

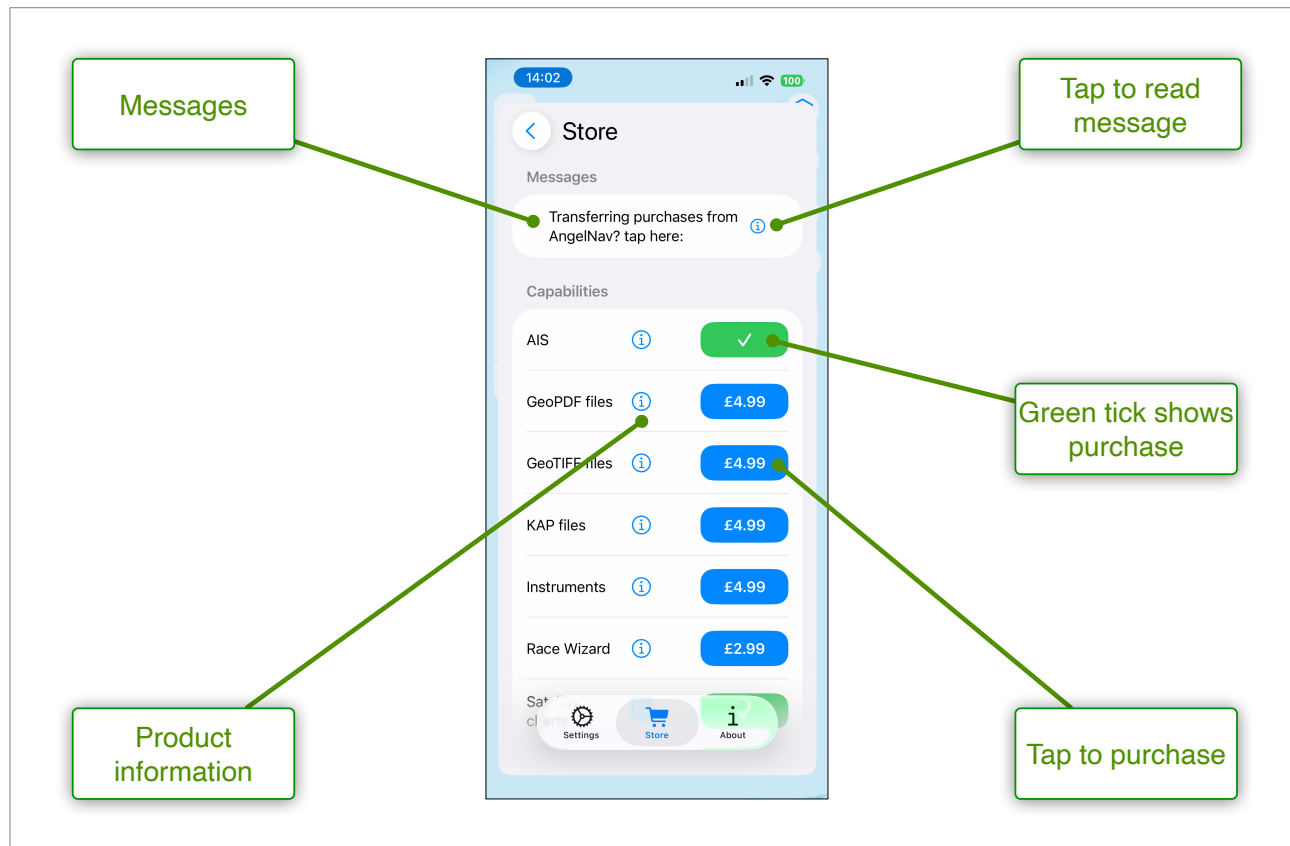
Setting up

The alarm is off by default, as spoofing attacks are currently rare. It can be switched on in **Settings: Boat** and the trigger speed can be adjusted. We recommend that this is set to double your current speed in order to avoid false alarms from natural GPS variations.



In App purchases

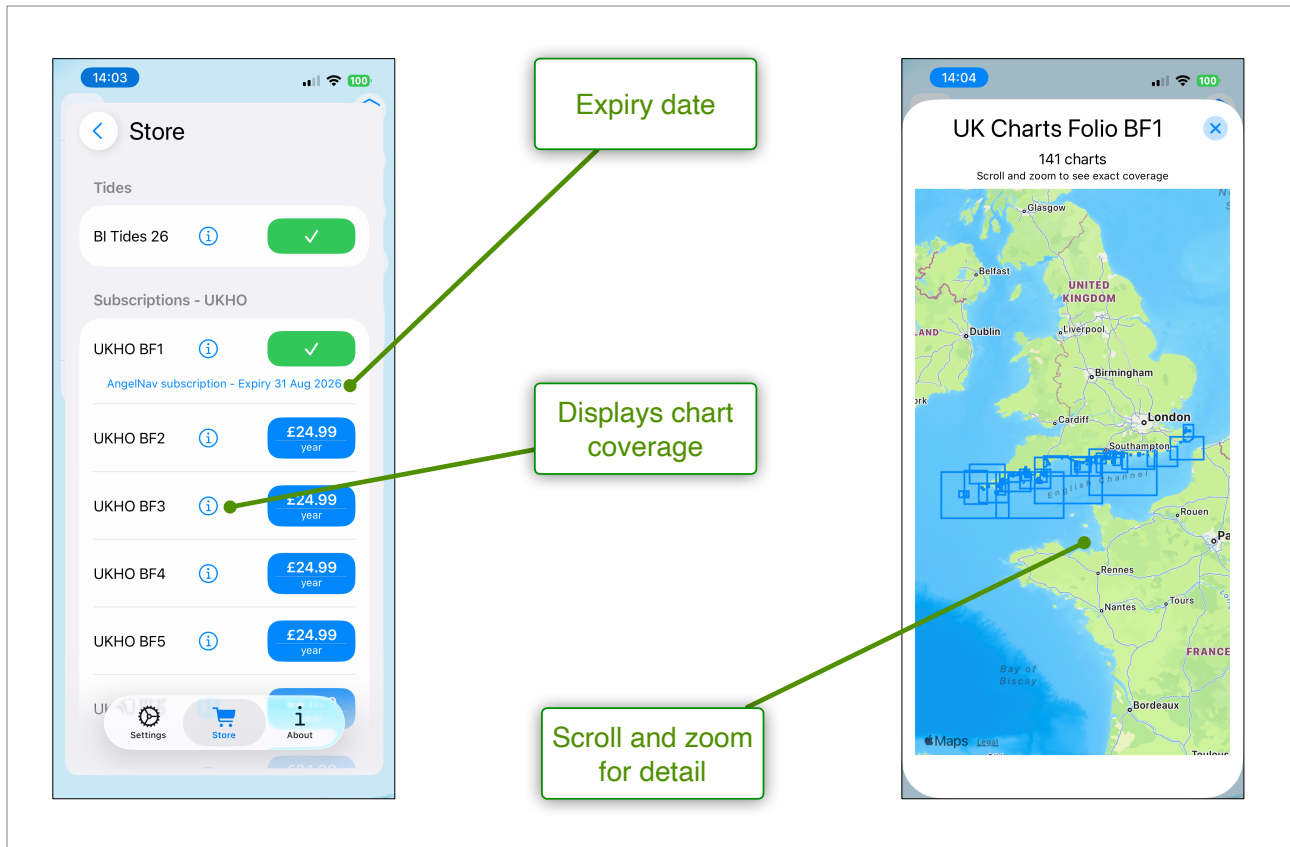
Go to the **Extras: Store** section to purchase capabilities and/or subscriptions for charts.



Capabilities

- AIS - Decodes incoming AIS information (if available) and displays targets on chart. Displays projected position, and calculates closest point of approach for each target.
- GeoPDF files - The capability to open charts provided in GeoPDF format. This is the format used by the online NOAA chart creator ([link](#)).
- GeoTIFF files - GeoTIFF files are geo-referenced image files. Commercial satellite images are often provided in this format. Tap on the (i) button to display a scrollable and zoomable map which indicates the exact coverage of the folio.
- KAP files - The capability to open charts provided in the KAP (BSB) file format. Many digital charts are provided in this format, including charts from Open Sea Map.
- Instruments - Decodes incoming instrument messages (if available) and displays their values in instruments superimposed on the chart.
- Race wizard - Allows rapid entry of race courses including mark rounding, and monitors TWA for sail change planning
- Satellite charts - Displays satellite charts created using the 'Create Satellite Chart' function. The charts are geo-referenced satellite images, and are useful for providing information about difficult anchorages with poor coverage by conventional charts.

Subscriptions



A list of available chart subscriptions with details of purchase and renewal dates. Currently subscriptions are available for charts derived from data supplied by the United Kingdom Hydrographic Office (UKHO), the Service Hydrographique et Océanographique de la Marine (SHOM), and Imray. Charts are grouped into folios, the exact coverage of which can be seen by tapping the information button ⓘ. This information is also available on the website [here](#).

Store

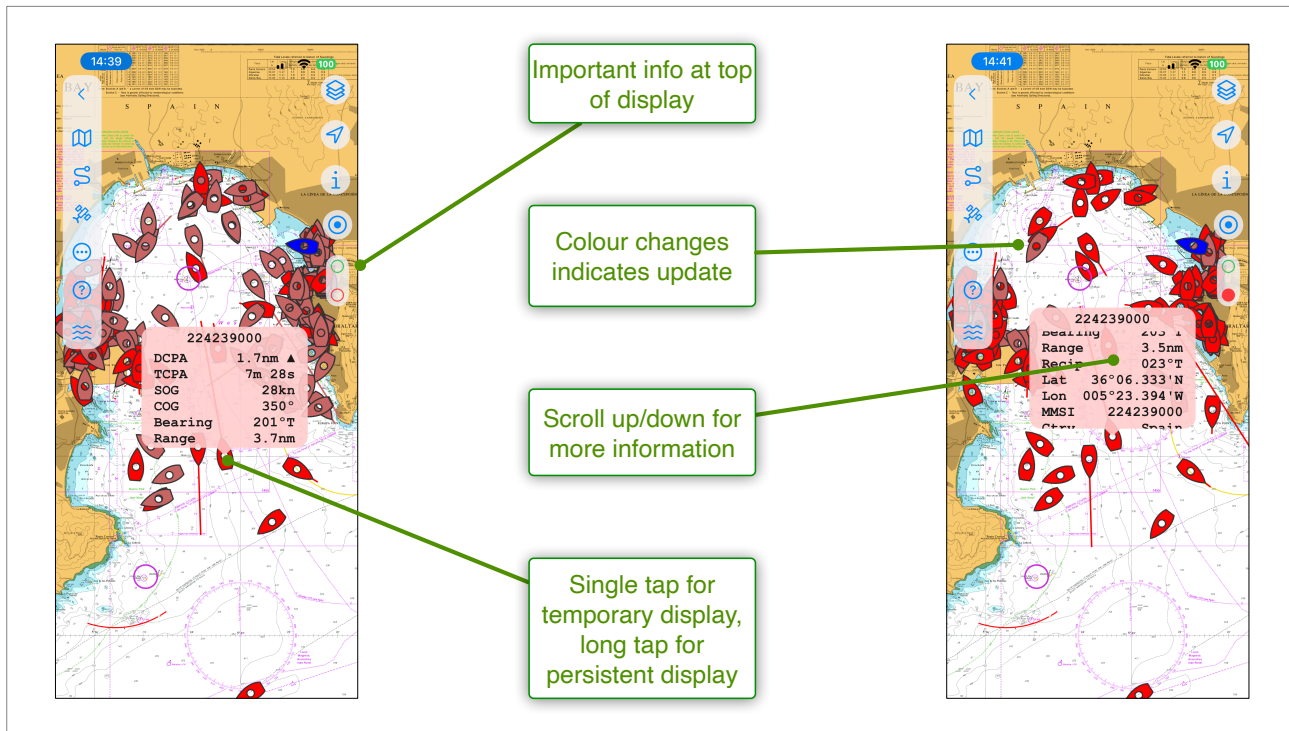
- **Manage Subscriptions:** Tap this button to review your active subscriptions. You can use this link to cancel a subscription, or re-subscribe to an expired one.
- **Sign in with Apple:** The next major release of AngelNav may have a different name and this will allow your purchases to be shared with the new App.

AIS

AngelNavNeo can display AIS targets from information received from a suitable receiver and if the AIS capability has been purchased (**Extras: Store: Capabilities**)

Interactions

AIS targets are shown as red-coloured boat shapes which respond to user interactions in a very similar way to the user's (blue) boat.



Note the significance of the colour change. When an AIS update message is received, the displayed target colour is bright red. After a period of 30 seconds, the colour changes to a dull red to indicate that the updated position is old and therefore may not accurately reflect the target's current position.

Displayed information

Regular AIS messages include the MMSI number of the target and its position, speed and heading. Less frequent messages include other data including the boat name. This means that the target will initially be shown with the MMSI number, replaced by the boat name once that is received.

The target's SOG and COG is displayed along with the bearing and range from the boat. A projected position is shown (as for the boat) by checking 'Show Projection' in the Chart View menu.

Additional information (see following table) can be viewed by scrolling the display vertically, including the CPA (closest point of approach) assuming that neither boat or target changes course or speed. The CPA is displayed as distance from the boat (DCPA) and the time before the point is reached (TCPA). The additional information includes a

reciprocal bearing from the target to the boat. This can be useful when calling up a target on the VHF; “This is the sailing vessel bearing 077° from your position”.

Recip	The reciprocal bearing (The bearing of your boat from the target)
Lat	The latitude of the target
Lon	The longitude of the target
DCPA	Distance to the closest point of approach
TCPA	Time to the closest point of approach

The DCPA value is followed by an arrow head pointing either up (▲) or down (▼). If it is pointing up the CPA is ahead (i.e. the target will pass ahead of you), and if pointing down it is behind (i.e. the target will pass behind).

If there is a target that represents a risk of collision, then long tap on the target (to make the information display permanent), then scroll down to DCPA and TCPA. You will then have a continuously updated display of these data to help monitor the situation.

Other information

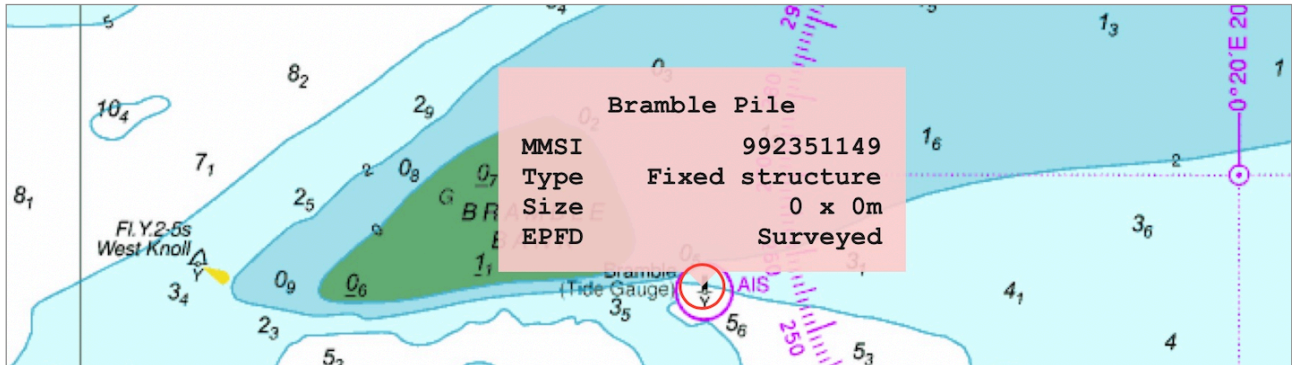
Other AIS messages sent from boats with class A AIS (large commercial vessels) contain non-critical data such as the boat name and destination, and these tend to be sent less frequently. Once a message is received, AngelNav adds these items to the list, so scrolling further down the display will reveal them. It also replaces the MMSI number in the title of the display with the boat name. The additional data is shown in the following table:

MMSI	The MMSI number
Ctry	The country of registration
CSign	The target's call sign
Type	The type of ship (eg Tanker, Passenger etc)
LOA	The length overall of the target in metres
Dest	The destination of the target
Port	The port of the destination
In	The country containing the destination port

The Dest (destination) field contains text entered by the vessel's crew at the start of a passage, and there are no rules regarding what can be entered. The field may simply contain the destination's name, but the majority of vessels use a 5 letter code representing the country (first two letters), and the port (last three letters) of the destination. Often this is easy to interpret (ESBCN is Barcelona in Spain), but some codes are not intuitive (MTMLA is Valetta in Malta). AngelNav does its best to interpret the code and display destination port information. It can cope with many variations of what is entered including 'ES BCN', 'MTMLA - ESBCN', and 'going to ESBCN', but not all. However, the original destination text is always displayed.

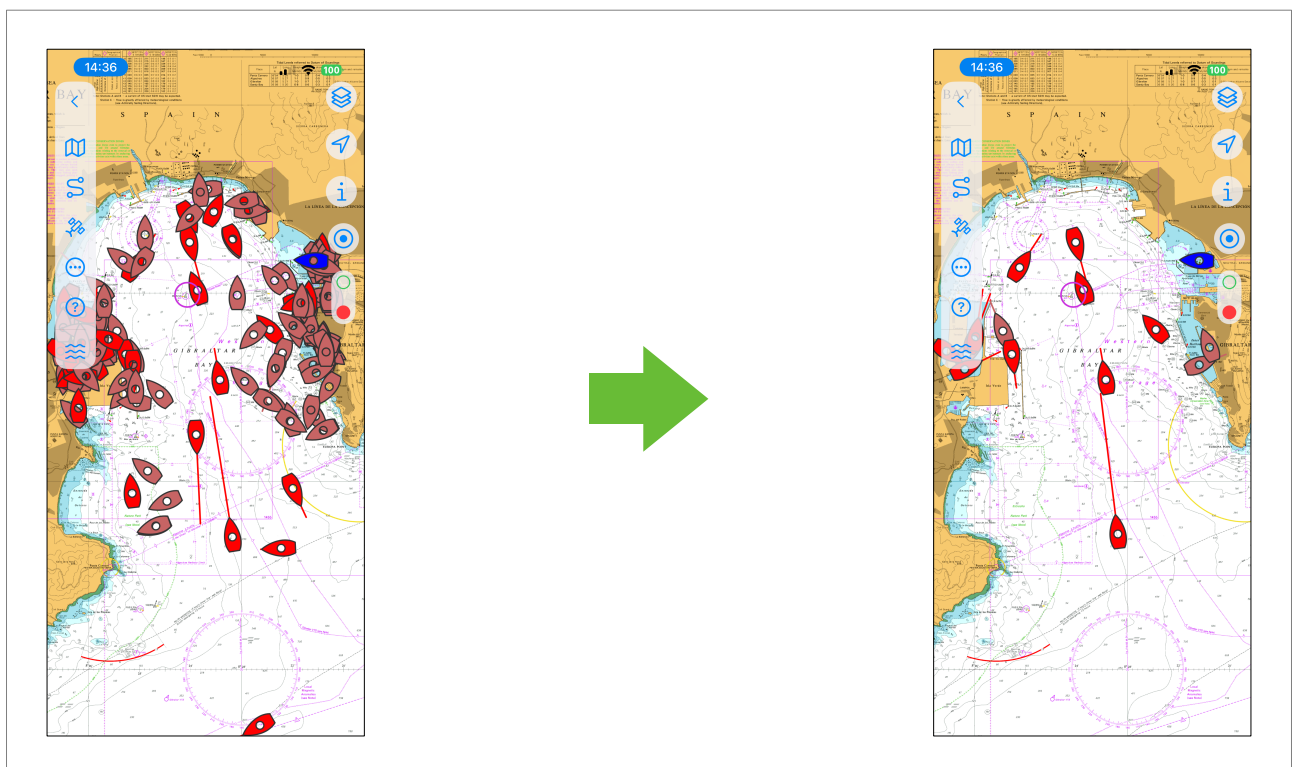
Aids to Navigation

AIS Aids to Navigation (AToN) are displayed as a red circle centred on the broadcast position. Virtual AToNs may include a symbol matching its type (eg an isolated danger mark). Tapping on the circle will show additional information about the AToN as in the example illustrated here:



Filter

If the number of AIS targets is very high, the screen can become cluttered so that it is difficult to determine which represent a potential collision. In these circumstances it can be beneficial to filter out those that are not a threat. In the Charts section of Settings, there is an option called 'Filter AIS targets'. When this is on, only those vessels that are moving and have a CPA in the future are shown. The following screen shots display the difference between unfiltered and filtered views in a busy sea area.



Race wizard

The race wizard is designed to assist the navigator/tactician during a 'round the cans' type yacht race in two specific ways. Firstly by aiding the rapid entry of a race course, either from a VHF announcement or from a board on the side of the committee boat. Secondly by calculating the apparent wind angle (AWA) for a future leg of the race so as to give timely instructions to the foredeck crew about the required sail plan.

Operation

The race wizard is opened by tapping on the  button at the top of the **Routes** tab. If there is an active route, the wizard 'attaches' itself to that route. If there is no active route, the wizard starts a new empty race named 'Race n' where n starts at 1. The following is a typical sequence of events when using the wizard



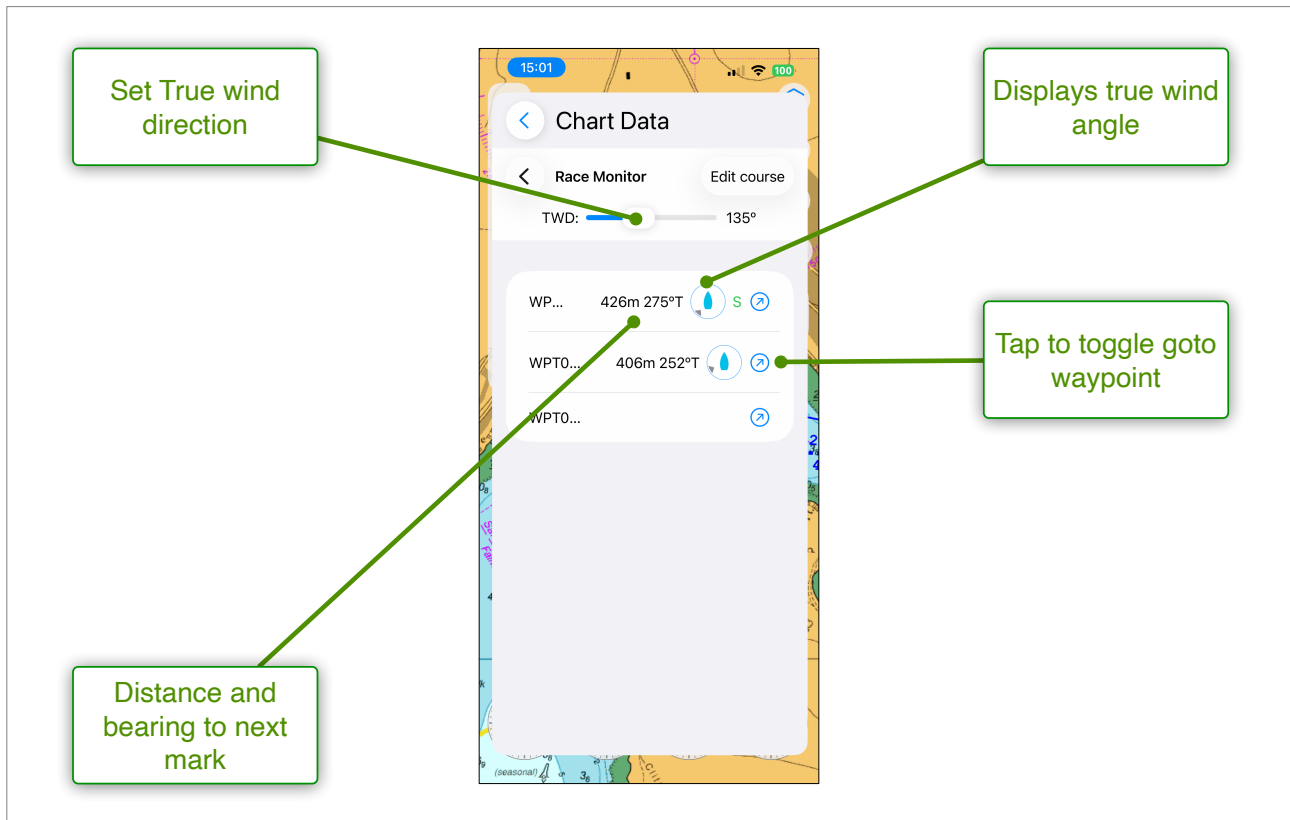
Before the start:

Enter each mark by tapping either S or P for the rounding. To find the mark, type any text from the name in order to filter the list. Using the filter in this way will minimise the number of taps required to enter a course, and with practice it can be done in real time, rather than writing it down on paper and transferring it later.

When the course has been entered, tap 'Create route' to create a route which can be followed in the normal way.

During the race:

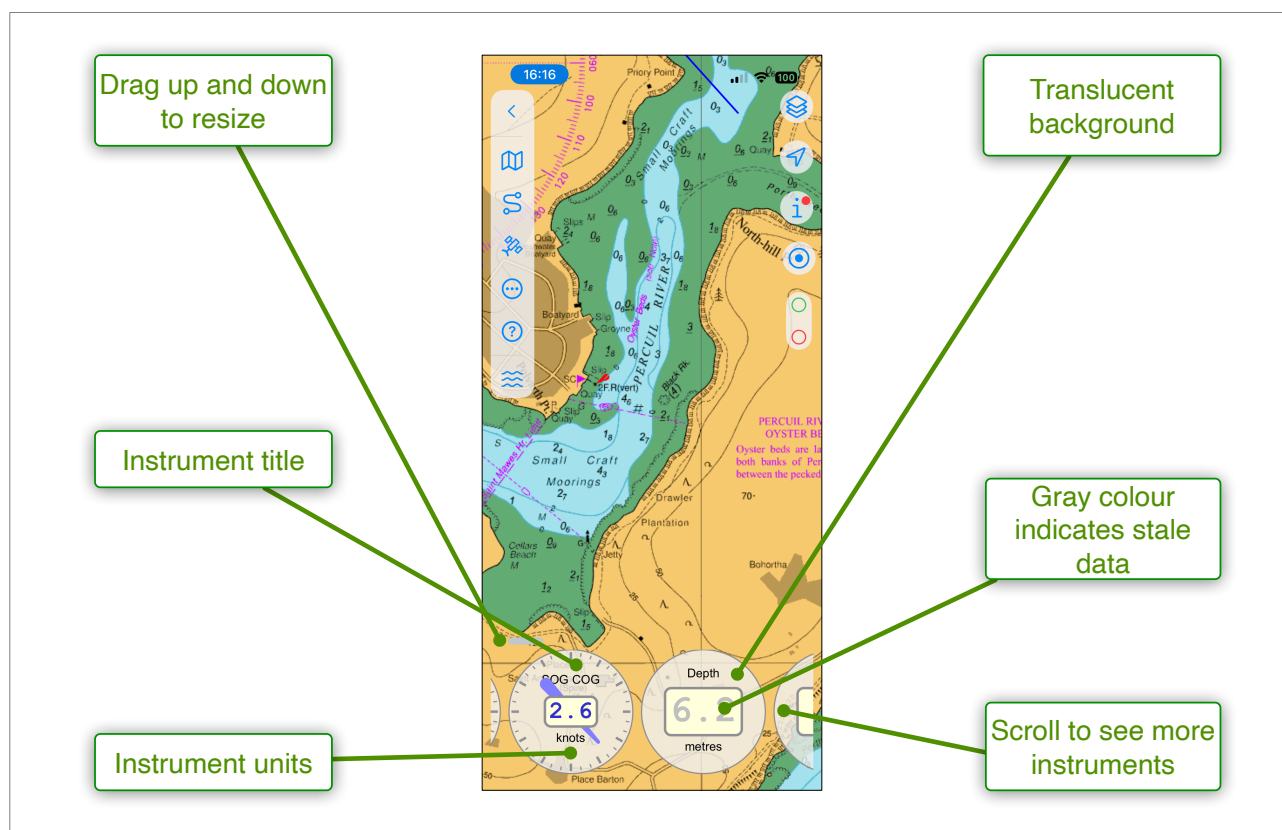
The wizard can be called up at any time during the race to review the mark rounding, and other information such as distance and bearing to the next mark. If the true wind direction is set, the display also shows the projected true wind angle (TWA) for future legs of the course. This is useful information for the foredeck crew to get sails ready after the next rounding.



Instruments

Operation

The instrument panel displays a number of dials showing relevant sailing information. Each dial has a translucent background so important chart features are not obscured. If new data does not appear at the expected time, the colour of the needle and digital display changes to gray, but continues to display the last data received.



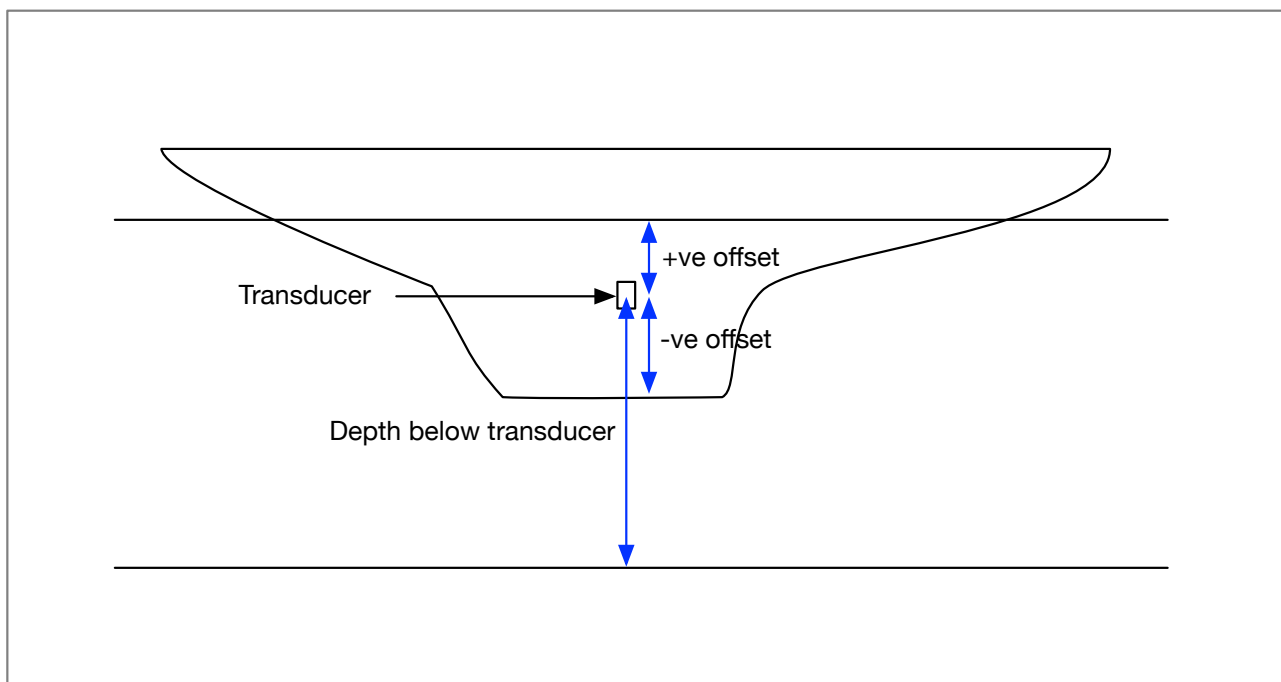
The instruments that are displayed can be selected in **Settings**, and all are hidden if [Show instruments](#) in the chart view menu is unchecked. The instrument panel can be resized by dragging the grey resizing bar up and down. If the panel does not fit into the available screen, then it can be scrolled horizontally.

Depth offset

Most sources of NMEA data have the ability to apply an offset to the depth measurement. The 'raw' measurement is the depth of water below the transducer, so by applying an offset, the display can be set to show depth either below the waterline (using a positive offset), or the keel (using a negative offset).

When a depth offset has been set in the system which is the source of the NMEA data (e.g. a chart plotter), the outgoing NMEA messages contain two numbers; the depth below the transducer and the offset. AngelNav adds these numbers together and displays the corrected depth in metres which should then be the same value as that shown on the system.

Unfortunately there is at least one popular chart plotter which outputs an incorrect NMEA message where the first of the two numbers is the corrected depth, rather than the depth



below the transducer. This results in AngelNav displaying a depth which is different from that on the chart plotter, as the offset is applied twice.

For owners of such systems, AngelNav offers the ability to apply an additional offset which should be set to the negative value of the offset applied in the chart plotter. Instructions for use are as follows:

- Go to **Settings** and scroll down to the Instruments section
- Long tap on the section title 'INSTRUMENTS' to make the offset value appear
- Tap on the offset and enter the desired value using the keyboard

NB. Do NOT use this setting to enter a 'regular' depth offset. This should be set in the boat's instrument system

Chart updates

General

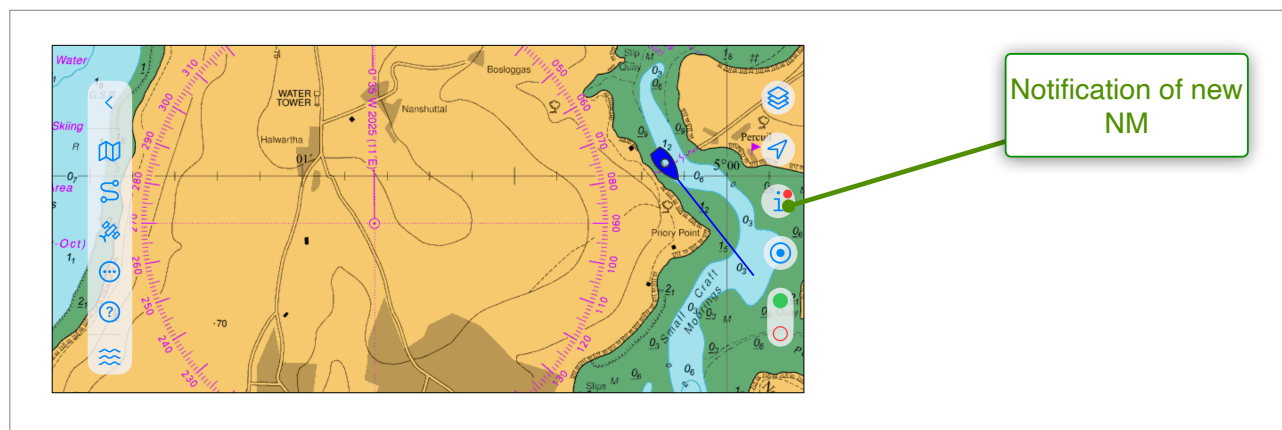
Purchasing a chart subscription results in the charts for the purchased folio being downloaded to your device (or devices) and being available for 12 months. The subscription also includes a three monthly update service. Every quarter, updates that are made available from the supplier (UKHO, SHOM, Imray) are automatically downloaded when AngelNav is connected to the internet. If you have notifications switched on for AngelNavNeo, then you will be alerted when the update process starts and completes.

UKHO derived charts

The UKHO provides an update information service for charts called Notices to Mariners. When an important change takes place (for example a new navigational buoy is installed in a harbour) the UKHO issue a Notice to Mariners for the relevant charts. The new charts that are issued every quarter incorporate as many NMs as possible within the chart itself, but because of the time taken to produce it, there will be some relevant NMs that are not included on the day of release. Therefore, the prudent navigator will check the most recent NMs for all the charts used on a passage before going to sea.

Since version 2.0.4, AngelNav makes it easier for the navigator to ensure they have the most up-to-date information, by automatically checking whether a NM has been issued since the chart was produced. This works in the following way:

When a chart is opened, AngelNav talks to an online database (which is updated weekly) to determine whether there is a new NM available for that chart. If there is, then a red circle is displayed on the chart information button at the top right of the screen.



Tapping on the chart info icon ⓘ brings up the chart information screen which has a section containing information on relevant NMs.



Recommended process for passage planning

- Determine the chart numbers needed for the passage and open each chart in turn
- If there is a red notification symbol, tap on the chart info icon
- Tap 'Read' to load and read the NM
- Tap 'Latest weekly NMs to check the latest weekly report

Notes

NMs are associated with the chart number, but this may involve several charts within AngelNavNeo. This is because a numbered paper chart may have panels within it of larger scale which have been separated into individual digital files.

The NM format is number/year with the number increasing throughout the year. Hence 3099/2023 is a later NM than 2436/2023.

The letters T and P within the NM (eg 1018(T)/2025) indicates that the NM is temporary or preliminary respectively. Temporary NMs are not incorporated into charts, but can remain active for long periods of time.

There can be a delay of a few days between the issuing of a NM, and the appearance of the NM in the database used by 'Search Notices to Mariners'. The navigator is advised to also tap 'Latest weekly NMs' for the most up to date information.

Example

The following is an extract from the NM for chart 31. You can see from the chart information display above that NM 3099/2023 has been incorporated into the chart, but NM1018(T)/2025 has not (and won't be, as it is a temporary notice).

3099/2023 * ENGLAND — South Coast — Drying heights.

Source: Par Harbour Survey 2023

Chart 311721 (Panel B, Par Harbour) ETRS89 DATUM

Insert	drying height, $\underline{L}_9$	(a)	50° 20' ·641N. , 4° 42' ·133W.
Delete	drying height, $\underline{L}_3$, close W of:	(a)	above
Insert	drying height, $\underline{L}_2$	(b)	50° 20' ·622N. , 4° 42' ·193W.
Delete	drying height, $\underline{L}_7$, close SE of:	(b)	above
Insert	drying height, $\underline{L}_4$	(c)	50° 20' ·610N. , 4° 42' ·058W.
Delete	drying height, $\underline{L}_6$, close NW of:	(c)	above
Insert	drying height, $\underline{L}_3$, enclosed by 0m low water line		50° 20' ·405N. , 4° 41' ·848W.

1018(T)/2025 ENGLAND — South Coast — Light.

Source: Fowey Harbour Commissioners Local Notice to Mariners 2025/02

1. Fowey Lighthouse, LFl.WR.5s28m11M/9M, in position 50° 19' ·63N. , 4° 38' ·83W. is temporarily extinguished.
2. Mariners are advised to navigate with caution in the area.

(ETRS89 DATUM)

Chart(s) affected 31

Withdrawn Charts

If a chart is withdrawn by the supplying authority, then the chart is removed from the folio at the quarterly update, and is no longer included for new subscriptions to the folio.

However, if the subscription was purchased or renewed *before* the chart was withdrawn, then the chart is NOT deleted and remains available for use (at least while the subscription remains active).

A withdrawn chart triggers the same notification warning as a new NM (a red dot on the chart information button). Tapping the info button gives additional information including the date of withdrawal.

The screenshot shows a chart information dialog box with the following details:

- Title: Approaches to Den Helder
- Number: 126
- Scale: 1 : 60000
- Projection: Mercator variant A
- Datum: World Geodetic System 1984 (G1762)
- Image size: Width: 3746, Height: 5488
- Variation: 2.4° E
- Issued: 7 Dec 2017
- NMs: No information
- New NM?: No
- Status: **Withdrawn. The UKHO no longer update this chart**
- Message: Date of withdrawal 07/03/2024

Callouts from the image:

- Date of chart edition or issue**: Points to the 'Issued' field (7 Dec 2017).
- Link to UKHO websites**: Points to the 'Search Notices to Mariners' and 'Latest weekly NMs' links.
- Indication that the chart has been withdrawn**: Points to the 'Status' field.
- Any additional information**: Points to the 'Message' field (Date of withdrawal 07/03/2024).

WARNING: Withdrawn charts are not updated, and will no longer have any NMs issued. Therefore if used, the navigator should proceed with extreme caution.

Additional help

Instructional videos

There are a number of instructional videos in the help section of the AngelNav website. These can be viewed by pointing your browser to this [link](#).

User forum

There is a user forum which has been set up at this [link](#). Sign up to post a question, comment, or a request for a new feature.

Support

If you have a question or if AngelNav is not behaving as you expect, send an email to AngelNav support [here](#).

Advanced techniques

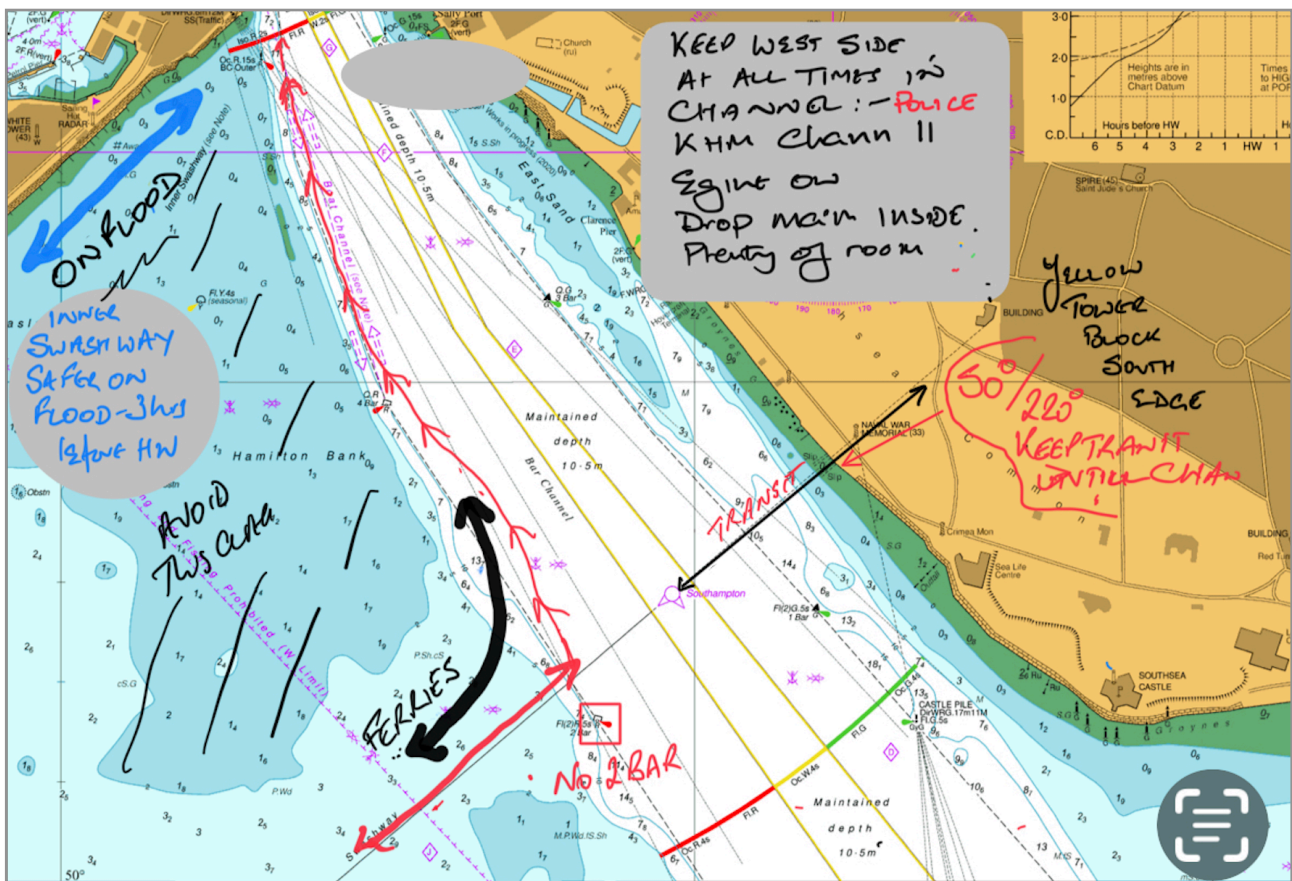
We are grateful to Jeremy Kaye for suggesting and describing the techniques included in this section.

Saving and loading waypoints and routes

Judicious use of the export and import functions can ease the management of waypoints and routes, so that for example a route appropriate for the passage can be chosen from a selection stored in iCloud. The great advantage of the export / import function is the ability to have only the routes or waypoints that are relevant to your trip that day. The key is an organised folder system on iCloud. If a primary folder is created with multiple sub folders for instance Routes, Waypoints, Pilotage Notes, Anchoring spots etc. Any route or set of waypoints can be specifically labelled when saving into the chosen subfolder. Additional files including screen shots or Apple Notes can be saved into the relevant subfolder keeping all relevant information together. In addition, any file whether a route, way point, pilotage note, can then be shared via the internet or if out of internet range using Bluetooth and Airdrop. This is great for sharing with the crew.

Taking and annotating screen shots

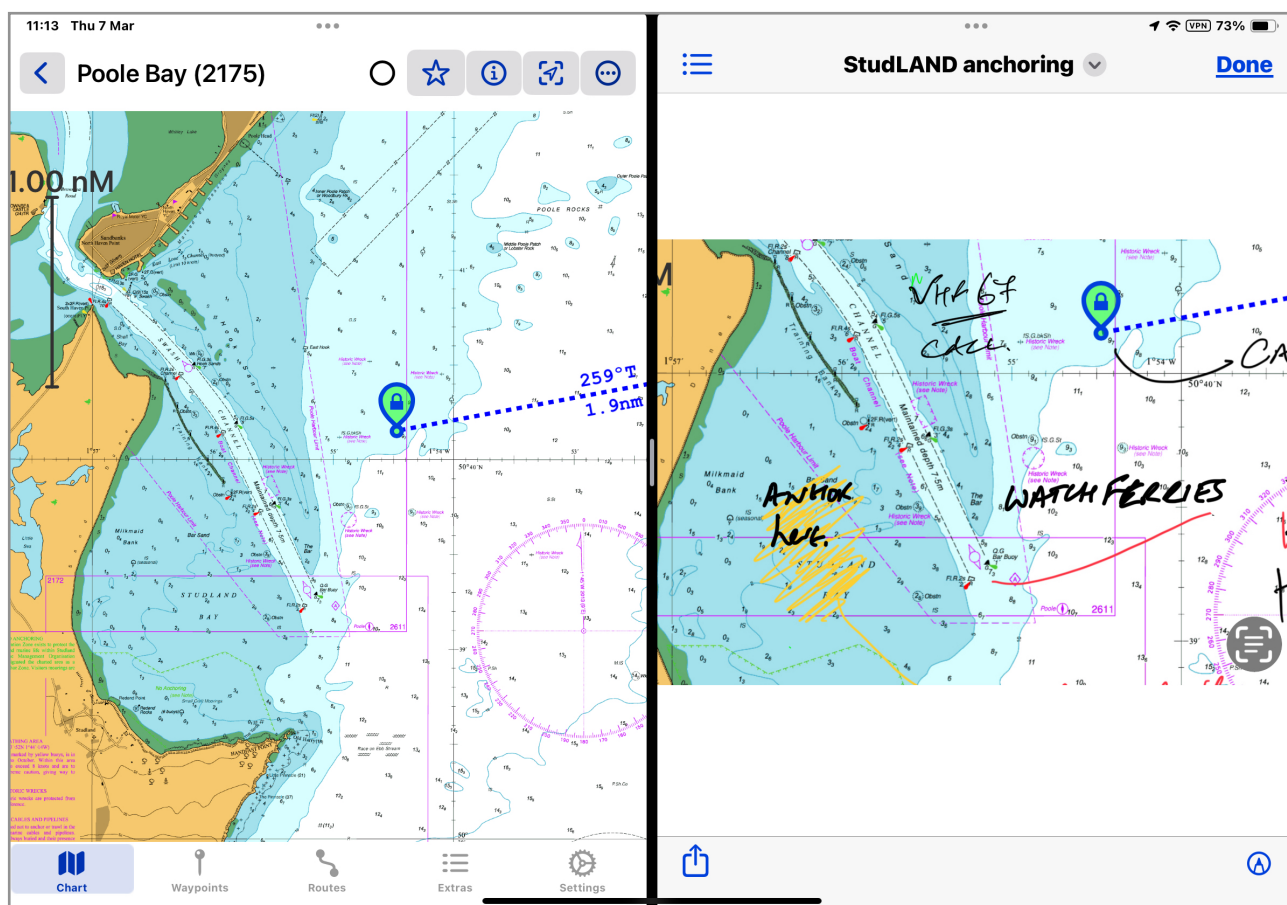
It can be useful to take a screen shot and then annotate it using Apple's built in editing tools and an Apple Pencil. This allows detailed notes and diagrams to be added to the area of interest, for example pilotage notes. Here is an example describing an approach to Portsmouth harbour.



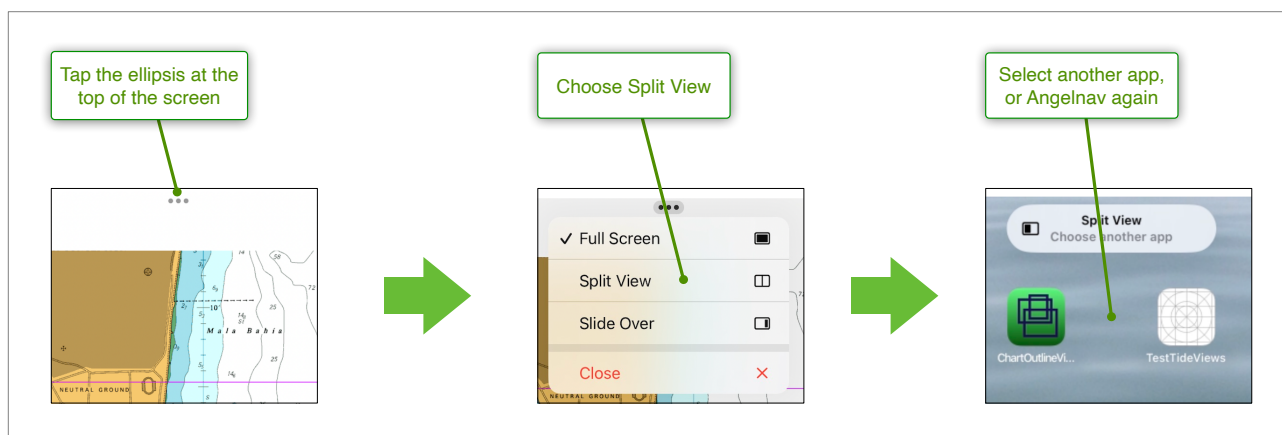
Split screen

This facility is available on iPads and allows two apps or different pages of the same app, to be open at the same time. One can chose two different tabs of AngelNav eg chart with route displayed side by side with the route detail for editing, or the active GPS position page side by side with another app such as a marked up screen shot for pilotage, or the Notes app, or a diagram of pilotage for a night entry into a port. On the iPhone, although split screen facility is not available, a similar concept switching between two apps can be used.

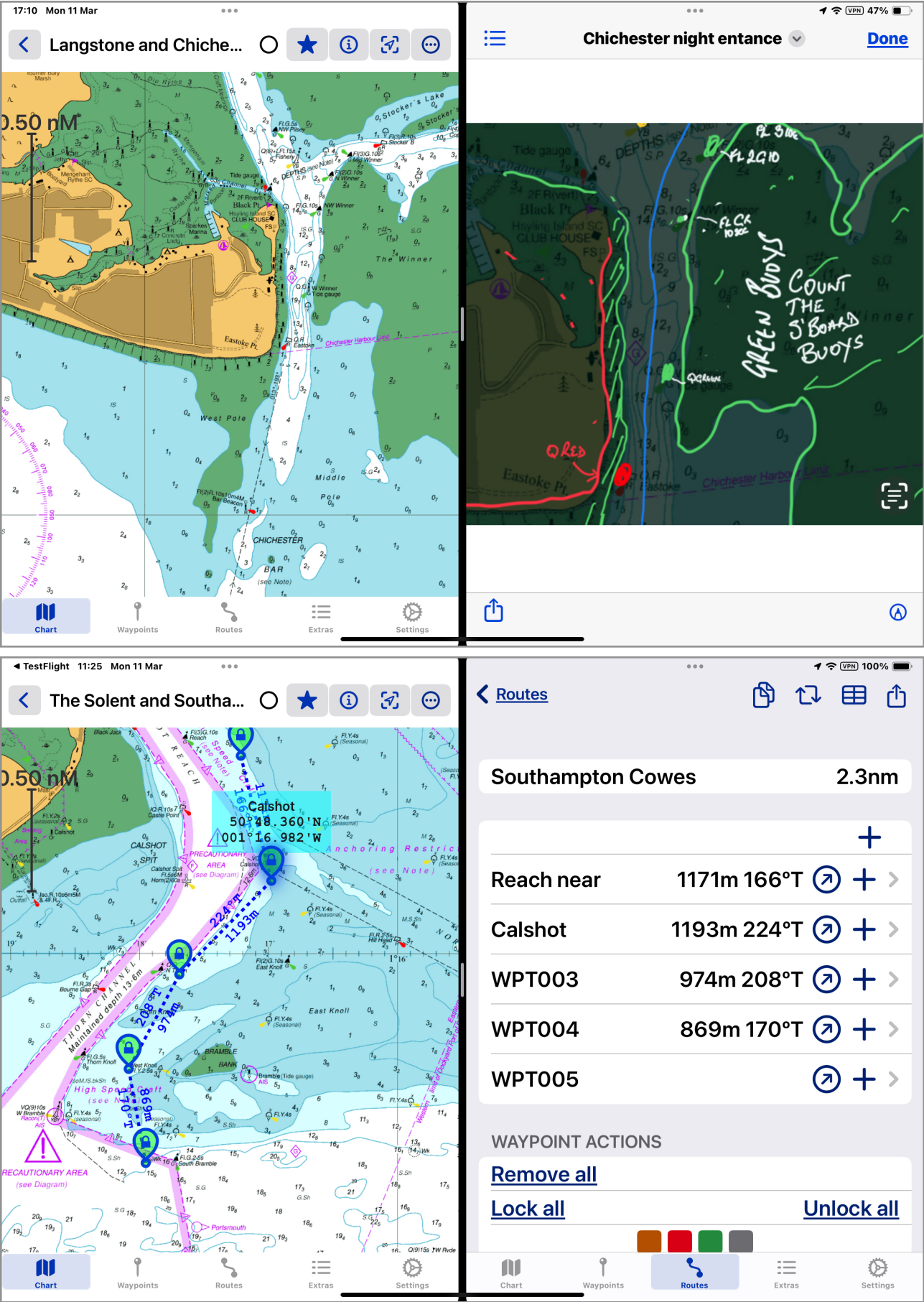
For example here is a split screen view of an approach to Poole harbour showing an annotated screen shot with pilotage notes and the chart plotter view of AngelNavNeo.



To enter split screen view follow the steps in the following diagram:



Here are some additional examples:



Frequently asked questions

Where can I find free charts to download?

The OpenCPN project has a comprehensive list of sources of free charts [here](#).

Can I use the subscribed charts on more than one device?

Yes, up to a limit of 6 devices (this is a licence stipulation of the chart suppliers). The charts will be downloaded onto any iPhone or iPad for which you are logged on using your Apple ID. The subscriptions support [family sharing](#), so the charts will also be available on devices registered to family members..

How do I cancel a subscription?

Check that your device is connected to the internet, then go to **Settings: Extras: Store** and tap [Manage Subscriptions](#). Select the subscription you wish to cancel, then tap [Cancel Subscription](#). You will still have access to the charts until the end of the subscription period, after which they will be automatically removed from your devices. You can also cancel a subscription outside of AngelNavNeo in Media & Purchases in the Apple ID section of Settings on your iOS device.

How do I follow a route?

Make sure that the route is active (by tapping the slider next to the route in the **Routes** tab). The active route will then be displayed. Double tap on any waypoint in the route to select [Goto](#) for that waypoint. Once it is reached, the next waypoint in the route becomes the next goto waypoint and so on.

How do I find my boat?

If the chart list is displayed, tap on the location icon at the top of the page. If there is no boat position available it will be greyed out. If there is a boat position, then all the available charts will be searched to find those that include it. If there are more than one, the chart with the largest scale will be loaded, and the chart will scroll to the boat's position.

If a chart is already loaded and the chart includes the boat's position, tapping on the location icon will scroll the chart in order to display the boat.

How do I reduce the number of charts in my chart list?

You can use the filter menu button at the top right of the chart list screen in order to only view certain types of chart. Typing in the search bar will display only charts containing that letter or number sequence in the title. You can also change the order of the list to (for example) present small scale planning charts at the top.

Why can't I see my charts in the chart list?

Check that the filter at the top of the chart list is set to 'All', or to the type of chart you are looking for.

If your chart files are stored on iCloud, use the Files app to check that they have actually been downloaded (see next question).

Why are my non-subscription charts no longer on the device?

If you store non-subscription charts on iCloud, and your device storage reaches a certain limit (about 80%), then iOS actively manages the storage by removing certain files so that they can be downloaded again later. Clearly this is an issue if you are going to sea without internet and need access to your charts.

Therefore its important to check that the files are present before departing, or alternatively use the Files application in iOS to move the charts to the device itself “On My iPad/ iPhone” rather than on “iCloud Drive”.

NB. This does NOT apply to subscription charts which are stored within the app’s private storage and are not subject to unexpected removal.

Why is ‘Set Anchor Alarm’ greyed out?

The anchor alarm needs to keep working even when AngelNav is in the background, or the screen is locked, and therefore it is only available if **Settings: Data source** is set to Location Services.

I have a large number of waypoints, how can I organise them?

Keep the ones that you want by locking them (on the edit page), and then deleting all the unlocked waypoints. The remaining ones can then be saved by exporting them to a GPX file. This file can then be imported later. GPX files are plain text, so If you have a text editor then it is possible to edit them directly (NB you need to know a bit about XML to do this).

Why is the active route is no longer showing the distance and bearing of each segment?

The display of these two values can be switched on or off in **Settings:Show course and distance**.

The boat information on an AIS target keeps disappearing after a few seconds. How do I keep it displayed?

After a single tap, the display will disappear after 3 seconds (this time can be adjusted in **Settings**). However, the display will remain while you are scrolling up or down to see more information. If you want the display to remain visible for example if there is an AIS target with an unsafe closest point of approach and you want to keep the DCPA and the TCPA continuously displayed, then long tap on the target to keep the display visible. Tapping again will dismiss the information display.

Why is ‘Race Wizard’ greyed out?

The race wizard requires the purchase of the Race Wizard capability from **Extras:Store**. Once this has been purchased, the button will become active.

I have purchased a folio of charts, but they won’t download

Ensure you have an active internet connection, and check that the button next to the folio you have purchased (in **Extras: Store**) is displaying a green tick. If it isn’t then the purchase has not gone through for some reason (for example the credit card associated with your Apple ID might have expired). If it is, then quit the application (by double tapping the home button and swiping up on the AngelNavNeo preview). Then launch the

app again and keep it in the foreground for several minutes. If you still do not see a list of charts in the chart list, then please contact SailTrack support (**Extras: About: Contact**).

Simulation Mode

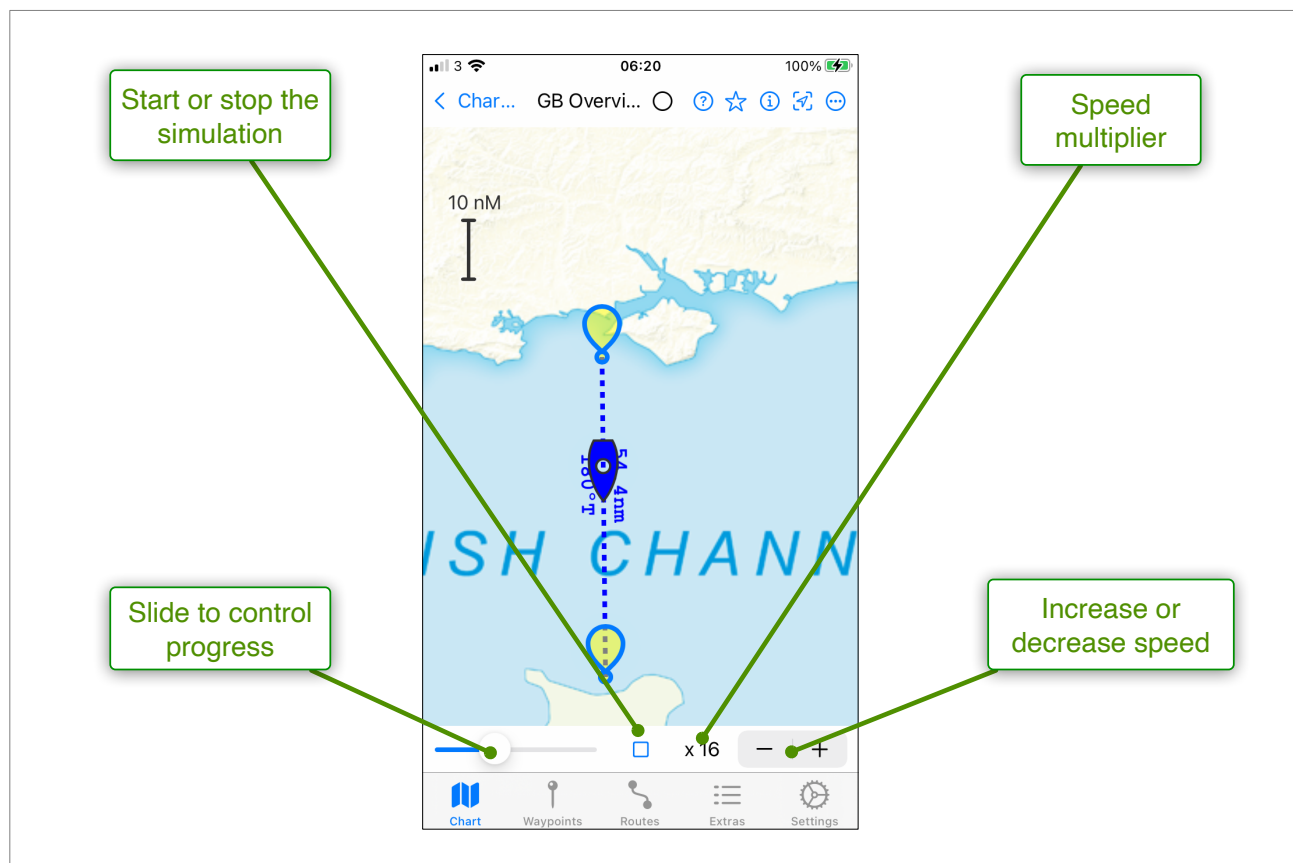
In order to demonstrate those features of the app related to the position and movement of the boat, AngelNavNeo provides three simulation modes. Navigational data (position, speed and heading) can be derived either from a GPX file containing track data, from a route or from a text file containing NMEA data. To begin, tap on the Chart tab and load the GB Overview chart.

Simulation using a GPX file (iOS 16.0 and above):

- Obtain a GPX file containing a track (an example may be downloaded [here](#))
- Save the file on your iOS device (either in 'iCloud Drive', or 'On my iPhone/iPad')
- Go to **Settings: Navigational Data: Data source** and select 'GPX file'
- Tap the 'Browse' button and navigate to the saved GPX file

Simulation using a Route:

- Double tap on the chart to show the chart menu and select 'Start Route'
- Double tap somewhere else and select 'Add to Route'
- Go to **Settings: Navigational Data: Data source** and select 'Route'
- Tap 'Route' and select the route you have just created (Route01)Simulation controls (GPX file or Route):



Simulation using an NMEA file:

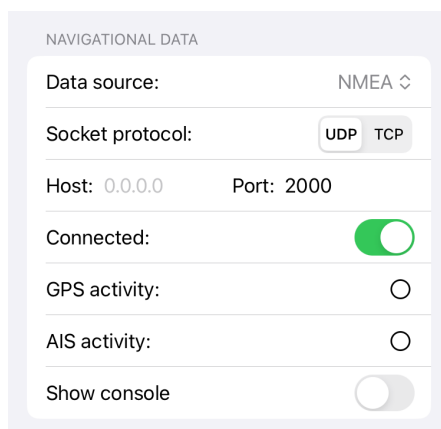
This mode behaves slightly differently from the other two, but has the advantage that it can also simulate AIS and Instrument display. You will need to obtain a text file containing NMEA messages. These are short pieces of text used to communicate between most transducers and displays which look like this;

```
$IIDPT,006.8,+0.0,*49
$IIGLL,5010.043,N,00500.169,W,183024,A,A*46
$IIHDG,160,,,*50
$IIMTW,+18.0,C*31
!AIVDO,1,1,,B3P=G9@06grAUW7;BuEOswdUoP06,0*2A
$GPGGA,183025.00,5010.04371,N,00500.16496,W,2,12,0.76,5.6,M,51.5,M,,0000*4C
$IIMWV,202,R,00.0,N,A*13
$IIMWV,200,T,02.4,N,A*11
!AIVDM,1,1,,B,33P:TDGOhbObE5ILVuq>1Jr100w0,0*6E
$IIVLW,11071,N,001.5,N*51
$GPRMC,183026.00,A,5010.04313,N,00500.16445,W,2.560,153.13,040719,,D*7E
$WIXDR,P,102304.00,P,STPM,C,30.00,C,STTM*53
$GPGGA,183026.00,5010.04313,N,00500.16445,W,2,12,0.76,5.6,M,51.5,M,,0000*45
$IIGLL,5010.042,N,00500.168,W,183025,A,A*47
$IIHDG,160,,,*50
$IIMTW,+18.0,C*31
$IIMWV,204,R,00.0,N,A*15
$IIMWV,204,T,02.2,N,A*13
$IIVHW,,,160,M,02.2,N,,*63
$GPRMC,183027.00,A,5010.04251,N,00500.16388,W,2.615,152.78,040719,,D*73
```

Some boat systems have a ‘console’ that displays the incoming messages and can save them in a file. An example recorded during a passage in Falmouth harbour can be downloaded [here](#).

Detailed instructions are as follows.

- Obtain a text file containing NMEA messages (an example may be downloaded [here](#))
- Save the file on your iOS device (either in ‘iCloud Drive’, or ‘On my iPhone/iPad’)
- Go to **Settings: Navigational Data: Data source** and select ‘NMEA’
- Adjust the settings to exactly match those in this screen image:



NAVIGATIONAL DATA

Data source: NMEA ▾

Socket protocol: UDP TCP

Host: 0.0.0.0 Port: 2000

Connected: ☒

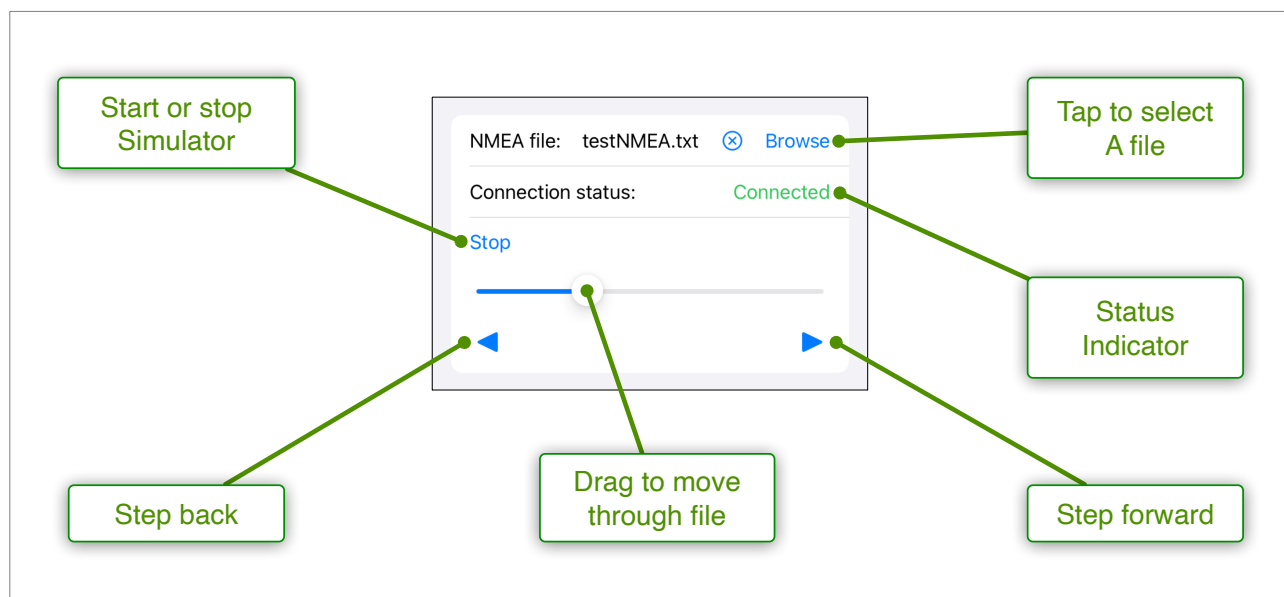
GPS activity: ☐

AIS activity: ☐

Show console: ☐

- Got to Extras: NMEA Simulator where you will find the simulation control panel
- Tap on [Browse](#) to locate and select the downloaded NMEA text file
- Use the controls to stop, start and ‘scrub’ through the simulation
- Go to the Charts tab and select the GBOverview chart. You should see a boat in the area of Falmouth. Now select **Show AIS data** and/or **Show Instruments** from the chart

view menu and you will be able to see a number of AIS targets and/or the instrument display.



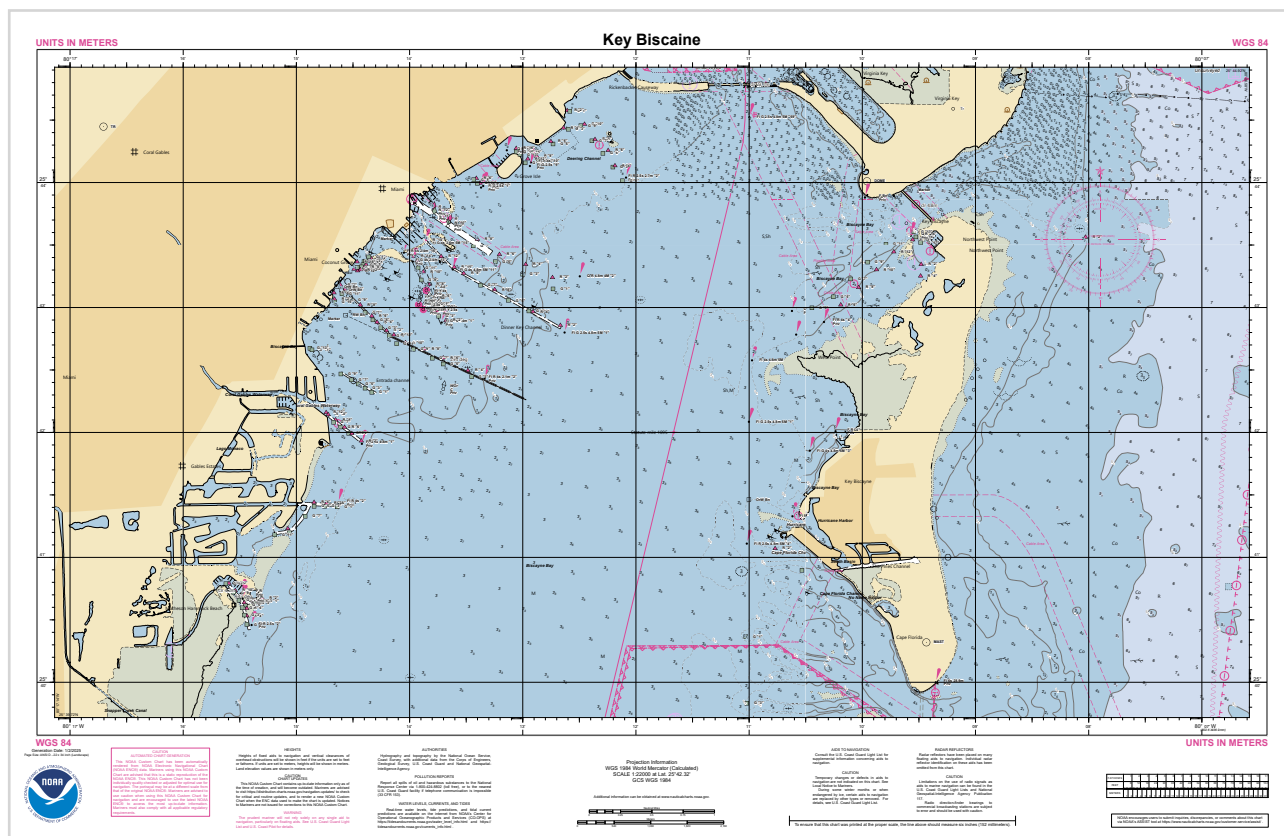
Installing free NOAA charts

The NOAA (National Oceanic and Atmospheric Administration) supplies free charts for the coastal waters of the USA and its territories. Previously the charts were downloadable in BSB/KAP format, but the NOAA withdrew this facility last year. Legacy charts are still available from some sources and continue to be readable within AngelNav provided the BSB/KAP capability has been purchased.

The NOAA has also released an innovative online [tool](#) which uses up-to-date hydrographic data from their database, and allows the user to produce a raster chart from it. The area and scale can be defined, and the output is a geo-referenced PDF file. From version 2.0.3, AngelNav offers the capability to open and display these GeoPDF files (it can be purchased in **Extras: Store**).

This tool gives the sailor the ability to create their own set of charts, exactly covering their sailing area, using the most up-to-date information available and all free of charge.

The image below shows an example of a generated chart of Key Biscayne in Florida (courtesy of NOAA's Office of Coast Survey).



In order to use this facility, the following steps are required:

- Go to the online [tool](#) and read the instructions (there is also a video tutorial)
- Create one or more charts and download them to your device
- Purchase the GeoPDF capability
- In **Settings: Charts: Chart folder**, browse to the enclosing folder and select it.

Installing free OpenSeaMap charts

The following steps are required for downloading charts supplied by the OpenSeaMap project. These charts are free and have wide coverage, but lack depth contours. The KAP capability is required.

The charts are downloaded as a compressed file (.7z) and you will need decompression software to open it (for example 'Easy Unarchiver - ZIP, RAR' available from the App Store).

- Open Safari and go to this [link](#)

Index of /pub/misc/openstreetmap/openseamap/charts/kap/

../		
OSM-OpenCPN2-KAP-Adria.7z	02-Apr-2024 16:55	328627826
OSM-OpenCPN2-KAP-Adria.geojson	29-May-2023 08:08	1741
OSM-OpenCPN2-KAP-ArabianSea.7z	19-Apr-2022 18:57	321357092
OSM-OpenCPN2-KAP-Baltic.7z	25-Mar-2024 16:55	741836108
OSM-OpenCPN2-KAP-Baltic.geojson	29-May-2023 08:08	1937
OSM-OpenCPN2-KAP-Bodensee.7z	21-Apr-2022 17:25	29041778
OSM-OpenCPN2-KAP-Caribbean.7z	26-Mar-2024 01:40	480471512
OSM-OpenCPN2-KAP-Caribbean.geojson	29-May-2023 08:08	2535
OSM-OpenCPN2-KAP-Channel.7z	31-Mar-2024 20:05	295148338
OSM-OpenCPN2-KAP-Channel.geojson	29-May-2023 08:08	2223
OSM-OpenCPN2-KAP-EastChineseSea.7z	31-Mar-2024 11:50	284606786
OSM-OpenCPN2-KAP-EastChineseSea.geojson	29-May-2023 08:08	2073
OSM-OpenCPN2-KAP-Europal.7z	25-Mar-2024 01:34	2096723997
OSM-OpenCPN2-KAP-Europal.geojson	01-May-2023 07:32	1741
OSM-OpenCPN2-KAP-Germany-NorthEast.7z	21-Apr-2022 19:08	305546650
OSM-OpenCPN2-KAP-GreatLakes.7z	31-Mar-2024 12:42	137170383
OSM-OpenCPN2-KAP-GulfOfBengal.7z	08-Apr-2024 15:02	89205415
OSM-OpenCPN2-KAP-GulfOfBengal.geojson	29-May-2023 08:08	1935
OSM-OpenCPN2-KAP-GulfOfBiscay.7z	25-Mar-2024 09:38	201814204
OSM-OpenCPN2-KAP-GulfOfBiscay.geojson	29-May-2023 08:08	1859
OSM-OpenCPN2-KAP-LakeConstance.7z	12-Jul-2021 05:52	45837504
OSM-OpenCPN2-KAP-Lake_Balaton.7z	21-Apr-2022 17:38	32143139
OSM-OpenCPN2-KAP-MagellanStrait.7z	25-Mar-2024 22:26	37341829
OSM-OpenCPN2-KAP-MagellanStrait.geojson	29-May-2023 08:08	2176
OSM-OpenCPN2-KAP-MediEast.7z	25-Mar-2024 05:18	806260374
OSM-OpenCPN2-KAP-MediEast.geojson	29-May-2023 08:08	1935
OSM-OpenCPN2-KAP-MediWest.7z	03-Apr-2024 11:08	669833385
OSM-OpenCPN2-KAP-MediWest.geojson	29-May-2023 08:08	2039

- Tap on the .7z file corresponding to the area you want, and wait for the file to download.
- Launch the Easy Unarchiver app (or equivalent) and tap on 'Open Archive' at the top of the left hand column
- Browse to the downloaded file, select it so that a tick appears, and then tap 'Open' at the top right. You should now see a folder with the name of the file
- Long tap on the folder and select 'Extract' from the menu
- Navigate to where you want to store the files then tap 'Open'
- Wait for all the files to extract (several minutes)
- In AngelNavNeo, go to **Settings: Chart Folder** and browse to the folder containing the extracted files (called OSM-OpenCPN2.KAP....). Tap on the folder and tap 'Open'
- Go to the charts tab and you should see new charts appearing. It will take 2-3 minutes for AngelNav to import them and create thumbnails.