SeaData

USER MANUAL · MOBILE · REV 0

SeaData User Manual

Every screen explained, step by step.

SD-UM-001 · Rev 0 · 2026-09-26

ABOUT THIS MANUAL

This manual explains SeaData from the very first login to the most advanced screens. Every chapter shows a real screenshot of the program with numbered markers, and tells you in plain words what you see, what each button does and how to read the numbers. You do not need any experience with weather models to use it. Read chapters 1 to 4 first; after that, open the chapter of the screen you are working with. The vessel in the screenshots is

called **Demo vessel**; on your screen you will see your own vessel.

Document	SD-UM-001
Revision	Rev 0, 2026-09-26
Applies to	SeaData web platform at seadata.online (all account types)
Latest version	https://seadata.online/static/SeaData_User_Manual.pdf
Questions	Ask about SeaData (the ? button on the map) or info@seadata.online

DOCUMENT CONTROL

Revision history

Every change to this manual gets a new revision number. The revision on the front page and in the footer tells you which version you are reading. The latest version can always be downloaded from the link in every SeaData e-mail.

Rev	Date	Description	By
0	2026-09-26	First issue of the SeaData User Manual.	SeaData

> **How to read the revision number.** Rev 0 is the first issue. Each later issue counts up (Rev 1, Rev 2 …). When a screen in SeaData changes, the manual is updated and the new revision lists what changed, so you only need to read those sections again.

CONTENTS

What is in this manual

CHAPTER 1

1. Before you start

What SeaData is, what you need, and a few words and rules that come back on every page.

What is SeaData?

SeaData is a website that shows the **weather at sea for your own vessel**: waves, wind, current, tide, rain and more. It collects the forecasts of many weather models and measuring stations and puts them together for the exact position of your vessel. It also answers the question every vessel on a job asks: **can we work, and when is the next good window?**

You do not install anything. SeaData runs in an ordinary web browser (Chrome, Edge, Safari or Firefox) on a pc, laptop, tablet or phone. You open **seadata.online** and log in.

What you need

1. **An account.** Every account is checked and released by hand. Chapter 2 explains how to request one.
2. **The MMSI of your vessel.** This is the 9-digit number of the vessel's radio / AIS. You find it on the AIS transponder, on the radio licence, or ask the master.
3. **An internet connection.** On board this can be VSAT, Starlink or 4G. SeaData uses little data: a normal page load is comparable to opening a news website.

Words you will see everywhere

Word	What it means in plain language
AIS	The radio signal every larger vessel sends with its position. SeaData uses it to know where your vessel is. **No AIS means SeaData does not know where you are.**
MMSI	The 9-digit number that identifies your vessel in AIS.
Hs	Significant wave height, in metres. Roughly the average height of the highest third of the waves: what an experienced sailor would call 'the wave height'.
Tp	Peak period, in seconds: the time between the waves that carry the most energy. Long periods (10 s and more) mean swell.
Swell / wind sea	Swell is long waves made far away. Wind sea is the short, steep waves made by the local wind. Together they make the total sea.

Word	What it means in plain language
Model	A computer weather forecast, for example HARMONIE, ECMWF or CMEMS. SeaData shows many; the best one for your position always stands at the top or on the left.
UTC	World time. **Every time in SeaData is UTC**, not your local time. The Netherlands is UTC + 1 h in winter and UTC + 2 h in summer.
kn, m/s, Bft	Speed units. 1 m/s is about 2 knots. Bft is the Beaufort scale (wind force 0 to 12).

Colours mean the same thing on every screen

Colour	Meaning
Green	Good: fresh data, workable, within the limit.
Orange / amber	Take care: close to a limit, or data getting old.
Red	Not good: over a limit, not workable, or data missing or too old.
Grey	No data. SeaData never fills a gap with a guess: grey means 'we do not know'.

Important. SeaData is **supporting information, not a navigation aid**. Always check against official charts, tide tables and notices to mariners. The decision to sail or to work always stays with the master.

CHAPTER 2

2. Your account and logging in

How to get an account, log in for the first time, and what the different account types can do.

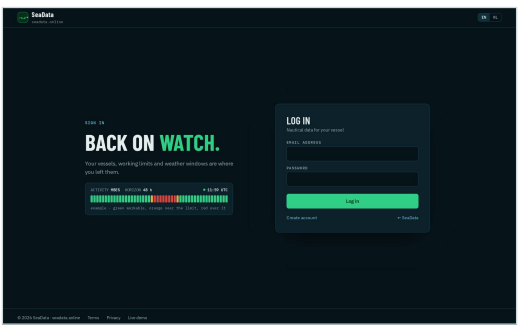
Requesting an account

1. Go to **seadata.online** and click `Create account` (under the login box) or `Request an account` on the front page.
2. Fill in your e-mail address, name, company or vessel and the other questions, and send the form.
3. You receive an e-mail to **verify your e-mail address**. Click the link in that mail.

4 SeaData checks every request by hand. When your account is approved, you receive a second e-mail. From that moment you can log in. The approval mail also has the links to the Quick Start and to this manual.

> **Tip.** Mail not arriving? Look in your spam or junk folder first. Company mail filters sometimes hold mails with links. You can always write to info@seadata.online.

Logging in



The login page. Type the e-mail address and password from your welcome mail and click Log in.

1 Open **seadata.online** and click `Login`.

2. Type your e-mail address and your password.
3. Click **Log in**. The map opens on your vessel.

If your account uses two-factor login, SeaData then asks for the code from your authenticator app.

Account types

The type of your account decides how many vessels you can follow and how freely you can change them. **Workability is included in every type.**

Type	Vessels	Changing a vessel	Own chart position	Viewers
Single	1	straight away	no	no
Fleet standard	5	slot on hold for 7 days	no	no
Fleet+	3	straight away	yes	yes
Fleet admin	5	straight away	yes	yes

Viewers are extra logins that can only look, for crew, office or client. They are explained in chapter 21.

Trying SeaData without an account

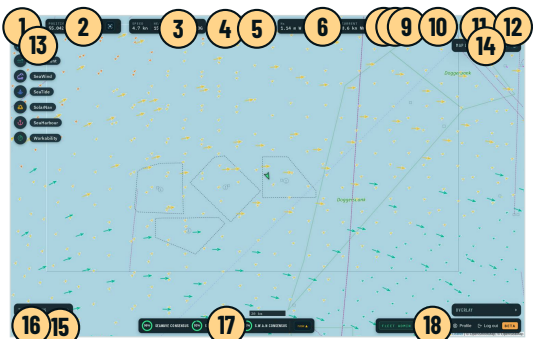
Without logging in you can open the demo: `Try it` in the bottom bar lets you enter an MMSI and see that vessel as your own for half an hour (only for a vessel we currently receive on AIS). The Workability tab then shows a Demo vessel at a fixed position in the North Sea.

CHAPTER 3

3. The main screen

After logging in you always land on the map. Everything in SeaData starts here.

The chart fills the whole screen. Everything else floats on top of it: the **top bar** with the most important numbers, the **side tabs** on the left that open the detailed screens, **Map layer** at the top right, **Tide stations** at the bottom left, **Overlay** at the bottom right and the **bottom bar**.



The main screen of SeaData with the most important parts numbered.

1	SeaData logo and fleet picker: choose which vessel you look at.
2	Position of the vessel (from AIS or from the vessel itself).
3	Speed, heading (HDG) and course over ground (COG).
4	**Fix age**: how old the position is. Always look at this.
5	Sea temperature at your position.
6	Waves (Hs), wind and current at your position, right now.
7	? : the built-in help and Ask about SeaData.
8	Clock: **Data status**, how fresh every data source is.
9	Cog: your settings (units, language, your vessel).
10	Tide: rising or falling at your position.
11	The clock in UTC.
12	Eye: **Overview**, all conditions on one card.
13	Side tabs: the detailed screens (SeaWave, SeaCurrent ...).
14	Map layer: base map and extra layers.
15	The active vessel.
16	Bullseye: choose your own spot on the chart.
17	Consensus rings: do the models agree?

The top bar

The top bar close up.

The top bar always shows the situation **at your vessel, right now**. From left to right:

Part	What it shows
Position	Where your vessel is, in the format you chose under the cog. The small crosshair next to it moves the chart back to your vessel.
Speed / Heading	Speed over ground, the heading (where the bow points, HDG) and the course over ground (where the vessel actually goes, COG). The difference between HDG and COG is your drift.
Fix age	How old the position is. See the box below.
Sea temp	Sea surface temperature at your position.

Part	What it shows
Hs / Wind / Current	Wave height, wind and current at your position now, with their direction. You can switch this block off under the cog.
? · Clock · Cog	Help, Data status and Settings (chapter 4).
Tide	Whether the tide is rising or falling at your position.
UTC	The clock. All times in SeaData are UTC.
Eye	Overview: waves, wind, tide and current on one card (chapter 4).

Fix age. Fix age is not a detail. The colour warns you: green under 30 seconds, yellow under 5 minutes, orange under 15 minutes, red beyond that. After 40 minutes the vessel is no longer drawn on the chart at all. That is on purpose: drawing a vessel at an old position suggests a certainty that is not there. If it says stale or no AIS, there is no usable position.

The bottom bar

The bottom bar.

1	The active vessel.
2	Bullseye: pick your own position on the chart (Fleet+ and Fleet admin).
3	Consensus rings and the time button (now, +3 h ...).
4	About SeaData, Profile, Log out.

The three **consensus rings** show in one number how well the models agree at your position: SeaWave consensus (waves), SeaWind consensus (wind) and S.W.A.N consensus (the local SWAN wave model against the average of the others). A full, green ring means the models tell the same story; a low number means they disagree, so the forecast is less certain. The button with the arrow next to them picks the moment: **now**, +3 h, +6 h, +9 h or +12 h.

Choosing your vessel and your start vessel

1. Click the vessel name at the top left, or the VESSEL box in the bottom bar. The list of vessels of your account opens.
2. Click a vessel to look at it. The chart and every screen now follow that vessel.
3. Click the **star** ☆ behind a vessel to make it your **start vessel**. SeaData then always opens on that vessel. The start vessel also gets extras: its data is kept ready in the background so every screen opens at once, and (depending on your account) its History is stored every hour (chapter 18).

Choosing your own position on the chart

On Fleet+ and Fleet admin accounts the **bullseye** button in the bottom bar lets you pick any spot on the chart instead of following your vessel. The button turns yellow and the chart shows a yellow ChartPos: manual position, not a vessel position warning. Everything you see then applies to that spot. Click the bullseye again to follow your vessel.

> **Tip.** Planning a job at a location where the vessel is not yet? Put the bullseye on the location and open Workability or Contract: you see the forecast for the job site.

CHAPTER 4

4. Overview, Data status, Settings and Help

The four buttons at the top right give you a quick look, show how fresh the data is, hold your personal settings and open the help.

Overview: the eye button

Overview: waves, wind, tide, a polar and current on one card.

Overview is the fastest way to see the conditions at your vessel. It shows WAVE, WIND, TIDE, a polar and CURRENT, each

with the value now and a small chart from 6 hours back to 24 hours ahead.

1. Click the **eye** at the far right of the top bar.
2. Read the big numbers: these are the consensus (average) of all models for your position.
3. The small charts show the single best model, because an average flattens the peaks.
4. In the polar, wind (blue), waves (yellow) and current (orange) point **inwards**, from where they come. Your heading (solid red) and course over ground (dashed red) point outwards.
5. Click the eye again to close Overview.

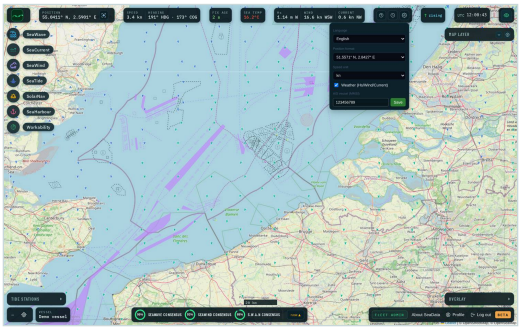
Data status: the clock button

Data status: one ring per data source.

Every source SeaData uses has a ring here, grouped as Wave, Wind, Current, Tide, Observations and Radar. A ring is one refresh cycle: **full and green** just after a new model run arrived, **draining towards red** as the cycle runs out. Red also means missing or overdue.

> **Tip.** Something looks strange on a screen? Open Data status first. If the source of that screen is red, the problem is the data supplier, not you.

Settings: the cog button

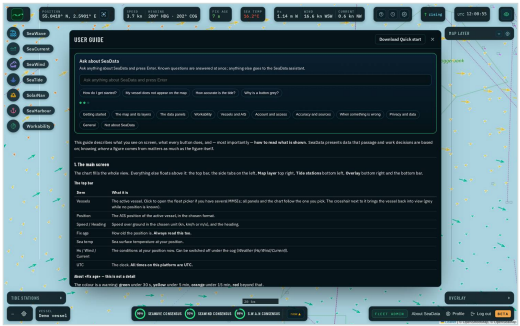


The settings under the cog.

Under the cog you choose how SeaData shows things. Your choices are remembered on this computer.

Setting	What it does
Language	The language of the screens.
Position format	Degrees with decimals, or degrees and minutes.
Speed unit	kn, km/h or m/s.
Weather (Hs/Wind/Current)	Show or hide the weather block in the top bar.
AIS vessel (MMSI)	The vessel SeaData follows when you have none selected.

Help: the ? button



The built-in help with the Ask about SeaData box on top.

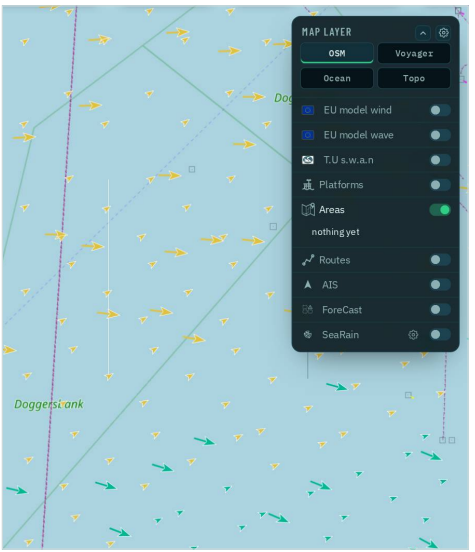
The **?** opens the help that is built into SeaData. On top is the box **Ask about SeaData**: type your question in normal words (for example why is my vessel not on the map) and press Enter. SeaData answers from its help texts; if it cannot, the question goes to the SeaData helpdesk. The button **Download Quick start** gives you the short five-page guide.

CHAPTER 5

5. The map controls

Map layer, Platforms, Tide stations, Overlay and the three switches AIS, ForeCast and SeaRain decide what is drawn on the chart.

Map layer (top right)



Map layer opened with its dropdown arrow.

Click the small arrow next to **MAP LAYER** to open it. The dropdown chooses the base map; the switches underneath add layers.

Base map	Good for
OSM	The default map (OpenStreetMap).
Voyager	A calmer, lighter map.
Ocean	A sea-oriented map. Works up to zoom 13.
Topo	Land with height lines. Works up to zoom 17.

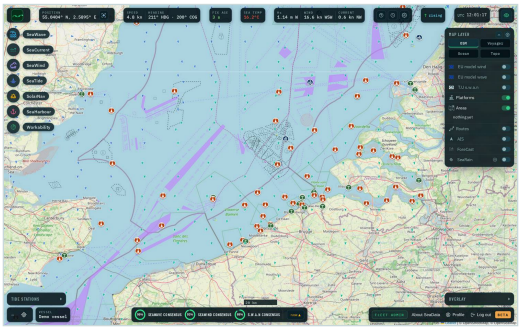
The sea marks of OpenSeaMap (buoys, fairways, lights) are always drawn on top.

Switch	What it shows
EU model wind / EU model wave	Which weather or wave model covers which area. Only one of the two can be on.
Asia	The data boxes for Taiwan and Japan.
Typhoon	The current typhoon track, cone and wind circle (Asia, in season).

Switch	What it shows
T.U s.w.a.n	Where the SWAN wave model can run.
IOC Tidal data	Sea level stations of the IOC network.
Platforms	Measuring stations at sea with their latest readings (see below).
Areas	Your own points and shapes, uploaded under Profile › Areas (chapter 21).
Routes	The routes you made in Transit (chapter 15).

> **Watch out.** Zoomed in and the map is empty? Some base maps stop at a certain zoom level (Ocean at 13, Topo at 17). Choose OSM or zoom out a little.

Platforms: measurements at sea



The Platforms layer: fixed measuring stations with their latest reading.

Platforms shows every fixed measuring station at sea (platforms, buoys and masts) with its latest wave, wind, current and visibility reading. **Hover** over a station for the key readings; **click** it for every source at that spot with all its values. The layer refreshes every 10 minutes while it is on.

> **Tip.** These are **measurements**, not forecasts. Compare them with the forecast: if the buoy next to you measures 2 m and the models say 1 m, trust your eyes and the buoy.

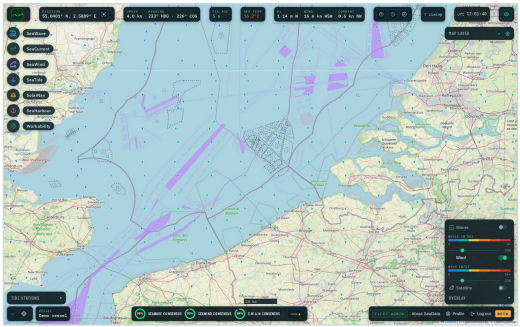
> **Watch out.** Every value keeps its own time. A buoy that stopped reporting keeps showing its last value, so always read the time next to it.

Tide stations (bottom left)

Tide stations: one flag per country, and π 50km.

One flag per country switches its tide and measuring stations on or off. π 50km is on by default: it shows every station within 50 km of your vessel. Click a station for its details; hover for a short summary.

Overlay (bottom right): waves and wind on the chart



Overlay with Waves switched on: arrows coloured by wave height.

Waves draws wave arrows coloured by wave height: blue below 0.5 m, green 0.5–1 m, yellow 1–2 m, orange 2–3 m, red 3–4 m and dark red above 4 m. **Wind** draws streamlines coloured by wind speed with the isobars (air pressure lines) in hPa. The slider under each legend sets how many arrows are drawn.

Satellite shows **measured** wave height and wind from satellites over the last 24 hours. Only where a satellite passed there is something; bright dots are recent, faint

dots are up to a day old.

> **Tip.** The chart feels slow when zooming? Switch Waves and Wind off, or move their sliders to the left. These are the heaviest layers.

AIS, ForeCast and SeaRain: three switches

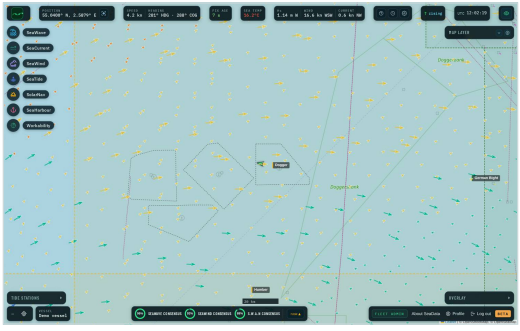
The last three side tabs do not open a screen: they switch a layer on the chart on and off.

AIS switched on: other vessels on the chart.

AIS shows other vessels. Zoomed out you only see your own fleet; zoom in to see every vessel in view. Colours follow the

vessel type; a purple diamond is a navigation aid (AtoN).

> **Watch out.** AIS is incomplete and delayed. It is **not suitable for collision avoidance**.



ForeCast: the warning areas of the national weather services.

ForeCast puts the sea areas of the national weather services on the chart (KNMI, Météo-France, AEMET, IPMA). Click an area to read that service's bulletin.

SeaRain switched on. It was dry when this screenshot was made, so no rain is drawn; showers appear as coloured patches.

SeaRain shows rain and showers. The small cog in the tab opens its settings: the region (Europe, Asia or World), the quality, **storm cells** (circles around heavy showers with gusts and poor visibility) and the satellite cloud image. Radar only reaches a few hundred km from the coast; on the open ocean choose World.

CHAPTER 6

6. SeaWave: waves

Everything about the waves at your position: every wave model, the best three, the satellite check and the local SWAN calculation.

Click **SeaWave** in the side tabs. The screen opens over the chart; ← **Back** at the top right closes it again.

SeaWave, tab Models.

1	Time window: how far ahead the charts go (6 to 72 hours).
2	Sub-tabs: Models, Online and S.W.A.N.
3	Graphics, Tables or DPR.
4	Back to the map.

How to read this screen

1. **The headline** says it in one sentence, for example Hs 1.0 m now, peak 1.7 m at 22:00 tomorrow. This is the average of the best 3 models for your position.
2. **The five tiles** give the numbers now: total wave height, wind sea, swell, peak period and direction. Spread under each number shows how far the models are apart.
3. **Models, ranked** (left) lists every wave model that covers your position, best first. The three above the dashed line make the numbers in the tiles. Click a model to see its details.
4. **Hs · all models** shows every model as a line. The yellow now line is the current time; the shaded band is the spread of the top 3. White diamonds are satellite measurements.

5 **Components** splits the waves of the chosen model into wind sea and swell, with the peak period on the right axis and the direction as arrows underneath.

6 **Checked against satellites** shows how well each model matched real satellite measurements over the last 7 days. The lower the RMSE, the closer the model was to reality.

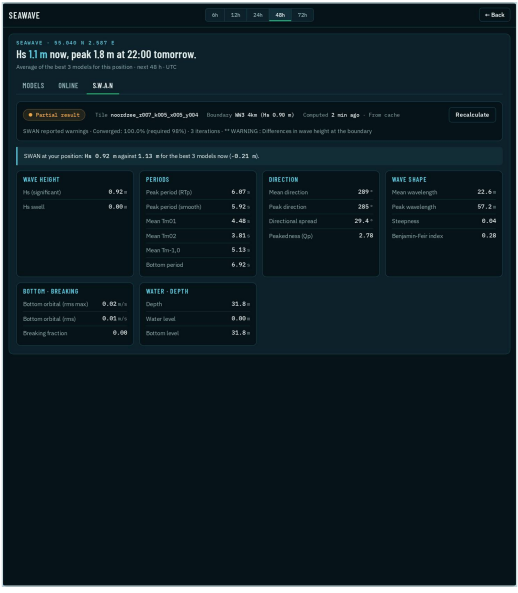
> **Tip.** All models tell the same story (small spread)? Then the forecast is reliable. Big spread? Then plan with the higher values.

Tables and DPR

SeaWave, Tables: the numbers per hour.

Tables gives the same information as numbers per hour. **DPR** gives the three-hourly values of today from the best model, the way you copy them into a Daily Progress Report.

S.W.A.N: a wave calculation at your vessel



SeaWave, S.W.A.N: the local wave calculation.

SWAN is a wave model that SeaData runs **exactly at your vessel's position**, using the local water depth. It takes the waves of a larger model and calculates what they do on your spot. The result is a list of numbers: wave height and swell, all the

periods, directions, wave length and steepness, and the water motion near the seabed.

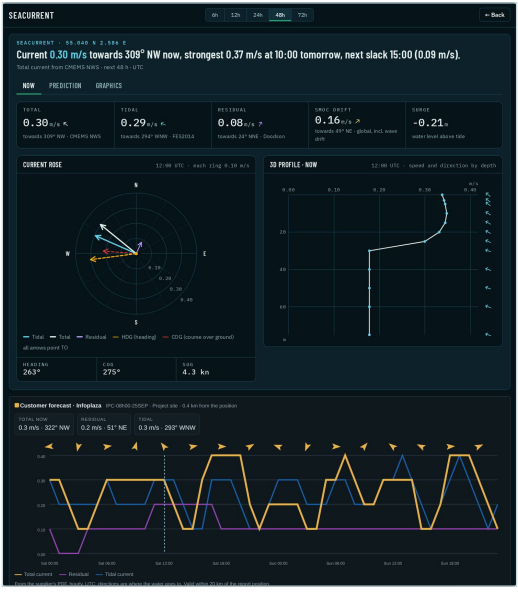
SWAN runs when you open the page and refreshes every 30 minutes; `Recalculate` starts a fresh run. A traffic light shows whether the run is complete.

> **Watch out.** SWAN runs **one at a time** for all users. If someone else's run is busy you see SWAN queue: waiting for computing power. That is a queue, not a fault: the result follows by itself.

CHAPTER 7

7. SeaCurrent: current

Which way the water flows, how fast, and how that changes over the coming hours.



SeaCurrent, tab Now.

The headline gives the current now and the next slack water (the moment the current

is weakest). The tiles split the current into its parts:

Tile	What it is
Total	The real current: everything together. This is what moves your vessel.
Tidal	The part made by the tide only (sun and moon).
Residual	What is left: current made by wind, rivers and ocean circulation.
SMOC drift	The global surface drift including the push of the waves.
Surge	How much the water level is above (or below) the normal tide.

> **Watch out.** In SeaCurrent every arrow points **to** where the water goes. Wind and waves in SeaData are given as where they come **from**. So a current 'towards 350° N' flows to the north.

The **current rose** draws total, tidal and residual current as arrows together with

your heading (HDG) and course (COG). The **3D profile** shows the speed and direction at every depth, from the surface to the seabed, where the model provides it.

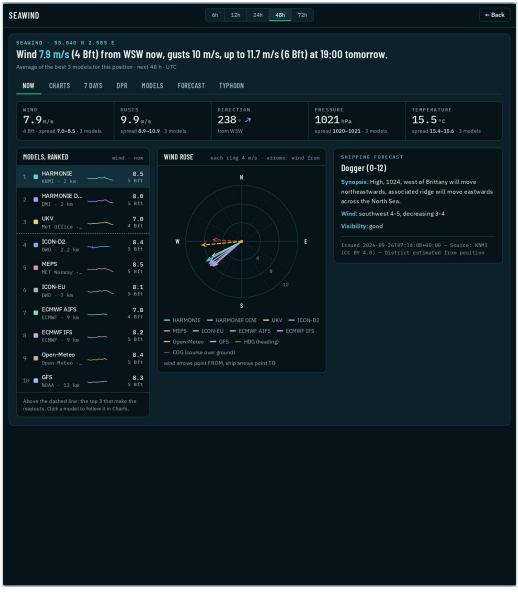
If your supplier sends a weather report by e-mail (chapter 17), its current forecast appears under the models as **Customer forecast**.

`PREDICTION` gives the current hour by hour; `GRAPHICS` shows it as charts.

CHAPTER 8

8. SeaWind: wind

Wind speed, gusts and direction from up to ten weather models, the shipping forecast and a seven-day outlook.

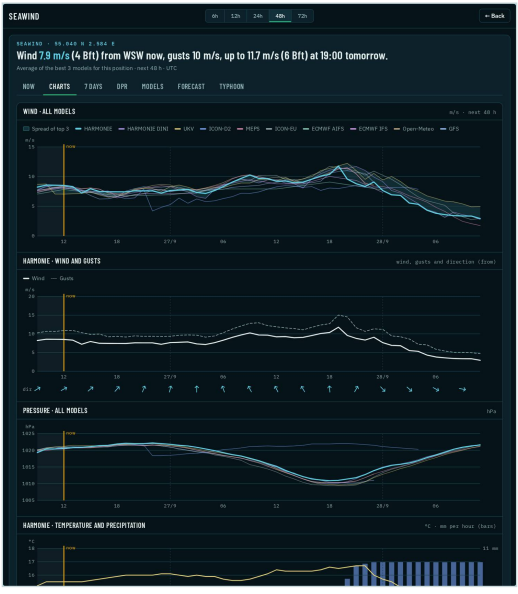


SeaWind, tab Now.

The headline gives the wind now and the strongest wind in the time window, in m/s and Beaufort. The tiles give wind, gusts,

direction, air pressure and temperature.

1. **Models, ranked** lists every wind model for your position, best first. The top three make the numbers. Each line shows a small curve of the coming hours.
2. The **wind rose** draws the wind direction of every model. Wind arrows point **from** where the wind comes; the ship arrows (HDG, COG) point to where the vessel goes.
3. **Shipping forecast** shows the official forecast text of the weather service for your sea area.



SeaWind, tab Charts: every model as a line.

CHARTS shows wind and gusts of every model over time. Click a model in the list to follow it.

7 DAYS gives a day-by-day outlook for the coming week. **DPR** gives wind, gusts and direction every three hours for your daily report, **MODELS** explains each model, **FORECAST** the shipping forecast and **TYPHOON** the typhoon data for Asia.

> **Tip.** Gusts matter more than the average wind for crane work and small boats. Look at the gust tile and the gust line, not only at the wind.

CHAPTER 9

9. SeaTide: tide

When is high water and low water, and how does the real water level differ from the tide tables?

SeaTide, tab Chart.

The headline gives the tide now and the next high and low water. The tiles give the tide now, the next low water, the next high water, the range between them and the actual water level.

Two kinds of water level

SeaTide shows two groups of sources, and the difference between them is important:

	What it is
Astronomical tide	The tide as the sun and moon make it, like in the tide tables. It contains **no** effect of wind or air pressure.
Actual water level	The modelled real water level, **including** the surge from wind and air pressure.

> **Watch out.** In strong winds the actual water level can differ from the tide tables by a metre or more. When the two lines are far apart, there is surge: plan with the actual level.

The two groups also use different reference levels (geoid and MSL), so their

heights cannot be compared number for number. The table **Per source** lists every source with its reference, the level now and the next high and low water.

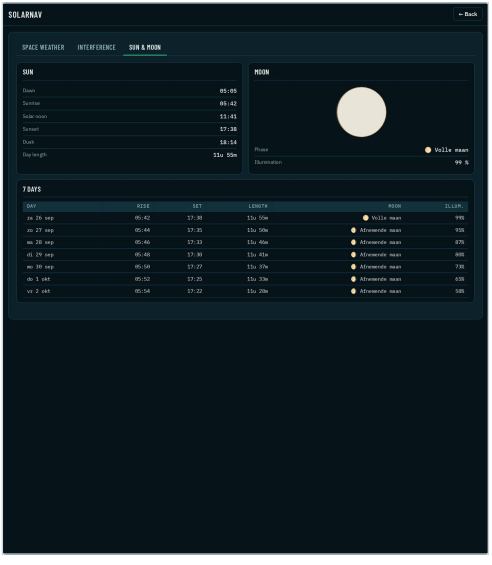
CHAPTER 10

10. SolarNav: space weather, sun and moon

Can solar storms disturb your GPS or satellite link today? And when does the sun rise?

SolarNav, tab Space weather.

Space weather shows how active the sun is. The most important number is the **Kp index** (0 to 9): below 4 is quiet, 5 and higher is a geomagnetic storm that can disturb GNSS (GPS, DGPS) and satellite communication. The NOAA scales (G, S, R, from 0 to 5) say the same in three categories. **Impact on navigation** translates it for your position: green means no effect.



SolarNav, tab Sun & Moon.

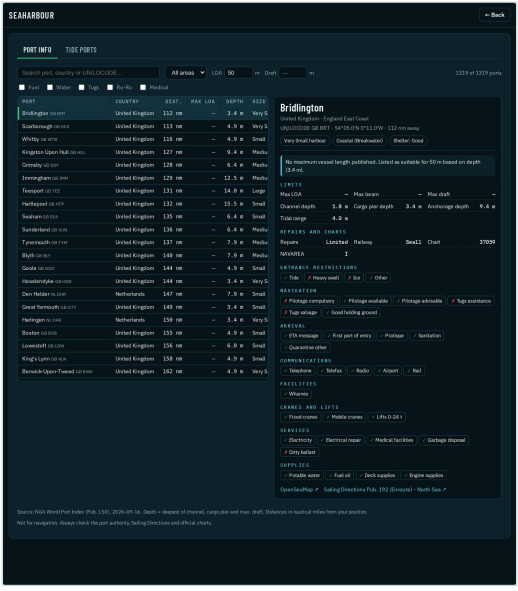
Sun & Moon gives dawn, sunrise, noon, sunset, dusk, the length of the day and the moon phase for your position, with a seven-day table. **Interference** shows a map of GNSS interference (jamming).

> **Tip.** Survey work with high GNSS accuracy? Check the Kp index before the start of the shift. A high Kp explains sudden jumps in your positioning.

CHAPTER 11

11. SeaHarbour: ports

Port information for every sea port nearby, and the tide in the ports.



SeaHarbour, tab Port info.

1. The list shows every sea port that a vessel of 50 m or more can use, nearest first, with the distance in nautical miles.

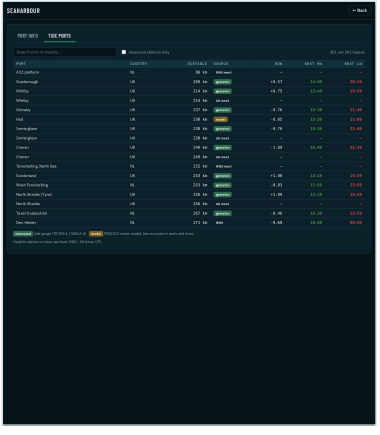
2. Type in the search box to find a port by name, country or UN/LOCODE.

3. Fill in your **LOA** (length) and **Draft** to see only ports that fit your vessel.

4 Tick **Fuel**, **Water**, **Tugs**, **Ro-Ro** or **Medical** to see only ports with that service.

5 Click a port: on the right you see its limits, depths, entrance restrictions, pilotage, facilities and supplies. ✓ means yes, ✗ means no.

> **Watch out.** Unknown stays unknown: if the World Port Index does not give a value, you see a dash, never a 0 or 'no'. Always check the port's own information before you plan an arrival.



SeaHarbour, tab Tide ports.

TIDE PORTS lists the tide ports with the level now and the next high and low water. measured is a real tide gauge; model is calculated and less accurate inside ports and rivers.

CHAPTER 12

12. Workability: introduction and your vessel

Workability answers the question: what can this vessel do at this spot, in this weather? Before the answers mean anything, SeaData needs to know your vessel.

Click **Workability** in the side tabs. Along the top you see its sub-tabs, in the order you normally use them:

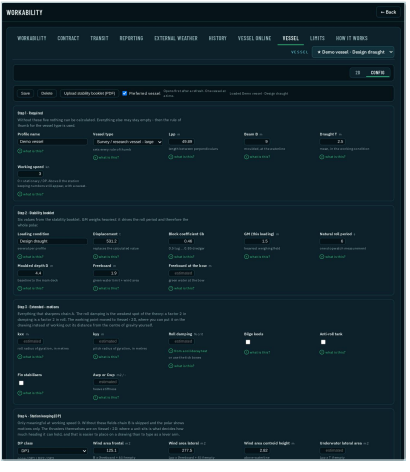
Sub-tab	What it is for	Chapter
Workability	The polar: motions and station keeping on every heading.	13
Contract	Per activity and per hour: within the contract limits?	14
Transit	The weather along a route you plan to sail.	15
Reporting	The weather report you send to your client.	16
External weather	The forecast your own weather supplier sends.	17
History	What the weather and the vessel were like on an earlier date.	18
Vessel Online	What the vessel itself measures and sends.	19
Vessel	Your vessel: drawing, data, thrusters.	12
Limits	The motion limits the polar is coloured against.	12
How it works	Where every number comes from.	20

At the far right of the sub-tabs is **VESSEL**: the vessel profile you work with. The star ★ marks your preferred profile.

The Demo vessel

Every account gets a **Demo vessel** once: an example ship with a drawing, so you see a full result straight away. It is yours: change it into your own ship, rename it or delete it.

Vessel: telling SeaData about your ship

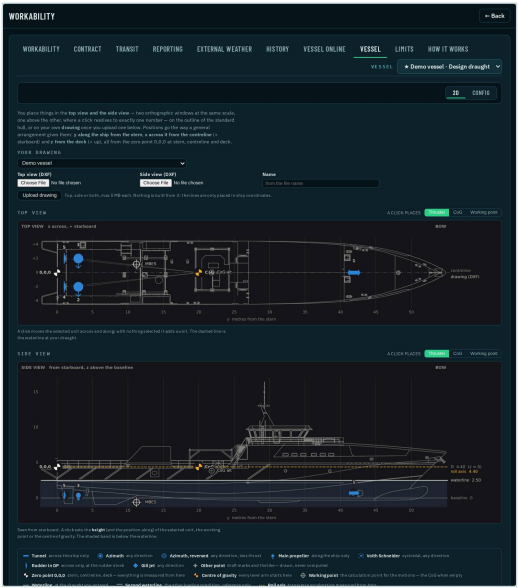


Vessel › Config: the vessel data in four steps.

Open **Vessel** and then the inner tab **CONFIG**. You fill in the data in four steps. **Step 1 is enough to start**; every next step makes the answers better and the confidence higher.

Step	What you enter
1 Required	Profile name, vessel type, length (Lpp), beam, draught, working speed.
2 Stability booklet	Values from the stability booklet (GM, KG …).
3 Extended – motions	Extra data for the motion calculation.
4 Station keeping (DP)	Thrusters and their power.

> **Tip.** Not sure what a field means? Every field has a small **what is this?** link that explains it.



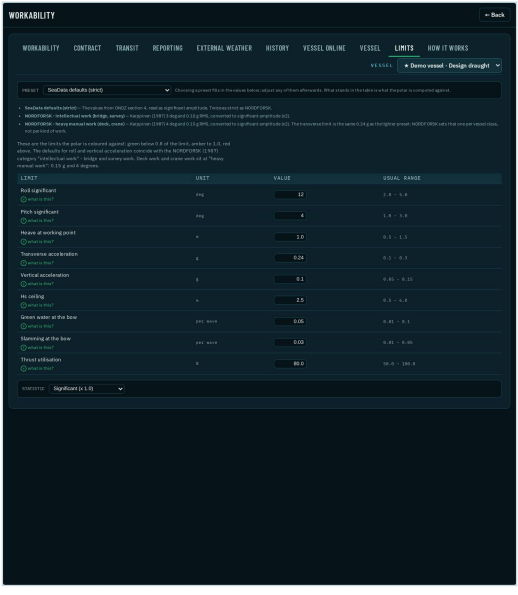
Vessel › 2D: top view and side view.

The inner tab **2D** shows your vessel from above and from the side. Choose what a click places (**Thruster**, **CoG** or **Working point**) and click in the drawing. All positions are measured from the zero point 0,0,0: at the stern, on the centreline, at deck height. You can also upload your own general arrangement as a DXF drawing (top view, side view or both, max 5 MB

each).

The **working point** is the place where the work is done, for example the crane tip or the moonpool. Motions and accelerations are calculated there. Leave it empty and SeaData uses the centre of gravity.

Limits: what is still acceptable



Limits: the motion limits for the polar.

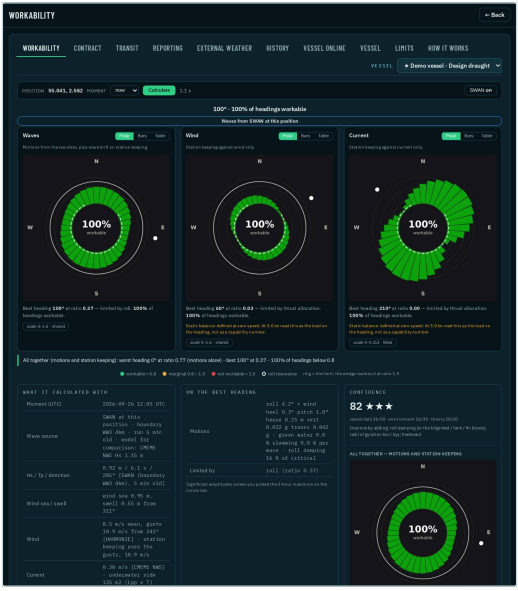
Limits holds what is still acceptable for the work: roll, pitch, heave at the working point, accelerations, a maximum wave height, green water and slamming at the bow, and thrust utilisation. A **PRESET** fills them in for you (SeaData defaults, NORDFORSK intellectual work, NORDFORSK heavy manual work); you can change any value afterwards. The column Usual range helps you choose.

> **Watch out.** These **motion** limits are used by the polar (chapter 13). The **contract** limits for Hs, wind, current and visibility are set separately in Contract (chapter 14).

CHAPTER 13

13. Workability: the polar

On which heading can the vessel work best right now, and what limits it?



Workability after pressing Calculate.

1 Check the **position** at the top left: it is your vessel, or your bullseye spot.

2. Choose the **moment**: now, or up to 24 hours ahead.
3. Click `Calculate`. SeaData takes waves, wind and current from the same sources as SeaWave, SeaWind and SeaCurrent, and calculates the vessel's motions on every heading.
4. Read the **headline**: it gives the best heading.
5. Read the **polar**: every direction around the vessel has a colour. **Green** is workable (below 0.8 of the limit), **amber** is marginal (0.8 to 1.0), **red** is not workable (above the limit). The ring is the limit.

The cards underneath explain the answer:

Card	What it tells you
What it calculated with	Every input: moment, wave source, Hs, Tp, direction, wind, current, calculation point. Check these first if an answer surprises you.

Card	What it tells you
On the best heading	The motions on the best heading and which limit is the binding one.
Confidence	How much you can trust the answer, scored from the vessel data (50), the environment (30) and the theory (20), with what would improve it.

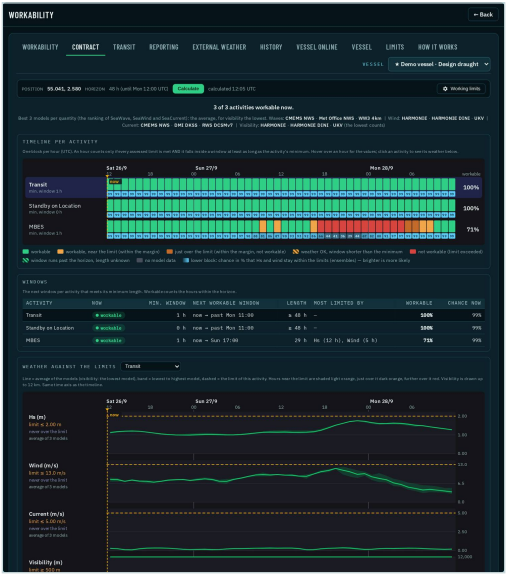
SWAN on (right of Calculate): with SWAN on, now uses a SWAN run at your position; later moments use the best wave model. The line under the headline always says which source was used and why.

> **Watch out.** Workability is a planning aid based on theory and forecasts. It does not replace the master's judgement, the vessel's own operating limits or the contract.

CHAPTER 14

14. Contract: can we work according to contract?

Per activity and per hour, up to 48 hours ahead: is the weather within the contract limits, and for long enough?



Contract: timeline per activity, windows and weather against the limits.

Step 1: set your working limits

1. Click the cog `Working limits` at the top right.
2. The table Working limit for safe 24h vessel operations on site opens. Each row is an activity (for example Transit, Standby on Location, MBES survey, Crane).
3. Per activity fill in the maximum Hs, wind and current, the minimum visibility and the `Min. window`: how many hours in a row the weather must be good.
4. Set the `Near-limit margin` (default 10 %): how close to a limit an hour turns orange.
5. Click `Save and recalculate`.

> **Watch out.** Until you save your own limits, SeaData uses **example limits** and shows an orange Example limits bar. Set your own before you rely on the result.

Step 2: read the result

Click **Calculate**. The headline says how many activities are workable now and when the next window opens for the others.

1. **Timeline per activity**: one block per hour (UTC). Hover over an hour to see the values; click an activity to see its weather below. The small cyan number under each block is the chance (in %) that Hs and wind stay within the limits.
2. **Windows**: per activity the next window that is long enough, how long it lasts, what limits it most and the percentage of workable hours.
3. **Weather against the limits**: per quantity a line (the average of the models), a band (lowest to highest model) and the dashed limit.

Colour	Meaning
Green	Workable.

Colour	Meaning
Light orange	Workable, but close to a limit (within the margin).
Dark orange	Just over a limit (within the margin): not workable.
Red	Not workable: limit exceeded.
Amber stripes	Weather OK, but the window is shorter than the minimum.
Green stripes	The window runs past the horizon; its length is not yet known.
Grey	No model data. Never silently approved.

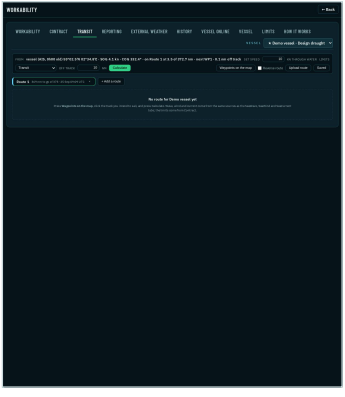
How SeaData decides: for wave height and wind it takes the **average of the best 3 models**; for current the average of the current models; for **visibility the lowest model**, because fog is local and one model seeing it is enough to stop work.

> **Tip.** The chance (the cyan number) does not change the colour. It tells you how firm the answer is: a green hour with a low chance is a green hour to keep an eye on.

CHAPTER 15

15. Transit: the weather along your route

Plan a passage and see whether the weather along the route stays within your limits.



Transit: route, speed and limits.

1. Click **Waypoints on the map** and click the track you intend to sail on the chart, waypoint by waypoint. Finish the route. You can also **Upload route** (GPX, or a list of coordinates).
2. Fill in your speed through the water under **SET SPEED**.
3. Choose the activity whose limits apply (for example Transit) and the allowed **OFF TRACK** distance.
4. Click **Calculate**. SeaData calculates when you are where along the route and checks the forecast at each point against the limits from Contract.

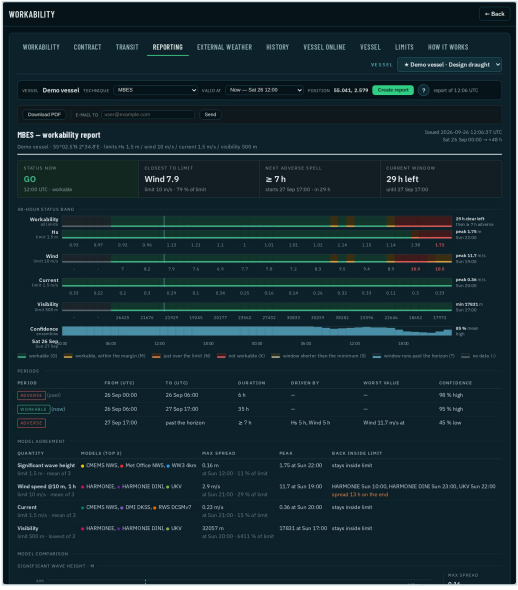
The top line shows where your vessel is compared with the route: how far along it, the next waypoint and how far off track. You can keep up to three routes (**+ Add a route**); the cross on a route tab removes it. **Reverse route** sails it the other way.

> **Watch out.** Transit needs a position. Without AIS from your vessel, it does not calculate.

CHAPTER 16

16. Reporting: the weather report you send

Turn the Contract answer into a report for your client: on screen, as PDF or by e-mail.



Reporting: the report for one activity.

1. Choose the **TECHNIQUE** (the activity from your contract table).
2. Leave **VALID AT** on Now, or choose a three-hour moment later in the day.
3. Click **Create report**. The report covers the running day and the next day, always from 00:00 UTC.
4. Click **Download PDF** for a printable version, or type an e-mail address and click **Send** to mail it with the PDF attached.

The report tells you what is over the limit and by how much, which quantity is the binding one, how long the bad weather lasts, when work can resume and how far the models disagree. It contains a status band per quantity, a meteogram per quantity with every model as its own line, a limit ladder (everything as a percentage of its limit) and the confidence from the ensemble forecasts.

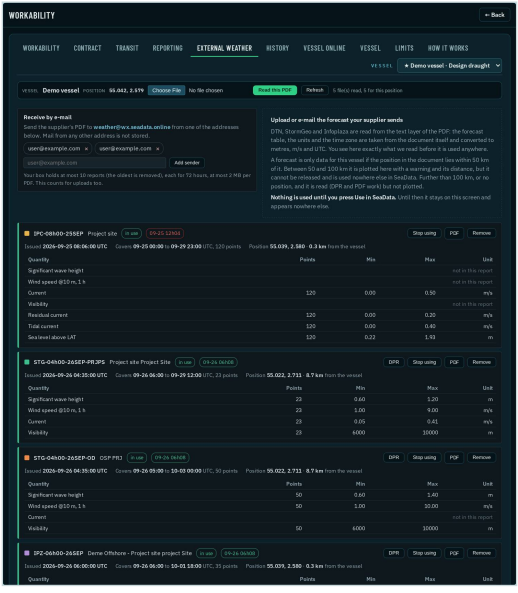
> **Tip.** A report is a snapshot of the forecast at that moment. The issue time is in the header. Later model runs do not change a report you already sent.

You can send at most ten reports per account per hour.

CHAPTER 17

17. External weather: your own supplier's forecast

Many projects get a forecast from a weather company (DTN, StormGeo, Infoplaza). SeaData can read it and show it next to the models.



External weather: the reports received from your supplier.

1. Upload the supplier's PDF here, or forward it by e-mail to **weather@wx.seadata.online** from a sender address you have added in External weather.

2. SeaData reads the numbers from the table in the PDF and shows them.

3 Check what was read, then click **Use in SeaData**. From then on the forecast appears as an extra line in the Reporting meteograms and in SeaCurrent.

Rule	
Box	At most 10 reports; the oldest is removed. Each is kept for 72 hours.
Size	At most 2 MB per PDF, at most 5 PDFs per e-mail.
Distance	Up to 50 km from the vessel it can be used; 50–100 km only plotted with a warning; beyond 100 km read but not plotted.
Refused mail	Mail from an unknown address, without PDF or too large is refused. The reason is in Profile › Notifications.

> **Watch out.** External weather never changes the go / no-go. SeaData never runs anything from a PDF or e-mail: only the numbers in the table are read.

CHAPTER 18

18. History: look back at any moment or period

What were the weather and the vessel like last Tuesday at 14:00? History shows it, with the go / no-go of that moment.

Every full hour SeaData stores the conditions at your **start vessel** (the one with the star): waves, wind, current, water level, SWAN, visibility, the vessel itself (speed, heading, roll, pitch, heave) and the contract limits in force at that hour. How long it is kept depends on your account: none, 1 day, 7 days, 30 days or 1 year.

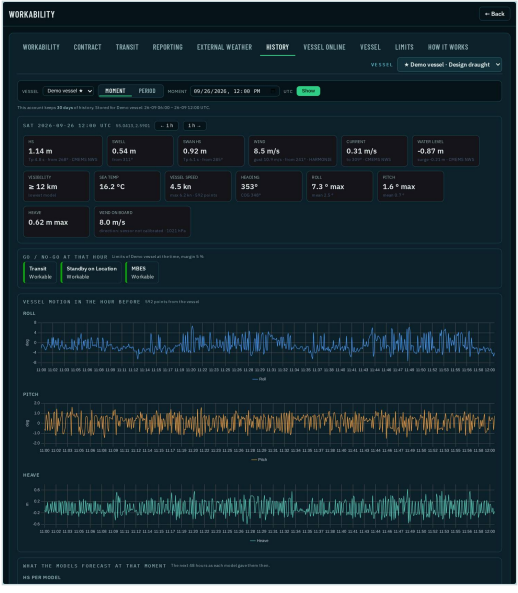
History, Period: tiles, the go / no-go band and the charts.

A period

1. Choose the vessel at **VESSEL** (the start vessel has a ★).
2. Keep **Period** selected and fill in **From** and **To** (UTC), or click **24 h**, **7 d**, **30 d** or **All**.
3. Click **Show**.
4. Read the **tiles**: the maximum wave height, wind, gust, current, roll and pitch in the period with the time it happened, and the percentage of workable hours per activity.
5. Read the **go / no-go band**: one row per activity, one block per hour, in the Contract colours, judged against the limits that were in force **at that time**.
6. Scroll down for the charts: waves, wind, current and water level, visibility, roll, pitch, heave, speed and heading. Choose an activity at **Limit lines of** to draw its limits in the charts.

7 Click **CSV** to download all hours as a spreadsheet.

One moment



History, Moment: everything about one hour.

Click an hour in the band, or choose **Moment** and a date and time. You then see every value of that hour, the go / no-go per activity with the limits of that time, the roll,

pitch and heave measured in the hour before, and what the models forecast at that moment for the next 48 hours. ← 1 h and 1 h → step through the hours.

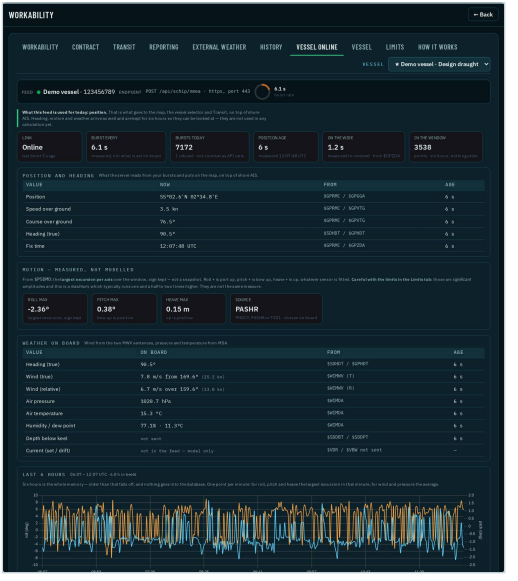
Watch out. History only exists from the moment it was switched on for your account, and only for the start vessel. When you change the star, storing stops for the old vessel; its history stays available until the storage period runs out.

Tip. Wind on board is shown with the note sensor not calibrated until the wind sensor of your vessel has been calibrated. Until then only the wind speed is shown, not the direction.

CHAPTER 19

19. Vessel Online: what the vessel itself sends

Everything else in SeaData is a forecast. Vessel Online is the other direction: what the vessel's own instruments measure.



Vessel Online: position, motion and weather on board.

A small program on board, **SeaData.exe**, listens to the ship's NMEA network and sends what it hears to SeaData about every six seconds over ordinary https (port 443). It only sends: nothing has to be opened on board and nothing is sent back.

Setting it up

1. Go to `Profile` › `API`. Copy your **API key** and download **SeaData.exe**.
2. Install SeaData.exe on a computer on board that is connected to the NMEA network (GPS, gyro, motion sensor, weather station).
3. Enter the API key in SeaData.exe.
4. In `Profile` › `Vessels`, tick **Position via SeaData.exe** for this vessel. Without that tick SeaData refuses the data, on purpose.
5. Open Vessel Online: the ring at the top fills with every message that arrives.

What you see

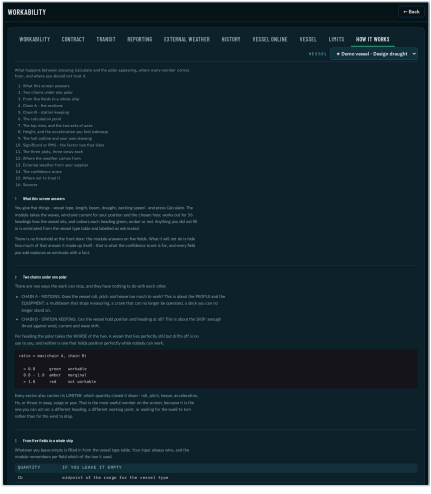
Block	What it shows
Feed	Whether the link is alive, how often a message arrives and how many today.
Position and heading	Position, speed, course and gyro heading from the vessel. This replaces shore AIS on the map, because the vessel knows its own position best.
Motion	Roll, pitch and heave: the largest movement per axis over the last window.
Weather on board	Wind (true and relative), air pressure, temperature, humidity.
Last 6 hours	Charts of the motion and the wind. Six hours is the whole memory.
Last burst received	The raw lines exactly as they came in (for technicians).
Refused bursts	Messages SeaData could not use, with the reason.

> **Tip.** Vessel Online keeps your vessel on the map where shore AIS does not reach, and updates it every six seconds instead of every few minutes.

CHAPTER 20

20. How it works

The last Workability sub-tab explains the calculations and lists every source.



How it works: the calculation chains and their sources.

Open this tab when you want to know **why** a number is what it is: which theory is used for the motions, what station keeping assumes, where every input comes from and where the theory stops being reliable (for example very large waves compared to the vessel, or following seas).

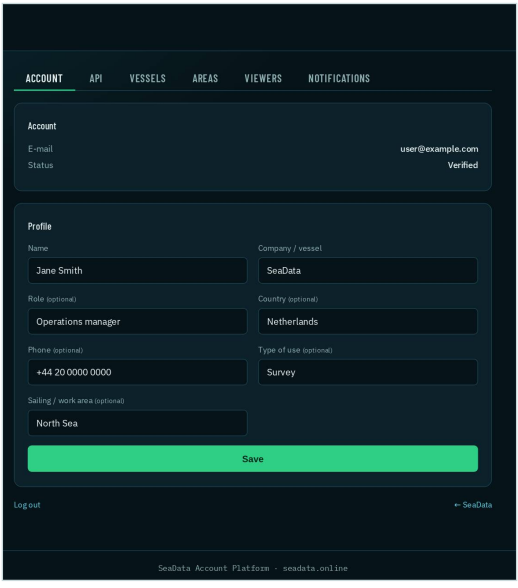
CHAPTER 21

21. Your Profile

Your account, API key, vessels, map areas, viewers and notifications.

Click **Profile** at the bottom right of the map. **← SeaData** brings you back to the map.

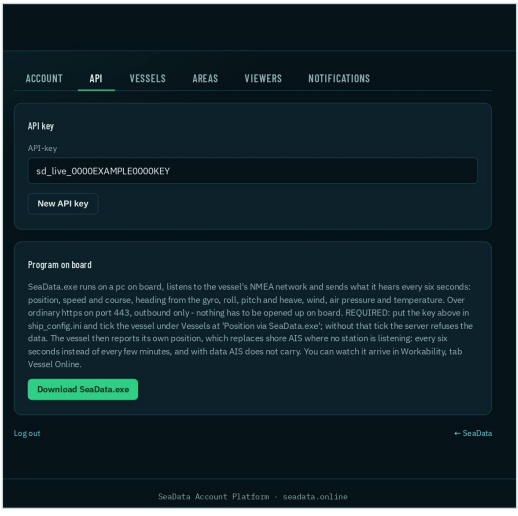
Account



Profile › Account.

Your e-mail address, status and your profile details (name, company or vessel, role, country, phone). Change them and click **Save**.

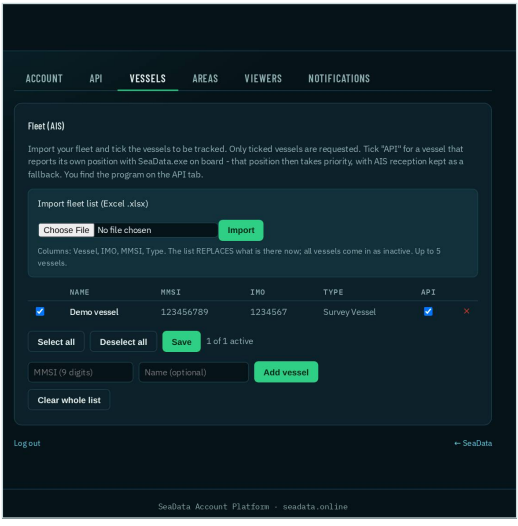
API



Profile › API: your API key and SeaData.exe.

Your **API key** and the download of **SeaData.exe** (chapter 19). Treat the key like a password: whoever has it can send data for your vessels.

Vessels



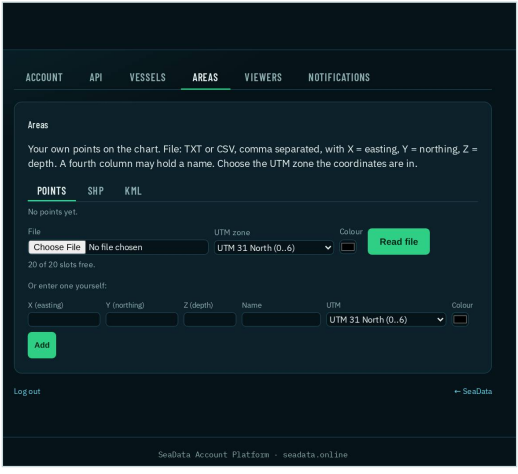
Profile › Vessels: the vessels of your account.

1. Type the **MMSI** (9 digits) and a name, and click **`Add vessel`**.

2. Many vessels? Use **`Import fleet list (Excel .xlsx)`** with the columns Vessel, IMO, MMSI and Type.

3. To change a vessel: remove it with the cross and add the new MMSI. A vessel cannot be edited. On a Fleet standard account the slot is then on hold for 7 days.
4. Tick **Position via SeaData.exe** for vessels that run SeaData.exe on board.

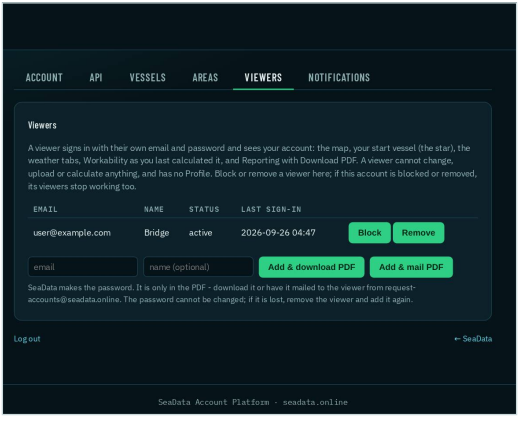
Areas



Profile › Areas: your own points and shapes on the map.

Upload your own points and shapes, for example a wind farm, a work area or turbine positions. Points as TXT or CSV, shapes as SHP or KML. They appear on the map under **Map layer › Areas**, where you can switch each one on or off.

Viewers



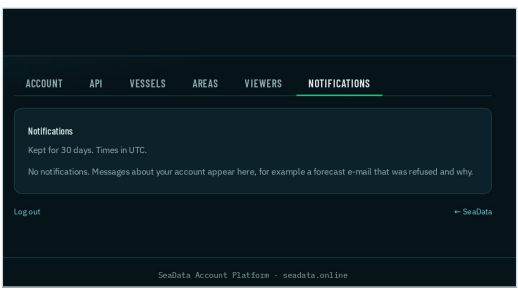
Profile › Viewers: view-only logins.

On Fleet+ and Fleet admin accounts you can give crew, office staff or your client a **view-only login**. A viewer sees your vessels and the results, but cannot change anything, cannot see your working-limit

settings and cannot upload or mail.

1. Type the viewer's e-mail address.
2. Click **Add & download PDF** to get a PDF with the login details to hand over, or **Add & mail PDF** to send it straight to the viewer.
3. The password is made by SeaData and is only in that PDF. Lost it? Remove the viewer and add it again.
4. Block or remove a viewer at any time; they are logged out within 30 seconds.

Notifications



Profile › Notifications.

Messages from SeaData about your account, for example a weather e-mail that

was refused and why.

CHAPTER 22

22. How SeaData picks the best model

Why is one model on top and another at the bottom? And why does the order change while you sail?

In SeaWave, SeaWind and SeaCurrent the models are never in a fixed order: the model at the top fits your position best. SeaData uses three rules:

1. **A model that does not cover your position is left out.** Showing nothing is better than a guess.
2. **Finer is better.** A model with 2 km grid cells sees more detail than one with 13 km.

3 **Close to its edge is worse.** Near the edge of its area a model is driven by a coarser model, not by its own physics. Within 25 km of the edge its score is made three times worse, between 25 and 50 km one and a half times.

Each model states the reason for its place, for example well inside its domain (180 km) or only 12 km from its domain edge. Workability, Contract and Reporting use the same order.

> **Tip.** If the top model differs a lot from the others, read its reason. If it sits close to its edge, take it with a pinch of salt.

Measured, official or computed

Badge	Meaning
measured	A real measurement from a station or buoy.
official	The prediction of the hydrographic service itself.
computed	SeaData's own calculation from a tide model.

Official sources come before SeaData's own calculation. Differences between models are shown, never smoothed away: if models disagree, the forecast is uncertain, and you are entitled to see that.

CHAPTER 23

23. Troubleshooting

Something does not look right? Find what you see in the left column.

What you see	Likely cause and what to do
Position stays empty	No AIS reception for that MMSI, or the position is too old. Check the MMSI under Profile › Vessels.
Vessel gone from the chart	The position is older than 40 minutes and is deliberately not drawn. Check Fix age.
Data is for the wrong place	No vessel set, or the bullseye is on. SeaData then uses a fixed spot or your chosen spot.
Chart stutters when zooming	Switch Waves and Wind off under Overlay, or move their sliders to the left.
Empty map when zooming in	The base map has a zoom limit. Choose OSM.
Few AIS vessels	Zoomed out you only see your own fleet. Zoom in.

What you see	Likely cause and what to do
Tide differs from the tables	The astronomical tide has no surge. Compare with the actual water level in SeaTide.
No rain on the chart	Switch SeaRain on and check its region; radar does not reach the open ocean, choose World.
No tide stations	π 50km is on and there are none within 50 km. Switch it off and use the flags.
SWAN keeps waiting	Another SWAN run is busy. The result follows by itself.
Contract says Not assessed	No model covers that quantity at this position; that limit is not applied.
Orange 'Example limits' bar	You have not saved your own working limits yet (chapter 14).
A source looks wrong	Open Data status (the clock). Red means the supplier is late, not a fault on your side.
History tab is missing	History is not included in your account, or no vessel has the star. Ask SeaData.

Still stuck? Use `Ask about SeaData` under the ? button, or write to **info@seadata.online**. Tell us your account e-mail, the vessel and a screenshot.

CHAPTER 24

24. Glossary

The words and abbreviations used in SeaData, in plain language.

Term	Meaning
AIS	Automatic Identification System: the radio signal with a vessel's position.
API key	Your personal code that lets SeaData.exe send data for your vessels.
Astronomical tide	The tide from sun and moon only, without wind or air pressure.
Beaufort (Bft)	Wind force scale from 0 (calm) to 12 (hurricane).
CoG	Centre of gravity of the vessel. In the top bar: Course over Ground.
Consensus	How well the models agree with each other.
DP	Dynamic positioning: keeping station with thrusters.
DPR	Daily Progress Report.

Term	Meaning
Ensemble	A set of forecasts from the same model with small changes; the spread shows the uncertainty.
Fix age	How old the vessel position is.
GNSS	Satellite positioning: GPS, Galileo, GLONASS, BeiDou.
Gust	A short peak in the wind, stronger than the average.
HDG	Heading: where the bow points.
Heave	The up-and-down movement of the vessel.
Hs	Significant wave height.
Kp index	Measure of geomagnetic activity from 0 to 9.
LOA	Length over all of the vessel.
Lpp	Length between perpendiculars.
MMSI	The 9-digit number of the vessel in AIS.
Model	A computer forecast of the weather or the sea.

Term	Meaning
NMEA	The standard language ship instruments use to talk to each other.
Pitch	The vessel rocking bow up / bow down.
Roll	The vessel rocking from side to side.
Slack water	The moment the tidal current is weakest, before it turns.
Surge	The rise or fall of the water level caused by wind and air pressure.
SWAN	A wave model that SeaData runs at your own position using the local depth.
Swell	Long waves made by wind far away.
Tp	Peak wave period in seconds.
UTC	World time; every time in SeaData is UTC.
Viewer	A view-only login made by a Fleet+ or Fleet admin account.

Term	Meaning
Wind sea	Short waves made by the local wind.
Window	A period in which the weather stays within the limits long enough to work.
Working point	The place on the vessel where the work is done; motions are calculated there.

CHAPTER 25

25. Disclaimer and contact

SeaData is **supporting information, not a navigation aid**.

1. Always check against official sources: charts, tide tables and notices to mariners.
2. Astronomical tides contain no surge from wind or air pressure.
3. AIS is incomplete and delayed and is not suitable for collision avoidance.

4. Workability, Contract, Transit and Reporting are model-based estimates; the decision to sail or to work always stays with the vessel.
5. SeaData accepts no liability for the use of this data. The full terms and the attribution of every data source are on the website.

Contact

Questions about using SeaData	The ? button › Ask about SeaData, or info@seadata.online
Sales and account types	sales@seadata.online
Weather reports from your supplier	weather@wx.seadata.online (chapter 17)
Website	https://seadata.online
This manual	https://seadata.online/static/SeaData_User_Manual.pdf