

REV. 1.2 :By TOn 2008-02-03

The “Cheat” document!
(Some would call it a manual)



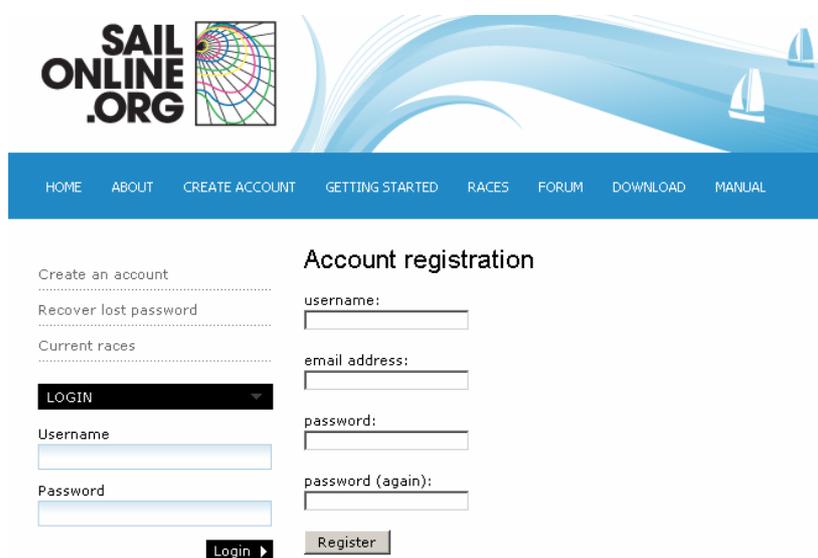
1. Manual

Sailonline is a strategy simulator for ocean sailing which challenges both the novice and the expert. It lets you sail your boat over oceans around the globe easier than you can imagine. But, as in real life, in order to sail fast and to ultimately win races requires full dedication, extensive practice, knowledge and working skills. The simulator runs in real time which means that a race can be ongoing for days or even weeks. Luckily, there are autopilots installed in all boats so that you do not need to steer manually all the time. Small adjustments of your autopilot setting a couple of times per day is often sufficient. To enable realistic sailing the weather in which the boats sail is authentic along with both the charts and the boat performance. Hence, Sailonline lets you race the boats you otherwise just see from a distance. The best way to steer a boat is by the use of the client-software that can be downloaded [here](#).

1.1. Getting started

To create a user account and to register in race go to www.sailonline.org

Step 1. Create a user account. Your user account will be used in all races you choose to participate in.



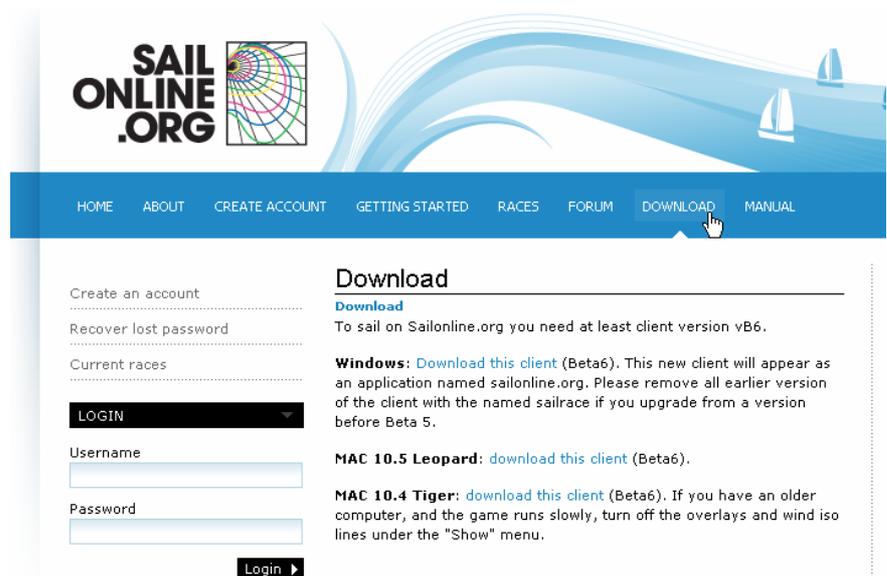
The screenshot shows the Sailonline.org website interface. At the top left is the logo "SAIL ONLINE .ORG" next to a colorful globe icon. A blue navigation bar contains links: HOME, ABOUT, CREATE ACCOUNT, GETTING STARTED, RACES, FORUM, DOWNLOAD, and MANUAL. Below the navigation bar, the "Account registration" section is visible. On the left, there are links for "Create an account", "Recover lost password", and "Current races", followed by a "LOGIN" button. Below these are input fields for "Username" and "Password", with a "Login" button at the bottom. On the right, the "Account registration" form includes input fields for "username:", "email address:", "password:", and "password (again):", with a "Register" button at the bottom.

The username you choose will be the name of your boat and your signature in the online chat.

Note You are only allowed to have 1 one user account.

Step 2. [Sign up](#) for a specific race.
There might be one or several active races.

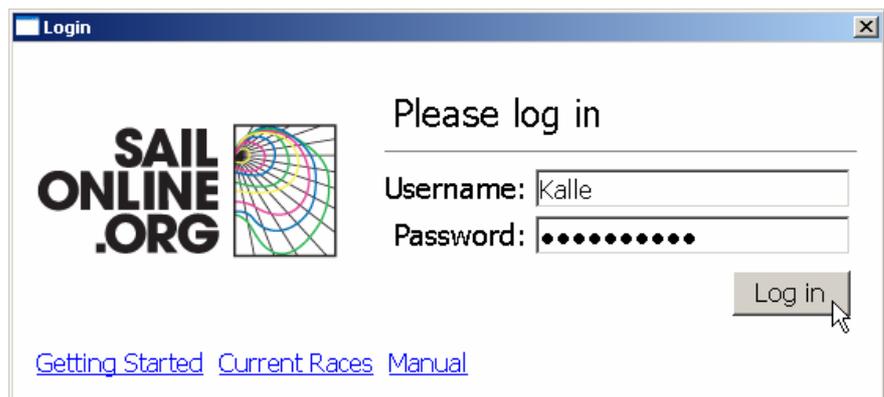
Step 3. **Download the client** (program) you need the client to be able to steer the boat. There is both a Windows-version and a Mac-version.



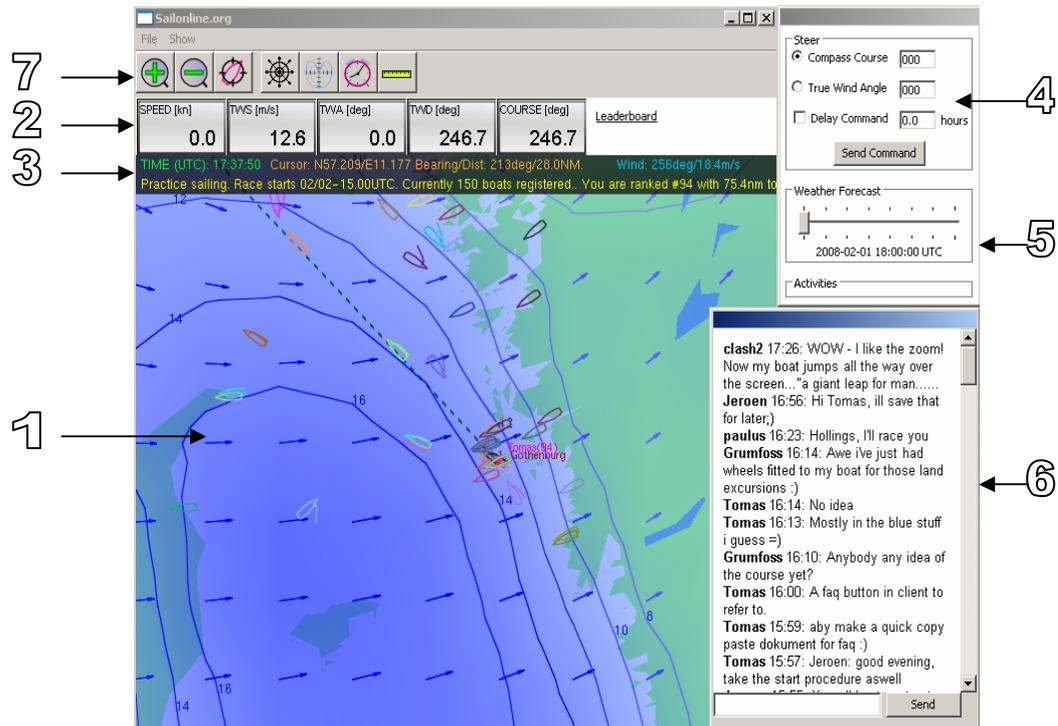
Windows:
Click at "Download this client".
Choose "Run" and if you get a security question choose "Run".
The client should now install.
The installation adds a link in your Windows start menu.

Step 4. Start the game client from Windows start menu.

Log in to your client-program using your username and password.



1.2. The client



Most of the graphical user interface in the client software is intuitive even for novice sailors. Here is a brief introduction.

1. Map: In the map, the green is land and the off-white is sailable water.

In front of your boat is a "predictor" showing where your boat would be in 6 hours if the conditions were frozen as they are right now.



Each little knot represents one hour of sailing. Arrows show wind direction and the length shows wind speed.

The blue arrows are showing the wind direction and speed and the blue continuous iso-lines show points on the map with equal wind speed. The blue colour on the map gets darker with increasing wind speed.

Looking at the weather forecasts is done by sliding the forecast-slider in the little window to the right of the map. Try the slider and notice how the weather changes. When new forecasts are available the new weather automatically appears in the window...

Other boats: All participants are shown in the map. If you place the cursor on another boat you see name and track. You can **not** see other boats data (Speed, TWA, etc).

2. Measured values: Values for your boat just now.

SPEED [kn]	TWS [m/s]	TWA [deg]	TWD [deg]	COURSE [deg]
0.0	9.4	0.0	287.3	287.3

3. Info field:

TIME (UTC): 00:56:09 Cursor: N57.637/E11.397 Bearing/Dist: 285deg/8.5NM. Wind: 293deg/11.8m/s
 Practice sailing. Race starts 02/02-15.00UTC. Currently 167 boats registered.. You are ranked #73 with 128.3nm to go.

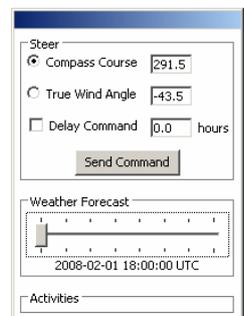
Green Game time.

Orange Position at cursor plus Bearing and Distance to cursor from your boat.

Blue Wind angle and speed at cursor position on map at forecast slider time.

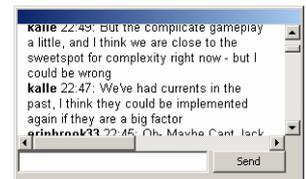
Yellow Race information and your rank.

4. Steer window here you enter what Compass Course or True Wind Angle you want to sail. You can also delay commands so you don't have to stay up all night.



Weather Forecast Slider for weather forecast

5. The most important window, The chat. This is were you explain why you should have won if... or anything else as long as it is not offensive.



6. Tool bar



You can zoom in and out by using the +/- symbols in the tool bar above the map.



Your boat is bright pink. You can centre map on your boat by pressing the third tool.



The steering tool lets you pick a course graphically.
See also 1.5



The "alarm bell" opens a window where delay times can be viewed or deleted



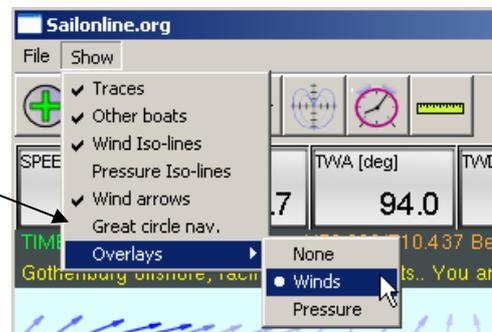
Note: Times in delay window are in UTC, not local time.

To measure distances on the map use the "Ruler" tool.
Every click adds a point and double click ends the line.
To remove the measure line click the "Ruler" button again.



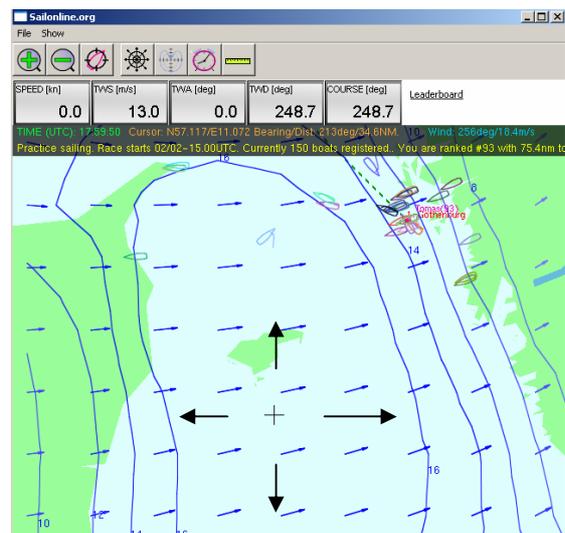
In the "Show" menu it is possible to change what is displayed in the map.

The "Great circle nav." (GC) tool is for longer races. When you use the steer tool or the ruler you see it bends to display shortest route across our spherical globe.



Note: If you use the steer tool in Great circle nav. mode your boats course will of course follow the initial compass course and not the bend displayed. The bend is just to show the shortest route. This means that you have to set a new Compass Course after a while if you want to follow the "GC" route.

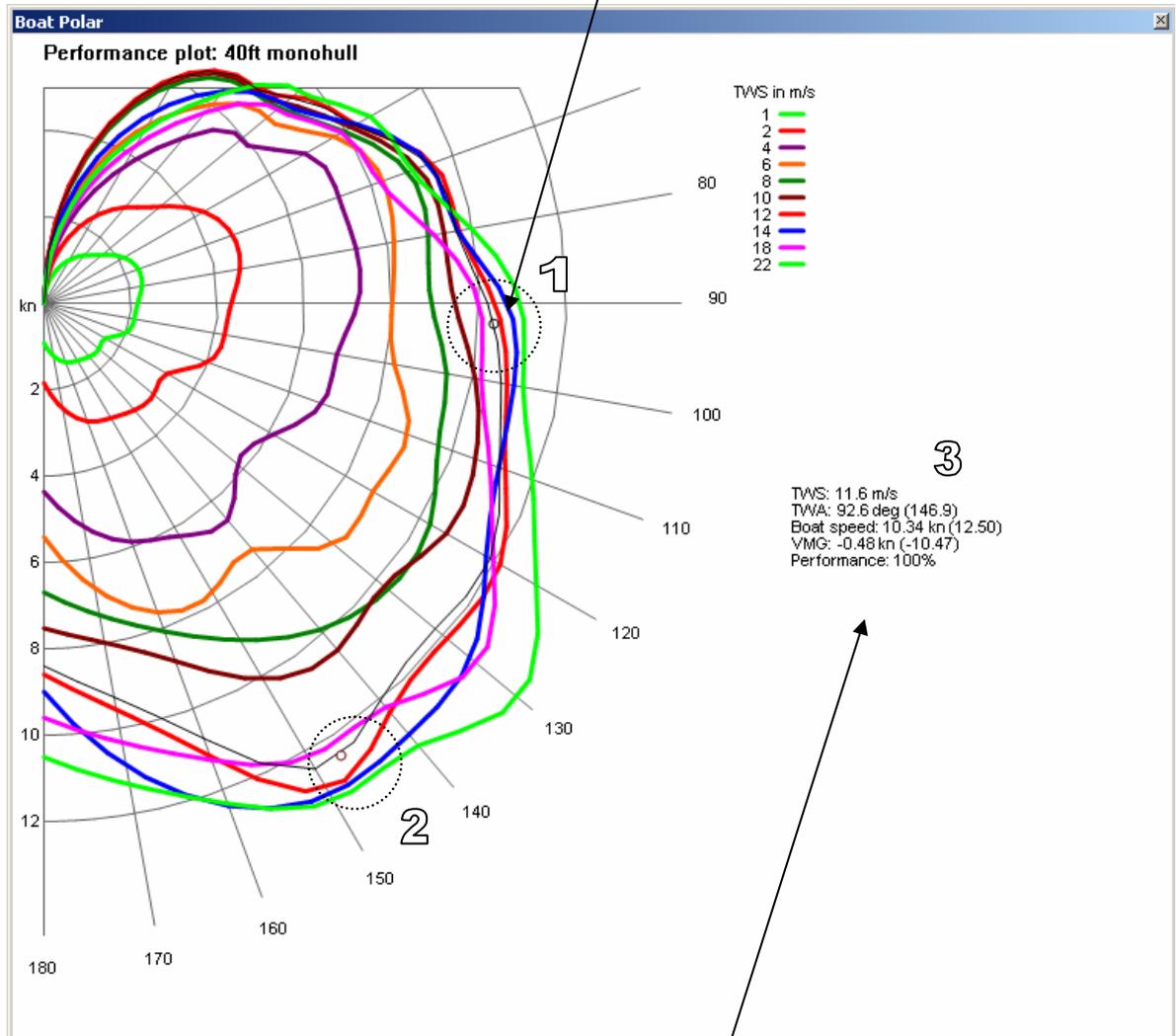
It is possible to scroll on the map simply by placing the cursor on the map, press and hold left mouse button and move the mouse in the desired direction.



Click the Polar" button to open the polar diagram.
 A Polar diagram lets you see boat speed in different pressure and angles. A small dot(1) shows where in the polar your boat is now.



Performance diagram



In the polar you also get some data (3)

TWS is True Wind Speed at your boat just now.

Boat speed is current boat speed

VMG is your speed against the wind. If you sail downwind your VMG value is negative.

When you use the steering tool you also see in brackets Boat speed, TWA and VMG for steering tool course. A second dot (2) starts to move across to indicate where your new course will be on the polar.

1.3. Starting procedure

All boats are towed back to the starting line 1 hour before race start. From 1 hour before the start, until the start, the boats are held at the starting line. A command executed during this period will be the initial command for the boat at the start.

Example: Race starts 18.00 UTC. If a player sends a command, TWA 55 degrees at 17.32 UTC, the boat will sail TWA 55 degrees at 18.00 UTC when the boats are released.

Please note that you can also use a delayed command to be executed during the pre-start phase - it has the same effect.

1.4. The course, rounding buoys and the finish

The course is defined by a starting point, a number of rounding marks (buoys) and a finish line. All boats start at the starting point. The sequence of the buoys are numbered and shown in the leaderboard which you can reach e.g. using the link in your client. Then, simply sail around the buoys in the correct order and cross the red finish-line as soon as possible. Rounding of the buoys are registered automatically by the server and immediately announced in the leaderboard. The rounding is registered when your boat is "in-the-middle" of last leg and the coming next (a leg is the travel between two buoys). at the end just cross the finish line anywhere you like. When you do that your boat will be "glued" to the position where you crossed the line. Your finish time will also be announced in the leaderboard.

1.5. Steering

The basic way of steering is to either set at constant compass course (CC) which simply means that the boat will go in a "straight line". The other steering mode is to set up the boat to keep a constant angle to the wind, to keep the true-wind-angle (TWA) constant. This means that if the wind changes in direction, the boat will change its heading to maintain the wanted TWA. You can set any TWA in the range from 0 to 180 degrees where TWA=0 means that the wind comes from straight ahead, TWA=180 means that the wind comes from behind and TWA=90 means the wind in from starboard side. Negative TWA means wind in from port side (port=left).



(CC) =Compass Course
(TWA) =True Wind Angle

Setting a course

Select CC or TWA by checking the box in front of the text.

Write desired Compass Course (CC) or True Wind Angle (TWA) in the boxes and press the "Send Command" button.

Or

Click on the steer tool.



Place the cursor on the map, as you move the cursor around you see that "Compass Course" and "True Wind Angle" in the steer window changes. When desired "CC" or "TWA" are displayed left click to lock the values.

Press the "Send Command" button.

Steer

Compass Course 291.5

True Wind Angle -43.5

Delay Command 0.0 hours

Send Command

Weather Forecast

2008-02-01 18:00:00 UTC

Activities

Delays

If you want the command to be delayed for some time just enter the desired delay-time (in hours) and check the box to the left of the text "Delay command" before pressing "Send Command". Delayed commands is a neat feature that lets you attend business meetings and wedding dinners while helming a 60-foot single handed catamaran in a full gale!

Calculation of delays

Use the forecast slider to see wind pressure and angle in the coming hours. Use the polar diagram to estimate your average speed. Use the ruler to measure distance to the position were you want to turn. Divide distance with calculated average speed. Tick the "Delay Command" box and enter the calculated delay time. Go to sleep and pray that the delay gods are with you.

1.6. The chart and the race bounds

The shorelines are supplied by the US National Geophysical Data Center (NGDC). Resolution may vary depending on the race type. Important to notice is that what you see is what there is. Be aware of small islands but all water is deep and sailable. Your boat can naturally only sail on water. If you collide with land the boat will stop, be pulled out from the coastline some distance and be somewhat damaged. The damage is expressed as a certain drop in boat speed (performance). This loss in performance is temporary and will vanish in a number of hours. Since the boat has stopped you need to send a new command to set the boat on a new course. Due to the implementation on the server, a boat may actually cut a little land corner at special occasions. It can happen to all boats but is nothing to calculate on.

1.7. The boat performance

The boat performance is expressed in the so called polar curve, which is visible to you. The polar curve state the boat speed as a function of wind speed and TWA. Take time and study the plot to learn how to sail the boat efficiently. Different wind speeds are shown with different coloured curves. For a certain wind speed follow the corresponding coloured curve for all various TWA's around the boat. For a certain wind speed and TWA you can read the corresponding boat speed as represented by the distance from the origin to the coloured curve. The plot does not differ negative from positive TWA's since our boats are symmetric. Your boat generally performs at the polar curve boat speed (=100% performance in the polar window) but there are two ways of loosing performance. If you hit land you loose quite a lot of performance. After changing TWA you also loose some percent of performance. Performance loss is always temporarily. Depending on conditions you will regain 100% after a while.

1.8. Race types

There are basically two kinds of races, fleet-races and timed-races.

Fleet race: In a fleet race you typically register a boat during the registration phase in which practice sailing is allowed. One hour before the start all boats are suddenly automatically towed back to the starting point, stopped and moored there during this last hour before the start which we call the pre-start phase. During the pre-start phase you can send commands and chats but the boat will not move. At the time of the race start all boats are let go simultaneously. The last command will be the one controlling the boat. First boat completing the course is the winner!

Timed race: In a timed race you may (within limits) start at any time you like. The time of your first command is your start time. A start using a delayed command is possible. Complete the course and your total sailed time will be compared to others in the leaderboard. Once you have finished the course you may register a new boat and go for another try.

1.9. Weather

State of the art high resolution forecasts by [Weathertech](#) is used as the sailing environment. The resolution in both time and space varies depending on the race. The forecasts are true in the sense that we are in the simulator sailing in authentic weather. All boats sail in the wind forecasts at the 10 meter level. Usually, the client give you access to seal level atmospheric pressures also. The forecasts are typically updated once or twice per 24 hour period. Updates are fairly immediately and normally phased in during an hour or so. Note that in some races new forecasts show up in the middle of the night...

1.10. The actual sailing

The boats actual sailing is done in the central server at Sailport and NOT in the users computer. The client is only used for viewing and manipulation of your boat. Hence, you can disconnect and shut your computer down and your boat will still sail. The boats are moved forward (integrated) stepwise. The length in time between the steps varies dependent on the server workload etc but is usually kept under 30 seconds.

Routing

Races are often won or lost before the start.

The tools you need for some basic manual routing is provided in the client.

- a. There is a weather forecast slider in the bottom of the "Steer" window.
- b. The arrows and the wind overlay in the map
- c. The polar diagram
- d. The wind value (blue) in the information bar above the map.
- e. The ruler tool.

Use the forecast slider to see how the weather will develop in the coming hours. Open the polar diagram to see your speed

1.11. The chat

The chat is there to be used! Go ahead and use it along with your judgement.

1.12. Disqualification

A boat can be disqualified and a user can be banned if improper use is detected or if too offensive comments are made in the chat.

1.13. Dictionary

Port: Left side of the boat.

Starboard: Right side of the boat.

Bow: The nose of the boat.

Stern: The aft most part of the boat.

TWA: True Wind Angle (ranging from -180 to 180 degrees), i.e. the angle between the boat centerline and the incoming wind. TWA=0 means that the wind comes in straight from over the boat bow. Negative TWA's indicates wind from the port side.

TWD: True Wind Direction (ranging from 0 to 360 degrees) is the angle *from* where the wind blows. TWD=0 means wind *from* the north, TWA=90 means wind from the east etc.

TWS: True Wind Speed in either of the units meters/second (m/s) or knots (kn).

Course: The direction of the boat velocity (0 to 360 degrees) which in this game is equal to the boat heading since no water currents are present.

Distance: is in this nautical game measured in nautical miles. One nautical mile equals 1852 m.

BS: Boat Speed is measured in knots. One knot equals one nautical mile per hour.

VMG: Velocity Made Good is the velocity component parallel to the TWD. By convention, positive VMG means that you are sailing towards the wind.

Time: Is throughout the game measured with reference to Universal Time Coordinated UTC.

Performance: The percentage of boat speed you have in relation to the performance polar. You will have 100% if you haven't hit land or just made a course change, your performance will go down for some time if you have hit land.

Great circle: A great circle constitute the shortest route between two locations on the globe. In the map projection we use a great circle may appear to have a curvature, however on the globe the path is straight. See Wikipedia, [Great circle](#). In Sailonline you can choose to navigate using great circles.

Loxodrome (Rhumb line): A loxodrome, or rhumb line, is a route between two locations on the globe with the feature of having constant true compass course. See Wikipedia, [Loxodrome](#). In Sailonline you can choose to navigate using Loxodromes.

1.14. FAQs

Q: Can me and a friend "share" a boat although we do not share the same computer, or even live in the same country?

A: Yes, no problem. Just share your login details and you are all set to share the boat. Only question is - do you trust your friend?

Q: Why is it not allowed to have more than one boat?

A: We like to give all players a fair chance, multiple boats is considered cheating and therefore not allowed.

Q: Can my boat collide with other boats or the buoys?

A: No, the only thing you can collide with is land.

Q: Is "my wind" affected by the presence of nearby boats?

A: No, such effects are not included in the simulator.

Q: If i loose my internet connection while playing, can I still steer my boat and wait for the connection to reconnect?

A: No you cannot manipulate your boat while you are offline

Q: Is leeway (sideways drift) included in the game?

A: This is a tricky and somewhat philosophical question actually. As a user, you do not see any leeway and you do thus not have to account for it. Leeway is here defined as the angle between the ship longitudinal axis and the velocity vector. This, however does not imply a hydrodynamic simplification since our boats are equipped with fins/keel blades which produce the necessary side force by their non-symmetric cross sections and/or mounting angles (non-parallel to the ship longitudinal axis).

Q: Are currents and tidal effects included?

A: No, we have tried that but have chosen to leave currents out.

Q: Are effects from ocean waves on boat performance included?

A: No, mainly since reliable methods for calculating this effect are not available.

1.15. Known problems

Empty Map: When scrolling the map it some times goes blank. To minimize the problem, don't release the mouse button until you see the map. Some times you have to move the mouse a little more for the map to appear again.