GENEVA
SAILING SCHOOL

SAILING BOOK
NAVIGATION

We wish to convey the passion for sailing in a comprehensive and accessible way in order to lead you to independence in a safe, supportive and entertaining environment.

OVERVIEW

The following pages condense the essential knowledges to guide you during your sailing initiation on the lake

OUR CLASSES
GOALS

Practical goals

Introduction
Preparing the boat for sail
Tack-Jibe
Points of sail
Adjusting the sails
Mooring

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Confidence building
Man overboard

Advanced
Spinnaker
Navigation in heavy weather
Regatta
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Anchoring Docking
Damage control
Weather forecast

Advanced
Cartography
Prepare navigation
To lift
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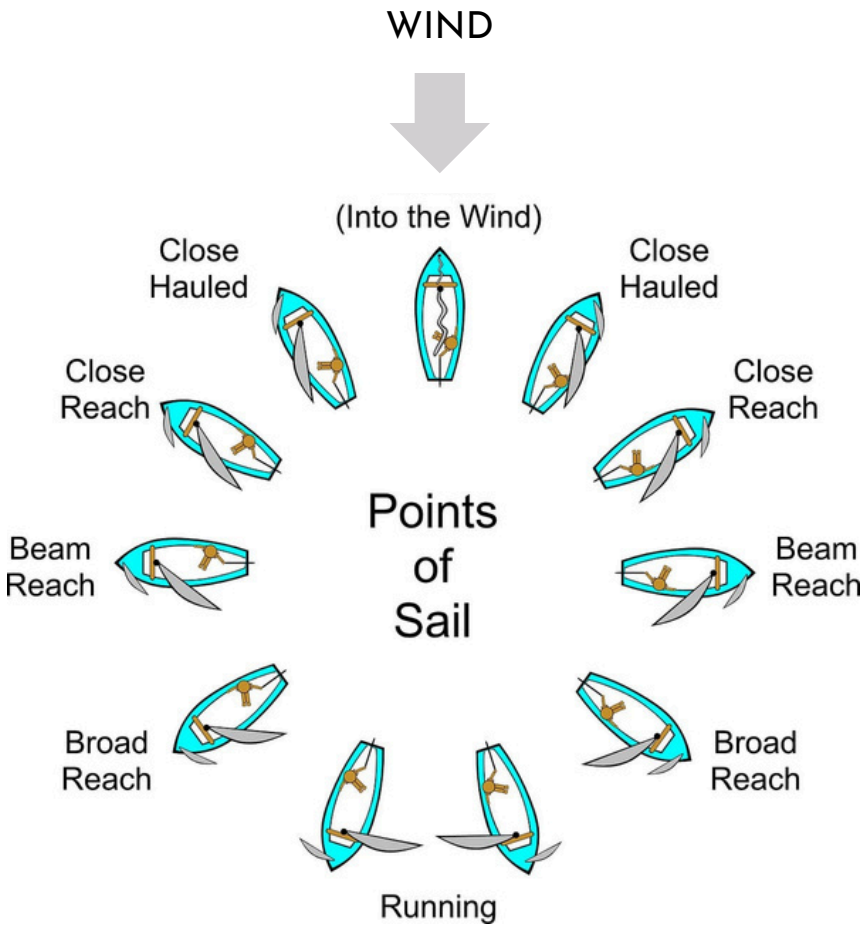
POINTS OF SAIL



Into the wind:

The boat is oriented against the wind: an area of about 90° (45° on either side of the wind source). The angle to the wind is not large enough to fill the sails, so they flap and the boat stops. This is not a stable stopping position.

Closed-hauled :

The boat sails as close to the wind as possible to the wind (around 45 to 60°) It is not a fast point of sail although we have the highest sensation of speed due to the apparent wind (the wind you feel) and the list (tilt of the boat) The sails are "pulled in" as much as possible (brought closer to the center of the boat). For more precision we differentiate the close-hauled (closest to the wind) from the close-reach (a little less close to the wind) The end of the boom is inside of the boat.

Beam-reach :

The sailboat isperpendicularto thesource of thewind (90°) The sails are halfeased (open) The end of the boom isabove the outside edge of the boat.

Broad-reach :

The boat is sailing with the wind coming from behind (about 45° from the stern). The sails areopen almost to the maximum. The end of the boom is on the outside of the boat.

Downwind:

The boat sails in the same direction as the wind, receiving it from astern. The sails are open to the maximum and can be inflated one on each side (wing-on-wing).

Terms related to points of sail

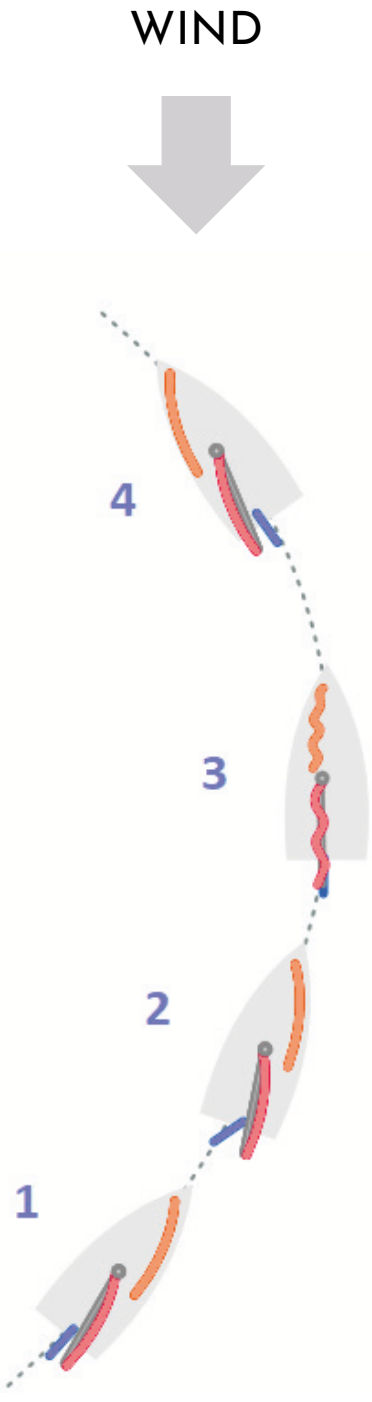
Tack :
Determines whether thewind is blowing from port (left) or starboard (right)
Starboard tack :
The wind hits the starboard side of the boat first.
Port tack :
The wind hits the port side first.

Luff up and bear away :
We always refer to the source of the wind to express a changein direction of the sailboat.
Luffingup is refer to bring the bow (front) of theboat closer to the source of the wind, which requires pulling the sails in closer to the center of the boat.
Bearing away is moving the bow of the boat away from the source of the wind, which requires easing the sails (release, open, move away from the center of the boat)

Advice: To learn how to maneuver a sailboat you must start by knowing how to orient yourself in relation to the wind. The boat can move in any direction except into the wind because the sails will flap and the boat will come to a stop. In other directions, the sails will be adjusted differently according to where the wind is coming from. The closer one sails to the source of the wind, the more tightly one must pull the sails in; conversely, the further from the wind, the more one must ease (release) the sheets (lines that control the sails). The points of sail designate the different positions of the sailboat according to its orientation with the wind. They allow you to know how to adjust the sails and to be able to communicate between members of the crew with a precise vocabulary. Each point of sail requires different sail settings that are covered below.our

MANEUVERS

Tacking

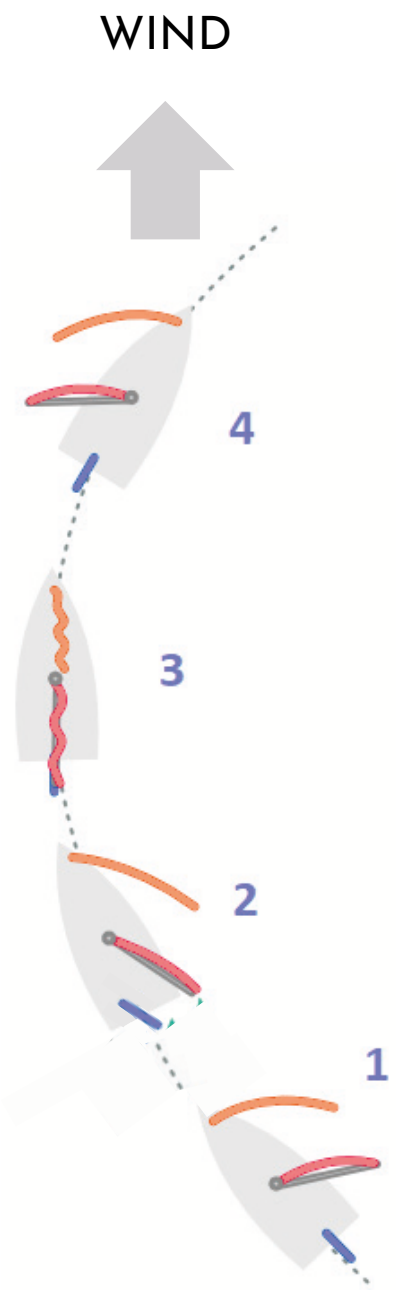


This maneuver involves making a turn of about 90° going into the wind, which allows you to change tack. It begins on a "close-hauled on a port tack" and ends "close-hauled on a starboard tack" or vice versa. This change of direction will cause the sails to change from one side of the boat to the other. The captain must announce the maneuver and wait for the response of the crew before starting. To be able to navigate in the direction the wind is blowing, you can make a series of turns which allows you to go upwind. This is the only way to go sailing in that direction.

Procedure

1. The person at the helm announces the maneuver "ready to tack ?"
The crew gets ready and responds "ready."
The person at the helm indicates that the maneuver is beginning : "tacking !"
2. The person at the helm will steer it downwind (towards the boom).
3. When the sails change sides, the helms person will change side and sit opposite (facing the front of the boat).
4. When the sails are filled, the helm must be straightened.
Before answering "ready", the crew will prepare the headsail sheets for the tack.
Once the tack has started, wait for the headsail to start flapping and then completely release the sheet which was tight (remove all turns from the winch and let it slip away without holding it in your hand, checking that it does not get stuck anywhere) Then wait for the headsail to pass to the other side of the mast before pulling completely and quickly, using the winch handle if necessary.

Jibe



This maneuver consists of a 60° turn with the wind coming from behind. It starts from close hauled on port tack to close hauled starboard tack or vice versa. This is a tricky and potentially dangerous maneuver. The boom can fly from one side of the boat to the other and possibly injure someone or damage equipment. This is why we will practice the safe jibe procedure as described below.

Procedure

1. The person at the helm announces the maneuver "ready to jibe ?"
The crew gets ready and responds "ready".

2. The person at the helm will take a landmark to stay on course as they completely pull in the mainsail.

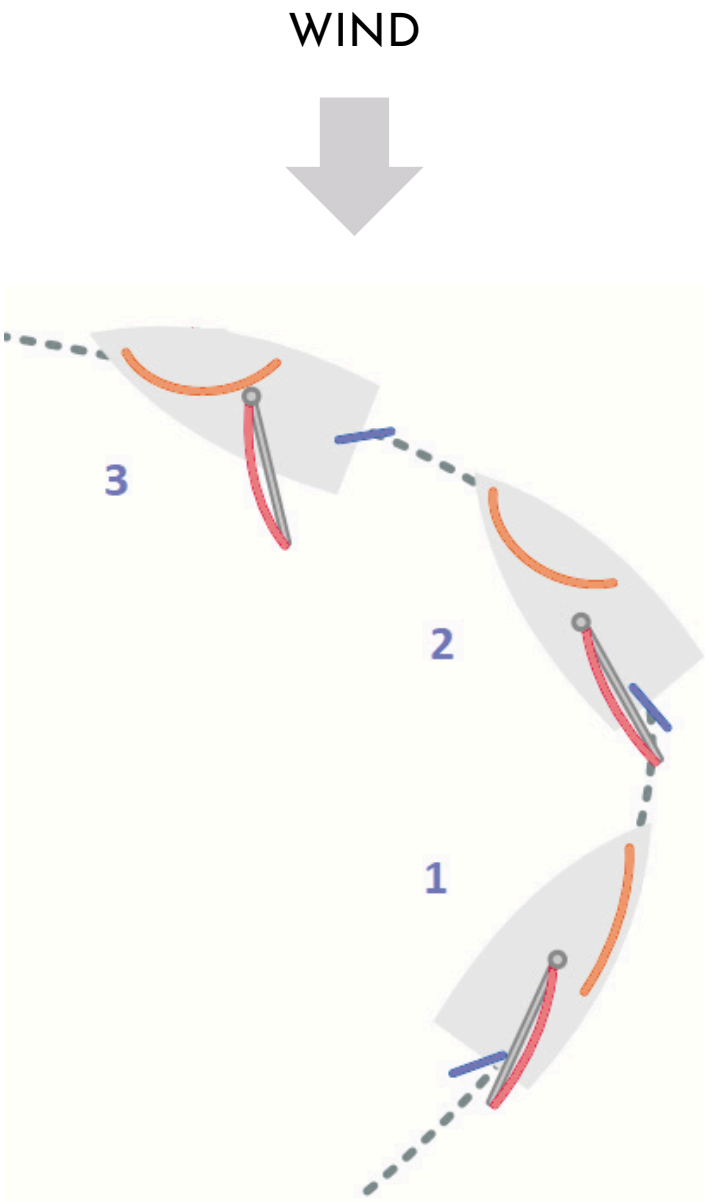
3. The person at the helm indicates that the maneuver is starting: "jibing", then slowly steers the helm upwind (opposite side of the boom), sits on the other side, observes the mainsail, and takes the sheet in hand.

4. When the mainsail fills on the other side, completely ease the mainsail and simultaneously stops turning (taking a new landmark).

Advice :
If the jibe is not done correctly and the wind is strong, you can lose control of the boat, which can be dangerous. To anticipate any problems, follow the steps above, always make a slow helm movement, which will allow you to be ready to strike the mainsail and stop turning on time. If the wind is strong, someone else should take care of the mainsail and the person atthe helm canonlyfocus on the trajectory. At downwind speeds (beam-reach and down wind) and especially before jibing, ask all persons on board to remainseated in the cockpit or cabin and not on the deck at the risk of injuring someone if the boom passes uncontrolled from side to side.

Heaving to

This maneuver serves to stop the sailboat without lowering the sails, and used to reef (reduce the sails), swim, repair the boat or recover a man overboard for example. Even if the boat
is no longer moving it is not stationary as the action of the wind causes the boat to drift in the same direction as the wind. So you need to be careful, look around not to hit another boat or run around. Be aware that when hove to you are still legally sailing (the side where the boom is located indicates the tack).



Procedure

- Navigate on close-hauled with both sails pulled as much as possible.
- Announce a tack and ask the crew not to change the headsail sideways.
- Tack gently, once the headsail inflates against the back, bring the helm to the center.
- Release the mainsail as much as possible.
- Wait a moment to break the boat inertia, then gently steer the helm downwind (on the boom side).

Advice : Turn slowly. If the boat turns at the end of the maneuver, start over slowly. If the wind is strong expect a sudden change in list (tilt) of the sailboat as the headsail in flates on the other side. If the heaving to is used for swimming always attach a visible floating object to one end connected to the boat and clearly communicate to all swimmers that the boat is in motion and that they must stay between the buoy and the boat.

Reefing

Why reefing ? Because the boat has too much sail area compared to the established or forecast wind, which can cause loss of control or material damage.

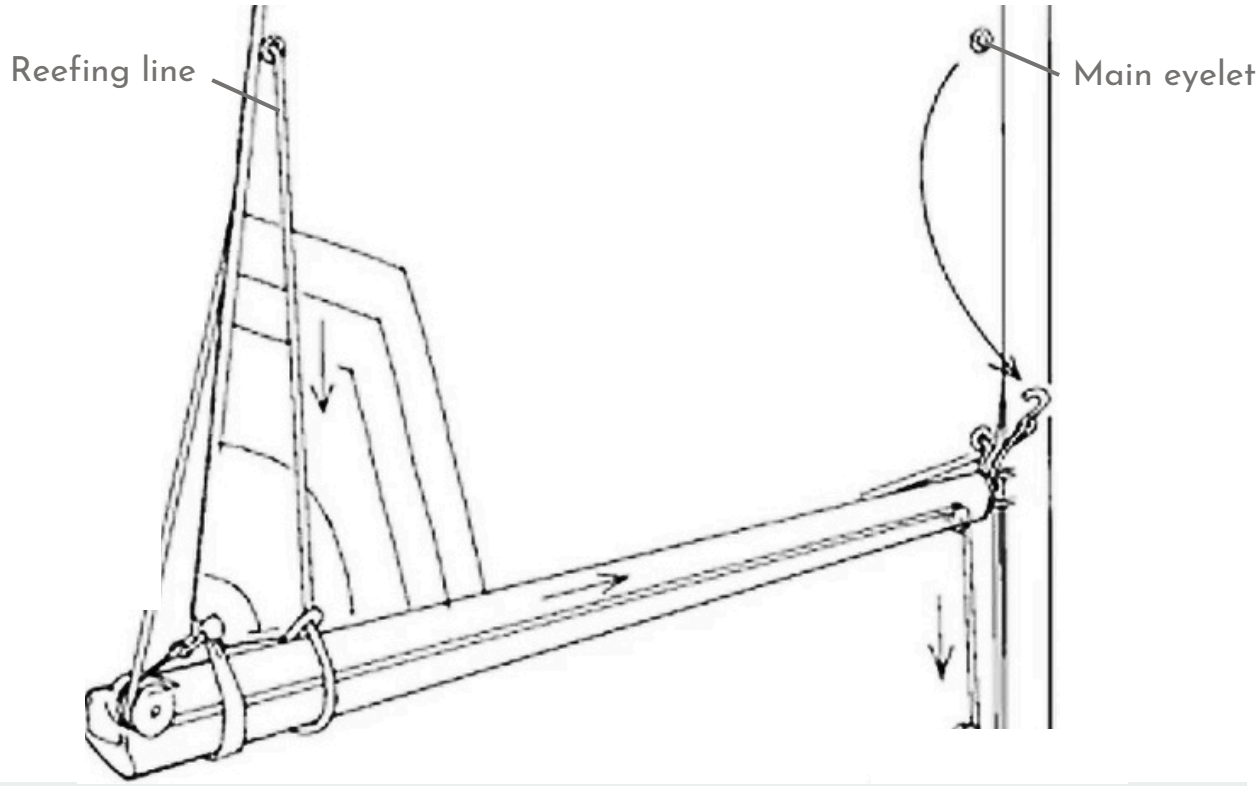
When reefing ? Ideally as an anticipatory measure, before the wind blows too hard or before leaving the port if the weather forecast is for a strong wind.ourquoi

Procedure

1. Orient yourself close-hauled or heave to	2. Ease	Ease the vang
		Ease the main sheet
		Ease the mainsail halyard

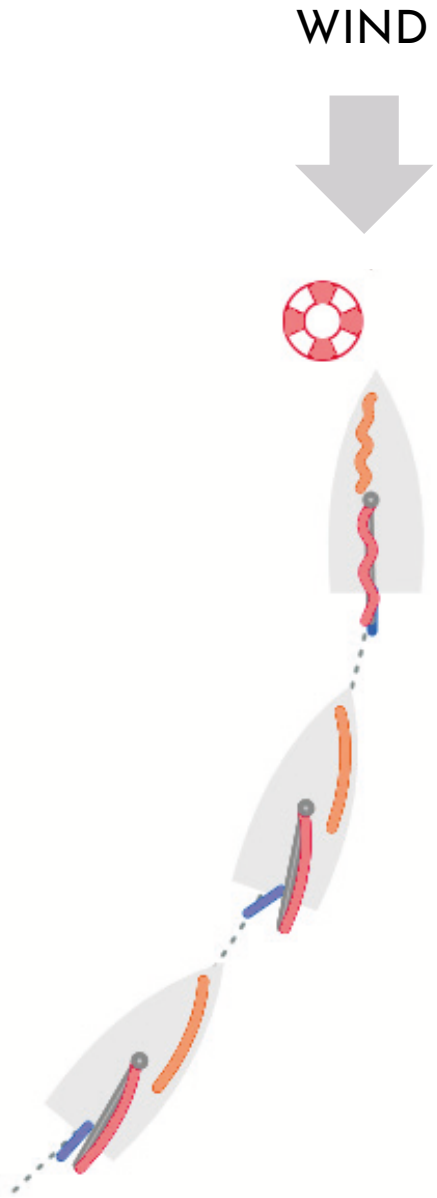
3. Hang the reef eyelet on the boom (gooseneck)	4. Pull in	Pull in the mainsail halyard
		Pull in the reef line
		Pull in the mainsheet
		Pull in the vang

5. Organize the mainsail to optimize visibility



Advice : It is very important to anticipate and clearly explain the maneuver before starting it. The boat continues to move during the reefing (forward if you are close-hauled and leeward if you are heaving) you must therefore remain attentive.

Mooring



To understand this maneuver it should be mentioned that a sailboat has no brakes. To stop the boat, you need to steer the sailboat into the wind in order to deflate the sails. Since a sailboat has high inertia, you will also need distance to brake. The goal is to get almost to a stop at the buoy so you can moor. You will need to anticipate the maneuver and prepare a mooring line a boat hook and someone ready to catch the buoy.

Procedure

The boat sails in a beam-reach, towards the buoy, estimating a leeward distance that will allow it to slow down with the sails deflated so that it can reach the target at low speed.

- Prepare to ease the sails and say "ready to ease everything".
- A little before the buoy is aligned with the wind source (look at the windvane) say "ease all".
- Turn towards the buoy and ease the sails at the same time.
- If the sailboat is equipped with a furling system, ask to furl the headsail to clear the view.
- The sailboat moves forward due to its inertia with the sails deflated.

Advice: The moment the boat stops at the buoy is temporary, as the wind will soon blow it adrift. You need to prepare the manoeuvre well, explain the procedure to the crew, prepare the mooring line and designate the person who will go forward to tie up. If the boat is coming in too fast, zigzag to slow down. If it seems to stop too soon, grab the main sheet tackle and bring the boom back to center. If you see that the boat won't reach the buoy, start again and ask to trim the sails before it comes to a complete stop and you lose control.
The buoy can be approached from any point of sail. Upwind, turn when the buoy is towards the front of the yacht. On a beam reach, turn a little before the buoy is perpendicular to the sailboat, and on a broad reach, turn when it has passed the side of the boat (reference point: a little before the windvane points at the buoy).

Man overboard

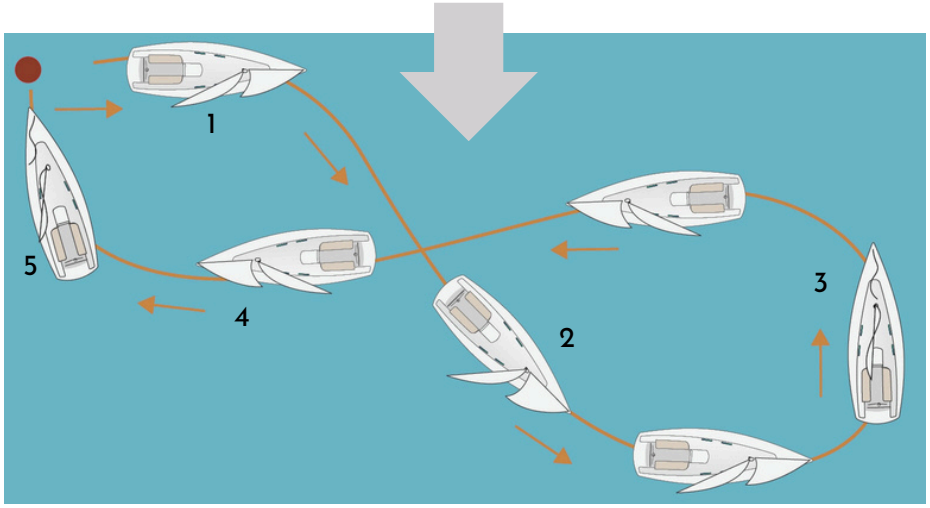
Losing a person in the water is one of the most serious occurrences in boating, that's why it's important to practice regularly, in all weather, to perform the recovery maneuver. This maneuver allows you to recover a person or an object that has fallen in the water using the sails only. A good awareness of the risks and the preparation of new team members will prevent accidents. The person at the helm must make the announcements clearly heard.

Procédure

1 The Man over board falls: say the announcements in the table below. falls: say the announcements hereafter.
2 Bear away to broad reach and ease the sails, taking care not to jibe.
3 Once the Man Overboard is at the stern of the boat, tack wide.
4 Come back to the Man Overboard at a distance of two boat lengths to leeward, asking "Ready to jibe?"
5 Shortly before the man overboard aligns with the wind, ask to ease the sails and turn in his direction, announcing "prepare to pick him up on port/starboard" (he must not pass under the bow, but must be close to the hull once the boat has stopped).

Announcements	Actions
Man over board	Stop all activity and devote yourself solely to rescue
Point at him	Designate someone to point out the person in the water throughout the manoeuvre.
Prepare the buoy	Throw or prepare to throw the buoy according to the distance to the person in the water
Bearing away Ease the sails	If the boat is already sailing offshore, continue straight ahead. Be careful not to jibe! Adjust the sails.

WIND



Advice: Depending on wind and wave conditions, maneuvering can be complicated, so regular practice is recommended. Give clear orders in a safe, steady voice and remain calm. There are several methods of maneuvering the boat (motor or heaving to).

SAFETY

Sailing, we play with powerful and unpredictable forces of Nature. The Geneva lake is ideal for learning to sail, with its irregular mountains, the winds are good for learning but can sometimes be dangerous. Safety begins with planning and anticipation. Boat and navigation preparation is essential : check the weather forecast, prepare appropriately (clothes, crew, etc.), look at the maps, find out about the possible arrival or secondary port, check the general state of the boat rigging, sails, rudder, safety equipment, anchor, bilge, start and let the engine run, check that there is enough gasoline, drinking water etc.

Life jackets

Swiss law requires that there is one 75 Newton life jacket with a collar per person on board . Wearing a life jacket is mandatory for children (adapted to their size/weight, with collar) and persons who cannot swim, as well as during storm warnings. It is also strongly recommended to wear one at night, when the wind is strong (up to 3 on the Beaufort scale), during night sailing, if the water is cold, when reefing, for persons with limited mobility or if you feel that situation requires. Opinions differ on the ideal time to put on the vests : some people wear them constantly, others put them on when there is a strong wind warning or when the conditions get complicated. Today, there are self-inflating vests that are very compact and comfortable to wear. It is strongly recommended to use this type of vests instead of the foam ones as they allow you better mobility which is important for maneuvering a sailboat with strong wind.

Weather advisory lights

On the lake there is a system of light alerts to announce the arrival of a strong wind or a storm. These are orange lights twinkling all around the lake.

The strong wind warning 40 flashes per minute :
announces the arrival of winds with gusts of up to 25-33 knots (approx. 46 to 61 km/h) Sailors are asked to be careful, to observe the evolution of the weather, to approach a port. It is not obligatory to return, but it is advisable to reduce the sails (reefs the main and change the front sail), put on the life jackets and organize the boat.

The storm warning 90 flashes per minute :
The storm warning 90 flashes per minute: announces the arrival of winds whose gusts can exceed 33 knots (more than 60 km/h) It is requested to return to the
nearest port

Warning :
The nearest port must be passable in strong winds, so it is sometimes wiser, in the main storm, to stay away from the coasts which can be a danger for the boat. Stay offshore with as few sails as possible (only the mainsail with 2 reefs) In this case, notify someone or the navigation police of this decision and give your position. If the decision is to enter a port, notify the port warden of your arrival; they can help with the maneuver. There are often mooring buoys outside the ports, which can be tied up while waiting for the storm to calm down. The right decision will always depend on the circumstances, the boat, the wind, the crew etc. Faced with a stressful situation, it is essential for the captain to remain calm to avoid panicking those on board. Speak in a firm, calm voice and give clear orders. Try not to yell beyond ensuring you are heard or show that you are stressed. If needed ask everyone to stay in the cockpit or cabin and listen to you. It is a good idea to put on everyone's life vests and explain the procedure. Trying to keep a cool head and make effective decisions with the safety of your crew first and foremost, the rest, while important, is secondary. In case of emergency it is possible to call the coast guard or the lake police who are there to deal with this kind of situation (usefull contacts at the end of the document)

Right of way

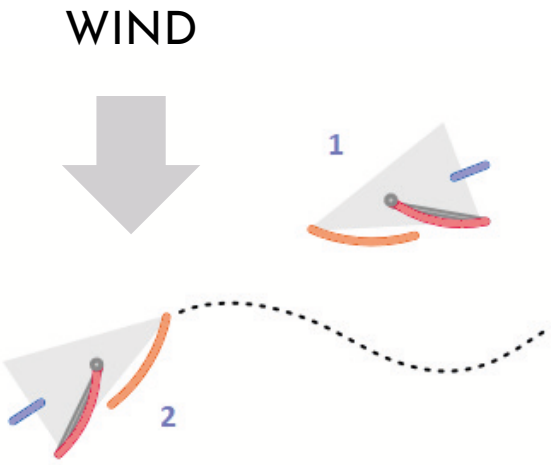
Boats that have the right of way are as follows in order :

• Vessels in regular service or other passenger vessels to which the competent authority has granted the right of way. They are signaled by a green balloon by day and a clear green light visible from all directions at nights.
• Cargo ships
• Professional fishing boats(with yellow ball)
• Sailing boats (under sail)
• Rowing boats
• Motor boats

Vessels in regular service alwayshave right of way over other priority vessels.

Between sailing boats, the one sailing on a starboard tack (1) has the right of way over the sailboats sailing on a port tack (2).

If the tack is the same, the leeward boat will have the right of way over sailboats sailing upwind.



These laws are used to avoid collisions, as rules during a regatta as well as for insurance purposes in case of an accident. However, one must avoid the collision even if they have the right of way, otherwise the responsibility will be shared.

Mandatory equipment

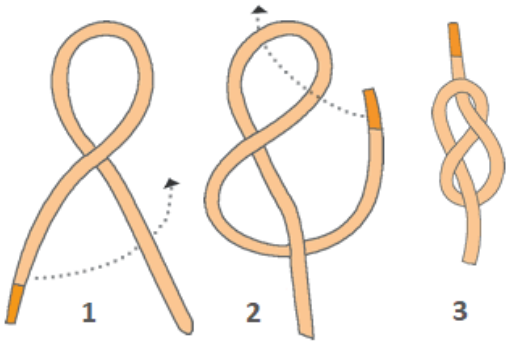
For sailing boats from 15m2 of sail surface :

• The boat's gray card, driving license and if there is an engine, the valid pollution certificate
• A valid ID
• Bucket
• An audible warning device (horn or whistle)
• A red distressflag measuring 60x60 cm
• A boat hook
• An anchor with rope or chain sufficient to ho d the boat
• Oars or paddles (if the boat can be moved by this means)
• A fire extinguisher (must be serviced every 3 years)
• A life saving appliance capable of being thrown into the water with a return line of at least 10m (75N)
• One life jacket per person on board (see life jackets)
• For children under 12 years old, an appropriately sizedlife jacket with collar can be used

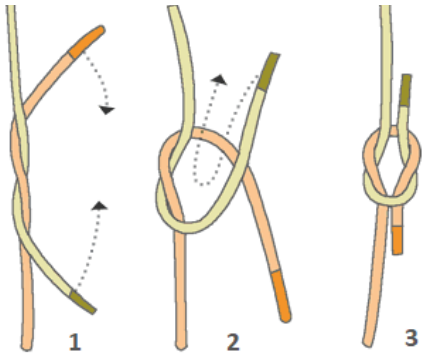
BASIC SEANMANSHIP

The knots

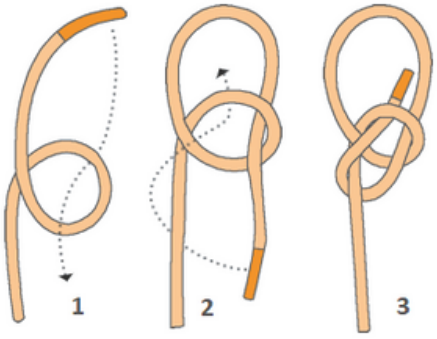
The figure-of-eight knot :
a stopper knot that is made at the end of sheets andother lines to prevent them from coming
out of the pulleys.



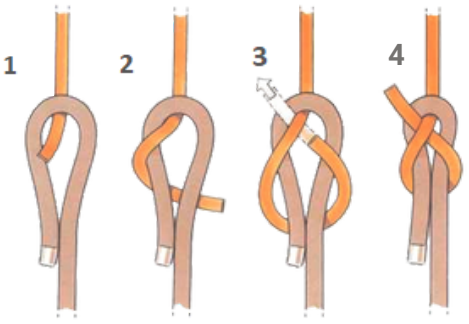
The reef knot :
s used to join two ends together and to be able to tighten them around something like a bundle or shoe laces. It is used, among otherthings, to store the part of the sail which hangs down after

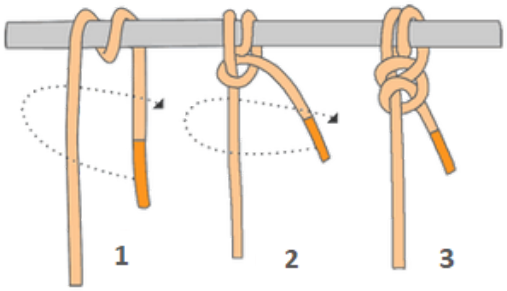


The bowline knot :
used to tie an end to something, for example the sheets to the sail. It is used a lot in nav gat on because it has the advantage of holding firmly in tension and of being able to be easily undone even after a strong tension.

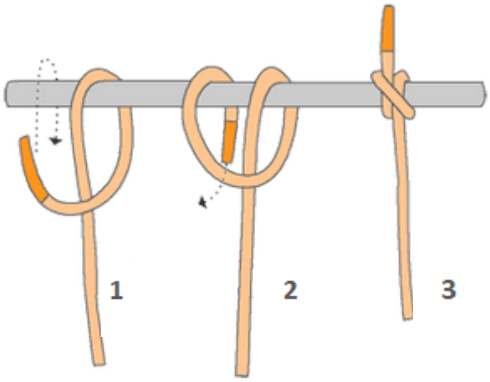


Sheetbend :
Simple or double, used to join two ends even if they have a different diameter. The double is used for even more strength.

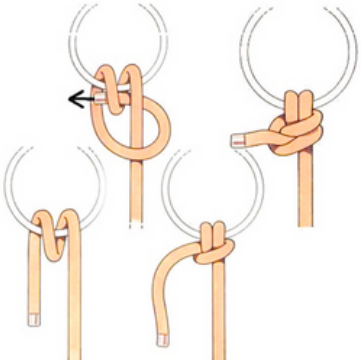




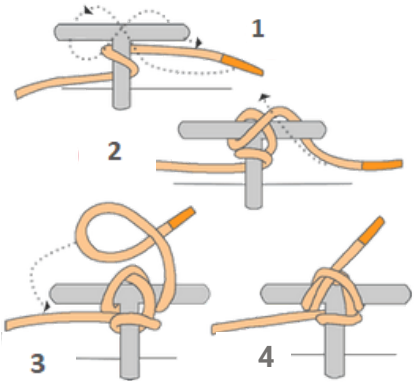
Round turn and two half-hitches :
Used for mooring. It has the advantage of being very strong and being able to be undo under tension.



Capstan knot :
Used to tie up to a post, it has the advantage of not slipping and staying at the height of the post to which it has been tied. It can also be used to attach fenders. For added security, secure the knot with two half hitches.



Anchor knot :
used to tie an end to something permanent. After a strong tension, it will no longer be possible to undo it.



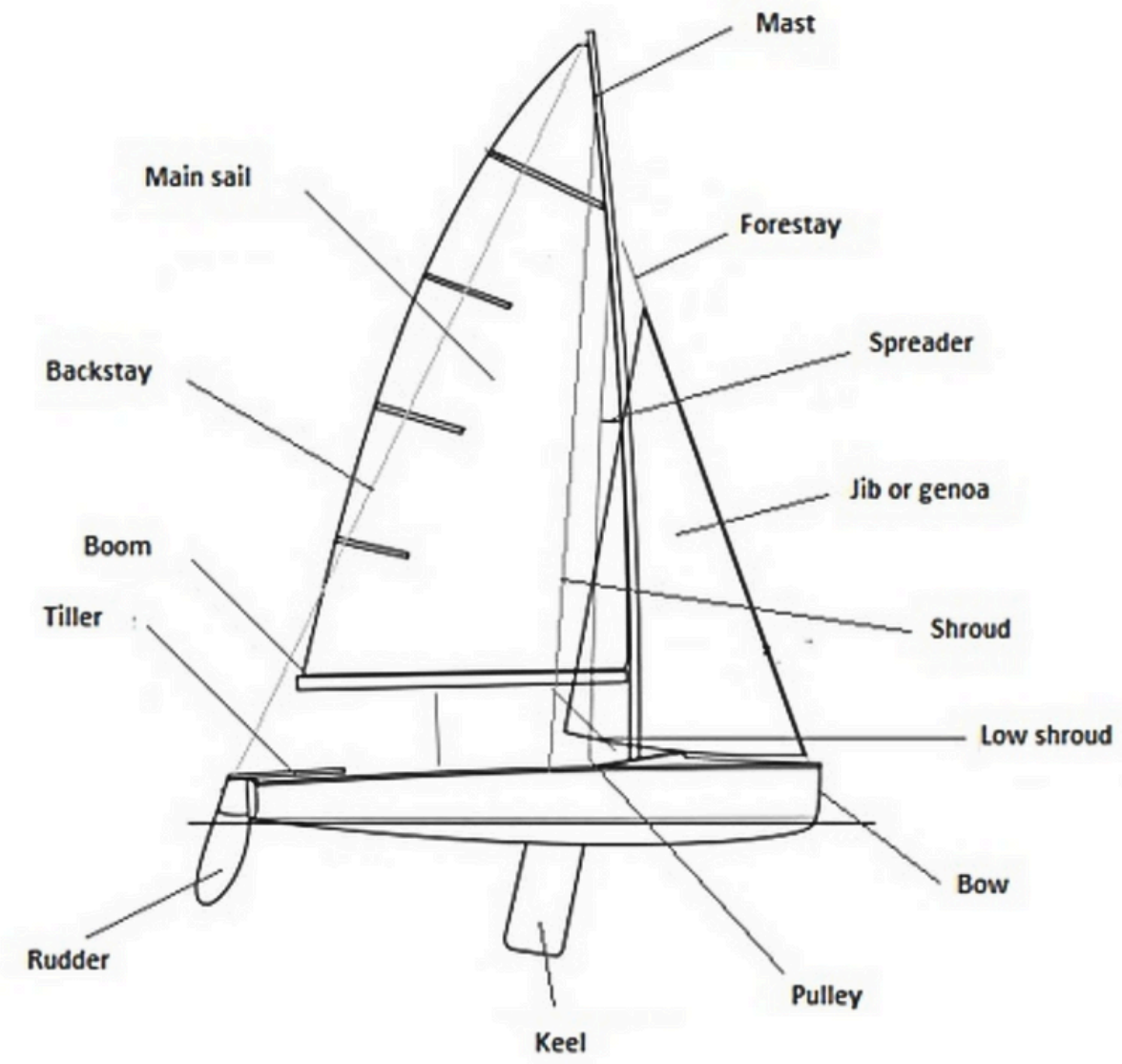
The cleat hitch :
used to tie up around cleats on docks or boats. It has the advantage of being secure and easy to undo with or without tension

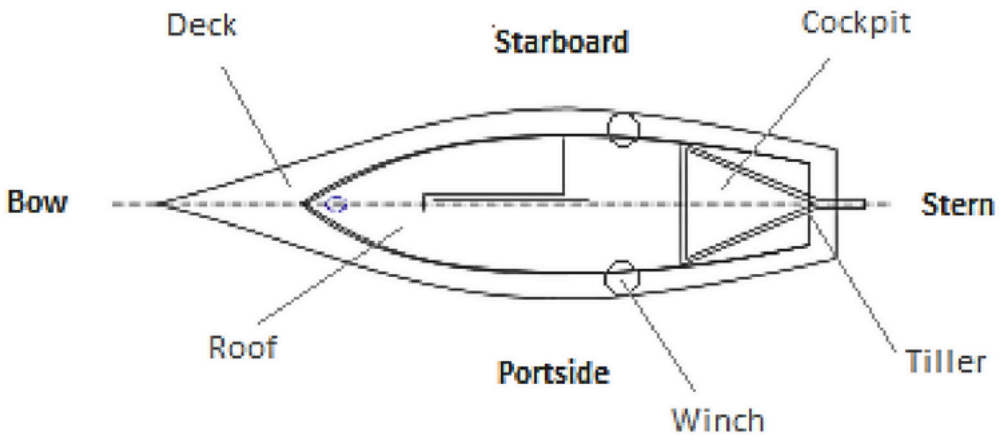
There are hundreds of knots, and they are useful in many areas.
It's important to know how to tie the above knots quickly and in all directions.
You'll also need to learn in which situations to use which knot.

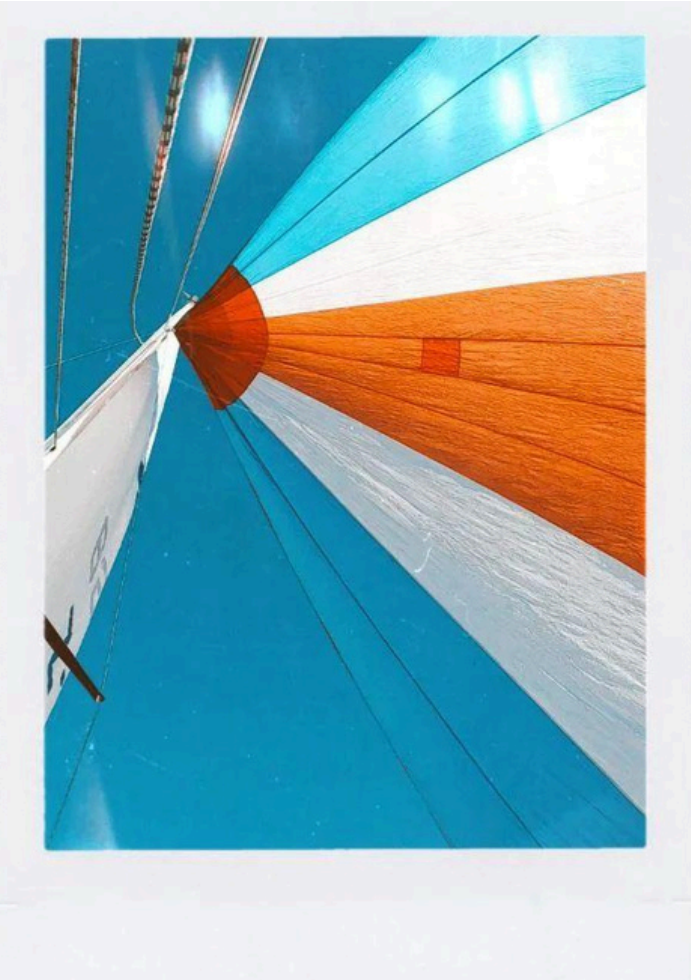
sources, illustrations nœuds : https://www.lavoilepourlesnuls.com/theorie/

GLOSSARY

SAILBOAT







Nautical terms

Apparent wind : the wind felt while sailing (the result of the wind caused by the speed of the boAat and the true wind)

Backstay : cable that keeps the mast fixed from the back of the boat.

Batten : rods sliding inside the sail to give it a better shape.

Bearing away : turning to move the bow of the boat away from the source of the wind, which requires easing the sails.

Boom : large horizontal bar located towards the base of the mast to support and adjust the mainsail.

Bow : front of a boat.

Cleat : piece of fittings used to fix a mooring line. There are various kinds.

Ease : release the tension on the sheets to open a sail.

Forestay : cable that keeps the mast fixed to the front of the boat.

Gust : sudden increase of wind strength.

Halyard : line passed through the top of the mast used to hoist a sail.

Helm (tiller or wheel) : part used to rotate the rudder and therefore to steer the boat.

Hull : the structure of the boat that is used to make it float because it traps air inside. Boats can have a monohull or several hulls, (multihulls - 2: catamaran or 3: trimaran)

Keel : submerged and longitudinal part of a boat. It is located under the boattowards its center and serves as a balance to stabilize the sailboat so that it does not lie down underthe effect of the pressure of the wind.

Line : proper name for boat ropes.

Luffing up : turn to bring the bow of the boat closer to the source of the wind.

Mainsail : sail located behind the mast and above the boom.

Mainsheet block : round trip of a line through pulleys to increase the force.

Mast : post held in vertical position by the shrouds, stays and backstay and used to carry the sails.

Mooring line : rope used to attach a boat to a fixed point (quay, buoy, other ship, etc.)

Pulley : small wheel that guides a line and is used to transmit movement.

Rigging : fixed and mobile parts used for maneuvering a boat under sail.

Rope : line used for rigging and maneuvering a boat. Each line has a name so as not to confuse them.

Rudder : submerged part of the rudder used to change direction, located at the rear of the boat.

Shackle : horseshoe-shaped fitting, closed by a pin, used to attach a rope to a sail or other.

Sheet : rope attached to the sails returning to the cockpit used to adjust the sails.

Sheet in : pull on the sheets to close the sails.

Shroud : cables that keep the mast fixed to the sides of the boat.

Spreader : horizontal supports perpendicular to the mast which separate the shrouds from it.

Stern : back of a boat.

Tack : determines whether the wind is blow ng from port or starboard. Not to be confused with the point of wind.

Tell tales : strands of wool (or other light strands) attached to both sides of the sails, serving as a reference point for precise adjustment of the sails. If they are all in a horizontal position, the sail is properly adjusted.

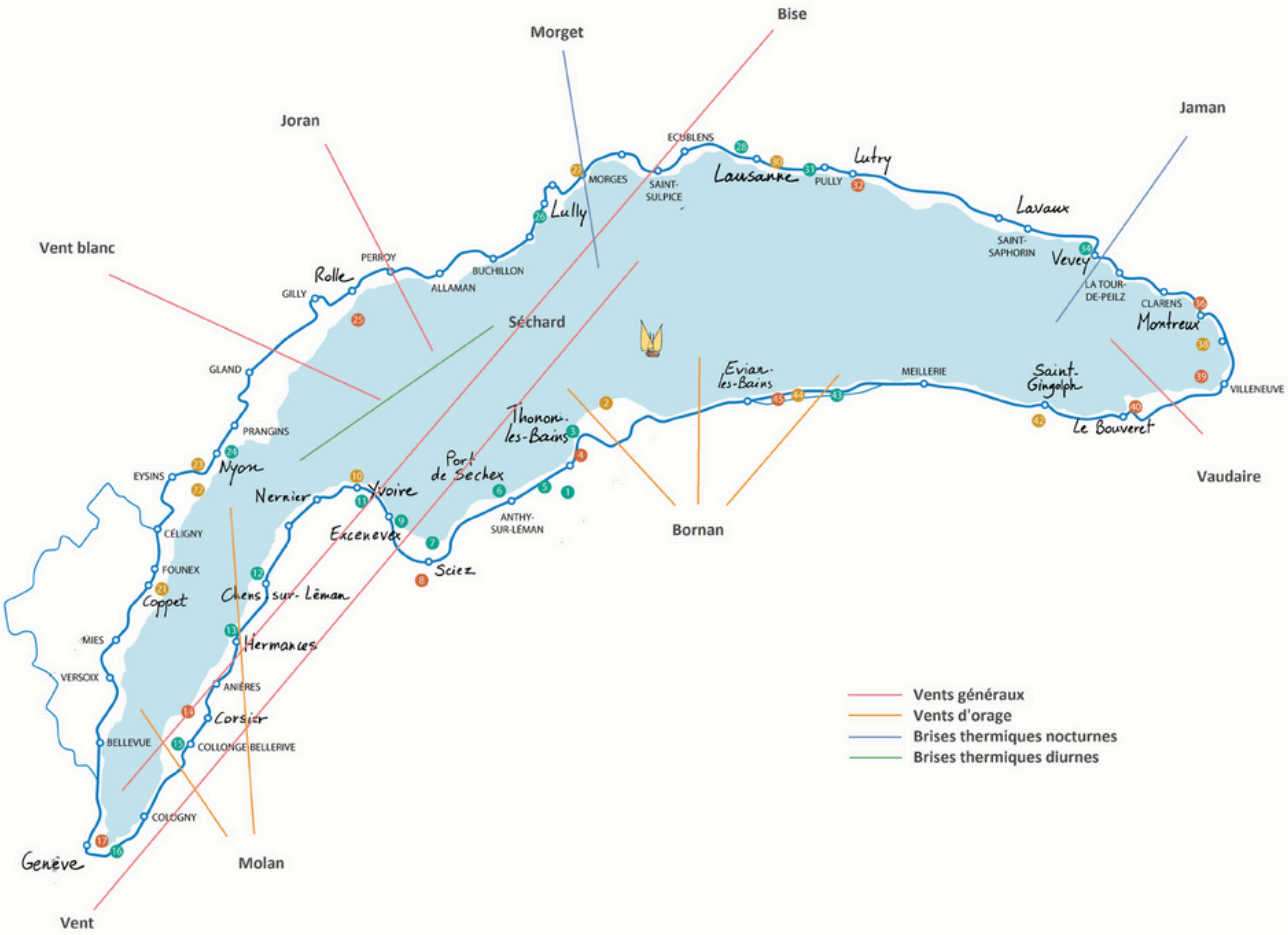
Tiller extension : articulated rod used to hold the tiller from a distance.

True wind : wind felt without the speed of the boat.

Winch : vertical shaft cylinder equipped with a crank around which a rope is wound to increase the pulling force when pulling or hoisting.

THE WINDS OF LÉMAN LAKE

Sandwiched between the Alps and the Jura mountains, Lake Geneva is swept by general winds, storm winds and thermal breezes. Well-known to sailors, these Lake Geneva airs change with the seasons and over the course of a day.



The winds blowing on Lake Geneva are particularly numerous, numbering several dozen and divided into three main categories: general winds such as the Bise or the West wind. Storm winds such as the Vaudaire, Joran or Bornan and breezes or thermal winds such as the Rebat or Séchard.

THE SCALE OF BEAUFORT

Initially, the Beaufort degree corresponded to a sea state associated with a "range" of average wind speed.
"range" of average wind speed. Even if today this speed can be measured with good precision using an anemometer, it is still convenient for navigation to estimate this speed simply by observing the effects of the wind on the surface of the water.

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0 Their is no windthe sea is smooth and there are no waves
1 The waves are 0.1m high
2 Short waves up to 0.2m are visible
3 Small waves of 0,6m are formed
4 The waves are getting longer and are 1m long
5 Waves are longer and measure 2m
6 Blades with white foam and waves of 3m
7 Breaking waves with foam trails and waves of 4m
8 Breakers with foam trails and 5,5m waves
9 Breaking waves with 7m high rollers
10 Very big waves and rollers up to 9m
11 Very high blades and waves up to 11,5m
12 Blades like mountains and waves of more than 13m

Beaufort	Description	Knots		km/h	
		from	*to*	*from*	*to*
0	Calm	0	1	0	1
1	Very light breeze	1	3	1	5
2	Light breeze	4	6	6	11
3	Small breeze	7	10	12	19
4	Nice breeze	11	16	20	28
5	Good breeze	17	21	29	38
6	Fresh wind	22	27	39	49
7	Fresh wind	28	33	50	61
8	Gust of wind	34	40	62	74
9	Strong gust of wind	41	47	75	88
10	Storm	48	55	89	102
11	Heavy storm	56	63	103	117
12	Hurricane	64	>	118	>

Our "Responsible Sailing" charter

Respect for others
We are committed to following the principles of the "Responsible Sailing" charter, which guides our actions as captains and crew. We recognize that sailing is not just about the safety of our boat, but also about respect for our crew, the environment and the ecosystem as a whole.

Responsibility for safety
As captains, we take responsibility for the safety of our crew and our boat. This means anticipating the weather, regularly checking equipment and boat condition, and taking into account the skill level of our crew to reduce the risk of accidents.

Respect for the crew
We treat every member of our crew with respect and consideration, valuing diversity and inclusion on board our boat. We encourage open communication, educational transmission and teamwork to ensure a safe and enjoyable sailing experience for the entire crew. This approach ensures an atmosphere of trust, mutual respect and safety on board.

Respect for the environment
Lake Geneva is not an infinite resource, and every action has an impact on its ecosystem. We are therefore committed to minimizing our impact on it by avoiding any dumping of waste and pollutants, and by respecting lake protection laws. We choose environmentally-friendly alternatives, for example by promoting the use of biodegradable sun creams and avoiding single-use packaging and plastics on board. By regularly maintaining our boat, we avoid micro-particles from wear and tear on our equipment (tarpaulins, buoys, ropes, etc.). The lake is a small space where many people rub shoulders. We take into account the noise and waves generated by our boats. We also respect the distances between boats and the shore.

Together, by following the principles of this charter, we can enjoy our passion for sailing to the full, while preserving the beauty and diversity of our lake for future generations.

Geneva Sailing School
Sailing School

GENEVA
SAILING SCHOOL

WELCOME ABOARD !

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