



ARC Baltic AT SEA

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Rally Communications

Position Reporting

At the start of the Rally, each yacht will be provided with a YB3 satellite tracking device. These compact self-contained units are easy to fit and do not require any external power. YB3 devices must be located on deck and able to 'see' the sky. Once activated, the units send an automated position report at regular intervals. Boat positions are then displayed on the Rally website.



YB3 Satellite Tracking Device

The tracker hire and position polling data costs are included in the entry fee. Owners should ensure that their boat insurance covers the replacement cost of the tracker units (£780) in the event of a tracker being lost or damaged at sea.

If a boat is not present in the last Rally destination, the owner will be liable for the safe return of the YB tracker.

Contacting Rally Control

Communication with Rally Control is via email or WhatsApp. Check out the Preparations section of this handbook to see options about how to access the internet while at sea.

If you have restricted access on your email accounts ensure you add the Rally Control email address to the approved senders list. The Rally Control email address will be provided at rally check-in.

Daily Communication Nets

There are two intra-yacht communications nets which operate each day while the fleet is at sea, enabling yachts to stay in contact during the Rally, pass on news, position reports and co-ordinate emergency assistance. It also enables yacht-to-yacht social contact, with various fun activities developed each year.

The main net is on WhatsApp, which allows boats with suitable satcoms systems to have a 'roll call', swap weather information, chat and share photos.

There may be an SSB (HF) radio net co-ordinated within the fleet by volunteers who act as hosts who switch frequencies as the fleet spreads out, run the roll-call, invite relays and rebroadcast the daily weather forecast. Note: The SSB radio net is subject to sufficient demand.

Communicating with other participants of the Rally is sociable, but also adds a further level of safety to your cruising with sailors looking out for each other during voyages.



Finnish mooring area

Passage Notes

Sailing in the Baltic is quite different from sailing in waters such as the Atlantic or North Sea, mainly due to the absence of tide, the low salinity of the water and the shallow draft in many areas of the Baltic. Additionally, in the Northern Baltic, the Finnish and Swedish archipelagos provide a separate ecosystem with its unique weather and fauna.

The absence of tides makes the currents very weak and often only about 1/4 to 1/2 a knot. There are some exceptions in certain areas where weather systems can induce some weak or moderate currents. The Sound between Sweden and Denmark, where the Baltic exists into the North Sea through Kattegat and Skegerrak can experience NW and SE currents influenced by weather systems. Similarly, the narrow passage in the Öland Sound (between Sweden and the island of Öland) can have northerly and southerly currents in its most narrow part close to Kalmar depending on the local weather station.

In the summer, the weather in the Baltic is often influenced by eastward moving low pressures, however, wind strengths in the Baltic are generally weaker compared to the North Sea. On occasions, high pressure systems give settled weather and provide good conditions for sea and land breezes along the coastlines.

The salinity of the Baltic is less than in the oceans and decreases the further east and north one travels. In the Northern Gulf of Bothnia, the water is no longer salty and in the Northern Baltic the salinity averages between 0.5-1%, whilst the oceans are usually 3.5%. Obviously this affects maritime fauna, but also cruisers will find an unexpected freshness compared to sailing on the oceans. For example, salt will not crystallize so easily in rough weather and many Baltic sailors will actually wash their boat with seawater.

The Baltic is a relatively shallow sea and there is only one area southeast of Stockholm (Landsortsdjupet) where depths are significant (400M).



Cruising in Scandinavia

The shallow water and the reduced fetch make seas lower and shorter than in the Atlantic and North Sea. Often, there is very little swell and with the absence of tidal streams, this makes Baltic sailing more comfortable than oceans. However, the shallow depth also gives good conditions for constructing wind farms which can be a hazard for boats. Sailors should carefully check the most recent developments. In particular, in the vicinity of Plantagenetgrund, NW of Rügen in the Danish waters of Kalmsarsund.



Socialising ashore

Sailing in the pristine waters of the Finnish and Swedish archipelagos is a unique experience encompassing not only sailing, but the opportunity to experience nature, wildlife and local culture. In addition, sailing among the many series of islands is different in character compared to the open sea. The wind force is lower and obviously waves are reduced in size. Frequently, winds die in the evening and nights are calm until the mornings.

Channels in the Baltic archipelagos are winding and navigators must be constantly alert not to lose track of the yacht's position and even a few minutes relaxation can result in hitting a rock. Main channels are very well surveyed and official paper charts are of high quality. Comparisons between electronic charts and paper charts have shown some discrepancies, but they generally have good accuracy. Navigators are advised to keep their charts and plotters in the cockpit rather than at the chart table to facilitate navigation when sailing in the archipelagos.

Weather

The Baltic extends from the east coast of Denmark, eastwards, although this area is sub-divided into more local names and is done so for the purpose of weather forecasts. The weather can be quite different as the more westerly areas attract the disturbed westerly pattern of the maritime climate, whilst the further east one goes, the more landlocked the sea is, and the weather has a more continental feel. Even though landlocked, one of the worst maritime disasters of recent years happened in a storm in late September 1994 when the ferry Estonia sank with a loss of 852 lives.

The Baltic is a large inland sea and as such it is influenced by a more continental climate than the British Isles. This means it has colder winters and generally warmer summers, however it can be affected by depressions of the North Atlantic crossing Denmark and passing over the Baltic.

With a number of rivers feeding fresh water into the Baltic, and a narrow entrance to the North Sea, the water tends to be considerably less salty than the Atlantic Ocean.

The seawater warms quickly in the spring and will reach 15-18°C by July and August (comparable to the English Channel). Over the open water, daytime temperatures will tend to be similar to the seawater but it will often be as high as the mid 20's or as high as 30°C on land. It is considered to be a good cruising area although the season is short and offers the unique benefit of long days throughout the summer.

With the wide spread north to south, the Baltic is under a number of influences. Firstly, all times when the Azores high is pushed south, Atlantic depressions will pass through the area, it is more likely depressions will form south of Norway in the Skagerrak. This is a likely area of cyclogenesis (where low pressure systems form) and with the mountains of Norway to the north, the geography helps to create an initial lowering of pressure.

Once formed, these lows will pass through the Baltic being typical cyclonic conditions. When conditions are right they will often form a series of

lows all linked together giving a period of unsettled weather. However, at other times, high pressure can dominate for relatively long periods and is termed the 'Scandinavian High'.

Sailing in the Baltic can be typified as being lighter wind conditions than the UK and often a little too light, but it is often warm and sunny and little like the UK conditions that can be punctuated with low pressure systems. Average wind speeds tend to ease the further east you travel and tidal range is very low.

Fog can be a problem when sailing in the Baltic during the spring, with water still cold from the winter and air temperatures increasing. However, during the summer, this is unlikely to be an issue.

Although quite far north, sea breezes are often experienced in reasonably settled weather. However, with high pressures situated over the area, a sea breeze will struggle to develop as there is little way for convection to occur. A good 'rule of thumb' is that unless cumulous clouds form over the land, there is little chance of a sea breeze forming. Furthermore, overdevelopment of these clouds into thunderstorms will also stop a sea breeze from forming. Night time land breezes are generally weak and unreliable.



ARC Baltic fleet



Beach activities in Gotska Sandön

Weather Forecast Providers

With coastal 4G/5G services and Starlink and other fast internet services, there is generally good access to weather information when sailing in the Baltic. Most countries provide good weather forecast information and advice.

Local Weather Forecasters

German Met Service

dwd.de/EN/Home/home_node.html

Danish Meteorological Institute

dmi.dk/products-in-english

Swedish Meteorological and Hydrological Institute

smhi.se/en/weather

Estonian Environment Agency

ilmateenistus.ee/ilm/prognoosid/4-oopaeva-prognoos/?lang=en

Finnish Meteorological Institute

en.ilmatieteenlaitos.fi/weather-and-sea

Navtex

On 518 kHz will work to around 270NM from shore.

HF SITOR (RadioTelex)

RadioTelex (RTTY) is a text based system transmitted via HF radio and is similar to Navtex but with a far greater range.

SSB Voice Forecasts

Lyngby Radio: 2586 kHz (Transmitter: Rønne) - English: 01:33, 05:33, 09:33, 13:33, 17:33, 21:33 (UTC)

SSB Radio Nets

Maritime Mobile Net (MMN)	MHz	Time UTC
Worldwide Weather Net	21.303	13:00
UK MMN	14.303	08:00/18:00
INTERMAR (German MMN)	14.313	08:00/16:30
Maritime Mobile Service Network	14.300	17:00-02:00
Stockholm Radio	2.733	22:00 02:00 06:00

Weather Fax

Germany Hamburg (DDH and DDK) 3855, 7880, 13882.5 kHz weatherfax.com/ddh3-ddk6-hamburg

RTTY (Radioteletype): DWD broadcasts 5-day forecasts for marine/shipping (4583, 7646, 10100.8 kHz).

When receiving weatherfax via SSB, use USB mode and tune 1.9kHz lower (eg for 3855kHz tune to 3853.1kHz).

GRIB Files

Free GRIB files with viewers or for overlay on an electronic chart:

Zygrib

zygrib.org

Saildocs

saildocs.com

Subscription GRIB services include:

Theyr

theyr.com

Most electronic charting systems will allow GRIB files to be displayed on the charts.



ARC Baltic sailors arrive in Helsinki

ARC Baltic at Sea Rally Handbook



App based Weather Forecast Providers

There are a number of different app based services, with the best charging a subscription fee.

Predict Wind	predictwind.com
SailGrib	sailgrib.com
Gribview	theyr.com
Squid	squid-sailing.com
Windy	windy.app

Free Weather Websites

weather.mailasail.com Lots of information and links to free downloads, including GRIB data. Includes information from Frank Singleton (Frank's Weather) and Chris Tibbs.

weathercharts.org links to world weather forecast information, satellite images etc.

passageweather.com free forecasts for sea areas worldwide, based on a variety of sources.

ogimet.com Weather maps, data forecasts and directory of information for global weather. In Spanish and English.

GPS Jamming in the Baltic Sea

In the Baltic region, reports of disrupted navigation signals have been linked primarily to geopolitical tensions and has become an increasingly visible issue in recent years, raising concerns for maritime safety.

An overview of the current level of GPS interference can be found on the website: gpsjam.org/

GPS (Global Positioning System) signals are relatively weak by the time they reach Earth, which makes them vulnerable to interference - both accidental and intentional.

GPS jamming in the Baltic Sea is not just a technical issue but a strategic one. This emphasises the need for robust navigation solutions with redundancy.

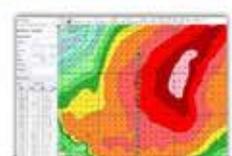
We recommend updated charts over the area we are cruising in. A list of recommended charts can be found at the beginning of the Local Information section in this handbook.



"Oceans of Experience"



Voyage Planner



SeaWeather OnBoard



Weather Meteogram



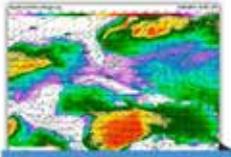
Visit this link for your 15 day trial and forecasts for your event!
www.SeaWeather.net/worldcruising

Any upcoming offshore trips? Participating in a Rally?
WRI wants to join your crew!

- We have Meteorologists available 24/7 with decades of experience
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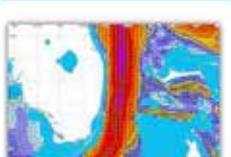
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Hi-Res Winds & Seas Chart



SeaWeather Mobile App



Currents Chart

www.SeaWeather.net www.wriwx.com Email: wri@wriwx.com Phone 1.518.798.1110

Mooring in Marinas

Mooring techniques in marinas across the Baltic region often differ from the traditional pontoon system found elsewhere in the World. It is common not to moor alongside a pontoon, but rather 'bow to' a jetty, with the stern of the vessel secured via a buoy or vertical pole.

Box Berths

Box Berths require a crew to steer between two vertically standing poles, while slipping lines connected to the midships over the top of the poles as the vessel glides past. A bow line is then added to the main jetty and by adding tension to both sets of lines, the boat will be secured within the box berth.



Box Berths. Credit: boats.net

Stern Buoy

Mooring via the stern buoy system requires a similar approach to the box berth system. Vessels are required to pass a small buoy as they approach the dock at a perpendicular angle. Crews will attach a stern line to this buoy, followed by attaching a bow line to the dock. Tension applied to both lines will secure the boat in place. Note: It is advised to put fenders in place on approach, as you will likely be entering a berth with yachts on either side. In addition, it is possible that the stern buoy will be up to 20M from the dock. It is important that the stern line is paid out slowly to ensure that it does not get tangled in the propeller.



Stern Buoy berths in Visby Gästhavn. Credit: Per Bjorkdahl

Y Berths

From a visual standpoint, Y Berths may look similar to the berths found in any other marina, with fingers protruding perpendicular to the main walkway. However, these fingers are not designed to support a human's bodyweight and consist of a light metal pole attached to a small buoy.

Driving into the berth, there will be metallic loops located on top of the buoys. Similarly to box berths, the crew should slip a line through each of these loops as the boat moves into the berth, followed by attaching a bow line to the main pontoon. We recommend that you attach fenders while doing this, as a cross wind may blow you off course.



Y Berths. Credit: Finland Travel Info

Additional Mooring Equipment

If you are planning on mooring bows to the main dock or walkway, it may be advisable to purchase a boarding ladder which can be mounted to the pulpit. This helps to combat the challenges of jumping to the dock and returning to your boat. It is possible to berth your vessel 'stern to' the dock, however it is much more common in Scandinavia to moor your vessel 'bow to' the dock and one should be mindful of depth if reversing into a berth.



Boarding ladder for the bow

Independent Cruising in Scandinavia

ARC Baltic has periods of independent cruising which allows sailors to explore the beauty of the Swedish and Finnish archipelagos. The untouched beauty of these destinations sets them apart as particularly special places to cruise.

Anchoring in the Archipelagos

In destinations like the Åland Islands, it is common to moor your vessel against the rock faces. This style of mooring is similar to 'mediterranean anchoring' and requires the crew to set a stern anchor 2-3 boat lengths from the shore. Following this, further chain should be released from the stern anchor at the same time as the vessel is driven forward to drop a crew member ashore who is holding a bow line.

Once that crew member is safely ashore, they should look for a natural feature such as a tree or a strong protruding rock to secure the line to. Adding tension to the anchor and bow line will ensure the vessel stays in a stationary position close to, but not touching, the rock face.

More detailed advice about this type of anchoring will be discussed in the operations briefing of the Rally and the World Cruising Club team will be on hand to deliver advice.



Wild anchoring in Scandinavia

Additional Anchoring Equipment

In many of the well known anchorage locations across Scandinavia, there is an abundance of places where you can make fast the bow line. However, in certain locations you may struggle to find a natural point to tie off. We recommend that you carry a set of rock wedges which can be hammered into the rockface. Check out:

biltema.se/en-se/boat/mooring/rock-wedges-and-sledgehammers/



Rock Wedges

For anchoring against a rock face, we also recommend that you carry a boarding ladder for the bow similar to that pictured on page 7. While it is possible to anchor 'stern to' against the rock face, it is much more common to anchor 'bow to' against the rock face. Owning a boarding ladder will allow you the flexibility to moor in a greater number of anchorages in a wider range of wind conditions.



Friendly and Fun Competition

Whilst fun competition is part of other World Cruising Club events, boats sailing in ARC Baltic have been placed in the Open Division, meaning no competition will take place.

However, depending on the weather and passage conditions, there may be opportunities for fun competition during some legs of the Rally, especially if desired by many of the fleet. If this fun competition takes place, it will be delivered for monohulls in a 'Cruising Division'. The Rally organisers will use sailing instructions, a World Cruising Club time correction factor for each boat, and a penalty for any motoring which takes place, to form the competition.

Further information will be provided at the Skippers Briefing before any leg where fun competition is offered, but below are some explanations of the concepts that will be involved.

Boats are given a World Cruising Club Time Correction Factor (TCF) or handicap prior to the start. This allows reasonable competition between similar sized boats, makes and models, of varying ages.

The rating is based on boat information given by skippers recorded on the Boat Information page in the members' area. The TCF is calculated using the normal parameters of yacht handicapping, including: length overall, waterline length, displacement, beam, draft, sail measurements and an allowance for age.

World Cruising Club Time Correction Factor (TCF)

Your TCF is the number used to adjust your elapsed time (total time taken for the crossing) to enable all yachts to compete on a fairer basis.

For example, a boat with a TCF of 0.995 would have its elapsed time reduced by this factor, while a boat with a TCF greater than 1 would have the elapsed time increased.

Participants should remember that the competition is for fun and enjoyment. A level of sportsmanship and honesty is expected from skippers in accurately providing yacht measurement details and in reporting the number of engine hours used for propulsion.

Changes to World Cruising Club TCF

World Cruising Club TCFs are calculated based on the information provided by skippers. Provisional TCFs are published prior to the Skippers' Briefing. Details of how to request a ratings review will also be issued at this time.

Corrected Time

The following formula is used to calculate Corrected Time (CT):

Corrected Time

$$CT = [\text{Elapsed Time} + (\text{Engine Hours} \times \text{Motoring Factor})] \times \text{WCC TCF}$$

Elapsed Time

The elapsed time is the total time taken from start to finish, in days, hours, minutes and seconds.

Engine Hours and Motoring Factor

In the cruising division boats are allowed to motor for a limited distance, although use of the engine is penalised. **Motoring is classed as the engine running with the gear lever engaged in 'forward', with the shaft(s) and propeller(s) turning.**

Boats must maintain a full and proper log of daily engine hours used for propulsion during the crossing. These must be submitted together with a declaration for the total hours motored on arrival. Random checks on engine and generator counters will be made.

The boat's total number of engine hours is then multiplied by the Motoring Factor (a time penalty) of between 1.00 and 2.00. This gives a total number of hours, which are added to the boat's elapsed time.

The Motoring Factor is set according to the overall general weather conditions during the crossing, and is only determined after the Finish Line has closed.