



Royal Victoria Yacht Club
Home of the Swiftsure International Yacht Race



Meteorology Monitoring Protocol

The following terms are commonly used by Environment Canada (EC) and National Oceanographic and Atmospheric Administration (NOAA) in their marine forecasts:

Wind (Knots)	Term	Comment
20 - 33	Strong Wind Warning (EC)	Warning thresholds and marine forecasts refer to the 'sustained wind' so mariners can always expect gusts higher than the forecast wind speed (up to 40% higher)
	Small Craft Advisory (NOAA)	
34 -47	GALE	
48 - 63	STORM	
64+	Hurricane Force	Environment Canada anemometers report the 2-minute average wind (the sustained wind) and the 5-second average wind (the gust). Instantaneous winds (~1-second wind) reported by on-board anemometers will be higher than gusts reported by Environment Canada instruments.

The following protocols shall be followed by the Race Committee when preparing to start the race and throughout the race until the last boat has finished. The PRO shall consult with the JRCC Victoria before starting the race if the wind is strong (>20Kts) or gales/storms are forecast to determine the availability of SAR resources and invite advice from the Supervisor of the JRCC regarding the decision about whether to postpone or abandon the race. The Duty Radio Officer will collect Marine Forecasts (NOAA & EC) as they are issued and commence preparing hourly entries on a form substantially like the one in Appendix 2 starting at 0900 PDT on race day.

NORMAL WEATHER PROTOCOL: When Wind is reported or forecast to be up to 34 Kts in the race area (defined as any region that racers are likely to transit):

Duty Radio Officer	Duty Race Officer	Principal Race Officer
<ol style="list-style-type: none"> 1. Monitor weather reporting stations hourly (refer to Appendix 2 for a list) to ensure that winds do not exceed 30 Kts. Maintain a log of reported winds/seas. 2. If winds are >30 Kts then inform the Duty Race Officer and: 3. Request hourly wind reports from rounding mark vessels. 	<ol style="list-style-type: none"> 1. If informed that winds are exceeding 30 Kts then consult with EC Duty Marine Forecaster (1-900-565-6565) to determine if gales may develop in the race area. 2. If Gales are possible then advise the Duty Radio Officer to proceed to the next protocol level: CAUTIONARY. 3. Advise the PRO that gales are possible and monitoring has been increased. 	<ol style="list-style-type: none"> 1. Inform the Swiftsure Event Chair

CAUTIONARY WEATHER PROTOCOL: When Wind is reported or forecast to be more than 34Kts (but less than 48 Kts) in the race area (defined as any region that racers are likely to transit) or high seas (more than 6 feet in height and less than 10 seconds apart) are forecast or reported:

Duty Radio Officer	Duty Race Officer	Principal Race Officer
<p>1. Monitor weather reporting stations (refer to Appendix 2 for a list) to ensure that winds do not exceed 47 Kts. Maintain a log of reported winds/seas.</p> <p>2. Inform the Duty Race Officer if:</p> <ul style="list-style-type: none"> a. Winds are exceeding or forecast to exceed 40 Kts <u>OR</u> b. Seas are higher than 10 feet or less than 5 seconds apart. <p>3. Request hourly wind & sea reports from rounding mark vessels.</p> <p>4. Request wind & sea reports from racers when making radio contact.</p> <p>5. Contact JRCC Victoria to have a general broadcast made in the race area on VHF 16: "Gales are forecast in race area. Racers are advised to monitor weather broadcasts." Include this information in R/T on Ch26. Request that MCTS add this info on their VHF 9 broadcasts.</p> <p>6. Take additional action as directed by the Duty Race Officer.</p>	<p>1. If informed that winds are exceeding 40 Kts then consult with EC Duty Marine Forecaster (1-900-565-6565) to determine if conditions are expected to deteriorate any further in the race area.</p> <p>2. Advise the PRO of the forecast, actual conditions, and EC consultation.</p> <p>3. Obtain the PRO's decision and inform the Duty Radio Officer to:</p> <ul style="list-style-type: none"> a. Provide wording for the broadcast on VHF 9 & 16. <p>AND/OR</p> <ul style="list-style-type: none"> b. If a race is to be abandoned then implement Race Abandonment Procedure (Appendix 1). <p>4. If a STORM or extreme seas are possible then advise the Duty Radio Officer to proceed to the next protocol level:</p> <p>DANGEROUS.</p>	<p>1. Once informed by the Duty Race Officer of the wind/sea conditions and the outlook – decide on one of the following courses (after consulting with JRCC):</p> <ul style="list-style-type: none"> a. Continue racing if the gale is likely to be localized and not expected to get worse. <p>OR</p> <ul style="list-style-type: none"> b. Provide an advisory to racers that marginal conditions (sea and/or wind) exist or are expected with as much specific information as possible. <p>OR</p> <ul style="list-style-type: none"> c. Abandon the race if STORM conditions or dangerous seas threaten to adversely affect racers. This could be applied selectively to specific racecourses or races. <p>2. Direct the Duty Race Officer to take the required action based on your decision.</p> <p>3. Advise the JRCC of your decision.</p> <p>4. Inform the Swiftsure Event Chair who will inform the RVYC Commodore.</p>

DANGEROUS WEATHER PROTOCOL: When Wind is

reported or forecast to be more than 48 Kts in the race area (defined as any region that racers are likely to transit) or extreme seas (more than 12 feet in height or their period is less than their height) are forecast or reported:

Duty Radio Officer	Duty Race Officer	Principal Race Officer
<ol style="list-style-type: none"> 1. Immediately inform the Duty Race Officer. 2. Continuously Monitor weather reporting stations (Appendix 2). Maintain a log of reported winds/seas and update the Duty Race Officer as conditions change. 3. Continue requesting wind & sea reports from all vessels and maintain log of reports. 4. Contact JRCC Victoria to have a broadcast made on VHF 16: “ A Storm is forecast in the race area. <If required: <Name of Race> has been abandoned.> <Add other wording as directed by Duty Race Officer> ” Include this information on all R/T on VHF 26. 5. Take additional action as directed by the Duty Race Officer. 6. Follow Race Abandonment Procedure (Appendix 1) if a race has been abandoned. 	<ol style="list-style-type: none"> 1. Consult with EC Duty Marine Forecaster (1-900-565-6565) to determine if any race can be completed before the storm affects racers. 2. Consult with the PRO to determine the appropriate course of action. If you are unable to contact the PRO then take the appropriate action on their behalf. 3. Obtain the PRO’s decision and inform the Duty Radio Officer to: <ol style="list-style-type: none"> a. Have MCTS continue broadcasts on VHF 9 with wording modified as required. <p>OR</p> b. If a race is to be abandoned then implement Race Abandonment (Appendix 1). 	<ol style="list-style-type: none"> 1. Once informed by the Duty Race Officer of the wind/sea conditions and the outlook – decide on one of the following courses based on racers known positions (after consultation with JRCC): <ol style="list-style-type: none"> a. Continue racing if the storm will not overtake the racers. Provide an advisory to racers that marginal or dangerous conditions (sea and/or wind) exist or are expected with as much specific information as possible. <p>OR</p> b. <u>ABANDON</u> the race if STORM or dangerous seas threaten to adversely affect racers. This could be applied selectively to specific race courses or races. <ol style="list-style-type: none"> 2. Direct the Duty Race Officer to take the required action based on your decision. 3. Advise the JRCC of your decision. 4. Inform the Swiftsure Event Chair who will inform the RVYC Commodore.

Race Abandonment

Implementation Process

Duty Radio Officer	Duty Race Officer	Principal Race Officer
<ol style="list-style-type: none"> 1. Contact JRCC Victoria to have a general broadcast made on VHF 16: “<insert which race(s)> Race has been ABANDONDED due to <insert the reason why – be specific>. All affected yachts are to report their intentions for seeking a safe haven as soon as possible on VHF 26.” 2. Begin logging racers’ reported intentions & ETAs and request that they report making a safe haven. 3. Continue to monitor weather conditions. 4. Ensure JRCC Victoria is aware of any yachts that have lost radio contact and can not be contacted by their mobile phone, are in trouble, or are overdue. 5. Advise the Duty Race Officer when all affected yachts have been accounted for and have made a safe haven. 	<ol style="list-style-type: none"> 1. Ensure that the Duty Radio Officer has the correct wording for the broadcast. 2. Advise PRO of wording of broadcast being issued (if not already aware). 3. Request MCTS to provide a broadcast on VHF 9 of the race status and to append this wording on their traffic broadcast. 4. Contact RCN ships and vessel at Clallam Bay rounding marks to determine if they can assist in ensuring that the fleet makes safe haven. 5. Advise via the JRCC the USCG (206-217-6152) of the situation, and that a <i>Force Majeure</i> situation exists and yachts may be seeking safe havens on the Olympic Peninsula. 	<ol style="list-style-type: none"> 1. Advise the JRCC of the race status and confer on the SAR resource status. Seek information about their readiness and/or deployment. 2. Confer with EC Duty Marine Forecaster (1-900-565-6565) as needed. 3. Determine if any additional races should be abandoned. 4. Inform the Swiftsure Event Chair (who will advise RVYC Commodore) of the situation. 5. Have Swiftsure Event Chair brief Media and Promotions so that they can issue a news release and put a notice on the website.

Swiftsure Abandonment Resources

NOTE: Race Abandonment Headquarters (“Hdq)” will be at CRD Radio Room and resources will work from that site

Principal Race Officer	Decide whether to abandon (in consultation with Event Chair), leads the abandonment process
On Duty Race Officer	Go to Race Hdq and assist PRO as required (e.g., key contact with JRCC)
Off Duty Race Officers	Contact On Duty Race Officer to determine whether needed at Race Hdq earlier than scheduled shift time
Communications Supervisor	Determine whether additional radio operators will be needed, and mobilize from off duty radio volunteers
Finish Line Lead	In consultation with PRO determine the number from the finish line team who should remain at the finish line trailer to spot returning boats and report such to the radio room (and Inspection Dock/docking staff); any not needed will be deployed to Race Hdq to assist as req’d
Inspection Dock Lead	In consultation with PRO determine the number of inspectors who should remain at the Inspection Dock (e.g.; communicate with docking staff as boats arrive in the inner harbour), and what duties they will be given
Dockmaster Lead	Ensure that docking staff are advised when boats are returning so they can be ready to dock them
Event Chair	Go to Hdq to be the decision maker on behalf of the Organizing Authority, advise PRO as required, be focus for external communications with media and concerned emergency contacts of racers, be focus for communications with RVYC Commodore and RVYC Communications Officer

Appendix 2

Wind & Sea Monitoring

Wind Velocity (Direction/Speed) Kts – e.g. SE 35G40

Station	Time (PDT)											
La Perouse Bk												
Carmanah Pt												
MCDV Mark												
46087 Buoy												
Tatoosh Is												
Neah Bay												
Neah Mark												
Hoko, Sekiu												
Clallam Mark												
Sheringham Pt												
Race Rocks												
46109 Buoy												
Trial Island												
Hein Bank												

Sea Conditions (Wave Ht (ft)/Period (sec)) – e.g. 6/8

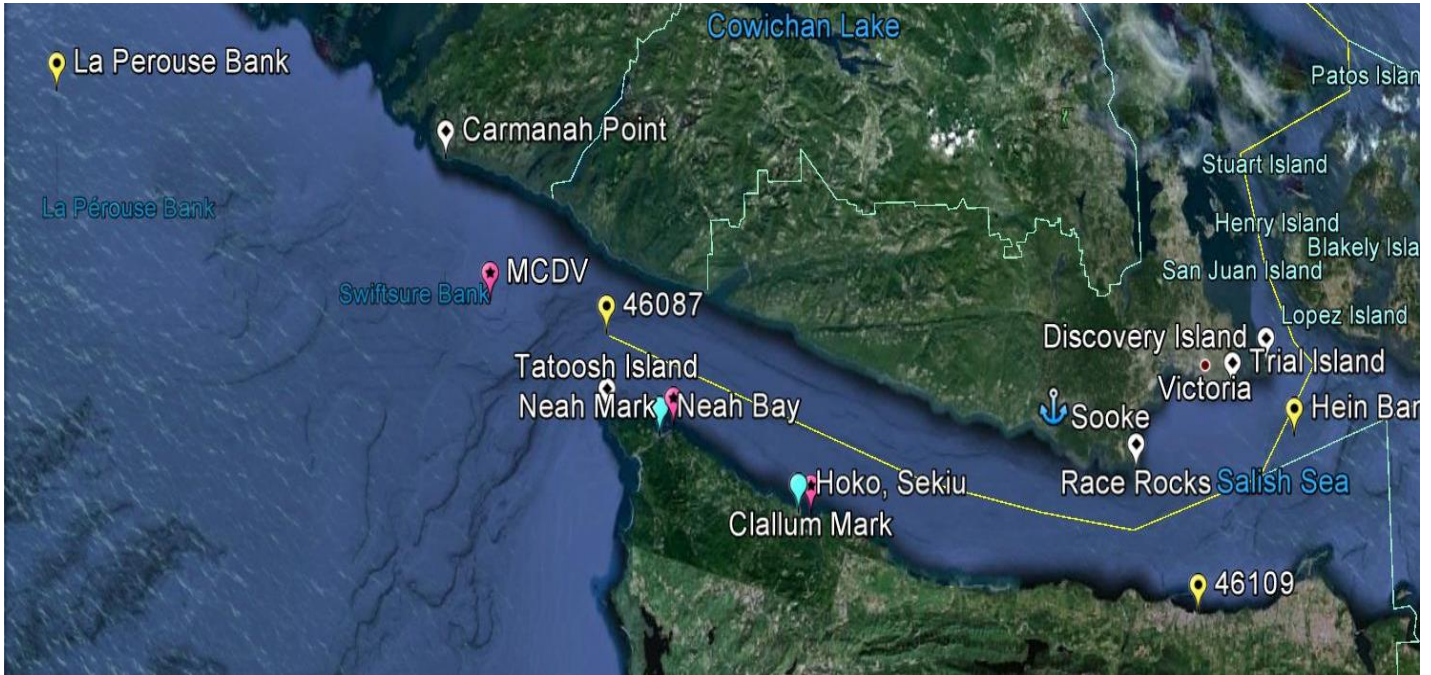
Station	Time (PDT)											
La Perouse Bk												
MCDV Mark												
46087 Buoy												
46109 Buoy												
Hein Bank												

Sources:

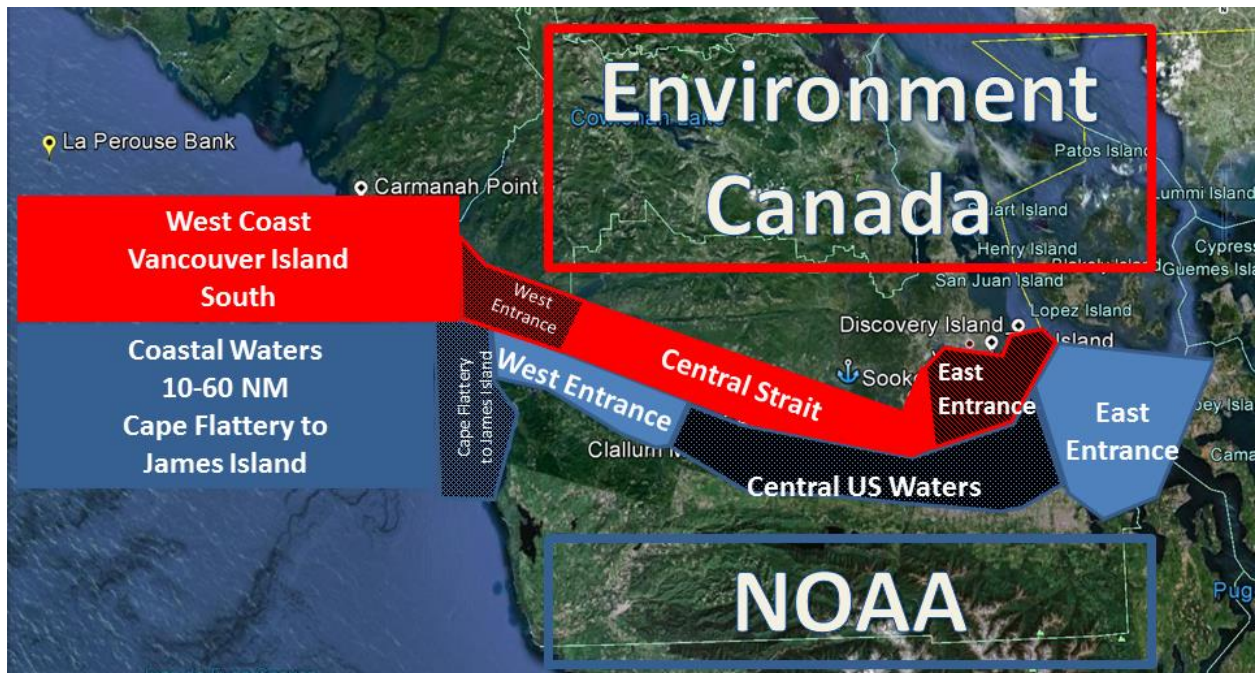
- NOAA Observations: [Current & Past Observations](#)
- NOAA National Data Buoy Center: [Ships & Buoys N48-49, W123-127](#)
- NOAA Ocean Prediction Center: [Pacific Ocean Weather, Wind, Wave](#)
- Big Wave Dave: [Big Wave Dave](#)
- Environment Canada: [Weather Office Marine](#)

Appendix 3:

Weather Reporting Stations



Marine Forecast Areas





Environment Canada

Forecast Issue Times

All issue times are Pacific Standard or Daylight Saving Time (PST/PDT). Updated forecasts are issued as required.

- **Regular Forecast and Technical Marine Synopsis:** 4 am; 10:30 am; 4 pm; 9:30 pm
- **Extended Forecast:** 4 am; 4 pm
- **Wave Height Forecast:** 4 am; 4 pm

Marine Forecast Content

Wind Speed and Direction: The wind speed is the average wind that is expected over the open water, given in units of knots (1 kt = 1.85 km/h). Wind direction refers to the direction from which the wind is blowing (based on true north and not on magnetic bearings). It should also be noted that with the rugged Pacific coastline, considerable local variations from the forecast winds are possible.

Weather and Visibility: A brief description of the weather is included in the forecast when visibility is expected to be reduced to near or below one nautical mile (1.85 km).

Freezing Spray: Is mentioned in the forecast if conditions are likely to result in ice build up on exposed vessel surfaces.

Air Temperature: Is included in the forecast only if temperatures are expected to be at or below 0° Celsius.

Marine Weather Warnings

- **Strong Wind Warning:** 20-33 knots (issued only for southern inner coastal waters between March 20th and Remembrance Day)
- **Gale Warning:** 34-47 knots
- **Storm Warning:** 48-63 knots
- **Hurricane Force Wind Warning:** 64 knots or greater (refers to wind speed and does not imply that a hurricane is occurring or expected to occur)
- **Freezing Spray Warnings:** Ice is expected to build up at a rate of 0.7 cm per hour or greater.
- **Localized Warnings:** Issued for any hazardous weather that requires immediate attention. Examples include water spout or squall warnings.

Obtaining Forecasts

- [Environment Canada's Weather Website](#)
- **Forecast Consultation Service (user fees apply):** 1-900-565-6565 (direct billing) or 1-888-292-2222 (cellphone access, credit card account billing)
- Environment Canada's public and marine forecasts and warnings broadcast 24 hours a day on [Weatheradio](#).
- Environment Canada's marine weather forecasts and warnings. For information on Radio Aids to Marine Navigation, visit [Canadian Coast Guard's Continuous Marine Broadcast \(CMB\)](#).

National Weather Service, NOAA

National Data Buoy Center (www.ndbc.noaa.gov)

See: Weather and Hazards Data Viewer: <http://www.wrh.noaa.gov/map/?wfo=sew&obs=true>

Buoy 46088 (Hein Bank)

Race Rocks Automatic Weather Reporting System (CWQK)

Port Angeles Coast Guard Air Station (KNOW)

Port Angeles Fairchild International Airport (KCLM)
Sherringham Automatic Weather Reporting System (CWSP)
HOKO 1SW Weather Statino (HKOW1) – at Kydaka Point (4 nm west of Clallam Bay, 11 nm east of Neah Bay)
Buoy 46087 (midway between Tatoosh Island and Carmanah Point (i.e., 13 nautical miles east of Swiftsure Bank)

Marine Forecasts (<http://www.nws.noaa.gov/om/marine/zone/west/sewmz.htm>)

PZZ133: Northern Inland Waters including the San Juan Islands

PZZ131: Central US Waters Strait of Juan de Fuca

PZZ130: West Entrance US Waters Strait of Juan de Fuca

PZZ150: Coastal Waters from Cape Flattery to James Island out 10 NM

PZZ170: Waters from Cape Flattery to James Island 10 to 60 NM

What is a "Marine Zone Forecast"?

National Weather Service marine zones are specific, defined over-water areas contained in the various NWS marine forecast products. Each zone is identified by a text description and a Universal Generic Code (UGC), e.g. LONG ISLAND SOUND EAST OF NEW HAVEN CT/PORT JEFFERSON NY, ANZ330. Zones are divided to identify meteorologically dissimilar areas. Marine Zone Forecasts outline the range of conditions which may be found within the entire zone. The size of a zone and the number of zones within a forecast product is a compromise between forecast accuracy and dissemination limitations. Click [HERE](#) for several different options to obtain marine zone forecasts.

NOTE....High seas forecasts track individual weather systems rather than subdividing the forecast area into zones and providing a forecast for each.

What is a "Marine Point Forecast"?

A National Weather Service ["Marine Point Forecast"](#) refers a text forecast for a single point. In actuality, the "point" is a single small rectangle which represents the resolution of the computer forecast models which is typically 2.5 by 2.5 kilometers. The point forecast is generated from a forecaster-generated gridded data set known as the [National Digital Forecast Database \(NDFD\)](#) also used to produce graphics. The NDFD is used as the basis for the majority of local public and marine forecasts and is in the process of being further expanded to the offshore and high seas areas.

Please Note: Being a forecast for a single point, the point forecast is very specific and mariners should also be aware of weather conditions in the surrounding area. Forecast information for the surrounding area can be found within the [zone forecast](#) and the [NDFD graphics](#). Be aware, the forecast conditions at a particular point may not exceed the criteria of a Small Craft Advisory,

Gale, Storm etc. These watches/warnings/advisories are issued for the entire zone in which the point resides and mariners should act accordingly.

Marine Point Forecasts are available as part of National Weather Service webpages popularly known as the "Point-and Click" pages. Included on these pages are the Forecast-at-a-Glance feature which allows a quick overview of forecast weather, a listing of any active warnings, watches or advisories, and links to an "Hourly Weather Graph" and other data of local interest. Marine "Point-and Click" pages are available [HERE](#) and via the maps found at the [relevant forecast office](#). At the majority of offices clicking on the map will link to the marine zone forecast and then allow further zooming to the point of interest whereas on the Great Lakes, the first link is directly to a point forecast with the further option to link to the associated zone forecast which includes that point.

Note....Point forecasts are not yet available and/or may only be available experimentally in the areas of Alaska, Micronesia, Samoa, offshore, high seas, [Canada, etc](#).....(a zone forecast may be returned in some of these cases...a zone forecast may also be returned when point data is temporarily unavailable)