



EDMONTON ROWING CLUB

Adverse Weather

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Purpose

1. This document is designed to provide resources and guidance to those in the ERC who plan to participate in, operate, or regulate rowing programs through the ERC. It outlines various adverse weather risks and recommended procedures for rowing should adverse weather arise before and during scheduled programming.
2. For any regattas being run by the ERC, the Rowing Canada Rules of Racing will take precedence over this policy. In the event of any conflict between the Rules of Racing and this policy, the Rules of Racing will apply.

Application

3. This policy applies to ERC program participants, coaches, staff, volunteers, and administrators.

Policy Statement

4. The ERC is committed to maintaining a safe sporting environment. Rowing, like other outdoor activities, presents various risks should adverse weather arise. The ERC therefore enacts this policy as a tool to help recognize when weather conditions are unsafe, as well as outline the procedures to be followed from both on land and water, before and during scheduled programming.
5. Staying safe is more important than going out for a row.

Definitions

6. For the purposes of this policy, **adverse weather** refers to environmental conditions that pose a risk to those participating in ERC programs.
7. For the purposes of this policy, the term **program** includes all membership categories (sport, junior, master, senior), as well as community programs including but not limited to Learn to Row, Summer Camps, High School, and corporate events.

Responsibilities

8. All those listed in the Application section of this document are responsible for becoming familiar with this policy and its guidelines.
9. Program participants are responsible for following coach direction both on and off the water.
10. Private boat owners are responsible for making their own informed decisions regarding adverse weather conditions. It is recommended private boat owners follow instructions from the Head Coach.
11. Coaches and the Club Manager are responsible for monitoring weather, streamflow, and forecasts to permit informed decision making about suspending rowing activities.
12. Individuals have the right to refuse participation in any ERC program, should they feel weather conditions are unsafe.

Program Cancellations

13. The authority to decide whether some or all programs should be cancelled rests with the Head Coach. The Club Manager will assume this role in the absence of the Head Coach. If both the Head Coach and the Club Manager are absent, then the next available Junior, Master, or Sport coach will make the decision. If none of these individuals are available, the Safety Director will make the decision on behalf of the Board of Directors.

Cancellation Timeframe

14. When the responsible individual has determined that there is a certainty or likelihood of program cancellation due to adverse weather, the ERC will do its best to inform program participants of that possibility at least 2 hours prior to the scheduled start time of their program. However, as conditions can change quickly for better or worse, coaches may ask their athletes to come to the club regardless.

Cancellation Notification Method

15. Notification of program cancellations will be sent electronically via Communibee and by email. Sign up for the ERC Communibee Community at <https://app.communibee.ca/#/register>.

Priority Use of Indoor Training Facility

16. Community programs have priority use of the indoor training facility if programs are cancelled due to adverse weather.

Rowing Before Sunrise or After Sunset

Risks of rowing before sunrise or after sunset

17. Rowing before sunrise or after sunset brings about additional risks, such as navigating the river and capsizing in the dark.

Monitoring sunrise and sunset

18. The ERC monitors sunrise and sunset through Environment Canada at https://weather.gc.ca/city/pages/ab-50_metric_e.html. Environment Canada also has a free app for iOS and Android.

Required procedures when rowing before sunrise or after sunset

19. Crews are not to launch more than 30 minutes prior to sunrise and are to return to the dock no later than 30 minutes after sunset.
20. A white light must be attached to the bow of the boat, and a red light attached to the stern. Lights must be steady and not flashing.
21. Club boats must be accompanied by a safety boat.
22. Rowers must follow their coaches' instructions regarding launch and dock times. Not returning to the dock promptly at dusk exposes safety boat drivers and coaches to unnecessary risks.

Storms

Risks of storms

23. Rowers are particularly vulnerable during storms where there is lightning, due to the conductivity of water as well as the carbon/ aluminum build of our rowing shells and oars.
24. Heavy rainfall significantly reduces visibility.

Storm monitoring

25. The ERC monitors rain through Environment Canada's Radar at https://weather.gc.ca/map_e.html?layers=radar&zoom=2¢er=58.91465764%2C-101.42369207. Environment Canada also has a free app for iOS and Android.
26. The ERC monitors lightening through Environment Canada's Lightning Danger Map at https://weather.gc.ca/lightning/index_e.html. Environment Canada also has a free app for iOS and Android.

Required procedures for storms

27. No rowing if lightning or thunder is detected.
28. If crews are on the water, coaches will blow their whistle 3 times, and everyone must return to the boathouse immediately.
29. If a storm has started and crews are too far away from the dock to return safely, they must proceed to the nearest shore as quickly as possible and wait until the storm has subsided.
30. 30 minutes must pass since the last detection of lightning or thunder before launching.

River Height and Streamflow

31. Due to its glacial origin, the height and streamflow of the North Saskatchewan River can change quickly throughout the season.

Historical river data

32. Typically, in the summer the river is about 3 meters in height and the streamflow is about 300m³/s.

Date	Maximum Daily Discharge (m ³ /s)	Date	Maximum Daily Water Level (m)
2019-06-30	1,010	2019-06-30	6.049
2018-04-20	618	2018-04-20	5.989
2015-06-07	278	2015-03-15	4.509
2014-04-24	659	2014-04-10	5.142
2013-06-23	2,710	2013-06-23	9.032

33. Historical data for the North Saskatchewan River at Edmonton can be found at https://wateroffice.ec.gc.ca/report/historical_e.html?stn=05DF001&dataType=Annual+Extremes¶meterType=Flow&year=2019&mode=Table&page=historical&start_year=1850&end_year=2021.

Risks of river height and streamflow

34. High waters bring additional debris into the river. River debris can easily break hulls, fins, and oars.
35. Fast river streamflow increases the difficulty of moving a rowing shell against the current, and in navigating under bridges (particularly when moving downstream).
36. High water and high streamflow may or may not coincide.

River height and streamflow monitoring

37. The ERC monitors the North Saskatchewan river height and streamflow through Alberta Rivers at <https://rivers.alberta.ca>. Alberta Rivers also has a free app for iOS and Android.

38. The two stations that the ERC monitors are:
1. North Saskatchewan River HWY 759 (upstream near Devon, approximately 8 hours until conditions arrive in Edmonton)
 2. North Saskatchewan River at Edmonton (downstream at Louise McKinney Park)

Required procedures for river height and streamflow

River Streamflow (m ³ /s)	Program Requirements
0 m ³ /s – 449 m ³ /s	All Programs allowed to row
450 m ³ /s – 749 m ³ /s	Discretion of Head Coach (See Program Cancellations)
750+ m ³ /s	No Programs allowed to row

Air Quality

39. Edmonton often sees periods of poor air quality in the summer due to forest fires in Alberta and British Columbia.

Risks of poor air quality

40. When participating in outdoor activity during periods of low air quality, we are more at risk for acute health concerns. Deeper and more rapid breathing allows for more air pollution to enter the lungs. Individuals all react differently to air pollution; those with pre-existing illness can experience symptoms even with short periods of exposure.

Air quality monitoring

41. The ERC monitors air quality through Environment Canada's Air Quality Health Index (AQHI) at https://weather.gc.ca/airquality/pages/abaq-001_e.html.
42. For more information regarding the AQHI see <https://www.canada.ca/en/environment-climate-change/services/air-quality-health-index/about.html>.
43. Environment Canada also has a free app for iOS and Android.

Required procedures for air quality

Air Quality Health Index	Program Guidelines
0 – 3	All programs allowed to row
4 – 7	Discretion of Head Coach (See Program Cancellations)
8+	No programs allowed to row

Hot Weather

Risks of hot weather

44. High intensity exercise in a hot environment can lead to various heat illnesses (such as heat exhaustion and heat stroke), as well as dehydration.
45. Athletes must ensure they properly hydrate during hot weather outings. When the ambient temperature is 26°C or above, athletes must carry water with them in the boat.

Hot weather monitoring

46. The ERC monitors temperatures through Environment Canada at https://weather.gc.ca/city/pages/ab-50_metric_e.html. Environment Canada also has a free app for iOS and Android.
47. The ERC uses Environment Canada’s humidex chart to monitor humidex values. The humidex combines the ambient temperature and the humidity into one number, to reflect the perceived temperature. For more information regarding the humidex and to see the humidex chart see <https://www.canada.ca/en/environment-climate-change/services/seasonal-weather-hazards/warm-season-weather-hazards.html#toc7>.

Required procedures for hot weather

Humidex Value (°C)	Risk of Overheating During Exercise	Program Guidelines – Rowing Permitted
Below 24°C	Low – Moderate	All programs allowed to row
25 – 29 °C	Moderate	
30 – 39°C	High	All programs allowed to row Youth should be monitored closely
40 - 45°C	Very High	Discretion of Head Coach (See Program Cancellations)
Above 45°C	Extreme	No programs allowed to row

*RCA LTR Coach Reference Guide (April 2019)

Cold Weather

Risks of cold weather

48. Hypothermia can occur when ambient temperatures are under 10°C – cold, wet, and wind can all play a factor.
49. Be aware that water temperature can be several degrees colder than ambient.

Cold weather monitoring

50. The ERC monitors temperatures through Environment Canada at https://weather.gc.ca/city/pages/ab-50_metric_e.html. Environment Canada also has a free app for iOS and Android.

Required procedures for cold weather

51. When ambient temperatures are 10°C and under, coaches will use discretion as to who they are sending out in what boat classes. For example, this is not the time for a novice athlete to row a single for the first time.

Fog

Risks of fog

52. When rowing in fog it is easy to lose sense of direction and get lost on the river. Not following the correct traffic pattern due to fog increases the risk of collisions causing personal injury and damage to equipment.

Required procedures for fog

53. If visibility is less than 500m and/or the shoreline cannot always be seen, crews should not go out on the water.
54. If heavy fog sets in while crews are out on the water, carefully follow the shoreline back to the dock.

Wind

Risks of wind

55. Strong winds push against the water and transfer its energy to create peaks and white caps on the water's surface.
56. Rowing shells are particularly vulnerable to white caps because they are largely balanced by the rower's oars and technical abilities.

Wind monitoring

57. The ERC monitors winds through Environment Canada at https://weather.gc.ca/city/pages/ab-50_metric_e.html. Environment Canada also has a free app for iOS and Android.

Required procedures for wind

58. If white caps are visible the water is quite rough, and only experienced crews should go out in these conditions. If crews are out on the water and large white caps develop, crews should follow coach direction and take the shortest and safest course back to the dock.

References

59. Alberta Rivers
<https://rivers.alberta.ca>
60. Environment Canada – About the Air Quality Health Index
<https://www.canada.ca/en/environment-climate-change/services/air-quality-health-index/about.html>
61. Environment Canada – Canadian Weather Radar
https://weather.gc.ca/map_e.html?layers=radar&zoom=2¢er=58.91465764,-101.42369207.
62. Environment Canada – Edmonton, AB
https://weather.gc.ca/city/pages/ab-50_metric_e.html
63. Environment Canada – Edmonton’s Air Quality Health Index
https://weather.gc.ca/airquality/pages/abaq-001_e.html
64. Environment Canada – Warm Season Weather Hazards
<https://www.canada.ca/en/environment-climate-change/services/seasonal-weather-hazards/warm-season-weather-hazards.html#toc7>
65. Environment Canada – Lightning Danger Map
https://weather.gc.ca/lightning/index_e.html
66. Government of Canada – Historical Data for North Saskatchewan River at Edmonton
https://wateroffice.ec.gc.ca/report/historical_e.html?stn=05DF001&dataType=Annual+Extremes¶meterType=Flow&year=2019&mode=Table&page=historical&start_year=1850&end_year=2021.

Questions

67. Questions about this policy can be directed to the [Club Manager](#).

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