



Government
of Canada

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Self-Help Advice

Storm Surges



Canada

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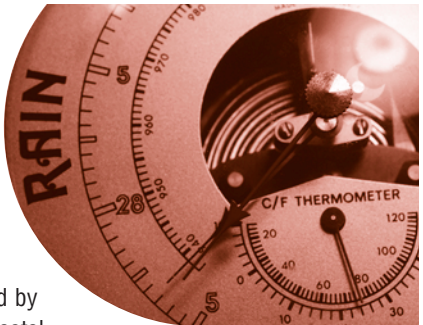


Storm surges



A STORM SURGE CAN BE DEFINED AS AN ABNORMAL RISE IN WATER LEVELS AND CAN OFTEN ACCOMPANY VERY INTENSE WINTER STORMS, HURRICANES, OR HIGH WINDS. THE STORM SURGE ITSELF IS CAUSED BY THE WIND AND PRESSURE "PUSHING" THE WATER INTO THE CONTINENTAL SHELF AND ONTO THE COASTLINE. ON EXPOSED COASTLINES, STORM SURGES ARE OFTEN ACCOMPANIED BY HIGH WAVES.

Storm surges can cross the normal high-water shoreline, as defined by the tide, and can cause coastal flooding. There are numerous Canadian coastal communities that could be affected by storm surges and coastal flooding. Storm surges and coastal flooding are not to be taken lightly. Getting caught near the shoreline during an extreme flooding event could be life-threatening. It is important to take measures to protect yourself and your property prior to a storm surge.



The purpose of this booklet is to help you prepare for storm surges and coastal flooding by outlining a few steps that you can take to protect yourself, your family, and your property if a storm surge is predicted or occurs.



LISTEN FOR WARNINGS

Environment Canada monitors the weather 24 hours a day, seven days a week. If a storm surge has the potential to impact a region, the

Meteorological Service of

Canada will issue statements, warnings, and/or interviews through various media including news wire services, Environment Canada's Weatheradio and automated telephone answering devices.

If a significant storm surge is forecast, Environment Canada will issue, in their marine and public synopses, a statement informing the public of the potential for high surf, high water levels and coastal flooding. These are issued up to 48 hours in advance of any anticipated storm surge.

If forecasters estimate a storm surge to be large in scale, they will also issue a public weather warning. The impacts of storm surges can vary from sea to sea, making it difficult to provide warnings that are specific to each local area. For example, a 60-centimetre rise in sea levels may not be significant in one area but, depending on tide heights, may be high enough to cause significant damage in other areas.



Environment Canada and emergency management organizations collaborate to ensure the pertinent messages about storm surges are reaching the communities that could potentially be affected by the storm.

BE PREPARED

Storm surges can happen quickly, without allowing much time for preparation. Residents, particularly those living in low-lying areas near the coastline, should take precautions and measures to be prepared for storm surges. Your best chance of reducing damage from a storm surge is to plan ahead.

How well do you know your property?

Find out if your home is subject to storm-surge damage. Have you or your neighbours experienced coastal flooding in the past? If so, make sure you carefully investigate your house and land for any potential dangers of flooding or other risks. It is important to know how to turn off the gas and electricity in your house, as you may be instructed by local authorities to shut these off.

Do you know where all your important documents are?

Make an inventory of property items and personal items. This can be done by making a list of the valuable things you own, and keeping a video or photographs of them for insurance purposes. Ensure that these and other important documentation (i.e., birth certificates, insurance policies, contract deeds, passports, social insurance numbers, immunization records, marriage and death certificates and other legal documents) are stored safely in a waterproof area or box. Many people have a tendency to store these and other valuables in the basement. If you live in an area that is subject to flooding, make sure these are stored at a higher level, protected from flood damage.



Where will your family be?

Create a family plan in case of emergency and ensure all family members know it. Contact your local municipal or provincial/territorial emergency management organization

for more information about how to plan as a family for an emergency. It is important that you also know about the emergency plan for nearby schools, offices, day care and other places where family

members work or play. In an emergency, it will be important to know where your family is and to be able to reach them.



Do you have everything you need?

Prepare an emergency supply kit. Along with food, water, medications and medical supplies, include a change of clothes (with rainwear), a battery-powered radio and flashlight with extra batteries, personal identification for all family members and copies of any important personal and family documents. Sandbags are a valuable tool to prevent water from entering your home.



WHEN A STORM SURGE IS FORECAST

Storm surges can happen at any time. If you live in an area that is susceptible to storm surges and coastal flooding, listening regularly to marine or public forecasts can be helpful since they will predict the water levels in certain areas to be higher than normal. In the event that a storm surge does occur, these are the measures you should follow to safeguard life and property:

- Stay inside where you are protected from the water.
- If you are not all together, make sure to keep in touch frequently with family members.
- Make sure the basement windows are closed.
- Fuel your car; if evacuation becomes necessary, it will be hard to stop for gas.
- Check supplies including medications, radio and flashlight batteries.
- Monitor the storm's progress and listen for further warnings or instructions from local officials.
- Flood waters can be dangerous to drive through. It is best to listen carefully to rescue officials, who will be coordinating evacuation plans, before driving anywhere.
- Stay indoors on the downwind side of the house, away from windows.



- Be aware of potential risks, such as hypothermia from cold waters or drowning from running waters. Your local chapter of St. John Ambulance or Red Cross can provide more information on how to prepare for or prevent these consequences.
- If you are concerned, have any questions or need to know more about evacuation procedures, contact your local emergency management organization, police or fire department.



In the event of an evacuation order, here are some useful tips to remember:

- Review and practise your home evacuation plans with family members.
- Take small valuables and papers, but travel light.
- Establish an out-of-area contact, such as a relative in a nearby city, where your family can meet after evacuation.
- Make sure you take your emergency supplies kit with you.
- If you are evacuating your home, leave a note there stating your whereabouts. Register at any local registration and inquiry centre so you can be contacted when it is safe to return home.



WHAT IS MY COMMUNITY DOING TO HELP PREVENT DAMAGE?

As storm surges become a greater concern in Canada's communities, municipalities have realized the need to take a greater responsibility to provide protection for their residents. In the event of a storm surge, vital community resources could be damaged, wiped out, or become inaccessible. Planning for potential coastal flooding is the best way to minimize the damage that communities can face.

City planners and municipal leaders will need to keep some of the following things in mind:

- Will emergency response staff be able to reach and effectively assist all areas of the community? Which areas are the most vulnerable to storm surge damage?
- Will residents still be able to access hospitals? Are there alternative hospitals or health care centres in nearby areas, out of the hazard area, that can help deal with large numbers of people?
- Will residents still be able to access clean water? Are there back-ups to the water supply available in case of damage to others?



- Is there a potential for sewage overflow?
- What natural resources could be affected by a storm surge? Will we lose valuable agricultural land or forests?
- What will happen to coastal infrastructure, like wharves, water access points, and boardwalks?
- Are residents educated on what to do in case of a storm surge?
- Are there cultural resources in danger of being damaged or lost during a storm surge?
- Prioritize areas to be rebuilt or reinforced. Realize that municipalities do not have to wait for damage to occur before rebuilding. Any vital buildings which have a high risk of sustaining damage in the event of a storm surge could be reinforced before storm surge events occur.
- Decide whether funds are going to be committed to rebuild damaged areas and infrastructure. It is also vital to decide if encouraging the rebuilding of damaged infrastructure in other areas (i.e., those that are less likely to be affected by storm surges) is the most appropriate course of action.



Studies are being conducted to help high-risk municipalities better prepare for storm surge events.

Extreme weather events can have devastating impacts on Canadians; these can be minimized if precautions are taken before, during, and after an emergency. The most important advice is to be prepared for storm surge events and to listen for up-to-date weather forecasts and reports on weather conditions.



Additional information

For more information about severe weather or weather in general, contact:

METEOROLOGICAL SERVICES ENVIRONMENT CANADA

351 St. Joseph Boulevard
Gatineau, QC K1A 0H3
Telephone: (819) 997-2800
Toll-free: 1-800-668-6767
Fax: (819) 953-2225
TTY: (819) 994-0736
E-mail: enviroinfo@ec.gc.ca
Internet: www.msc-smc.ec.gc.ca

WEATHER MENU

A menu of recorded specialized weather forecasts
1-900-565-5000
There is a \$.95 per minute fee for this service.

WEATHER ONE-ON-ONE

To consult an Environment Canada weather expert
1-900-565-5555
There is a \$2.99 per minute fee for this service.

For general information or to order our self-help brochures, please contact:

Public Safety and Emergency Preparedness Canada

Communications Division
340 Laurier Ave. West, Ottawa, Canada K1A 0P8
Telephone: (613) 991-2800
Toll-free: 1-800-830-3118
Fax: (613) 998-9589
E-mail: communications@psepc.gc.ca
Internet: www.psepc.gc.ca

Please contact your provincial/territorial emergency management organization (EMO) for regional or local information on emergency preparedness.

Newfoundland and Labrador

Emergency Measures Organization
Telephone: (709) 729-3703
Fax: (709) 729-3857

Prince Edward Island

Emergency Measures Organization
Telephone: (902) 888-8050
Fax: (902) 888-8054

Nova Scotia

Emergency Measures Organization

Telephone: (902) 424-5620

Fax: (902) 424-5376

New Brunswick

Emergency Measures Organization

Telephone: (506) 453-2133

Toll-free: (800) 561-4034

Fax: (506) 453-5513

Québec

Direction générale de la sécurité civile et
de la sécurité incendie

Telephone: (418) 646-7950

Fax: (418) 646-5427

Toll-free Emergency Number: 1-866-776-8345

Emergency Number: (418) 643-3256

Or one of these regional offices:

- Bas-Saint-Laurent – Gaspésie –
Îles-de-la-Madeleine: (418) 727-3589
- Saguenay – Lac-St-Jean – Côte-Nord: (418) 695-7872
- Capitale Nationale – Chaudière –
Appalaches – Nunavik: (418) 643-3244
- Mauricie – Centre-du-Québec: (819) 371-6703
- Montréal – Laval – Laurentides –
Lanaudière: (514) 873-1300
- Montérégie – Estrie: (514) 873-1324
- Outaouais – Abitibi – Témiscamingue –
Nord-du-Québec: (819) 772-3737

Ontario

Emergency Management Ontario

Telephone: (416) 212-3468

Fax: (416) 212-3498

Manitoba

Emergency Measures Organization

Telephone: (204) 945-4772

Toll-free: 1-888-826-8298

Fax: (204) 945-4620

Saskatchewan

Saskatchewan Emergency Planning

Telephone: (306) 787-9563

Fax: (306) 787-1694

Alberta

Emergency Management Alberta

Telephone: (780) 422-9000

Toll-free in Alberta, dial 310-0000-780-422-9000

Fax: (780) 422-1549

British Columbia

Provincial Emergency Program (PEP)

Telephone: (250) 952-4913

Fax: (250) 952-4888

Northwest Territories

Emergency Measures Organization

Telephone: (867) 873-7785

Fax: (867) 873-8193

Yukon

Emergency Measures Organization

Telephone: (867) 667-5220

Fax: (867) 393-6266

Nunavut

Nunavut Emergency Management

Telephone: (867) 975-5300

Fax: (867) 979-4221

Towards a safer, more secure Canada

Public Safety and Emergency Preparedness Canada (PSEPC) leads the Government of Canada's emergency and business continuity planning.

Through its programs and information products, PSEPC enhances the capacity of individuals, communities, businesses and governments to manage risks to their physical and cyber environments.

www.safeguard.ca

SAFE GUARD

Safeguard is a national partnership that helps increase the public awareness of emergency preparedness in Canada.

Other titles in this self-help series include:

- ☐ Be Prepared, Not Scared
- ☐ Floods – What to do before and after
- ☐ Prepared for the Woods
- ☐ Prepare to Survive a Major Earthquake
- ☐ Preparing for the Unexpected
- ☐ Severe Storms
- ☐ Winter Power Failures
- ☐ Winter Driving –
You, your car and winter storms