

Preparing for the weather of the future: A checklist of some of the possible effects of changing climate in the homelands of far north Ontario First Nations.

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Scientific records and the knowledge of Elders tell us that weather in the north has been changing noticeably since about 1980. Lives are being lost in some places because late winter ice is not as thick as it used to be. Summer boat travel on traditional routes is often more difficult now because of lower water. Those are just two consequences of changing climate. More and greater changes can be expected in the future. Being prepared and adapting to those changes will save lives and prevent damage.

These are possible effects of changing weather patterns that should be considered in planning for the future:

- flooding of ditches, roads and buildings during late winter and early spring because of heavy rain falling on hard frozen ground – may be accompanied by rapid snow melt
- flooding over the banks of rivers caused by ice jams during break-up. Most likely when the difference between the temperature in the south and the north causes rapid snow melt and run-off that breaks ice from the banks in the south while the river is still frozen in the north.
- sudden flooding in summer because of very severe rain storms in places with poor drainage
- flooding of stretches of coastal winter roads by more frequent storm surges from James Bay (OURANOS research; MOECC study)
- dangers in winter travel because of thinner ice on traditional travel routes on rivers, creeks and lakes and by poor near-shore ice conditions in James Bay and Hudson Bay
- shorter and more dangerous winter road season, especially for loaded trailers
- danger in summer boat travel because of rock nearer the surface of rivers and lakes caused by lower water levels combined with the land still rising after the North American ice sheet began melting in Canada about 10,000 years ago
- increased frequency of forest fires because of summer lightning and dry conditions resulting from increased evaporation, fewer days with rain, and longer dry periods
- changes in goose and caribou migrations and hunting in traditional locations
- loss of some spawning beds and the appearance of new ones because of falling water levels in rivers, creeks and lakes
- loss of some berry and plant harvesting areas and the appearance of new areas as wetlands dry up and shallow ponds become wetlands

- northward spread of West Nile Virus carried by certain mosquitoes that have fed on infected birds such as crows
- northward spread of Lyme Disease carried by blacklegged ticks (deer ticks)
- summer heat stress in elderly and very young people during extreme hot weather
- possible poorer quality of water pumped from lakes to drinking water treatment plants as a result of lakes dividing into warm and cold layers earlier in the year
- eastward spread of mountain pine beetle into jack pine forests because the beetle is able to survive the night time temperatures of warmer winters
- northward spread of spruce budworm attacking white spruce
- reduced growth of black spruce in the southern part of its range and increased growth in the north - could be a benefit for local timber cutting in some areas

Being prepared could include

- Elders sharing their experience of past events with youth and community
- Planning for emergencies caused by floods or fires
- Improving and maintaining surface drainage ditches and culverts in communities
- Rapidly sharing observations about dangers appearing on travel routes and putting information about danger spots on maps to assist in sharing locations with community members
- Nursing Clinics making community members aware of the symptoms of West Nile Virus and Lyme Disease (especially in southerly communities)
- Identifying parts of communities such as areas flooded in the past, and aspects of community life and culture that are vulnerable to weather events
- Designating a person in the Band office to gather local climate information
- Measuring and recording significant conditions such as water levels and ice thickness in selected locations
- Recording the arrival of animals, birds and plants new to a FN's homeland
- Using a community-based climate impact and risk spreadsheet and an adaptation planning spreadsheet
- Sharing experience and plans with other communities, especially those nearby