



Harvesting with More Dry Spells

With climate change will come more dry spells and drought. When an area gets drier than usual, it can push plants and animals beyond their limit of adapting and impact the communities that rely on them.

How will climate change impact drought?

In northern Ontario, the summer months are predicted to see only small gains in rain, which may not be enough to offset the amount of moisture drawn out of plants and soils due to hotter temperatures. However, predicting where drought and dry spells might occur and how long they could last is difficult. It is thought that North America will likely experience more intense and longer lasting dry periods due to climate change.



Evapotranspiration: Drawing moisture out of plants and soils.

How does drought impact harvesting?

Fishing

Low water can take away or limit important fish habitat like spawning areas, migration routes, and cold-water refuges. It can also make it difficult to travel traditional routes by boat. No longer being able to travel long-standing traditional routes can impact mental health and well-being.

Plants

Extreme droughts can greatly impact important traditional and medicinal plants as well as berries. For example, wetland plants like wild rice, cedar, cranberries, cloudberry and labrador tea will be impacted by changing water levels. In some instances, climate change may benefit key berry producing plants or expand the types of berries and plants that can be grown in northern regions. Community gardens may also experience plant loss and require additional watering during drought periods.



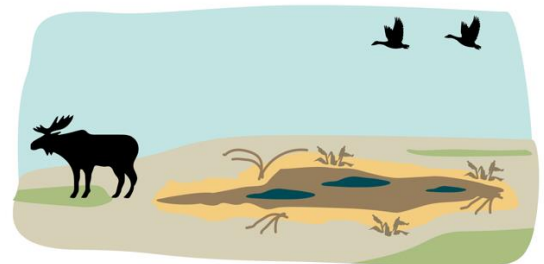
Wetland plants like Labrador tea and wild rice are sensitive to changing water levels.



Berry plant ranges are shifting northward.
More here: <http://www.planthardiness.qc.ca/?m=2b>

Shifting habitat, shifting wildlife

Plants and animals are well adapted for the environments that they live in, but droughts can stress these environments and make survival more difficult. Drought can dry out soils and make it difficult for plants to grow. Vegetation ranges may begin to shift in order for plants to survive. As plants shift and habitat changes, so will the wildlife that relies on it. Community members may need to travel further in order to harvest and hunt which increases time, effort and travel costs. Gathering wood could also be impacted because dry forest conditions can make trees and plants more susceptible to disease and insect attacks and can, in extreme cases, cause their death.



Plants and animals can lose habitat

What are people noticing?

Drought and shifting habitats are already affecting communities across the north. People on the James and Hudson Bay coasts are reporting that willows are growing more than ever before and communities across the north are noticing dryer conditions in the bush, which is leading to fewer berries for harvesting.

How can we prepare?

Assessing and reducing risk

The impact of drought on a community will depend on a region's exposure to drought and its ability to react and recover. Knutson et al. (1998) outlines a 6-step process to assess and potentially reduce the risk of drought events in communities, see the box for a summary.

Monitor

Monitoring allows us to gather information about the environment and the changes that are occurring. A community-based monitoring approach can involve hunters, trappers, gatherers, and other land users in data collection and may include the following steps:

- Identify important species in your community (e.g. sources of food, has traditional value, are part of the economy) and how drought might impact them.
- Use traditional knowledge to learn how drought conditions have been observed in the past to create a community baseline.
- Collect data while out on the land and monitor changes (location, abundance, health, etc.).
- Protect important habitat in the community. Protect habitat as it shifts over time.

Communities may also consider collaborations with universities, governments or other groups to merge traditional knowledge with scientific study and/or consider using an online science app.

Adjusting harvesting practices and community initiatives

Many harvesters are already saying they have had to adjust their time and methods to access traditional areas. Sharing harvested resources within the community can help ensure food security for those without the resources to harvest berries or plants. Communities should provide information to community members about the potential of drought in their area and how drought can impact them.

Resources

Knutson et al. (1998). How to reduce drought risk:
<https://drought.unl.edu/archive/Documents/NDMC/Planning/risk.pdf>

Online citizen science apps: <https://siku.org/#/about> & www.inaturalist.org

'How to Reduce Drought Risk' By Knutson et al. (1998)

Step 1: Assemble a group of people (community leaders, community members, & researchers/consultant if necessary) to conduct the drought impact assessment & gather info.

Step 2: Identify consequences of drought relevant to your community (ex. Impacts on traditional food sources etc.)

Step 3: Rank consequences by level of priority.

Step 4: Consider the underlying causes for the impacts and determine if it is possible to mitigate those causes.

Step 5/6: Identify & prioritize realistic and cost-effective actions that can be taken to address the issues.

