

# UNDERSTANDING FLOOD RISK AND VULNERABILITY

Flood risk comes from a community-specific combination of **HAZARD** (rainfall, storm surge), **EXPOSURE** (people and structures in the hazard area), and **VULNERABILITY** (characteristics of the community that increase sensitivity to damage).



## To understand flood risk, a community must look at:

- How often floods have occurred in the past, and how often they may occur in the future
- How bad a flood could be – where will water go in the community, and how deep could it get
- When floods typically occur, and how long they could last
- What is in the path of flood waters
- What we are doing right now, and could do in the future, to protect ourselves from flood



## What information and data will a community need?

### UNDERSTANDING HAZARD

- Floodplain mapping, including topography, precipitation and stream flow data
- Climate change information – how will our current flood risk change in the next 20, 50, or 100 years?
- Details on historical flooding

### UNDERSTANDING EXPOSURE & VULNERABILITY

- Locations and details of community infrastructure: roads, bridges, culverts, housing, community buildings, water sources, landfills, water and sewer treatment facilities, etc.
- Land use: residential, agricultural, commercial, government, etc.
- Locations and details of culturally important areas: burial areas, harvesting areas, hunting grounds, trap lines, firewood sources, community gathering places, etc.
- Geography: locations of lakes and rivers, higher areas, wetlands, etc.
- Characteristics of community members: population, age, housing arrangements, etc.
- Vegetation and wildlife
- Community services: businesses, government, emergency management, education, health, etc.

We can't reduce flood hazard, but we can reduce exposure and vulnerability through adaptation planning. Tools and resources to help your community understand hazard and vulnerability, and prepare a climate change adaptation plan, can be found at: <http://floodsmartcanada.ca/climate-change-and-first-nation-communities/>



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