Update from the Federal Flood Mapping Committee: Recent and Upcoming Flood Work

February 21, 2018

Natural Resources Canada
on behalf of the
Federal Flood Mapping Committee

Flood Mapping in Canada

The objective of this presentation is to provide an update on recent and upcoming flood work by the Federal Flood Mapping Committee.

National Disaster Mitigation Program

The National Disaster Mitigation Program (NDMP) was established in April 2015 to reduce the impacts of natural disasters on Canadians by:

- Focusing investments on significant, recurring flood risk and costs; and,
- Advancing work to facilitate private residential insurance for overland flooding.

Most of the program's $200M has been allocated toward projects in Risk Assessment, Flood Mapping, Mitigation Planning, and Small Scale Mitigation Projects. The program will end in March 2020.

Federal Flood Mapping Committee

The Federal Flood Mapping Committee was established in 2015 to reduce flood costs and increase resilience through development and provision of flood risk data.

Key roles include:

- Support flood map development;
- Develop national guidelines;
- Engage with Provinces, Territories, and key stakeholders;
- Review approaches for incorporating climate change; and,
- Support the implementation of private flood insurance.

Federal Flood Mapping Committee

Membership in the FMC comprises:

- Natural Resources Canada (NRCan) (Co-Chair);
- Public Safety Canada (PS) (Co-Chair);
- Department of Indigenous Services Canada (DISC);
- Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC);
- Environment and Climate Change Canada (ECCC);
- Infrastructure Canada (INFC);
- National Research Council (NRC);
- Canadian Forces;
- Canadian Space Agency (CSA);
- … and supported by a Technical Working Group comprising 180 members in Canada and internationally.

Recent Initiatives

Recent initiatives include:

- Indigenous firm contracted to conduct engagement on inclusion of Indigenous Knowledge and considerations within the Federal Flood Mapping Guidelines Series;
- Flood hazard data quality enhancement pilot project with CWN / IBC;
- Research projects with Global Water Futures;
- Statistics Canada Pilot Projects for geospatial socio-economic flood vulnerability study;
- Contract with consulting firm to evaluate existing flood hazard models; and,
- Establishing an Indigenous Engagement Working Group, co-chaired by CIRNAC and NRCan.

A National Symposium on Flood Risk (F/P/T) is being planned for spring 2019 – details to come.

Ministers Meetings

In November 2017, Public Safety Minister Goodale chaired the National Roundtable on Flood Risk to start driving action on better understanding and mapping flood risk in Canada. The Advisory Council on Flood (ACF) and two Working Groups were established.

In May 2018, the F/P/T Ministers Responsible for Emergency Management called for more opportunities to share scientific knowledge on flooding and collaborate on flood risk information.

In January 2019, the F/P/T Ministers Responsible for Emergency Management met again to discuss progress on this file.

Ministers Meetings: Outcomes

1. Strengthening Partnerships and developing mechanisms to share flood hazard maps and new foundational geospatial data;
2. Ongoing Collection of existing flood maps from across Canada and development of a digital inventory;
3. Active Collaboration with F/P/T, Indigenous organizations, municipalities, academia, private sector, insurance industry, and NGOs towards a public flood risk awareness tool and a long-term vision for flood mapping in Canada; and,
4. Continued Engagement with Indigenous and P/T stakeholders on the development of the Federal Flood Mapping Guidelines Series.

Ministers Meetings: Direction

Two key areas of work following from the Ministers Meetings:

1. Flood Risk Communication: developing a public-facing Flood Risk Information Tool.
2. Articulating a Long-Term Vision for Flood Risk in Canada.

Flood Risk Information Tool: Example



Flooding can happen anywhere. What's your risk?

14500 Hayne Boulevard, New Orleans

Climate and topography make flooding a reality in New Orleans.

It's rainy

New Orleans is one of the rainiest cities in the country, with an average of **62 inches of rain** each year.[1] Some rain events can be especially heavy, with many inches of rain falling in an hour. The frequency and severity of rain events will likely increase due to changing weather patterns related to climate change.

It's low-lying and has a lot of pavement

Most of New Orleans is surrounded by levees. Within the levees, elevation doesn't change much, making **the city like a shallow bowl**. And, because of subsidence, many parts of the city are sinking even more. Impermeable surfaces like buildings, streets, and parking lots mean there's not a lot of green space where rain can absorb into the ground. Excess rainwater that cannot be absorbed must be pumped out. Read more about drainage.

So, heavy rain can cause flooding

When heavy rain outpaces the ground's ability to absorb water and the drainage system's capacity, minor and even major flooding can happen. These heavy rains can happen often. In fact, **in the last 20 years, New Orleans has seen 42 flood events**.[2] Coastal areas outside of the levee system in New Orleans are also at risk for flooding from waves during storms.

[1] NOAA Online Weather Data Visualization, "NOWData"

[2] FEMA Data Visualization: Historical Flood Risk and Costs

Long-Term Vision for Flood Mapping

Authoritative flood risk and flood hazard information should be available, communicated effectively, developed with strong partnerships and collaboration from all stakeholders, and of sufficient quality to support effective decision-making at all levels.

Effective

Authoritative

Communication

Partnerships

Interoperable

Thank you

Robin Bourke
Natural Resources Canada