



Flood mapping

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Flood Maps in the NWT

- General term used in many contexts but can mean different things

- Other terms used:

Flood plain map

Design flood map

Flood inundation map

Designated flood map

Flood hazard map

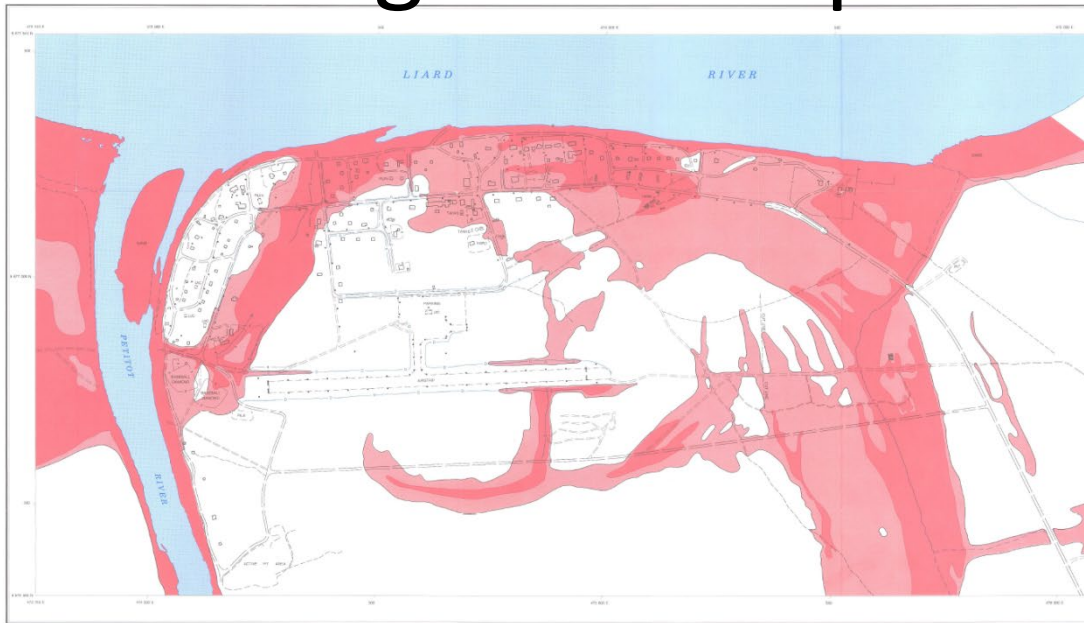
Regulatory flood map

Flood risk map

etc.

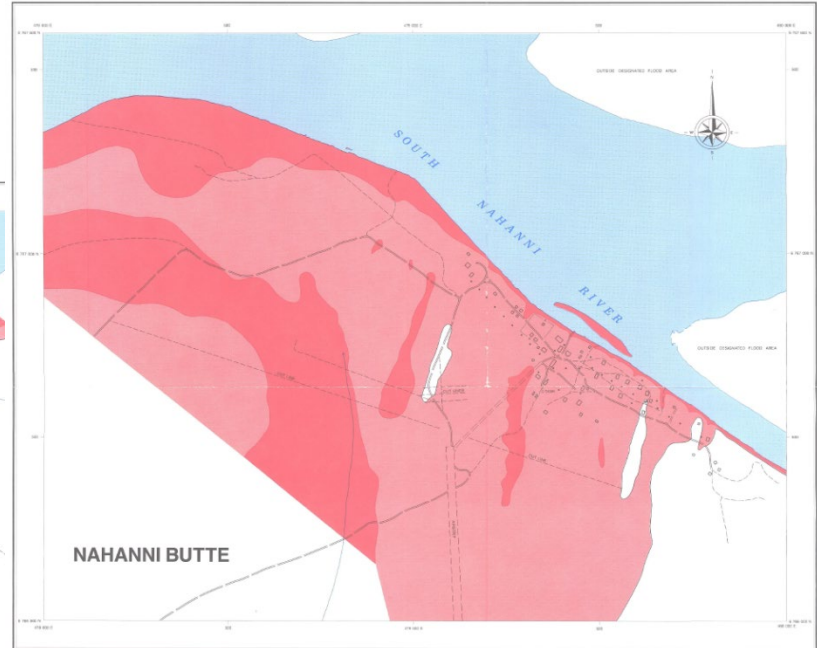


Existing NWT maps



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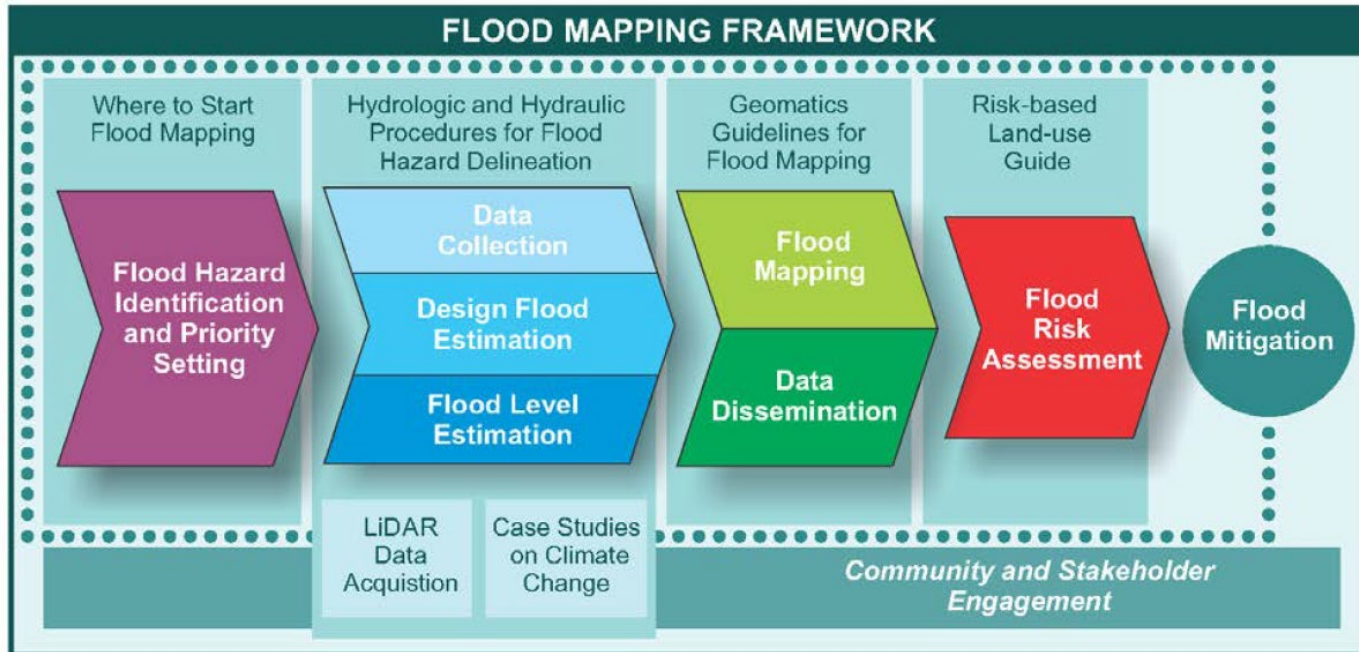
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Federal Flood Mapping Guidelines

- Intended to help advance and strengthen flood mapping activities across Canada



Federal Hazard Identification and Mapping Program (2021-2024)

- Announced in 2021, the goal of FHIMP is to work with provinces and territories to complete flood maps for higher- risk areas
- The GNWT is working with NRCan and ECCC to create new flood maps for the NWT communities that are at risk of flooding

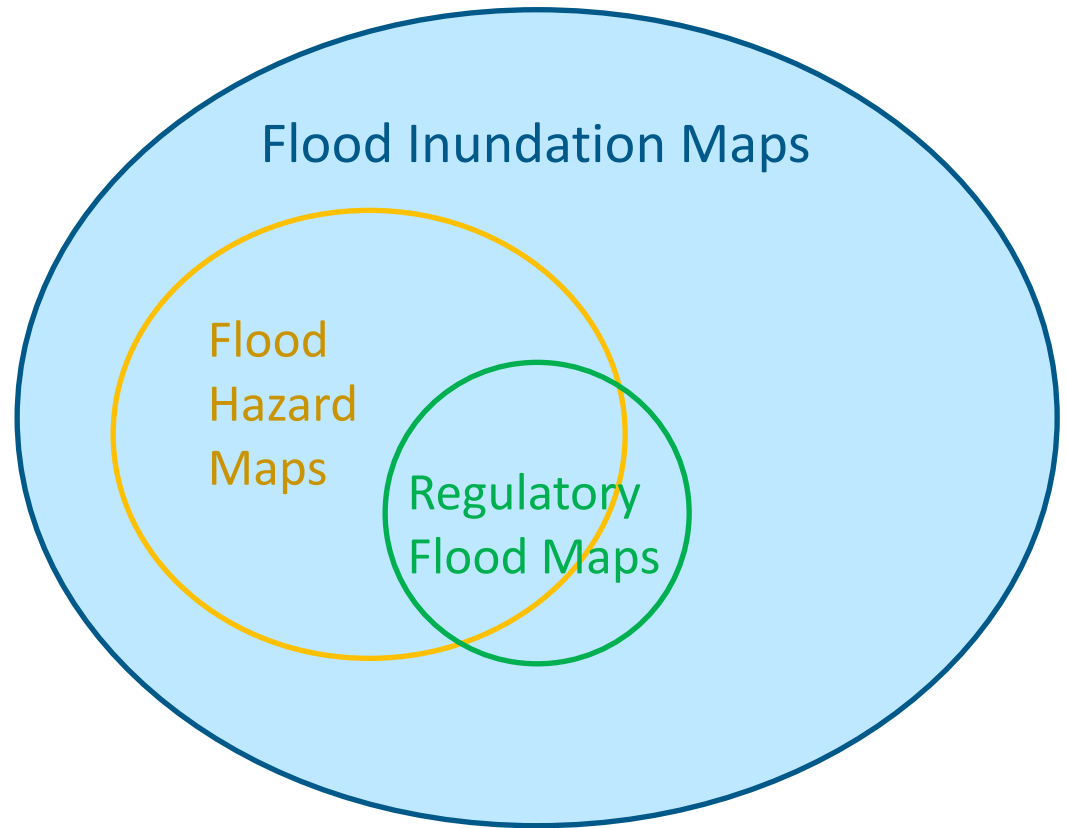


ENR's current flood map terminology*

*Adapted by ENR hydrologists, from NRCan's *Federal Flood Mapping Framework* (2018)

Type of flood map	What they show	Typical use
Inundation map	<ul style="list-style-type: none">• Broad category• Map that shows the floodwater extent of a past or potential (e.g., events of different likelihoods) flood• May also indicate zones such as floodway and flood fringe	Development of emergency preparedness plans
Flood hazard map	<ul style="list-style-type: none">• A specific type of inundation map• Map that shows the floodwater extent of a past or potential flood, and determine its likelihood• Must be developed using hydrologic and hydraulic investigations (engineering studies)• May also indicate zones such as floodway and flood fringe	Land use planning and flood mitigation
Regulatory or Designated map	<ul style="list-style-type: none">• The designated map for regulatory purposes• Should be a flood hazard map, however in some circumstances, such as limited data availability, it may be an inundation map	Land use planning and flood mitigation; regulatory purposes

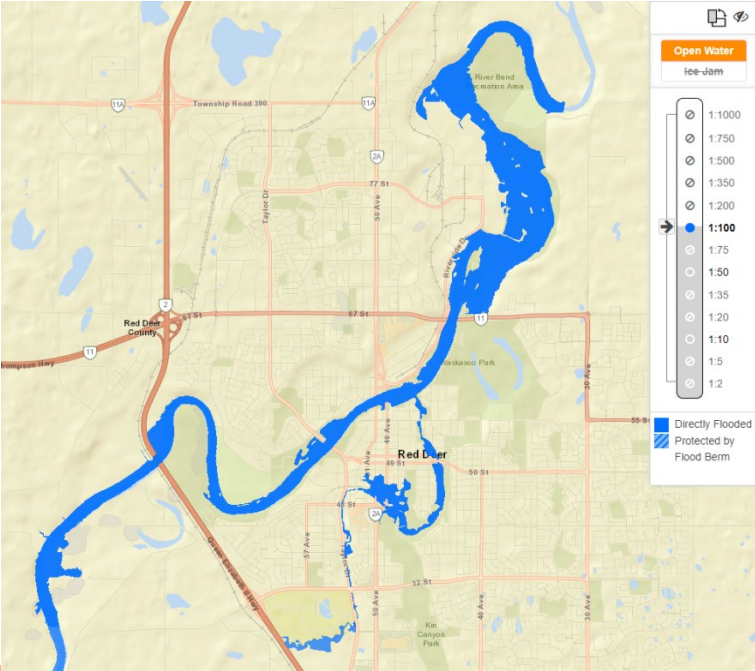
Flood Maps*



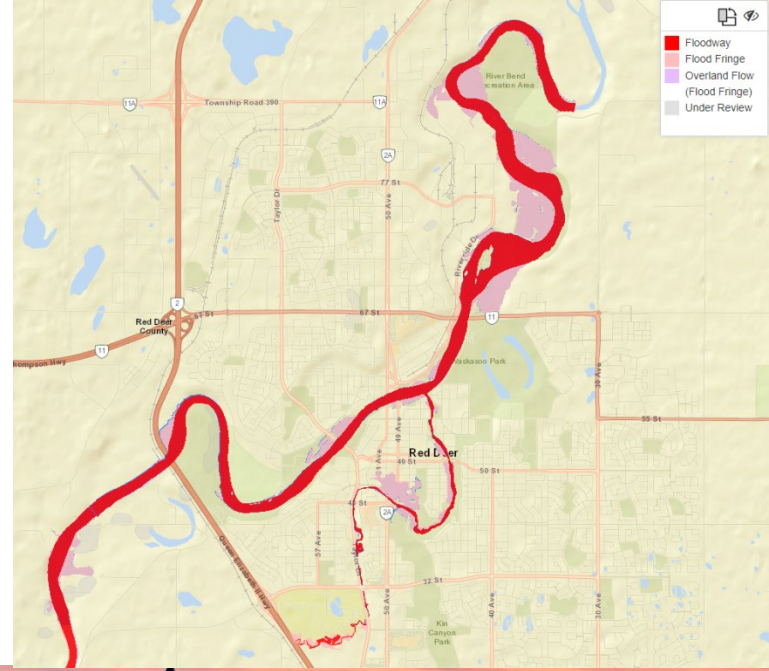
*as per GNWT definitions



Hazard map



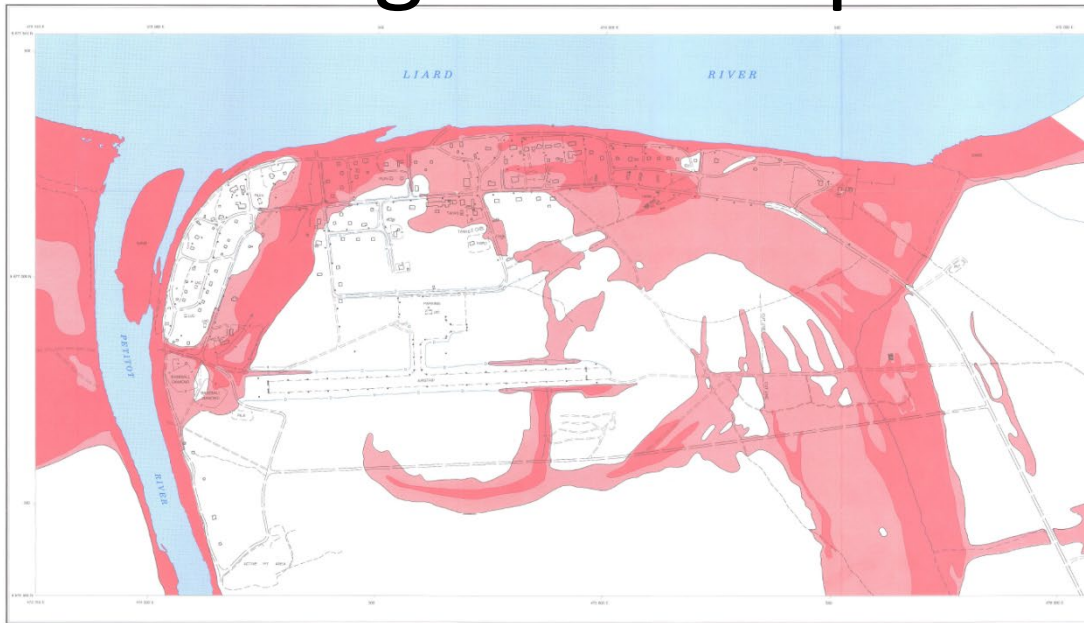
Hazard map with zones



Red Deer
maps of 1:100
event

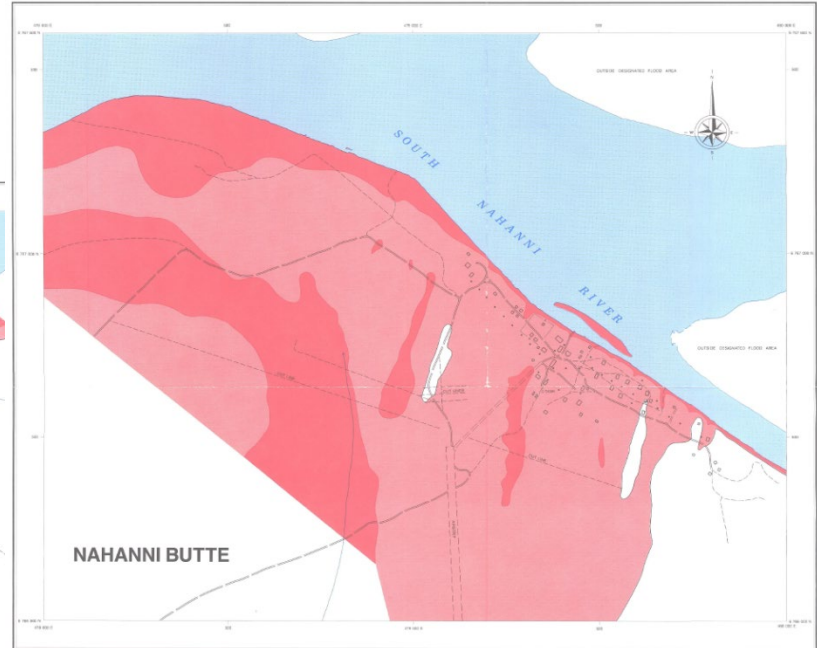


Existing NWT maps



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Community engagement

It is important that the flood mapping process involve community governments and the public at all steps, e.g.:

- Validation of preliminary inundation maps, especially if based on a real event
- Inform potential implications of new preliminary flood maps for community planning and development
- Inform decisions around the criteria for floodway / flood fringe zones and regulatory maps



Current GNWT flood mapping activities

1. Development of technical methodology for production of all types of flood maps, specific to communities prone to ice-jam flooding, and where there may be little data available.
2. Data compilation for three NWT communities: Hay River, Fort Simpson and Aklavik.
3. Production of preliminary inundation maps for Hay River, Fort Simpson and Aklavik.



Proposed GNWT flood mapping activities 2023-24

1. Data compilation on historic flood events for remaining NWT communities at risk of flooding
2. Preparation of preliminary inundation maps for other higher risk communities
3. Preparation of preliminary hazard maps, where possible, for communities identified as priority, including additional data collection requirements



Limitations and complexities of current work

1. Future climate change is not currently incorporated. These maps will be based on historical events and data.
2. As in the development of maps in the 1980s, inundation and hazard map production will be based upon data availability.





Thank you! Any questions?

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