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Gap Analysis for the Federal Geomatics Guidelines for Flood Mapping

Saskatchewan Indigenous Engagement Case Study.

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Gap Analysis for the Federal Geomatics Guidelines for Flood Mapping: Saskatchewan Indigenous Engagement Case Study

Prepared by

Mahihkan Management Solutions Inc.

1466 Enderby Ave, Delta, BC V4L 1S5

250-574-7638

www.mahihkan.ca

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Mahihkan MANAGEMENT

Authorship:

With humble gratitude, we respect the knowledge and contributions from First Nations partners and acknowledge the sovereignty of information provided. This report has been produced by Mahihkan Management Solutions Inc., an Indigenous owned business that specializes in designing and delivering Indigenous engagements and events, research and policy analysis services. This report was authored by Mahihkan Management. Culturally and ethnically diverse, Mahihkan works with contractors representing many cultures, including Indigenous Peoples, and has worked in collaboration with the government and Indigenous led organizations to deliver engagements, conduct research and further progress across Canada.

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1. Executive Summary

Flooding has widespread and devastating impacts on individuals, communities, and the natural environment. In Canada, it is the most common and costly natural hazard. Flood management involves actions covering the spectrum of prevention, mitigation and adaptation. An important component of flood management is having accurate flood maps to effectively manage risk, and to plan and develop policy. Many Indigenous communities in Saskatchewan are affected by floods regularly, with natural hazards now increasingly becoming more frequent and severe with climate change. Indigenous communities are about 18 times more likely than non-Indigenous communities to be evacuated during an emergency because of their remoteness, location in fire-and flood-prone areas, aging infrastructure, and challenging socio-economic situations (Office of the Auditor General of Canada, 2022).

Natural Resources Canada (NRCan) leads the advancement and standardization of flood mapping in Canada (Acosys Consulting, 2023). This project examines federal engagements with Indigenous Peoples in Saskatchewan regarding flood mapping, intending to enhance the effectiveness of these tools. Central to this work is the recognition of Indigenous rights and the integration of Traditional Land use practices and values in federal mapping frameworks, including the Federal Flood Mapping Guidelines Series.

This report reviews flood preparedness among Indigenous communities in Saskatchewan, evaluates federal emergency management programs, and highlights gaps in service delivery and policy alignment. While Canada is recognized globally for its flood management programs (Shrubsole, 2023), there remains a pressing need to improve outcomes for marginalized communities.

The findings in the report informed the community engagement sessions which took place in November 2025 and February 2026.

Together, the research and engagement outcomes contribute to the Federal Geomatics Guidelines for Flood Mapping: Saskatchewan Indigenous Engagement Case Study, offering insights and recommendations for more inclusive and effective flood resilience strategies.

This report serves as a foundational input to Natural Resources Canada’s Indigenous engagement

strategy for flood mapping in Saskatchewan. It is intended to guide policy alignment and support the integration of Indigenous Knowledge into federal geomatics frameworks.

2. Flooding Impacts to First Nations in Saskatchewan

Historically, Saskatchewan has been affected by various natural disasters including droughts, wildfires and floods. These events have influenced various facets of Saskatchewan's society and life in urban, rural, and Indigenous communities (Wittrock, 2018).

Many Indigenous communities were historically assigned reserve lands in low-lying, flood-prone areas without proper consultation. These decisions, made during the reserve creation process in the late 19th and early 20th centuries, prioritized lands undesirable for settler use, regardless of their suitability for habitation (Indian Claims Commission, 2005).

One notable example is the construction of a dam on Echo Lake by the Prairie Farm Rehabilitation Administration (PFRA) in 1942. This infrastructure project altered the hydrology of the Qu'Appelle River system, causing chronic flooding for several First Nations in the region, including Muscowpetung Saulteaux Nation, Pasqua First Nation, Standing Buffalo Dakota Nation, Zagime (Sakimay) First Nation, Cowessess First Nation, and Ochapowace Nation. These communities have experienced repeated loss of arable land, infrastructure damage, and long-term disruptions to housing, transportation, and traditional land use (Indian Claims Commission, 2005).

Despite these historical events, there is a distinct lack of centralized data on flooding in Indigenous communities. Due to the absence of centralized flood data for Indigenous communities, Mahihkan conducted a structured search using publicly available sources. Each First Nation's name was paired with the term "flood" in Google to identify relevant news articles, reports, funding records, and Comprehensive Community Plans (CCPs). Where no results were found, impacts were marked as unknown—though this does not confirm the absence of flooding.

Notably, some Indigenous communities with no publicly documented flooding events have nonetheless accessed federal funding for mitigation or adaptation, suggesting recognized vulnerability. Overall, approximately 89% of Indigenous communities in Saskatchewan have either experienced flooding or implemented flood planning measures.

Table 1 represents the compiled information as an overview flood impacts on Indigenous communities in Saskatchewan. The First Nations that were impacted by the dam at Echo Lake in 1942

are in bold text. Where flood impacts are listed as “unknown,” this reflects a lack of publicly documented events, not confirmation that flooding has never occurred. In some cases, communities with no documented events have accessed federal funding, indicating perceived or anticipated risk.

Table 1: Flooding impacts to indigenous communities in Saskatchewan.

Community or Nation	Year(s) of Impact	Description of Impact	Source
Ahtahkakoop Cree Nation	2015	Took in evacuees from flooded communities such as James Smith, Cumberland House and Red Earth. Preventative measures were put in place in 2022. Has accessed federal funding for mitigation or adaptation.	HazNet, 2019; Government of Canada, 2022
Beardy's and Okemasis' Cree Nation	1904—Ongoing, Severe flooding in 2005, 2007 and 2011	Repeat flooding caused extensive damage to infrastructure and created safety concerns. Mould growth in houses, contamination of drinking water and loss of farmland.	Rooban, 2019; Prairies Regional Adaptation Collaborative
Big Island Lake Cree Nation	Unknown	Unknown	NA
Big River First Nation	Unknown	Unknown	NA

Community or Nation	Year(s) of Impact	Description of Impact	Source
Birch Narrows Dene Nation	Unknown	Unknown, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2021
Black Lake Denesuline First Nation	Unknown	Unknown	NA
Buffalo River Dene Nation	Unknown	Unknown, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2021
Canoe Lake Cree First Nation	Unknown	Unknown, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2024; Government of Canada 2021
Carry the Kettle Nakoda Nation	Unknown	Unknown, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2021; Government of Canada, 2011
Chacachas First Nation	Unknown	Unknown	NA

Community or Nation	Year(s) of Impact	Description of Impact	Source
Chakastaypasin First Nation	Part of James Smith Cree FN (included in their impacts)	While specific reports concerning the Chakastaypasin First Nation are not readily accessible, its affiliation with JSCN implies that it may have been impacted by these broader community flooding events.	Legal Aid Saskatchewan, Gladue Rights Research Database, 2024
Clearwater River Dene Nation	Unknown	Unknown, has accessed federal funding for mitigation or adaptation	Government of Canada, 2021
Cote First Nation	Unknown	2022 CCP includes actions to address issues with flooding in basement homes, has accessed federal funding for mitigation or adaptation	Government of Canada, 2021; Cote First Nation, 2022 Comprehensive Community Plan
Cowessess First Nation	1940s, 2011, 2014	Flood caused by damming in the 1940s, reached the settlement in 2013, $12,181,421 into Cowessess First Nation Flood Claim Trust, per capita payments, April 2011—state of emergency for 10 days, several homes evacuated, 2014—declared state of emergency. Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2011; Cowessess Flood Claim; CBC Radio, 2011; MBC Radio, 2014

Community or Nation	Year(s) of Impact	Description of Impact	Source
Cumberland House Cree Nation	Historic, ongoing, 2005, 2011, 2020, 2024	History of significant flooding events and face continued challenges related to water management and infrastructure, 2005. In 2012, approximately 2000 residents of Cumberland House were evacuated to Prince Albert after the Saskatchewan River began flooding. Accessible only by single unpaved road, members are evacuated when water levels are too high.	Canadian Disaster Database + (3)
Day Star First Nation	Unknown	Unknown, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2011
English River First Nation	1974 and 2020	2020—Flooding impacts access road for community (SASK today); Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2021; SaskToday, 2020; GlobalNews, 2020
Fishing Lake First Nation	2007–2010–2011	The lake does not have an effective outlet channel and therefore is prone to flooding. Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2011; Fishing Lake Backgrounder
Flying Dust First Nation	Unknown	Unknown, has accessed federal funding for mitigation or adaptation	Government of Canada, 2021

Community or Nation	Year(s) of Impact	Description of Impact	Source
Fond Du Lac Denésuliné First Nation	Unknown	Unknown, Fond du Lac Municipality experience heavy flooding in 2008 and 2019 which could have impacted the community, however, no information specific to the Nation was found.	NBC, 2019
George Gordon First Nation	Unknown	Unknown has accessed federal funding for mitigation, or adaptation	Government of Canada, 2021
Hatchet Lake Denesuline First Nation	Unknown	Ice road access, boat or fly-in only; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2023
James Smith Cree Nation	Historic, 2012–2017	Flooding has been a perennial problem for the James Smith Cree Nation, leading its chief and council to declare states of emergency in the past and, occasionally, evacuate residents to Melfort when homes and drinking water were threatened. Mostly caused by spring thawing	Saskatoon StarPhoenix, 2017
Kahkewistahaw First Nation	1907 and 1943	Round Lake and Crooked Lake dams, negligent operations altered the flow of Qu'appelle River system; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2021; Kahkewistahaw Council Update, 2020

Community or Nation	Year(s) of Impact	Description of Impact	Source
Kawacatoose First Nation	2010, 2014	Tornado in July 2010 and subsequent flooding destroys 15 homes, 5 other rural properties and entire farms, leaving 70 homeless, 2014—declared state of emergency; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2011; CBC, 2010; MBC news, 2014
Keeseekoose First Nation	Historic—displaced by flooding in 1874, 2018	Chief Keeseekoose signed Treaty 4 on September 15, 1874, and settled on the Swan River Reserve, Manitoba. Because of flooding, the band was relocated to their present reserve near the towns of Pelly and Kamsack, between the Cote and Key Reserves. In 2018, they declared a state of emergency, damage to several homes after the storm; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2021, MBC, 2018
Kinistin Saulteaux Nation	Unknown	Unknown	NA

Community or Nation	Year(s) of Impact	Description of Impact	Source
Lac La Ronge Indian Band	2011, 2020	2011 - “I talked to some people, they’ve seen it before where the water has come right over where the houses are and the hotel is,” said Cook-Searson. “We’re concerned about it,” said Cook-Searson, who said there are washouts on roads leading to many of the northern communities. The flooding is also affecting access to traditional activities like blueberry and mushroom picking. -2020—record-high water level, impacts to infrastructure; Has accessed federal funding for mitigation or adaptation.	Regina Leaderpost, 2011; LLRIB.com, 2020; Government of Canada, 2023
Little Black Bear First Nation	2014	2014- Declared state of emergency, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2011; MBC Radio, 2014
Little Pine First Nation	Unknown	Unknown	NA
Lucky Man First Nation	Unknown	Unknown	NA

Community or Nation	Year(s) of Impact	Description of Impact	Source
Makwa Sahgaiehcan First Nation	Unknown	Unknown, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2024, Government of Canada, 2021
Ministikwan Lake Cree Nation	Unknown	Unknown, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2021
Mistawasis First Nation	2011, 2014	Extreme flooding as a result of heavy snowfalls in Winter and early rapid snowmelt and rain in Sprint	Mora, 2022; The International Indigenous Policy Journal-Honouring Water
Montreal Lake Cree Nation	2011, 2013	2011 - State of emergency declared by Chief, 200 people evacuated, 2013—heavy rainfall	Regina Leaderpost, 2011
Moosomin First Nation	Unknown	Unknown, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2024
Mosquito Grizzly Bear's Head Lean Man First Nation	2020	2020- advisory warning due to ice jamming along north Sask river by AFN; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2023; AFN, 2020

Community or Nation	Year(s) of Impact	Description of Impact	Source
Muscowpetung First Nation	2022, 1940s	2022—mass rainfall, washing out commuter road; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2011; Global News, 2022
Muskeg Lake Cree Nation	Unknown	Unknown	NA
Muskoday First Nation	2020	2020 - advisory warning of flood risk by AFN, community has had issues with water supply; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2024; AFN 2022
Muskowekwan First Nation	2022	2023 - financial statements show flood reparation, road and drainage improvement costs; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2024, Government of Canada, 2011; Financial Statement, 2023
Nekaneet First Nation	2010 2022	2010 - 200 residents suffer damages, gravel road washed away; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2011; MBC radio, 2010; CBC, 2022

Community or Nation	Year(s) of Impact	Description of Impact	Source
Ocean Man First Nation	Unknown	Unknown, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2021
Ochapowace First Nation	Historic, 1942, 2011, 2014	2011&2014—Declared state of emergency—Round Lake dam construction in 1942 causes repeated flooding, file legal claim, lost nearly 1200 acres	MBC, 2014, MBC radio, 2011; Akwen, N.S., 2019 Ochapowace Oral History
Okanese First Nation	Unknown	Unknown, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2011
One Arrow First Nation	Unknown	Unknown, has accessed federal funding for mitigation, or adaptation	Government of Canada, 2024
Onion Lake Cree Nation	1900–1958; 2013	1900-1958 - claim filed because crown failed to address flooding issues, resulting in loss of entire reserve,2013—around 200 people are set to evacuate from the Onion Lake First Nation as flood waters threaten the reserve located about 50 kilometres north of Lloydminster; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2021; Global News, 2013; Specific Claims Tribunal, 2024

Community or Nation	Year(s) of Impact	Description of Impact	Source
Pasqua First Nation	Historic, annual, 1941	Dam on (Echo Lake) Qu'Appelle Lakes causes annual flooding, claim filed settled in 2013; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2011; Global News, 2013
Peepeekisis Cree Nation	2014	2014 - declared state of emergency; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2011; MBC, 2014
Pelican Lake First Nation	Unknown	Specific incidents are not documented but the region has experienced flooding and is prone due to proximity to lake; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2023; The Brandon Sun, 2011
Peter Ballantyne Cree Nation	Historic, annual, 1942	Whitesand Dam flooding—Nation in court with SaskPower; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2024
Peter Chapman First Nation	2013—Part of James Smith Cree Nation (amalgamated in 1902)	Flood causes road danger and several evacuations	MBC radio, 2013

Community or Nation	Year(s) of Impact	Description of Impact	Source
Pheasant Rump Nakota Nation	Unknown	Reserve situated in alluvial flume, high ground water conditions and periodic flooding	Toronto Metropolitan University, 2019
Piapot First Nation	Historic, 1940s	Construction of control structures by PFRA led to persistent flooding on reserve lands	Piapot First Nations Specific Claims Update, Maurice Law, 2022
Poundmaker Cree Nation	2013	Declared state of emergency, 50 people evacuated due to flooding	Global News, 2013
Red Earth First Nation	Historic, annual 2006, 2007, 2016, 2022	Evacuated 5 times in the last 15 years, prone to flooding due to proximity to Carrot River, 2006—Entire Band (1100) were evacuated as Carrot River overflowed, 2007—The band council's decision to evacuate 691 residents from the northern reserve, mainly children, elderly residents and pregnant women, came as water covered one-third of a main access road, which divides the reserve. 2016 - heavy rain evacuated 576 residents; Has accessed federal funding for mitigation or adaptation.	Canadian Disaster Database; Government of Canada, 2011; CBC, 2016

Community or Nation	Year(s) of Impact	Description of Impact	Source
Red Pheasant First Nation	Unknown	Records of flooding when treaties were signed in 1876	Battlefords Agency Tribal Chiefs
Saulteaux First Nation	Included in Muskowpetung Saulteaux First Nation	2022—Mass rainfall, washing out commuter road, has accessed federal funding; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2011; Global News, 2022
Shoal Lake Cree Nation	1949, 1996, 2016	2016 - Declared state of emergency due to 100 mm of rain in a short period, road washout and community isolated from emergency response, has accessed federal funding	Government of Canada, 2024, 2023, CityNews, 2016
Standing Buffalo Dakota Nation	1940s, 2011, 2013	Dam project at Echo Lake by PFRA caused flooding, 2011 and 2013 record rainfall causes flooding	CBC News, 2011, APT News, 2013
Star Blanket Cree Nation	2014	2014 - Declared state of emergency; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2024; Government of Canada, 2011; MBC, 2014

Community or Nation	Year(s) of Impact	Description of Impact	Source
Sturgeon Lake First Nation	Unknown	Landscape is shaped by glacial activity and extensive flooding over millennia	Arkeonews, 2025
Sweetgrass First Nation	Unknown	Unknown	NA
The Key First Nation	1880, Unknown	Relocated from flood prone zone, unknown reported floods since, has accessed federal funding for mitigation or adaptation	Government of Canada, 2021; CCP
Thunderchild First Nation	Unknown	Unknown	NA
Wahpeton Dakota Nation	2014	Powwow grounds impacted and three families evacuated	PaNow, 2014
Waterhen Lake First Nation	2011, 2024	2011 – 15 people evacuated, 2024—rainfall warning from ECCC, accessed federal funding for mitigation or adaptation	Government of Canada, 2021, Battlefords NOW, 2024; Province of Manitoba News Release, 2011
White Bear First Nations	Unknown	Unknown	NA

Community or Nation	Year(s) of Impact	Description of Impact	Source
Whitecap Dakota First Nation	Unknown	Significant areas of reserve are prone to flooding determined by WSA; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2024; Whitecap Dakota FN CCP, 2023
Witchekan Lake First Nation	2014, 2021, 2022	In 2021 and 2022, Witchekan Lake First Nation experienced significant inland flooding, prompting the Agency Chiefs Tribal Council to respond; Has accessed federal funding for mitigation or adaptation.	Government of Canada, 2023
Wood Mountain Lakota First Nation	Unknown	Unknown	NA
Yellow Quill First Nation	2005, 2006	Continues to be at risk due to spring melt	Climate Risk Institute, 2019; Indigenous Climate Hub, 2018

Community or Nation	Year(s) of Impact	Description of Impact	Source
Young Chippewayan First Nation (Stoney Knoll Band)	Unknown	Unknown	NA
Zagime Anishinabek First Nation (Sakimay)	Historic, ongoing, 1940s, 2013	1940s construction of dam causes annual flooding (PFRA); 2013-declares state of emergency	Government of Canada, 2024; Indian Claims Commission, 2004; SaskNow, 2013

3. Flooding Impacts to Métis Communities in Saskatchewan

3.1 Context and Governance Foundations

The Métis Nation—Saskatchewan (MN—S) serves as the democratic voice of Métis citizens across twelve distinct regions. Through its elected representatives and formalized ministries, including those for Environment and Climate Change, MN—S negotiates on behalf of its citizens with federal and provincial entities. Despite these legitimate governance structures, Métis inclusion in flood resilience and emergency governance systems remains sporadic and peripheral.

This marginalization is rooted in institutional design. Federal flood programs such as the Flood Hazard Identification and Mapping Program (FHIMP) or Disaster Financial Assistance Arrangements (DFAA) are typically administered by provincial authorities, which lack Métis-specific protocols. This structural gap limits access to funding and engagement pathways for Métis communities, perpetuating systemic exclusion. Achieving climate resilience and honouring reconciliation commitments requires the full and equal involvement of Métis governments in all levels of climate and emergency governance (Métis Nation Council, 2025).

3.2 Flood Risk and Geographic Exposure

Recent studies by Natural Resources Canada underscore the acute exposure of Indigenous communities, especially in Saskatchewan, to 1-in-100-year flood events. Although data for Métis settlements—such as in Cumberland House area—remain limited, their proximity to major water systems such as the Saskatchewan River Delta places them at significant risk. This lack of data not only obscures the true extent of flood risk but also hinders the ability of Métis communities to access funding and participate in planning processes.

This delta, one of the largest in North America, sustains thousands of Indigenous residents, and is increasingly impacted by hydrological shifts caused by upstream damming, climate-driven snowmelt variability, and degrading wetland ecosystems (Acosys Consulting, 2023). Métis communities in the Qu'Appelle Valley, Cumberland House area, and rural settlements across northern Saskatchewan are especially vulnerable. However, federal and provincial datasets often fail to reflect these risks, and the

absence of culturally relevant, community-driven mapping leaves critical knowledge gaps. As a result, key land-based indicators, such as disruption to traplines, berry-picking grounds, and transportation routes, are often overlooked in technical flood assessments (Acosys Consulting, 2023).

3.3 Socioeconomic and Cultural Impacts of Flooding

While Métis communities may not face mass displacement on the scale of some reserve based First Nations, their experience of flooding is no less disruptive. Events such as the 2011 Souris River flood, displaced families and disrupted rural livelihoods. More recent threats—such as overflow in the Quill Lakes region have raised concerns about farmland inundation, road access disruption, and water quality concerns (Water Security Agency, no date).

Without legal land tenure on reserve-style holdings, Métis citizens are often ineligible for federal disaster relief. This jurisdictional invisibility perpetuates environmental injustice, as public infrastructure decisions (for example, diversion projects) prioritize urban areas over Indigenous land users. Compounding this inequity is the lack of timely compensation or culturally responsive recovery supports (Supreme Court of Canada, 2025).

3.4 Capacity, Access, and Systemic Exclusion

Structural and institutional capacity remains a key barrier. Local Métis governance bodies, typically volunteer-led, lack the staff, training, and resources to navigate complex grant applications or lead technical planning. Unlike many First Nations with dedicated emergency management staff or Tribal Councils, Métis Locals often operate on modest budgets with limited external support.

MN—S has begun to build regional capacity in climate adaptation, GIS mapping, and environmental monitoring. However, sustained investment is necessary to establish permanent roles, develop risk communication strategies, and produce actionable flood mitigation plans.

Many Métis communities also lack baseline data on historical flood patterns, community vulnerabilities, and infrastructure vulnerabilities, leaving them unprepared for the accelerating impacts of climate change (Métis Nation Council, 2025).

3.5 Métis Knowledge Systems and Environmental Stewardship

Effective flood response must acknowledge and incorporate Métis land-based knowledge systems.

Generational knowledge related to seasonal flooding, ice jam behaviour, and ecological markers, such as shifts in beaver activity or moss bloom, can serve as powerful supplements to technical modelling. These narratives, traditionally transmitted through stories and seasonal round gatherings, offer granular insight into hyper-local risk areas.

Integrating this knowledge requires partnership and shared authority. Participatory mapping initiatives, supported by Elders and Knowledge Keepers, can co-generate flood risk datasets that reflect both scientific and cultural understandings of water. These approaches not only improve the precision of hazard identification but also restore cultural agencies and resilience within communities.

3.6 Inclusive Governance and Co-Management Opportunities

Water governance in Saskatchewan is dominated by federal-provincial institutional arrangements, such as those led by Natural Resources Canada, Environment and Climate Change Canada, and the provincial Water Security Agency. According to the Water Security Agency, these frameworks rarely include structured pathways for Métis participation.

Reforms should include:

- Guaranteed Métis representation on provincial water boards and interprovincial watershed committees.
- Nation-to-Nation Memoranda of Understanding between MN—S emergency management bodies.
- Creation of Indigenous-led flood adaptation advisory councils with decision-making authority.
- Métis engagement in bilateral water negotiations affecting their territories.

Such co-governance models promote democratic accountability, increase policy relevance, and embody reconciliation in action.

3.7 Shifting Toward Prevention and Resilience

Flood-related expenditures in Saskatchewan remain heavily focused on post-disaster recovery. The Water Security Agency (WSA) states that the Federal Disaster Financial Assistance Arrangement (DFAA) payouts overshadow investments in prevention, hazard mapping, and community

preparedness. DFAA payouts often reach hundreds of millions of dollars per event for infrastructure repairs, emergency response, and support for displaced residents. In contrast, investment in proactive measures like flood hazard mapping, community preparedness, and infrastructure upgrades are underfunded (Public Safety Canada, 2025; WSA, no date).

While initiatives like FHIMP have introduced Indigenous-specific streams, Métis communities face systemic barriers to access. As outlined in the Government of Saskatchewan's climate resilience report, the FHIMP is a federal-provincial initiative with $164.2 million committed nationally from 2024 to 2028, including $9 million for Saskatchewan flood mapping (WSA, 2024).

A paradigm shift is needed. Proactive flood mitigation should include:

- Multi-year, accessible funding for Métis-led spatial risk assessments.
- Community-controlled early-warning infrastructure.
- Youth training in climate science and emergency planning.
- Infrastructure upgrades for housing and transportation continuity.

Preventive investments are cost-effective and socially just, reducing harm and fostering long-term wellbeing.

3.8 Policy Recommendations

The following policy recommendations are proposed to address the systemic barriers faced by Métis communities and to promote equitable flood resilience (table 2).

Table 2: Policy recommendations proposed to address the systemic barriers faced by Métis communities and to promote equitable flood resilience.

Policy Domain	Strategic Recommendation
Risk Mapping	Integrate GIS overlays with Métis harvesting zones and historic land use maps.

Policy Domain	Strategic Recommendation
Governance	Institutionalize Métis representation across water governance, disaster management, and climate funding bodies.
Capacity Building	Establish permanent funding streams for MN—S to lead flood resilience training, data stewardship, and participatory mapping.
Equity and Access	Harmonize eligibility criteria to ensure Métis inclusion in Indigenous climate adaptation programs.
Health Impacts	Support culturally anchored research into flood-related mental health, displacement stress, and nutrition insecurity.
Justice and Redress	Develop compensation and restitution pathways for Métis lands and livelihoods affected by flood management projects.

3.9 Conclusion

Saskatchewan's Métis communities face rising flood risk, historical marginalization, and climate governance exclusion. Their resilience depends not solely on technical solutions, but on a systemic shift toward inclusion, equity, and cultural affirmation. This analysis demonstrates that equitable flood resilience for Métis peoples is both a policy imperative and a moral obligation—one that will require innovative co-governance, sustained investment, and recognition of Indigenous jurisdiction, identity, and voice.

4. Emergency Management and First Nations Communities

Emergency preparedness and response responsibilities must reflect the distinct governance, capacity and priorities of each community. While many communities lead their own efforts using local knowledge and resources, distinction-based support frameworks should enable tailored assistance from provincial and federal governments, as well as non-governmental organizations, like the Canadian Red Cross. As more organizations become involved, coordination becomes essential. However, the absence of standardized protocols and jurisdictional clarity often leads to fragmented responses, delays, and confusion during emergencies.

The Saskatchewan First Nations Emergency Management (SFNEM) offers firefighting, emergency operations centres, and search and rescue services, including flood response (SFNEM, no date).

The Federation of Sovereign Indigenous Nations in Saskatchewan (FSIN) operates an Emergency Management Department that helps secure federal funding for First Nations experiencing an emergency. It also creates First Nations Emergency Management Terms of reference and works to clarify costs, mandates and roles of government and NGOs (Federation of Sovereign Indigenous Nations, 2022).

FSIN and SFNEM play a critical role in bridging gaps between federal programs and community needs, offering culturally grounded emergency services and advocating for First Nations-led governance in emergency management.

Beyond community response, the federal government is responsible for ensuring that Indigenous communities receive emergency management services, including emergency planning, flooding prevention and wildfire support as requested by affected Indigenous communities or provinces (Office of the Auditor General of Canada, 2022). While the federal government holds responsibility for ensuring Indigenous communities receive emergency management services, it does not directly deliver these services. Instead, Indigenous Services Canada negotiates service agreements with provinces or third-party providers to fulfill these obligations. (Office of the Auditor General of Canada, 2022).

In Saskatchewan, Indigenous Services Canada partners with provincial organizations such as the

Ministry of Government Relations and Saskatchewan Water Security Agency to offer flooding risk and emergency response management. Several other federal departments offer programs, which will be outlined in subsequent sections (ISC, 2025).

Additionally, the Provincial Disaster Assistance Program (PDAP), operated by Saskatchewan Public Safety, assists residents, small businesses, agricultural operations, First Nations, non-profit organizations and communities in recovering from natural disasters—including flooding, tornadoes, plow winds and other disasters. PDAP may assist to cover the cost of uninsurable essential losses, cleanup, repairs and temporary relocation (Saskatchewan Public Safety Agency, 2025).

The following section provides a detailed analysis of these federal programs and their engagement with Indigenous communities in the context of flood mapping and emergency preparedness.

5. Gap Analysis of Existing Federal Engagement Regarding Flood Mapping

5.1 Methods

Mahihkan's project team conducted a gap analysis of existing federal programs available to Indigenous communities regarding flood mapping and flood preparedness. The analysis drew on available agency and organization documents, academic literature, and publicly available news sources.

5.2 Results

This section presents a comparative review of federal programs that engage Indigenous communities in flood-related planning, with a focus on identifying structural gaps, jurisdictional challenges, and opportunities for improved inclusion.

5.2.1 Federal Programs and Engagement

Many federal departments offer programs that support Indigenous communities in flood planning and services. While these programs offer valuable resources, their delivery models often rely on provincial intermediaries, which can dilute Indigenous access and reduce responsiveness to community-specific needs." Indigenous Services Canada (ISC) is responsible for ensuring that First Nations have access to emergency management services comparable to those available to provincial residents. Other departments offering programs include Crown—Indigenous Relations and Northern Affairs Canada (CIRNAC), Infrastructure Canada (INFC), Public Safety Canada (PSC), Natural Resources Canada (NRCan) and Environment and Climate Change Canada (ECCC) (Acosys Consulting, 2023).

Each department has distinct mandates and delivery models. Below is a summary of how these programs have supported Indigenous communities, including how the departments are organized to provide different services over time (NRCAN, 2025).

5.2.1.1 Environment and Climate Change Canada (ECCC)

Flood Disaster Reduction Program (FDRP) (1975–1999)

The Flood Disaster Reduction Program was aimed to systematically map urban flood prone lands and

legally designate flood zones to regulate development and minimize risk (Shrubsole, 2023).

Under the 1977 Canada-Saskatchewan Flood Damage Reduction agreement, 29 flood-prone communities were listed, 22 were mapped, and 20 were designated to reduce floodplain development. The FDRP had a minimum requirement of a 1:100-year flood; however, provinces were able to set their own standard as long as it met the national minimum. As of July 31, 2025, the Government of Saskatchewan announced the adoption of the 1:200-year flood standard under the Planning and Development Act to align with the Federal Disaster Financial Assistance Arrangements (DFAA) program (Government of Saskatchewan, 2025).

For First Nations land under the FDRP, approximately 40 reserves or communities were mapped with the full cooperation of Band Councils (Canada-wide) (Shrubsole, 2023). For First Nations communities, the then-called Department of Indian and Northern Affairs played a lead role in emergency preparedness and response management. In 1985, the department entered a flood-risk mapping agreement with Environment Canada. However, risk areas were not designated unless requested by the Nation (Shrubsole, 2023).

The FDRP marked a pivotal advancement in federal flood management. Its success positioned Environment Canada as a global leader in floodplain mapping (Shrubsole, 2023). However, the Institute for Catastrophic Loss Reduction noted that emergency response on reserve lands was overlooked by institutional arrangements (Shrubsole, 2023).

Although innovative, the program ended in 1999 due to rising costs and uneven implementation. Its legacy continues through NRCan's FHIMP. (Shrubsole, 2023).

Indigenous Guardians Program

The Indigenous Guardians program provides funding to support Indigenous Peoples in the stewardship of their traditional lands, waters, and ice. It helps uphold Indigenous title and rights, and responsibilities related to environmental protection, sustainable economies, and cultural connections to the land (ECCC, 2025).

Launched in 2017, with an initial $25 million investment over four years, the program supported over 80 Indigenous-led initiatives during its pilot phase (2018–2022). In Budget 2021, the federal

government committed up to $100 million over five years (2021–2026) to expand the program and build networks for First Nations, Inuit, and Métis through a distinctions-based governance structure (ECCC, 2025).

Saskatchewan's participation in the program has been limited. However, a few communities have developed meaningful initiatives. For example, in 2018–2019, Mistawasis Nêhiyawak launched a project focused on conserving the Sturgeon River Plains Bison, blending Traditional Knowledge and youth engagement (ECCC, 2025). In 2020–2021, Pheasant Rump Nakota First Nation initiated a project centred on habitat stewardship and intergenerational knowledge sharing. Pheasant Rump advanced a Tier 2A project that emphasized youth training and long-term environmental stewardship.

To date, the program has not been used for flood mapping. Targeted outreach to Indigenous communities led by emergency management could prove to be beneficial (ECCC, 2025).

5.2.1.2 Indigenous Services Canada (ISC)

Emergency Management Assistance Program (EMAP)

EMAP serves on-reserve residents who have been evacuated due to emergencies and supports on-reserve residents who have incurred damages to their primary residence. In Saskatchewan, EMAP supports 68 of 70 First Nations, and 7 of 9 Tribal Councils and Saskatchewan First Nation Emergency Management Organization (SFNEM). It provides funding to build emergency management capacity, prepare all-hazard emergency plans, undertake risk assessments, conduct FireSmart activities, and support response and recovery costs.

EMAP also includes the Emergency Management Non-Structural Mitigation and Preparedness Program (ISC). This program is proposal-based and funds non-structural projects on-reserve. The goal of the program is to assist Indigenous communities on-reserve to increase their preparedness and mitigation capacity through activities such as flood mapping, risk assessment planning, and emergency management training.

5.2.1.3 Natural Resources Canada (NRCan)

Flood Hazard Identification and Mapping Program (FHIMP)

FHIMP updates flood hazard maps for high-risk areas in partnership with provinces. In Saskatchewan, $9 million has been allocated for mapping through the Water Security Agency. FHIMP includes an Indigenous Traditional Knowledge stream, offering up to $125,000 annually for one or two projects. While promising, the scale and reach remain limited.

5.2.1.4 Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

First Nation Adapt Program (FNA)

FNA supports climate adaptation projects, with a focus on flooding. The goal of the program is to improve resiliency to climate change by improving knowledge of the issues facing First Nations, to better plan for the future.

Given the severity of climate change impacts related to flooding, additional funding was available through 2021–2022 to better understand the extent of potential flooding and plan adaptive measures.

The flood-mapping portion of the First Nation Adapt Program provides support for Indigenous communities to:

- Develop flood maps to identify flood risks for local infrastructure.
- Collect and share regional watershed data for gap areas.
- Participate in regional watershed management processes.
- Develop best practices, tools and adaptation options for flood management.

Since 2016, it has funded 32 projects in Saskatchewan, totalling over $7.7 million and reaching 69% of First Nations in Saskatchewan. Many projects are administered by Tribal Councils, and some funding applications are done through third-party consulting agencies. A full list of projects funded by FNA is provided in Appendix A.

Indigenous Community-Based Monitoring Program (ICMP)

ICMP provides $6 million annually to support Indigenous-led climate monitoring using both Indigenous and Western knowledge systems.

5.2.1.5 Infrastructure Canada (INFC)

Disaster Mitigation and Adaptation Fund (DMAF)

In 2018, Infrastructure Canada launched the DMAF, committing $2 billion over 10 years in structural and natural infrastructure projects to increase the resilience of communities impacted by natural disasters triggered by climate change (Acosys Consulting, 2023). In 2021, Canada provided an additional $1,375 billion over 12 years to renew DMAF. A minimum of $138 million of this funding is allocated to Indigenous recipients. DMAF was accessed 113 times by Indigenous communities in Saskatchewan. Further information on specific projects and spending can be found in Appendix A.

5.2.1.6 Public Safety Canada (PSC)

National Disaster Mitigation Program (NDMP)

Launched in 2015, the NDMP provides $200 million over five years with the goals of flood risk reduction and insurance development for overland flooding.

Provincial and territorial governments are primary recipients for funding with potential distribution to other bodies, including Indigenous communities. However, this indirect funding model can dilute Indigenous access.

Disaster Financial Assistance Arrangements (DFAA)

DFAA reimburses provinces and Indigenous governments for disaster response and recovery. Saskatchewan has received significant payouts, especially for flooding, when between 2005 and 2014, it accounted for 20 percent of all national payments.

Table 3 summarizes six major incidents involving First Nations, totalling over $218 million in federal payments (Public Safety Canada, 2025).

Table 3: DFAA incidents involving Saskatchewan First Nations.

Location	Evacuated	Federal DFAA Payments	Provincial DFAA Payments	Event Description
Northeastern Saskatchewan	0	$4,784,560.00	$2,787,821	**April 1995**. An unusual quick thaw, combined with early-season spring rain, caused extensive flooding in eastern Saskatchewan. Numerous communities declared a State of Emergency, including Quill Lake, Englefeld, Langenburg, and Melville. Other affected areas included Carrot River, Moosomin, White Sands, Yorkton, Melfort, and Nipawin.
Southern Alberta and Saskatchewan	2,065	$75,320,000.00	$0	**June 17, 2010**. Record rainfall resulted in extensive flooding in Alberta and Saskatchewan, washing out part of the Trans-Canada Highway and shutting down part of the Canadian Pacific rail line. Evacuations occurred in the Blood Tribe reserve, Maple Creek, and Medicine Hat.

Location	Evacuated	Federal DFAA Payments	Provincial DFAA Payments	Event Description
Red Earth First Nation, Saskatchewan	691	$125,800,000.00	$0	**April 19, 2007**. The band council evacuated 691 residents, primarily children, seniors, and pregnant women, after flooding covered one-third of a main access road on the reserve.
Red Earth, Saskatchewan	1,100	$7,283,952.00	$0	**April 13, 2006**. Rising waters on the Carrot River prompted a general evacuation order affecting approximately 1,100 residents of the First Nation community.
Cumberland House Cree First Nation, Saskatchewan	2,000	$3,455,208.00	$0	**June 23, 2005**. Approximately 2,000 residents were evacuated to Prince Albert after flooding along the Saskatchewan River. A boil-water advisory was issued, and ferry operations were suspended.

Location	Evacuated	Federal DFAA Payments	Provincial DFAA Payments	Event Description
Vanguard, SK	36	$1,580,762.00	$2,206,532.00	**July 3, 2000**. Severe flooding caused widespread damage to private property and public infrastructure after more than 333 mm of rain fell in less than 10 hours. Roads were closed, bridges washed out, and nine families were displaced.

The following chapter builds on this program-level overview to examine how these federal initiatives align—or fail to align—with the priorities and lived realities of Indigenous communities in Saskatchewan.

6. Program Gap Analysis

Canada has been identified as a leader in flood management (Shrubsole, 2023). However, a comprehensive review of federal flood impact programs, combined with in-depth analysis of First Nation reports, academic literature, agency documentation and primary source insights, revealed critical service gaps in emergency preparedness and response for Indigenous communities. This section evaluates the structural and operational limitations of federal programs related to flood preparedness and emergency management, with a focus on their effectiveness for Indigenous communities in Saskatchewan.

6.1 Emergency Management Assistance Program (EMAP)—ISC

EMAP is ISC's main emergency service program for First Nations. It aims to be flexible, culturally sensitive, responsive to the unique strengths and customs of First Nation communities, and adaptive to the evolving challenges resulting from emergency events.

However, in 2022, the Auditor General of Canada found that ISC failed to implement a risk-based approach, limiting its ability to plan and strategically invest in mitigation and preparedness. The audits found that many regional emergency management plans were out of date or non-existent (ISC, 2022).

In response, ISC's Saskatchewan Region invested over $9.4 million in 2022–2023 to support preparedness and capacity development, including partnerships with the Canadian Red Cross to enhance emergency social services and evacuation training. Despite these efforts, systemic issues persist. The Federation of Sovereign Indigenous Nations (FSIN) Emergency Management Annual Report (2019–2020) identified ongoing concerns, including jurisdictional ambiguity, inadequate funding mechanisms, infrastructure gaps, and capacity constraints (O'Soup, 2019).

Currently, ISC coordinates payments for emergency management and response services on behalf of Saskatchewan First Nations, reimbursing the province for services delivered by provincial agencies (O'Soup, 2019). This arrangement reinforces a top-down model that can conflict with Indigenous governance principles.

First Nations hold Inherent and Treaty rights to jurisdiction over services affecting their populations and lands. Accordingly, First Nations themselves should lead the development and implementation of

emergency management strategies (O'Soup, 2019). Between 2019 and 2024, the Assembly of First Nations (AFN) advanced a reform initiative—the Independent Centre for the Resolution of Specific Claims—to eliminate federal control over funding and adjudication and affirm Indigenous legal authority and traditional dispute resolution practices (AFN, 2024).

EMAP's Non-Structural Mitigation and Preparedness Program acknowledges the need for capacity building and aims to remain flexible to diverse community needs. However, its proposal-based structure presents a significant barrier. This structure disproportionately disadvantages communities with limited administrative capacity, resulting in underfunding of those most frequently impacted by emergencies. Between 2018 and 2022, 13 First Nations were evacuated three or more times—yet four of these did not apply for funding. This suggests that the program may not be reaching those most in need.

6.2 Multi-Jurisdictional System Overlooks First Nations' Needs

Traditionally, effective Canadian flood management has required the participation of all levels of government. The federal government often provides research and recommendations concerning aspects of flood risk management, such as building standards or acceptable levels of risk.

However, the division of responsibilities under the Canada Constitution Act provides little legal motivation for the federal government to lead flood management efforts.

Provinces can establish specific regulatory flood levels, set building standards and advise municipal governments about flood mitigation. Municipal government must comply with provincial building codes through the passage of local by-laws. Harrison (1996) suggested that this arrangement epitomized "passing the buck" because all levels of government are involved; however, no one is truly accountable for decisions made or not (Shrubsole, 2023).

In Canada, water governance operates through a decentralized and multi-jurisdictional system that constitutionally recognizes the provincial governments as water authorities for waters that lie solely within a province's boundaries (Mora, 2022). However, the federal government is considered the water authority on First Nations reserves. This institutional fragmentation has resulted in inter-governmental conflicts, duplication and overlapping responsibilities, ineffective means of data collection, poor water monitoring, and negative impacts on Indigenous Peoples' wellbeing (Mora,

2022).

6.3 Structural Barriers in the FHIMP Delivery Model

The foundational architecture of the Flood Hazard Identification and Mapping Program (FHIMP) is built on a federal-to-provincial delivery mechanism that inadvertently excludes many First Nations communities from equitable participation. While this model may work for municipalities with established provincial relationships, it fails to account for the distinct legal and governance realities of Indigenous communities under federal jurisdiction.

At the heart of the issue is the intermediary role of provincial governments. FHIMP agreements delegate planning authority to the provinces, which hold jurisdictional authority over flood mapping. As a result, they determine priorities and allocate resources. First Nations, due to their constitutional relationship with the federal government, often fall outside the provincial planning mandate. Communities most vulnerable to flood risk are not prioritized in project selection and are rarely resourced to lead their own mapping efforts.

This exclusion is compounded by jurisdiction. Provinces, lacking clear mandates or protocols for engaging Indigenous communities on federally funded initiatives, often avoid initiating partnerships for fear of overstepping legal boundaries. Federal agencies, meanwhile, rely on provinces to execute programming without ensuring Indigenous inclusion. This results in a governance void—no authority is clearly accountable for ensuring Indigenous access, inclusion, or benefit.

The consequences are significant: Indigenous lands remain unmapped, flood vulnerabilities go undocumented, and emergency responses remain reactive. This model perpetuates historical patterns of dispossession and systemic neglect, sidelining Indigenous communities to the margins of climate policy despite their disproportionate exposure to environmental hazards.

Measures to address this could include mandatory Indigenous participation in project selection and funding allocation, with dedicated streams for Indigenous-led mapping initiatives.

Recent FHIMP developments show early signs of progress, such as the integration of Indigenous Traditional Knowledge and the release of Indigenous Engagement Guidelines by Natural Resources Canada. However, meaningful change requires more than incremental adjustments. A reconciliatory

FHIMP model must:

- Position Indigenous Nations as equal decision-makers in project scoping, funding allocation, and implementation.
- Embed Indigenous inclusion in federal-provincial agreements.
- Establish dedicated funding streams for Indigenous-led initiatives.
- Co-develop engagement frameworks rooted in Indigenous legal orders.

In Saskatchewan, the FHIMP works in partnership with the provincial Water Security Agency (WSA). The Water Security Agency was formed in 2012 to amalgamate all water management issues across the province (Osmar, 2024). In an annual plan from 2013–2014, involvement with First Nations communities demonstrated an increase from previous years, with approximately 35 Nations or communities involved in some way; relationship building was the bulk of this type of involvement (Government of Saskatchewan, 2013). However, in the most recent strategic plan from 2025–2026, there was no mention of First Nation or Indigenous communities (WSA, 2013). Sean Osmar from the WSA noted this difference to be due to a change in strategic direction. 2013–2014, being one of the first annual reports for the WSA, he noted that governance and strategic changes have caused WSA to move away from the First Nations realm, adding that the federal government handles most programs and services for the reserves. While smaller projects involving First Nations still occur, they are typically ad hoc and involve other governing bodies.

6.4 Prevention and Mitigation vs. Reaction and Response

The current flood mitigation strategies are reactive and technical in nature and include water diversions, berms and culvert expansions (Thapa, 2019). This approach has been repeatedly criticized in federal audits. The 2013 Auditor General's audit o and ISC's 2013 and 2017 internal audits of the Emergency Management Assistance Program (EMAP found that the department failed to implement a risk-based approach limited its ability to pay for and strategically invest in Indigenous mitigation and preparedness activities. The audits also found that the department's regional emergency management plans either did not exist or were out of date (ISC, 2022).

Public Safety Canada's 2019 Emergency Management Strategy for Canada emphasized that for every

$1 invested in preparedness and mitigation, $6 can be saved in emergency response and recovery costs. Yet, between 2018–19 and 2021–22, ISC spent $646 million in response and recovery - 3.5 times more than the $182 million spent on preparedness and mitigation (ISC, 2022).

The First Nations Infrastructure Fund (FNIF), while not specific to flood mapping, plays a critical role in funding structural mitigation projects. With an annual budget of $12 million (as of March 2024), FNIF supports infrastructure designed to prevent or reduce emergency impacts, such as culverts and dikes. However, the program faces significant backlogs:

- 102 projects were completed or in progress.
- 72 proposals remained unevaluated.
- 112 projects were deemed eligible but unfunded.
- 74 of those had been in the backlog for over five years.
- 4 projects had been waiting nearly a decade.

ISC cited funding shortfalls as the reason for inaction. At the current budget of $12 million, funding the existing backlog would take over 24 years—excluding new proposals or projects not yet cost. This delay poses a direct threat to community safety, as critical infrastructure projects remain unfunded despite repeated emergencies and escalating climate risks. As a result, First Nations are likely to experience emergencies that could be prevented or mitigated by building more resilient infrastructure (Office of the Auditor General, 2022).

6.5 Payouts vs. Capacity Building

In Saskatchewan, gaps in flood prevention policy further exacerbate the challenges of emergency management for Indigenous communities. As flooding events persist, they trigger repeated evacuations and government aid responses. Several sources note a shift in federal priorities—from providing training services for local responders to issuing disaster payments to provinces and local communities (Hulbert, 2018).

While pay-outs are essential in times of crisis, long-term investments in community-led infrastructure and emergency preparedness have been underutilized. This imbalance has created a cycle of

dependency and escalating costs—for both Indigenous and government programs.

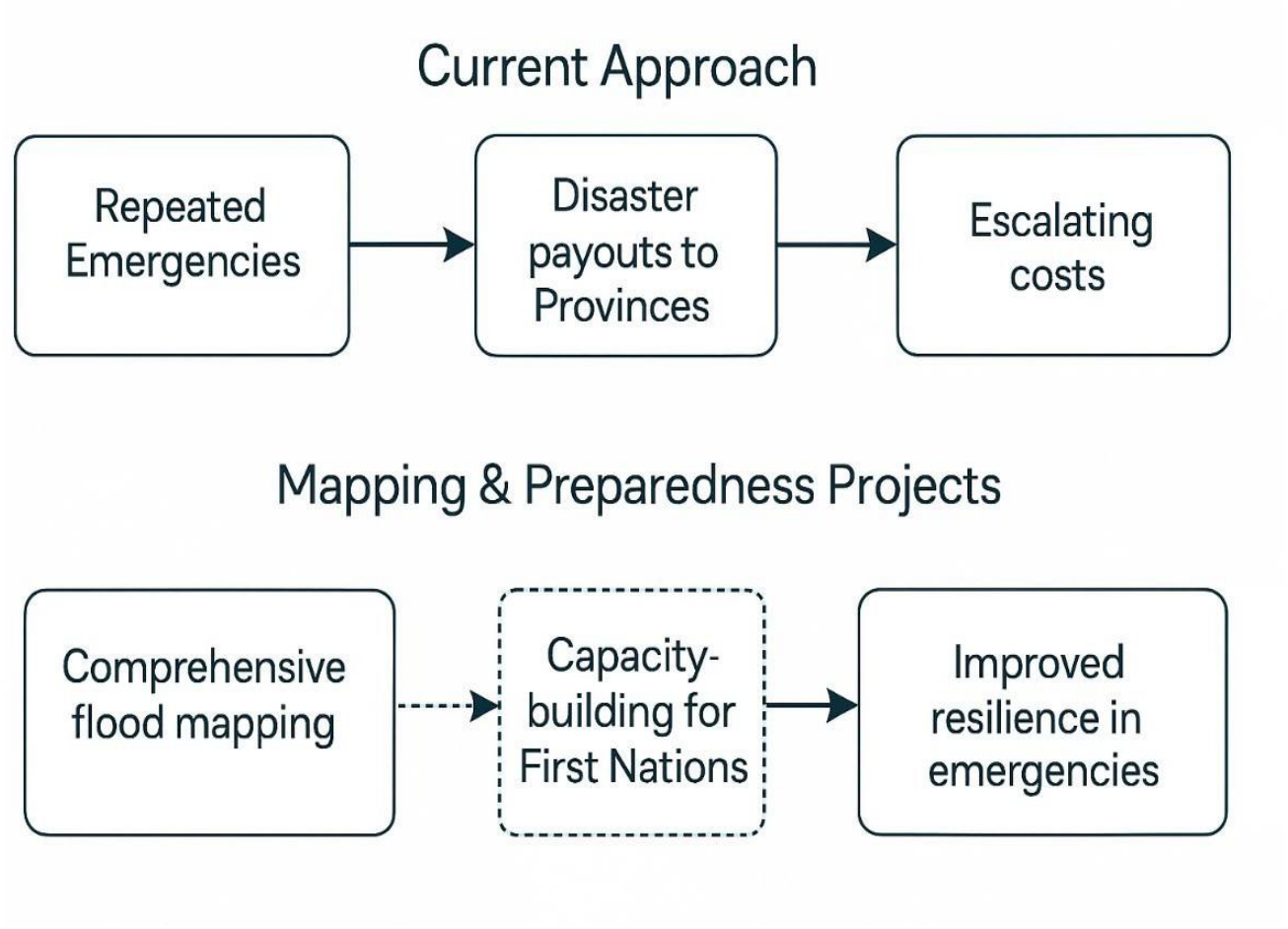


Figure 1: Steps for improving emergency outcomes through flood mapping and indigenous capacity-building.

The reduction of federal flood planning and training support requires a symbiotic strengthening of local and regional flood planning initiatives. (Hulbert, 2018). Relatively recent regulatory requirements of local community emergency response have had limited success in creating awareness of plans, promoting their acceptance, and building resilience (Hulbert, 2018).

Preventative measures are closely tied to economic tools such as insurance and disaster assistance. However, in Saskatchewan, these instruments are underdeveloped or absent. Flood insurance is often unavailable, leaving Indigenous residents reliant on disaster assistance payments after emergencies. These payments are increasing steadily, and without significant investment in mitigation infrastructure, they risk becoming financially unsustainable. This approach not only burdens taxpayers

but also fails to incentivize damage reduction practices (Hulbert, 2018). In addition, limited access to insurance and financial recovery tools means Indigenous communities often face repeated losses without the means for timely or adequate recovery, deepening cycles of vulnerability.

6.6 Indigenous Guardians Program (ECCC)

The Indigenous Guardians Program, administered by Environment and Climate Change Canada, supports Indigenous-led stewardship of lands and waters. While it has funded meaningful projects in Saskatchewan—such as those led by Mistawasis Nêhiyawak and Pheasant Rump Nakota First Nation—it has not yet been applied to flood mapping.

Despite its potential, uptake in Saskatchewan remains limited. Barriers include low outreach, capacity constraints, and lack of integration with emergency management or flood resilience efforts. Since 2023, federal reporting on the program has declined, making it difficult to assess current progress or identify new opportunities.

To enhance its relevance to flood mapping and climate adaptation, targeted outreach and clearer alignment with emergency management frameworks are needed. This could unlock new pathways for Indigenous-led flood resilience, especially in communities already engaged in environmental stewardship (NRCAN, 2023).

6.7 Disaster Mitigation Adaptation Fund (DMAF)

The Disaster Mitigation Adaptation Fund is a major instrument for First Nations communities to address infrastructure needs ahead of natural disaster, with a minimum allocation of $138 million for Indigenous recipients, DMAF announced in 2021.

In Saskatchewan, DMAF has been accessed by Indigenous communities for wildfire risk reduction and other resilience initiatives. However, several systemic barriers limit its effectiveness for First Nations flood mitigation:

- Eligibility and readiness requirements: Smaller communities often lack the technical capacity and planning resources needed to meet DMAF's application criteria.
- Limited awareness and support: Many communities are unaware of the fund or lack assistance in navigating the complex application process.

- Narrow scope: DMAF's emphasis on structural and natural infrastructure may not fully address broader community resilience needs, such as emergency planning, training, or culturally grounded mitigation strategies.

To improve access and impact, DMAF should be complemented by targeted capacity-building supports, simplified application pathways, and flexible funding streams that reflect the realities of Indigenous governance and infrastructure. In addition, DMAF's focus on structural and natural infrastructure may not adequately address broader community resilience needs, such as emergency planning, training, and culturally grounded mitigation strategies (ISC, 2025).

6.8 Disaster Financial Assistance Arrangements (PSC)

The Disaster Financial Assistance Arrangements (DFAA) program, administered by Public Safety Canada, plays a significant role in reimbursing provinces and Indigenous governments for disaster response and recovery costs. In Saskatchewan, DFAA has provided substantial support, particularly for flooding events—between 2005 and 2014, the province received 20% of all national DFAA payments.

Despite its financial significance, several structural and policy-level challenges limit DFAA's effectiveness in Indigenous contexts.

- Indirect delivery model: DFAA funds are first paid to provinces, which then design and deliver assistance. This structure can dilute Indigenous access and responsiveness, especially when provincial programs—like Saskatchewan's Provincial Disaster Assistance Program (PDAP)—do not adequately reflect the realities of reserve infrastructure or governance.
- Eligibility constraints: DFAA excludes damage from lake flooding, particularly in resort villages or provincial parks. However, lake flooding—caused by high water levels or ice shove—can severely impact northern Indigenous communities. The exclusion of such events from assistance eligibility leaves affected communities without recourse (Wittrock, 2018).

- Inadequate differentiation: Indigenous communities often face unique vulnerabilities, such as underdeveloped water, sewage, and drainage systems. Yet, DFAA does not consistently account for these differences. Leaders from 11 First Nations in the Qu'Appelle Valley have criticized the program for ignoring specific needs on reserve lands (CBC News, 2013).
- Repeat assistance limitations: Individuals who receive DFAA support must implement precautionary measures to qualify for future aid. This requirement can be unrealistic for communities lacking the resources to undertake mitigation projects, further entrenching vulnerability (Burton, 2015).

For example, Red Earth Cree Nation has faced repeated flooding events over the past two decades, resulting in multiple evacuations and infrastructure damage. Despite receiving emergency assistance, the community continues to struggle with long-term mitigation due to limited funding and jurisdictional complexities.

To ensure equitable disaster recovery, DFAA must evolve to recognize the distinct needs of Indigenous communities, including culturally relevant infrastructure, jurisdictional realities, and the disproportionate impacts of climate change.

7. Gaps in Aligning Programs with Community Priorities

This chapter synthesizes insights from previous sections to identify where federal flood-related programs diverge from the actual needs and priorities of Indigenous communities in Saskatchewan. It builds on the program-level analysis in Chapter 6 and highlights thematic gaps that persist across jurisdictions, funding mechanisms, and engagement practices.

Through an analysis of federal programs, academic literature and organization reports, several gaps between community needs in flood management and program and service offerings emerged. While some collaboration exists—particularly between CIRNAC and NRCan (FNA and FHIMP), and ISC with provincial entities on EMAP—coordination is inconsistent. For example, as DFAA and DMAF operate largely independently of Indigenous-specific programs, needs are often overlooked and gaps in service emerge.

In reviewing several research articles related to Indigenous flood risk and mapping-related programs in Saskatchewan, we found several recurring themes. Below are some of the key themes that emerged.

7.1 Incorporating Community Needs

Indigenous communities have long observed seasonal flood patterns, freeze-thaw cycles, and ecological indicators such as wildlife movements and vegetation shifts. These insights, passed through story, ceremony, and seasonal gathering, offer hyper-local knowledge that is often excluded from technical flood modelling.

The case of Mistawasis Nêhiyawak (Thapa, 2019) illustrates how participatory mapping—blending LiDAR data with oral histories and land-based knowledge—can produce more accurate and culturally grounded flood maps. This approach improved technical precision, built community trust, and informed emergency planning and infrastructure upgrades.

7.1.1 Participatory Process: From Models to Meaning

The project unfolded in three deliberate phases:

- Initial modelling using LiDAR elevation data, hydrologic modelling, and precipitation records.

- Community workshops where Elders, land users, hunters, and trappers reviewed the maps and contributed knowledge.
- Model revision based on community input.

Participants identified areas that flood earlier than predicted, corrected misclassified zones, and shared oral histories of significant floods. They also described natural flood indicators—such as frog migrations, willow thicket inundation, and ice melt behaviours—that added nuance beyond what technical data could capture.

7.1.2 Co-Creation of Knowledge and Improved Outcomes

Researchers revised their models based on community input, adjusting assumptions about surface runoff, water directionality, and land permeability. The final maps were more accurate and socially relevant, prioritizing areas for intervention and resilience planning.

Just as important was the transformation in community trust. Mistawasis residents, previously wary of outside experts, expressed confidence in the maps because their knowledge was visibly embedded. The maps were used in emergency planning, infrastructure upgrades, and funding applications.

The collaboration fostered mutual learning: scientists gained insight into landscape indicators invisible to satellite imagery, while community members deepened their understanding of hydrological science. The project became reciprocal rather than extractive.

7.2 Case Study: Mistawasis Nêhiyawak Flood Mapping Project (Thapa, 2019)

The Mistawasis Nêhiyawak flood mapping initiative exemplifies how Indigenous Knowledge and community-led engagement can enhance the accuracy, relevance, and trustworthiness of flood maps. Conducted in partnership with the University of Saskatchewan, the project emphasized co-creation over top-down modelling, demonstrating a replicable model for integrating cultural and scientific knowledge systems in flood resilience planning.

7.2.1 About the Project

Mistawasis Nêhiyawak is located in the Prairie Pothole Region (PPR), a vast wetland system spanning

Saskatchewan and neighbouring provinces. The PPR contains thousands of shallow wetlands known as potholes. The region covers an area of about 800,000 sq. km and expands across three Canadian provinces of Saskatchewan, Manitoba and Alberta and five U.S. states: Minnesota, Iowa, North and South Dakota and Montana. (Wikipedia, no date). Conducted in partnership with the University of Saskatchewan, the goal of the project was to integrate Indigenous Knowledge into flood modelling, not just validate it.

7.2.2 Three-Phase Participatory Mapping Process

Researchers began by generating preliminary flood hazard maps using high-resolution LiDAR topographic data, hydrological models, and precipitation records. These maps met technical standards, identifying probable flood extents under various scenarios.

Instead of finalizing the maps in isolation, researchers convened a series of workshops with Mistawasis community members. Elders and land stewards challenged assumptions in the maps, pinpointed areas of early flooding, and identified culturally significant sites and routes. These insights led to recalibrated models and more accurate flood maps.

7.2.3 Concrete Outcomes of the Study

The following outcomes were noted:

- Technical accuracy improved through the integration of local flood markers.
- Community trust increased, leading to broader use of the maps.
- Preparedness improved through targeted infrastructure planning.
- Capacity building occurred in the Nation with GIS and climate science.
- Replication potential for other Indigenous Nations was identified.

7.2.4 Why It Mattered

The Mistawasis Nêhiyawak project demonstrated that flood mapping can be a tool of empowerment rather than extraction—when Indigenous communities are co-leaders, not afterthoughts. It showed that Indigenous Knowledge is empirical, verifiable, and essential to understanding flood risk. Building

on the co-creation process described earlier, community members contributed real-time insights and oral histories that enhanced technical models and filled critical data gaps. These contributions filled critical data gaps, especially in areas where hydrological models were limited by outdated or incomplete datasets.

Importantly, the project expanded the scope of flood mapping to include social and cultural geographies that are often invisible to Western science. Community members identified traditional hunting grounds, ceremonial areas, and seasonal gathering sites that were vulnerable to flooding. These locations, while not considered infrastructure in conventional planning, are vital to community identity, food security, and cultural continuity.

By integrating these perspectives, the resulting maps became not only more technically accurate but also socially and culturally relevant. This blending of Indigenous and scientific knowledge enabled a shift from prediction to place-based planning, ensuring that risk assessments reflected what mattered most to the people who live on and care for the land. The process also helped rebuild trust between the community and external institutions, laying the groundwork for future collaboration in climate adaptation and emergency planning.

7.2.5 Honouring Water Framework and Co-Development

The Honouring Water framework, developed by Mistawasis Nêhiyawak in 2022, proposes a collaborative water governance model rooted in Nêhiyawak principles, shared stewardship, and Nation-to-Nation relationships. It promotes sustainable water stewardship aligned with Indigenous values and emphasizes the inclusion of community voices and traditional knowledge in decision-making.

To meaningfully change how water policy is co-developed, several key shifts are necessary:

- From consultation to co-decision making: Indigenous Peoples must be recognized as rights-holders and knowledge-holders with jurisdictional authority.
- Plural legal and knowledge systems: Water policy must reflect both Western legal mechanisms and Indigenous water laws, including oral histories and cultural protocols.

- Support for Indigenous-led governance: Nation-specific approaches should be supported through capacity building, funding, and legal recognition.
- Ethical relationships and reciprocity: Co-development must begin with trust-building and follow Indigenous leadership.
- Institutional reform: Federal and provincial agencies must embed Indigenous Knowledge systems through structural changes, including anti-colonial training and inclusive hiring.

These principles offer a path toward a more relational, respectful, and resilient future—one where Indigenous Nations are central to shaping the waterscapes they have stewarded since time immemorial.

7.3 Barriers To Information

7.3.1 Alternative Models: Decentralization with Accountability

Other jurisdictions—within Canada and globally—have begun to implement alternative models that may offer lessons for improving flood risk information equity. These models emphasize shared governance, Indigenous leadership, and legal recognition of Indigenous Knowledge systems.

7.3.1.1 Co-Production and Whole-of-Community Planning

Some provinces (for example, British Columbia's Emergency Management legislation) are exploring "whole-of-community" approaches that include Indigenous partners from the start. Co-production frameworks allow for shared decision-making and knowledge integration, as seen in the BC First Nations Emergency Services Society's role in hazard mapping and resilience planning. These approaches recognize that Indigenous peoples bring vital knowledge systems, lived experience, and cultural perspectives that are essential for effective and equitable planning. Co-production frameworks go beyond consultation; they establish mechanisms for shared authority, mutual learning, and joint responsibility. A strong example of this is the BC First Nations Emergency Services Society, which plays a central role in hazard mapping and resilience planning. Their work demonstrates how Indigenous leadership and expertise can shape more responsive, culturally grounded, and sustainable emergency strategies (Government of BC, 2025).

7.3.1.2 Collaborative Governance Bodies

The International Joint Commission (IJC) and similar co-management boards provide a model where multiple governments, including Indigenous governments, share authority for managing transboundary resources. A domestic analog could be a **national flood governance council** with Indigenous representation, tasked with setting standards and funding models for data equity. This model can inspire domestic Canadian frameworks that prioritize co-management and equitable representation. For example, a national flood governance council could be established to oversee flood risk planning, mitigation, and response across provinces and territories. Crucially, this council would include Indigenous representation not as a consultative voice, but as a governing partner with equal authority. Such a body could be responsible for setting national standards for flood resilience, coordinating interjurisdictional efforts, and developing funding models that ensure data equity—meaning all communities, including Indigenous Nations, have access to the tools, technologies, and information needed to make informed decisions.

Embedding Indigenous governance into the core of such a council would not only reflect the principles of reconciliation and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) but also enhance the effectiveness of flood management by integrating diverse knowledge systems, including traditional ecological knowledge. This approach would move Canada closer to a truly inclusive and adaptive water governance regime (International Joint Commission, 2024; NRCAN, 2024).

7.3.1.3 Legislated Data Standards and Rights-Based Frameworks

In New Zealand, the Resource Management Act includes provisions for recognizing Māori knowledge and rights in environmental planning. Canadian water and flood legislation could similarly be revised to enshrine OCAP® (Ownership, Control, Access, and Possession) principles in all federally funded flood mapping, ensuring that First Nations not only contribute knowledge, but have final say over its use and dissemination.

7.4 Why This Matters

Many federal programs rely on provincial organizations for distribution, including FHIMP, EMAP, DFAA, and NDMP. Operating through provincial organizations creates a barrier for Indigenous

communities and does not account for the needs specific to reserve lands.

In 2010, the federal government decided to funnel disaster relief assistance for all communities (including urban, rural, and First Nations) through the Provincial Disaster Assistance Program (PDAP) in Saskatchewan. This program determines funding for all communities. However, First Nations communities have stated that the program ignored their specific needs on reserve lands (CBC News, 2013).

The File Hills—Qu'Appelle Tribal Council reported that the program failed First Nations communities because of their unique needs that were not addressed. First Nations leader Edmund Bellegarde explained: “Communities do not have the road and sewer infrastructure for the drainage to handle flooding issues … So, the impacts are even more compounding at a First Nations level.”

These concerns stem from their experience in 2011, when disaster relief from the federal government was funnelled through a province-wide program that did not reflect the realities of First Nations infrastructure and governance (CBC News, 2023).

Additionally, Indigenous Services Canada (ISC) does not have service agreements across all jurisdictions with provinces or other service providers to deliver emergency services in Indigenous communities. As of 2022:

ISC had signed emergency management service agreements in only 6 provinces (excluding Saskatchewan).

Wildfire agreements existed in 6 provinces, including Saskatchewan, but the Saskatchewan agreement excluded more than half (38 of 70) of the Indigenous communities in the province.

This lack of comprehensive agreements increases the risk that some Indigenous communities will not receive emergency services when they are most needed. It also creates ambiguity and confusion between stakeholders about roles and responsibilities, leading to delays in emergency response.

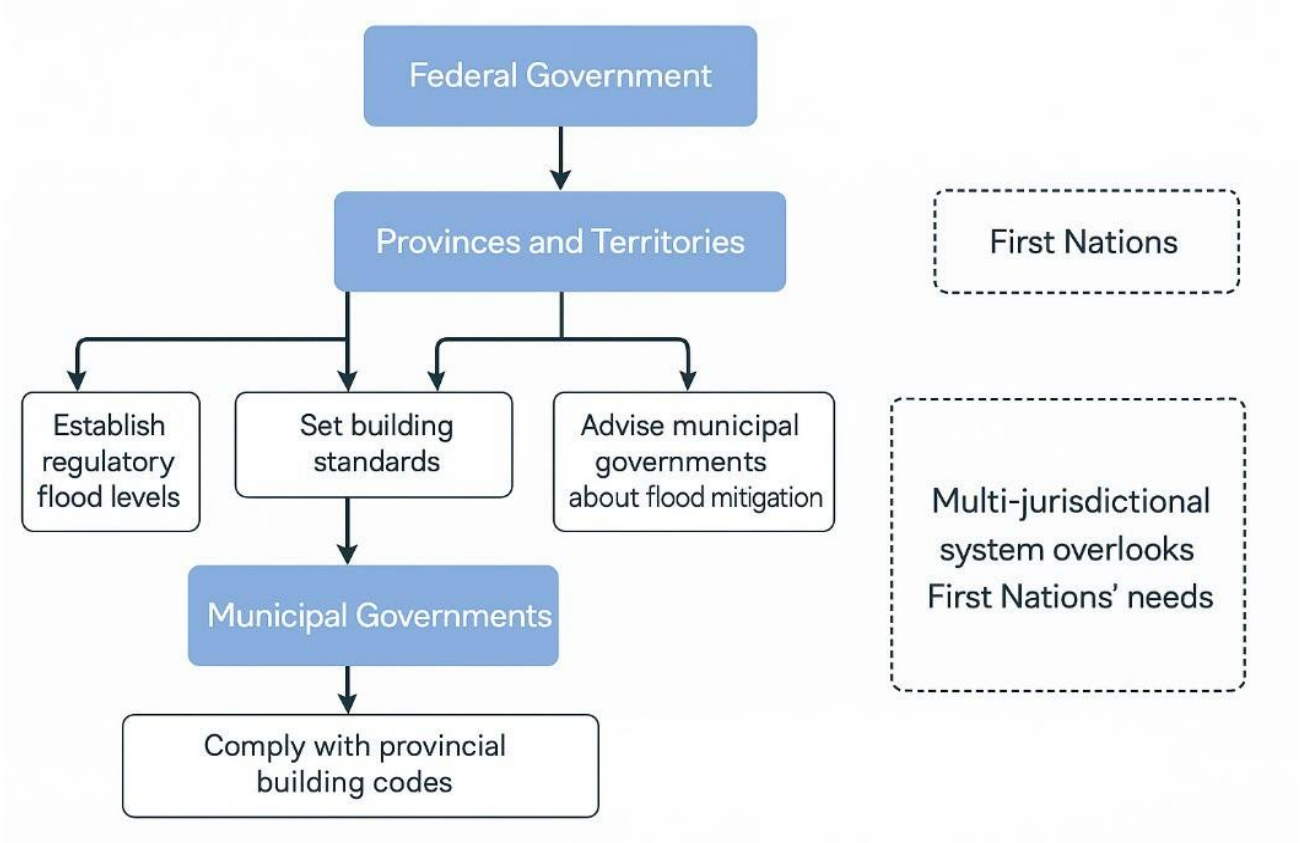


Figure 2: Structural barriers to equitable flood response in indigenous communities.

7.4.1 Cross-Border Water Management

Waterways cross many jurisdictional borders—national, provincial, reserve, and municipal. In Saskatchewan, this complexity is managed through a patchwork of agreements, such as:

- The Prairie Provinces Water Board, which administers the *Master Agreement on Apportionment.*
- The Mackenzie River Basin Board, created by the *Transboundary Waters Master Agreement* (1997), involving Canada, Saskatchewan, Alberta, British Columbia, Yukon, and Northwest Territories.
- Bilateral Water Management Agreements with Alberta and Northwest Territories.
- The International Joint Commission (IJC), guided by the *Boundary Waters Treaty* (1909), which regulates shared water uses between Canada and the U.S.

While these frameworks facilitate intergovernmental collaboration, they largely reflect government-to-government models that exclude Indigenous Nations as sovereign partners. This is especially problematic given that many First Nations reserves are located near or on provincial and international boundaries—areas most vulnerable to transboundary water issues.

For example, Cumberland House, Red Earth Cree Nation, Shoal Lake Cree Nation, and Keeseekoose First Nation (near the Manitoba border), and Onion Lake and Poundmaker Cree Nations (near the Alberta border) face severe flooding risks. Yet, their lived experiences and traditional knowledge are not formally recognized in the agreements that govern the waters affecting them.

The Memorandum of Understanding between Manitoba and Saskatchewan names only “Senior Representatives” of provincial governments as coordinating authorities, omitting First Nations entirely. This reinforces a top-down, colonial model that sidelines Indigenous jurisdiction and water stewardship responsibilities.

Moreover, the WSA’s strategic direction has shifted away from Indigenous engagement, citing federal jurisdiction. This leaves First Nations without a clear voice in cross-border water governance, despite their legal and cultural rights.

A key insight from the foregoing discussion is that First Nations are not stakeholders—they are rights-holders with distinct legal, cultural, and historical relationships to water. Their exclusion from transboundary governance perpetuates systemic marginalization and weakens efforts to build resilient, sustainable, and equitable water futures.

7.5 Comparing Reactive and Proactive Approaches

The Table 4 summarizes key differences between reactive disaster relief models and proactive capacity-building investments. It highlights the long-term benefits of shifting from short-term emergency payouts to sustainable, community-led resilience strategies.

Table 4: Reactive vs. proactive approaches.

Factor	Disaster Relief Payouts	Capacity Building Investments
Government Spending	High, recurring costs after each flood	Lower upfront costs, better long-term value
Community Impact	Temporary safety but long-term disruption	Strengthens community resilience and independence
Infrastructure	Short-term fixes and relocation efforts	Permanent upgrades like berms, drainage, and water systems
Governance & Empowerment	Maintains external control of crises	Enables self-determination, planning, and readiness

Disaster relief payouts often result in unintended consequences for both Indigenous communities and government programs:

- **For Indigenous communities**, they reinforce a short-term relief bias, disrupt education and cultural continuity, and limit local control.
- **For governments**, they lead to escalating costs, public scrutiny, and perpetuation of systemic inequities due to bureaucratic barriers and strict eligibility criteria.

A coordinated, proactive approach—such as the Emergency Management Non-Structural Mitigation and Preparedness Program (ISC)—is essential. However, without sustained investment in Indigenous-led preparedness and infrastructure, reliance on reactive payouts will remain economically, socially, and morally unsustainable.

7.6 Summary and Transition to Recommendations

This section has explored the persistent gaps between federal flood-related programs and the lived

realities of Indigenous communities in Saskatchewan. Through case studies, policy analysis, and community insights, several key themes have emerged:

- The need for community-led flood mapping that integrates Indigenous Knowledge and priorities.
- The importance of co-development and shared governance in water and emergency management.
- The structural barriers created by jurisdictional fragmentation and reliance on provincial intermediaries.
- The urgent need to shift from reactive disaster relief to proactive, capacity-building investments.

The Mistawasis Nêhiyawak case study demonstrated the transformative potential of participatory mapping and Indigenous-led governance frameworks like Honouring Water. Meanwhile, the analysis of federal programs revealed that many well-intentioned initiatives fall short due to systemic design flaws, limited accessibility, and a lack of cultural relevance.

Building on the gaps identified in program design, governance, and community engagement, the following chapter presents a set of concrete recommendations to address these gaps. These proposals aim to support Indigenous self-determination, improve program effectiveness, and ensure that flood resilience efforts are equitable, inclusive, and grounded in the rights and knowledge of Indigenous Peoples.

8. Recommendations

- Reduce barriers to access federal programs.
- Work with Indigenous communities to identify and remove systemic obstacles to access these programs.
- Action could include:
- Streamlining application processes.
- Increasing multi-year funding commitments.
- Supporting capacity building at the community level.
- Ensuring that program criteria and timelines align with Indigenous governance structures and seasonal cycles.
- Implement Indigenous-led emergency management and collaborative governance to support self-determination.
- Traditional top-down government programs fail to meet the distinct needs of First Nations.
- **Action**: Structure programs to be direct communication with Nations without passing through provincial governments.
- **Action**: Shift from informal Letters of Understanding to formal Memorandums of Understanding involving First Nations, ISC, and provincial governments to ensure collaborative governance.
- Clarify roles, responsibilities, and decision-making processes among all parties.
- Create a more transparent and accountable framework for intergovernmental collaboration.
- Reflect the nation-to-nation relationship between Indigenous communities and the Crown, support Indigenous self-determination, and ensure that Indigenous communities have an equal voice in planning, preparedness, response, and recovery efforts.

- Embedding culturally relevant protocols, dispute resolution mechanisms, and long-term commitments within MOUs, governments can move toward more respectful, durable, and effective partnerships with Indigenous communities.
- **Action**: Compliment technical flood maps with traditional and local knowledge to ensure a complete understanding of risks.
- **Action**: Establish a process to weave traditional oral knowledge systems together with scientific and technical water management tools.
- Support collaborative research that validates and applies Indigenous Knowledge in hydrology, mapping and ecological monitoring.
- Build strong relationships to facilitate this work based on trust and transparency.
- Include Indigenous voices in cross-border water management.
- **Action**: Add positions to ensure indigenous representation in all cross-border water management agreements, including Memorandum of Understanding between Manitoba and Saskatchewan and the International Joint Commission.
- Restructure federal programs to prioritize prevention and mitigation.
- **Action**: Redesign mechanisms to build capacity in emergency management roles, emphasizing flood mapping, and infrastructure updates to minimize impacts and post-disaster payments.
- Invest into research for Indigenous communities impacts from natural hazards.
- **Action**: Fund research for Indigenous communities impacts to lower barriers to information and inform policy makers.

Additional policy recommendations include establishing a Memorandum of Understanding (MOU) and formal arrangements between the Province of Saskatchewan, Indigenous Services Canada, and First Nations. These agreements should support the development of a First Nations Emergency Management framework for the Saskatchewan Region, incorporating the following key elements (O'Soup, 2019).

- Demonstrate commitment to acknowledge and support the continuing capacity development and expansion of First Nations Emergency Management resources and structures both collectively and at the individual First Nations level.
- All related communications and revisions and structural changes to First Nations Emergency Funding shall form the basis for a formal Memorandum of Understanding for First Nations Emergency Management.
- MOU shall include the 3 Governance parties of First Nations as represented by the FSIN, and the federal and provincial governments.
- Shall be based upon active dialogue and agreement with First Nations, and related parties (O'Soup, 2019).

Guided by recommendations from O'Soup (2019), efforts focused on enhancing capacity, formalizing governance structures, and fostering collaborative relationships among Indigenous, federal, and provincial partners include the following:

- The Federation of Sovereign Indigenous Nations (FSIN) expanded emergency services through the creation of a dedicated Emergency Management Secretariat, technical advisory groups, and specialized training programs in areas such as wildfire response and community preparedness (O'Soup, 2023).
- While a formal tripartite Memorandum of Understanding (MOU) has not yet been finalized, FSIN initiated revisions to existing agreements and continues to work toward a comprehensive framework that includes Indigenous Services Canada and the Province of Saskatchewan (O'Soup, 2023).

9. Summary—First Nations Engagement on Flood Mapping in Saskatchewan

Natural Resources Canada (NRCan) is leading the development of the Federal Flood Mapping Guidelines Series to improve the consistency, accessibility, and application of flood hazard—information across Canada. As part of this work, NRCan committed to engaging Indigenous communities to better understand how flood mapping is experienced in practice, and how existing approaches can better support Indigenous decision-making—, protect Traditional Land Use, and reflect community needs and lived realities.

This report summarizes the findings of two engagement sessions with First Nations in Saskatchewan: an in-person session held in Regina on November 18, 2025, and a virtual session held on February 11, 2026. Together, these sessions brought together representatives from First Nations and First Nation organizations to share perspectives grounded in direct experience with flooding, flood mapping, and the governance structures that shape—flood risk—management. A total of 51 participants attended the sessions, including representatives from 26 First Nations and four Tribal Councils.

This report is intended as a what we heard/what we learned engagement synthesis, not as a technical assessment of flood-mapping methods or an evaluation of individual communities, programs, or jurisdictions. It reflects how flood mapping is experienced by participating First Nations and First Nation organizations, and what those experiences reveal about the governance, delivery, and implementation conditions that shape outcomes. The observations, learnings, and considerations outlined here are intended to inform the ongoing development of federal guidelines, rather than to validate existing approaches or prescribe finalized solutions.

9.1 Introduction and Context

Federal Flood Mapping Guidelines and NRCan Role

Natural Resources Canada (NRCan) is leading the development of the Federal Flood Mapping Guidelines Series to support more consistent, accessible, and credible flood hazard information across Canada. The guidelines are intended to inform flood risk management, land-use planning, infrastructure investment, emergency preparedness, and climate adaptation initiatives across federal,

provincial, territorial, and Indigenous contexts.

As part of this work, NRCan has committed to engaging Indigenous communities to better understand how existing flood mapping approaches, tools, and governance structures intersect with First Nations' priorities, rights, and lived realities. These engagement sessions are intended to inform both the technical and policy dimensions of the guidelines, including data access, governance, implementation pathways, and the protection of Indigenous Knowledge and Traditional Land Use.

Flood Mapping Context in Saskatchewan

Flooding remains a persistent and, in many cases, chronic issue for First Nations in Saskatchewan. Many communities are located in areas shaped by historic relocation, upstream development, and infrastructure decisions that have increased exposure to flood risk. Seasonal flooding, ice jams, rapid snowmelt, and extreme precipitation events continue to cause damage to housing, roads, water and wastewater systems, and culturally significant lands.

Despite these realities, flood mapping coverage across Saskatchewan First Nations remains uneven. Jurisdictional boundaries, federal-to-provincial program delivery models, and unclear accountability often result in on-reserve areas being excluded from mapping initiatives, even when flood mapping information is required to access emergency or mitigation funding.

Communities frequently report uncertainty about whether flood maps exist for their territories, where those maps are held, and how—or if—they can be accessed or used for planning purposes.

At the same time, First Nations possess extensive local knowledge of flood behaviour, cumulative impacts, and areas of concern within their territories. However, this knowledge is not always reflected in formal flood mapping products or processes, and existing approaches may not align with community priorities or data governance—expectations.

Purpose of the Engagement Sessions

The First Nations Engagement on Flood Mapping in Saskatchewan, held on February 11, 2026, formed part of NRCan's broader national engagement process to inform the development of the Federal Flood Mapping Guidelines. This session was built directly on an earlier in person engagement held in Regina on November 18, 2025, which brought together representatives from First Nations, Tribal

Councils, and First Nation organizations to identify—initial themes, concerns, and systemic issues related to flooding and flood mapping in Saskatchewan.

The November 2025 Regina session focused on surfacing lived experiences, governance challenges, and priority issues related to flood risk, data access, jurisdictional boundaries, and program delivery. Insights from that session helped to identify areas requiring deeper exploration, informed the framing of discussion prompts, and highlighted the diversity of First Nations perspectives across different geographies and governance contexts. Importantly, the Regina engagement made clear that experiences with flood mapping and associated programs vary significantly among Nations and regions, underscoring the need for subsequent engagement that allowed for broader participation and more detailed discussion.

The February 2026 virtual engagement was therefore designed as a continuation and deepening of the earlier work, rather than a standalone exercise. Its purpose was to further explore Saskatchewan specific experiences, gaps, and priorities; to test and refine understandings emerging from the November session; and to provide additional—space for participants who were unable to attend in person. The virtual format enabled wider geographic participation and allowed for more focused discussion of data access, technical capacity, and implementation considerations related to flood mapping.

The objectives of the February engagement were to:

- hear directly from First Nations and First Nation organizations about their experiences with flooding and flood mapping.
- identify barriers related to funding, governance, data access, and technical capacity.
- understand how flood mapping guidelines can better protect Traditional Land Use and Indigenous Knowledge.
- explore what types of data, tools, and supports communities need to make informed decisions.
- inform refinements to the Federal Flood Mapping Guidelines based on lived experience and expert local insight.

This engagement emphasized listening and learning, with a focus on capturing diverse perspectives rather than seeking consensus or validating predetermined solutions. The findings from the February session, considered together with insights from the November 2025 Regina engagement and subsequent written feedback, contribute to an evolving understanding of gaps, opportunities, and conditions that shape current flood mapping practices as they relate to First Nations in Saskatchewan.

As participants emphasized throughout both sessions, flood mapping is not experienced as a neutral or purely technical exercise; it directly shapes land-use decisions, infrastructure eligibility, housing options, and long-term community planning, with tangible governance consequences for First Nations.

9.2 Engagement Overview

- Session date, format, and facilitation approach.
- Participating First Nations and organizations.
- Information capture and synthesis approach.

Engagement Design and Approach

The First Nations Engagement on Flood Mapping in Saskatchewan was designed to create a respectful, structured space for dialogue focused on lived experience, governance realities, and practical challenges related to flood mapping. The engagement emphasized listening over validation, with no expectation of consensus or endorsement of existing flood mapping approaches or policies.

An Indigenous facilitator following a trauma-informed approach led the sessions, which were designed to encourage open discussion, recognizing the diversity of First Nations experiences, priorities, and capacities across Saskatchewan. Participants were invited to share perspectives based on their own community contexts, rather than respond to pre-determined solutions or technical proposals.

Session Details

An in person engagement session was held on November 18, 2025, in Regina, Saskatchewan, bringing together representatives from First Nations, First Nation organizations, and Natural Resources Canada. This session focused on identifying—gaps in flood mapping practices, understanding

community priorities, and discussing governance, data access, and Traditional Land Use considerations.

Building on the themes raised during the Regina session, a virtual engagement session was held on February 11, 2026, to enable broader participation from across Saskatchewan. The virtual session provided an opportunity to deepen discussion of issues identified earlier, explore data access and technical support needs in more detail, and consider how federal flood mapping guidelines could better respond to First Nations' priorities and decision making contexts.

Both sessions followed a facilitated discussion format structured around guided prompts related to:

- experiences with flooding and flood impacts.
- access to flood mapping data and tools.
- governance and jurisdictional challenges.
- protection of Traditional Land Use.
- and community priorities for flood risk management and planning.

Participation

Across the two sessions, participation included representatives from Saskatchewan First Nations and First Nation organizations, reflecting diverse geography, watershed contexts, community sizes, and governance arrangements. Engagement included an in-person session held in Regina (November 18, 2025) and a virtual session enabling broader participation across the province (February 11, 2026). Participants brought experience from emergency management, land-use and infrastructure planning, environmental stewardship, and leadership roles.

Attendance was voluntary, and the engagement was not intended to be statistically representative. Rather, it was designed to capture informed perspectives grounded in direct experience with flooding and flood-mapping processes, across a range of community and organizational contexts.

Participation across the two engagement sessions reflected a mix of First Nations and First Nation organizations, with participation enabled through both in-person and virtual formats. Attendance was designed to support broader geographic involvement while also allowing for in-depth discussion

through an in-person session. The summary tables (5 and 6) below provide an overview of organizational representation and participation by engagement format, to situate the perspectives reflected in subsequent sections.

Table 5: Participation overview by organization and format.

Participation Measure	Count
Unique organizations represented	30
First Nations	26
Tribal Councils	4
Total participants	51
Virtual attendees	31
In person attendees	20
Organizations attending both formats	2

Table 6: Participation by organization type and engagement format.

Engagement Format	First Nations	Tribal Councils/First Nations Organizations
Virtual	25	6
In person	14	6

Key themes and discussion prompts

The engagement sessions were structured around a set of core themes intended to facilitate discussion of flood mapping experiences, challenges, and priorities from First Nations perspectives. The prompts were designed to encourage sharing of lived experience and governance considerations, rather than to solicit technical validation or consensus.

Flooding Experience and Context

- How flooding affects communities over time, including cumulative and repeat impacts.
- Differences in flood behaviour across regions, watersheds, and land types.
- The relationship between historic land decisions, infrastructure, and current flood risk.

Experiences with Flood Mapping

- Community awareness of flood mapping processes and products.
- Experiences accessing, using, or being excluded from flood mapping initiatives.
- Perceived usefulness or limitations of existing flood mapping information.

Governance and Jurisdiction

- How federal, provincial, and Indigenous roles intersect in flood mapping activities.
- Effects of jurisdictional boundaries on flood mapping coverage and decision-making.
- Challenges navigating responsibilities and accountabilities across governments.

Access to Data and Technical Information

- Availability and accessibility of flood mapping and environmental data.
- Challenges interpreting technical information for community planning purposes.
- Tools, formats, or supports that could improve the usability of available data.

Capacity and Support

- Availability of technical expertise, staffing, and resources within communities.
- Administrative and funding barriers to engaging in flood mapping initiatives.
- Types of training or technical support that would enable sustained engagement.

Impacts on Infrastructure, Housing, and Planning

- Effects of flooding on housing conditions, critical infrastructure, and development.
- How flood mapping information influences community planning decisions.
- Constraints on long-term planning resulting from recurring flood impacts.

Traditional Land Use and Cultural Considerations

- Impacts of flooding on Traditional Land Use areas and culturally significant sites.
- Considerations for protecting sensitive information and locations.
- Alignment between flood mapping approaches and Indigenous land relationships.

Indigenous Knowledge and Data Governance

- Role of Indigenous Knowledge in understanding flood behaviour and environmental change.
- Expectations regarding consent, stewardship, and use of shared information.
- Conditions required to build trust in flood mapping processes.

Future Needs and Priorities

- Characteristics of flood mapping tools that would support informed decision-making.
- Supports needed to shift from reactive response toward proactive planning.
- Conditions under which flood mapping initiatives would be considered effective and meaningful.

Information Capture and Synthesis

Discussion was documented through detailed notes, with an emphasis on accurately capturing issues raised, points of alignment, and areas of divergence. No attributions were made to individual participants or communities in reporting outputs.

Following the session, notes were reviewed and synthesized to identify recurring themes, key concerns, and observations relevant to flood mapping practices and governance. These synthesized insights form the basis of the “What We Heard” and “What We Learned” sections of this report.

Participant validation is planned as a subsequent step prior to finalization of reporting outputs, to ensure accuracy, respectful representation, and appropriate interpretation of shared perspectives.

The perspectives reflected in this report represent the views of participating First Nations and Tribal Councils and are not intended to reflect the position or policy of any single provincial or umbrella organization.

9.3 What We Heard

Across both the November 18, 2025, in person session in Regina and the February 11, 2026—virtual session, First Nations participants described flooding as an ongoing and cumulative reality—one shaped by historical land decisions, governance gaps, and largely reactive program models. While local circumstances vary, participants emphasized that existing flood mapping systems are often not consistent with community needs, priorities, or decision-making authority.

Flooding as a Chronic and Cumulative Experience

Participants described flooding as a recurring condition that undermines long-term planning and community stability, rather than a series of isolated hazard events. Several communities experience flooding annually or face persistently high water tables that destabilize land well beyond flood seasons.

One participant summarized the cumulative impact succinctly:

“We can’t build new homes because we are always dealing with repairing damaged ones.”

Others noted that flood impacts are closely tied to historic relocation, upstream development, dams, drainage projects, and altered water systems:

“Bad policies and bad land use practices keep penalizing First Nations.”

Flood risk was often described as structural rather than natural, with repeated exposure limiting communities’ ability to move beyond emergency response toward long-term planning.

Reactive Program Models and Dependence Cycles

Many participants described existing flood-related programs as largely reactive rather than preventative. Emergency assistance is often triggered only after damage has occurred, reinforcing cycles of repair, evacuation, and rebuilding without addressing underlying causes.

One participant framed this tension directly:

“Receiving assistance only after significant damage has occurred reinforces dependence rather than sovereignty.”

Others questioned the value of repeatedly engaging in planning or consultation processes when

preventative investments do not follow:

“What’s the point of talking if we still end up reacting every year?”

This framing highlighted a gap between engagement activities and tangible outcomes, with many participants calling for earlier intervention, mitigation support, and planning oriented investments.

Jurisdictional Boundaries and Fragmented Accountability

Jurisdictional complexity was raised as a central barrier to effective flood mapping. Participants described how provincial flood mapping initiatives often stop at reserve boundaries, leaving on reserve lands unmapped even when flood mapping information is required to access funding or emergency support.

As one participant put it:

“It’s almost like you need to create a map to figure out where all the data is.”

Participants also described fragmented accountability across federal, provincial, and Indigenous governments, noting that unclear roles and inconsistent eligibility criteria create administrative barriers and delay action. Communities often find themselves navigating multiple agencies without a clear roadmap for resolving flood risks.

Access to Data Without Access to Understanding

While participants acknowledged that some flood mapping data exists, many emphasized that access without interpretation is of limited value. Communities reported difficulty locating flood maps, understanding who holds them, and determining how to use them for planning or decision making.

One participant captured this frustration plainly:

“It’s one thing to access the data and another thing to understand it.”

Others described the challenge of navigating multiple portals, agencies, and datasets:

“It’s almost like you need to create a map to figure out where all the data is.”

High costs for proprietary software, lack of training, and the technical complexity of engineering products were cited as significant barriers, even when datasets are technically available.

Capacity Constraints as Structural Conditions

Participants stressed that capacity challenges are not the result of unwillingness or lack of concern at the community level. Rather, participants explained that these challenges arise from how programs and application processes are designed, often assuming access to technical, administrative, and financial capacity that communities may not have.

Application processes were described as particularly burdensome:

“The application asked for technical detail that we just don’t have the resources to produce.”

Others noted that even when data is available, communities lack dedicated staff to interpret or apply it:

“Accessing data from agencies like NRCan or the Water Security Agency is beyond our capacity, so we stay in a reactive position.”

Participants emphasized that without sustained technical support and training, flood mapping remains something done to communities rather than with them.

Impacts on Housing, Infrastructure, and Community Well-Being

Participants described how flooding affects housing, infrastructure, and health in ways that worsen and compound each other. Participants cited sewage backups, mold, structural deterioration, and unsafe living conditions affecting both physical and mental well-being.

One participant highlighted the human toll:

“Flood water comes into the reserve and brings contamination with it.”

Repeated evacuations and displacements were described as eroding community stability and confidence in planning systems intended to support resilience.

Impacts on Traditional Land Use and Cultural Areas

Participants voiced raised concerns about the impacts of flooding on Traditional Land Use areas, including hunting grounds, agricultural lands, ceremonial spaces, and culturally significant sites. Changes in water systems were described as altering landscapes that had been stable for generations.

One participant emphasized the need for context specific—understanding:

“Flooding in the South looks different than flooding in the North—ask the Elders.”

Others expressed concern that flood mapping processes could expose sensitive sites or be used to justify relocation without community consent.

Indigenous Knowledge, Data Governance, and Trust

Participants emphasized that Indigenous Knowledge—held by Elders and land users—provides critical insight into flood behaviour, historical patterns, and environmental change. Examples were shared of oral histories, land-based monitoring, and long-term observation informing flood understanding.

One participant explained:

“Elders used to mark flood peaks with stakes so people knew where it was safe to rebuild.”

At the same time, participants stressed the importance of data governance, consent, and trust. Concerns were raised about who controls flood mapping data, how it is shared, and whether communities benefit from its use. Several participants emphasized that trust is undermined when engagement does not align with outcomes.

Areas of Convergence

Despite regional and contextual differences, there was strong convergence around the need for:

- proactive and preventative flood mapping approaches.
- clearer coordination and accountability across governments.
- accessible, interpretable data supported by training and technical assistance.
- and Indigenous leadership in flood mapping design, interpretation, and applications.

As one participant put it:

“Ask us what is good for our people.”

9.4 What We Learned

The engagement highlighted that challenges related to flood mapping for First Nations in Saskatchewan are not primarily technical in nature. Rather, they arise from governance structures, delivery models, and program assumptions that shape how flood mapping information is produced,

accessed, interpreted, and applied. The learning below reflect implications for federal policy and program design, rather than assessments of community capacity or engagement.

Flood Mapping Has Direct Governance Implications

Flood mapping influences land-use decisions, infrastructure eligibility, housing development, and long-term planning. Participants explained that when mapping is conducted or applied without Indigenous leadership and clear consent, it can result in decisions that restrict community options or shift risk onto First Nations without corresponding authority.

The engagement underscored that flood maps are not neutral reference tools; they carry practical and political consequences. As reflected in participant perspectives, federal flood mapping guidelines have implications for how First Nations are involved in the interpretation, application, and use of mapping outputs, beyond participation limited to consultation activities.

Reactive Delivery Models Limit Long-Term Resilience

Participants' experiences demonstrated that flood-related programming is largely structured around post-event response rather than prevention or mitigation. This reactive orientation was described as limiting communities' ability to plan for housing, infrastructure, and land use in ways that reduce long-term exposure to flood risk.

The engagement reinforced that flood mapping initiatives are more effective when aligned with proactive planning efforts, rather than being used to respond after the damage has occurred. Participants observed that without earlier and more consistent support, flood mapping information is less able to inform risk-based decision-making.

Jurisdictional Fragmentation Undermines Consistency and Equity

Flood mapping in Saskatchewan is shaped by overlapping and sometimes misaligned federal, provincial, and Indigenous responsibilities. Current delivery models were described as resulting in incomplete coverage, particularly where reserve lands fall outside provincial mapping programs while simultaneously being subject to federal requirements for up-to-date flood information to access funding for recovery, mitigation, and preparedness.

A key learning from the engagement is that fragmentation among different jurisdictions affects the

consistency and equity of flood mapping outcomes. Participants emphasized that clearer coordination, and more well-defined roles are important considerations when designing and applying the governance and delivery aspects of implementation efforts. Without better alignment, participants viewed technical improvements alone as inadequate to resolve existing gaps.

Data Availability Does Not Equal Usability

The engagement clarified that the existence of datasets or open-access portals does not ensure meaningful access. Flood mapping data is often dispersed, highly technical, and difficult to interpret without specialized tools or support. As a result, communities may be unable to use available information to inform local decisions.

This highlights the need for federal guidelines and programs to address usability alongside availability. Participants emphasized the importance of interpretation support, training, plain-language guidance, and culturally appropriate tools in both design and presentation as necessary components of effective flood mapping systems.

Capacity Constraints Reflect System Design Choices

Capacity challenges identified through the engagement are rooted in program design rather than community willingness or interest. Participants described how funding structures, application requirements, technical thresholds, and administrative complexity create barriers that limit sustained engagement with flood mapping initiatives.

A central learning from the engagement is that capacity-building is a foundational element in effective flood mapping programs. Participants emphasized the importance of predictable funding, access to trusted technical expertise, and opportunities for long-term skills development in supporting a shift from reactive response to more informed planning.

Indigenous Knowledge Must Inform Decision-Making From the Outset

Indigenous Knowledge provides important insight into flood dynamics, cumulative environmental change, and land-use impacts that may not be captured through technical datasets alone. The engagement highlighted that effective flood mapping is more likely when Indigenous Knowledge is incorporated early in the process, rather than being added as a supplementary input after technical

work is complete.

Participants observed that approaches which separate Indigenous Knowledge from decision-making can result in maps that are technically sound but locally misaligned or incomplete.

Data Governance and Consent Are Foundational Requirements

Trust in flood mapping initiatives depends on clear principles related to data ownership, consent, and stewardship. Participants emphasized that mapping processes need to reflect community control over how information relating to their lands and territories is collected, used and shared.

This learning underscores the importance of embedding Indigenous data governance and consent principles as a central, not optional elements of flood mapping guidelines.

Synthesis

Overall, the engagement suggests that improving flood mapping for First Nations in Saskatchewan depends on governance, delivery, and support conditions—not solely on technical refinements. Flood mapping guidelines that do not take these conditions into account may perpetuate reactive approaches and existing inequities, even where data quality or consistency improves.

9.5 Considerations for the Federal Flood Mapping Guidelines

The following considerations reflect how the Federal Flood Mapping Guidelines may better support First Nations in Saskatchewan by addressing governance, delivery, and implementation conditions identified through engagement. These considerations are not exhaustive but are intended to inform guideline refinement in ways that improve equity, usability, and long-term effectiveness.

Position First Nations as Decision Makers

Participants emphasized that flood mapping decisions have direct implications for land use, infrastructure and long-term community planning. In this context, the guidelines have implications for how First Nations are involved in flood mapping processes that affect their lands and territories. This includes participation not only in mapping activities, but also in shaping priorities, interpreting results, and deciding how flood mapping information is applied in planning and development contexts.

Guideline language that describes First Nations primarily as stakeholders or consultees was viewed by

participants as inadequate to reflect Indigenous governance authority and lived experience.

Clarifying decision-making roles within the guidelines can help support more consistent expectations among all parties involved.

Embed Flood Mapping within Proactive Planning Frameworks

Participants consistently described flood mapping as most useful when it is connected to proactive planning, mitigation, and infrastructure investment rather than used primarily after damage has occurred. The alignment between flood mapping initiatives and housing development, land-use planning, and long-term community resilience objectives was identified as an important consideration for guideline applications.

Where this alignment is missing, participants suggested that flood mapping efforts may remain disconnected from decision-making timelines and funding processes, reducing limiting their practical value for communities facing chronic flood risk.

Early development of flood maps aligned with decision-making timelines and funding processes can support proactive preparedness and mitigation efforts, breaking the cycle of damage and repair for communities facing chronic flood risk.

Address Jurisdictional Coordination and Coverage Gaps

Engagement findings emphasized jurisdictional fragmentation as a factor affecting the consistency and equity of flood mapping outcomes for First Nations. In particular, participants described how provincial mapping initiatives may not extend to reserve lands, even when flood mapping information is needed to support planning or access certain federal programs.

Participants emphasized that clearer coordination and more clearly defined roles are relevant considerations when applying the guidelines across jurisdictions. Without improved alignment, technical improvements alone were viewed as insufficient to resolve gaps in coverage or implementation.

Design for Usability, Not Just Data Availability

The guidelines should emphasize usability as a core design principle. This includes expectations related to:

- plain-language interpretation.
- visual tools suitable for community decision-making.
- training and capacity-building supports.
- and tools designed and presented in culturally appropriate ways, as well as guidance on how flood mapping products can be applied in specific planning contexts.

Ensuring data is technically available without addressing how it can be used risks limiting the effectiveness of flood mapping initiatives, particularly for communities without specialized technical capacity.

Treat Capacity-Building as a Foundational Element

Capacity-building should be embedded within guideline expectations rather than treated as an external or optional consideration. Participants emphasized the importance of:

- predictable and sustained support over time.
- access to trusted technical expertise.
- and opportunities for gradual skills development.

Designing flood mapping initiatives with assumed technical capacity risks excluding communities from meaningful participation and reinforcing reactive engagement patterns.

Integrate Indigenous Knowledge from the Outset

The guidelines should support the inclusion of Indigenous Knowledge as an integral part of flood mapping processes from initial scoping through to interpretation and application. Indigenous Knowledge systems provide critical context for understanding flood behaviour, land-use impacts, and environmental change, and should inform both technical and governance decisions.

Participants noted that guideline language that frames Indigenous Knowledge as supplementary risks marginalizing its role and limiting the relevance of flood mapping outputs.

Embed Data Governance, Consent, and Stewardship Principles

Data governance considerations should be clearly articulated within the guidelines. This includes

expectations related to:

- consent for data collection and use.
- control over how information is shared.
- protection of culturally sensitive sites.
- and respect for Indigenous data sovereignty.

Embedding data governance principles within the guidelines supports trust, reduces risk of harm, and aligns flood mapping practices with Indigenous rights and governance expectations.

Support Tiered and Fit-for-Purpose Mapping Approaches

Participants emphasized that communities have varying needs, priorities, and starting points. A tiered approach to flood mapping—allowing for different levels of technical complexity and application—was viewed as a means to support progress without imposing uniform requirements that may not align with local circumstances.

Fit-for-purpose approaches can permit communities to access flood mapping tools that are suited to their immediate decision-making needs while preserving pathways to more advanced mapping where appropriate.

Implementation Considerations

Taken together, these considerations suggest that the effectiveness of the Federal Flood Mapping Guidelines depends not only on technical standards but also on how flood mapping initiatives are governed, supported, and integrated into broader planning processes. Participants viewed approaches that account for these factors as more likely to produce flood mapping outcomes that are equitable, actionable, and trusted by First Nations.

9.6 Next Steps

The findings summarized in this report will inform ongoing refinement of the Federal Flood Mapping Guidelines as well as related federal programming. The following next steps reflect NRCan's commitment to accuracy, transparency, and continued collaboration with First Nations, while respecting the purpose and scope of the engagement process.

Participant Validation

Meeting summaries from both engagement sessions were shared with all participants following the sessions, and participants were provided an opportunity to review the summaries and submit additional feedback or clarification. Feedback received through this process informed the synthesis of themes and learning reflected in this report.

Integration Into Federal Guidance and Policy Discussions

NRCan will bring engagement findings forward to relevant national technical and policy forums, including interdepartmental and intergovernmental working groups involved in flood mapping, risk assessment, and climate adaptation. These discussions will examine how the identified considerations can be addressed within existing and evolving federal frameworks.

Continued Engagement and Information Sharing

NRCan committed to ongoing dialogue with Indigenous partners as a guideline refinement progresses. This includes sharing information on available tools, datasets, and supports related to flood mapping, as well as updates on how engagement feedback is influencing federal approaches.

Limitations and Scope

This report reflects perspectives shared during two engagement sessions with First Nations in Saskatchewan and should be interpreted within that scope. Participation was voluntary and not intended to be statistically representative of all First Nations or regional contexts. The engagement did not seek to evaluate community capacity, to assess the technical adequacy of existing flood-mapping products, or to review the performance of specific programs or jurisdictions. Rather, it focused on identifying systemic conditions (for example, governance, data access, delivery models, and support structures) that shape how flood-mapping information is produced, accessed, understood, and applied. As such, the findings highlight issues of broader relevance while remaining grounded in the specific experiences shared.

10. Conclusion

Flooding is the most common and most costly disaster that can affect Canadians at any time of year. Federal programming related to flood mapping and emergency management in Indigenous communities is extensive, yet fragmented. While there is a wide array of programs, the lack of integration, consistent risk-based funding, and formal Indigenous-led governance models has led to both service gaps and inefficiencies. Stronger collaboration, streamlined application processes, and centring Indigenous communities in the design and governance of these programs are essential to better align with community priorities and climate realities. Recommendations were developed based on the identified gaps to ensure services are accessible, equitable, culturally inclusive and promote self-determination and reconciliation. By working together with strong relationships built on trust, transparency and goodwill, Indigenous communities and government can better address flooding prevention and adaptation and protect our sacred land and communities for generations to come.

Appendix A: References

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Appendix B: Acronyms and Definitions

AFN—Assembly of First Nations

CIRNAC—Crown-Indigenous Relations and Northern Affairs Canada

DFAA—Disaster Financial Assistance Arrangements

DMAF—Disaster Mitigation and Adaptation Fund

DSM—Digital Surface Model

DTM—Digital Terrain Model

ECCC—Environment and Climate Change Canada

EMAP—Emergency Management Assistance Program

EODMS—Earth Observation Data Management System

FHIMP—Flood Hazard Identification and Mapping Program

FNA—First Nation Adapt

FSIN—Federation of Sovereign Indigenous Nations

GIS—Geographic Information System

ISC—Indigenous Services Canada

LiDAR—Light Detection and Ranging

NDMP—National Disaster Mitigation Program

NRCan—Natural Resources Canada

OCAP®—Ownership, Control, Access and Possession

SFNEM—Saskatchewan First Nations Emergency Management

SK—Saskatchewan

Appendix C: Saskatchewan Projects

32 Projects, Total investment of $7,703,808 from 2016–2027

Community	Recipient	Project Name	Description	Funding
Ahtahkakoop, Moosomin, Saulteaux, Mosquito, Grizzly Bear's Head, Lean Man First Nations, Red Pheasant, Sweetgrass	Battleford Agency Tribal Chiefs (#4451)	Climate Change Impact Assessment Project	Battleford Agency Tribal Council (BATC) proposes a project to plan for current and current impacts of climate change on its six member communities. The study, which BATC will complete with support from their consultant, aims to plan, research and assess climate change impacts pertaining to flooding and wildfires as it relates to BATC First Nations communities' infrastructure. Results of the study will help to build an understanding of climate change among BATC communities, define key infrastructure areas most likely to be impacted by climate change, and identify adaptation measures to address identified risk and opportunities.	2017-18: $187,598 Total: $187,598

Community	Recipient	Project Name	Description	Funding
Various	Federation Of Saskatchewan Indians, Inc (#1114)	Saskatchewan Regional Workshop	The regional workshop will provide a platform to discuss past projects funded by the Climate Change Adaptation Program, discuss the new First Nation Adapt Program, and identify regional adaptation priorities.	2017-18: $157,000 Total: $157,000
Yellow Quill	Yellow Quill First Nation (#0376)	Vulnerability Assessment of Yellow Quill First Nation Infrastructure and Community Wellbeing to Climate Change Effect	This project seeks to perform a vulnerability assessment using four different subprojects to gain a holistic view of the threats from inland flooding because of climate change. 1. LiDAR data gathering. 2. Community vulnerability study. 3. Creation of models and maps for watershed dynamics, infrastructure elevation, and flood predictions. 4. PIEVC assessment on water, wastewater treatment plants and cisterns.	2018-19: $248,815 2019-20: $28,600 2020-21: $0 Total: $277,415

Community	Recipient	Project Name	Description	Funding
Lac La Ronge Indian Band	Lac La Ronge Indian Band (#0353)	Climate Change Adaptation Planning for Community Capacity Building Through Firesmart Assessments	Lac La Ronge Indian Band wants to address the climate change impact on forest fires and the subsequent risk to the community and its infrastructure. This project focuses on capacity building using a FireSmart assessment in the band's six communities. This assessment will result in a wildfire preparedness guide and wildfire mitigation strategy for each community.	2018-19: $97,750 2019-20: $73,450 Total: $171,200

Community	Recipient	Project Name	Description	Funding
Hatchet Lake Denesuline First Nation	Hatchet Lake Denesuline First Nation (#0352)	Climate Change & Health Adaptation at Hatchet Lake Densuline First Nation	The community will identify ways in which emergency response strategies can anticipate and mitigate threats to social and cultural fabric of the community while enhancing existing social and cultural strengths that can be a part of response strategy. They will document climate impacts, map the areas that are at risk of forest fire, flooding, and take action to reduce these impacts, including determining where to put housing and reviewing current evacuation strategies. The result of an assessment study will provide information to the community about health impacts and how leadership and membership can adapt. Membership will be better informed as a result.	2018-19: $44,480 2022-23: $11,120 Total: $55,600

Community	Recipient	Project Name	Description	Funding
Shoal Lake Cree Nation	Shoal Lake Cree Nation (#0357)	Unearthing The Impacts of Climate Change: Making Informed Adaptation Decisions	This risk assessment project will involve: 1. interviews with community members on how climate change is affecting health, wellness and socio-economic conditions. 2. a housing condition/quality assessment to identify structural issues. 3. a Photovoice project driven by youth to document physical climate change impacts. 4. a youth art and poster-making project to inform youth about safe decisions and actions when flooding occurs in the community. The final report will contribute to community planning and be shared with relevant stakeholders.	2018-19: $46,515 2022-23: $15,505 Total: $62,020

Community	Recipient	Project Name	Description	Funding
Red Earth Cree Nation	Red Earth Cree Nation (#0356)	Understanding Climate Change and Health Impacts at Red Earth Cree Nation, Saskatchewan	This project will assess climate impacts through interviews with community members and youth art projects and awareness building. The results and final report will be shared with the community through an open house and inform future community planning efforts.	2018-19: $41,520 2022-23: $10,380 Total: $51,900
Okanese First Nation	Okanese First Nation (#0382)	Kikawinaw Askiy: Reconciling with Indigenous Sacred Ecology	This project complements a Climate Monitoring project funded by the Community-Based Monitoring program. The proponent will develop a Climate Change Adaptation Strategy through a community-engaged planning process. The strategy will help guide future community development, public safety, and infrastructure decisions.	2018-19: $27,025 Total: $27,025

Community	Recipient	Project Name	Description	Funding
James Smith Cree Nation	James Smith Cree Nation (#0370)	Climate Change and Health Impact Assessment: James Smith Cree Nation	The community sees this project as Year 1 of a multi-year project. Year 1 will be an assessment of climate change impacts to inform leadership of the extent of the current and projected problems affecting health. Community-wide interviews were conducted, and photographs were to be collected from past and current impacts. The goal of this first phase is primarily awareness, to eventually develop an adaptation plan. The final deliverable from Phase 1 will be a comprehensive report, and results to be shared with Chief and Council, Prince Albert Grand Council and local environmental health officers. This will assist in planning efforts for new infrastructure and funding applications.	2018-19: $61,875 2019-20: $20,625 Total: $82,500

Community	Recipient	Project Name	Description	Funding
43 First Nations in Saskatchewan	PADC Management Company Ltd./Prince Albert Grand Council (#1040)	Saskatchewan First Nation Communities Wildfire Vulnerability Assessment	The project will conduct a vulnerability assessment of wildfire risk levels for 43 First Nation communities that lie within the Boreal Forest and forest fringe areas of Saskatchewan to aid the communities build support for future wildfire mitigation project work. Prince Albert Grand Council will partner with the Government of Saskatchewan Wildfire Management Branch.	2018-19: $64,170 2019-20: $7,130 Total: $71,300

Community	Recipient	Project Name	Description	Funding
11 First Nations in Saskatchewan	File Hills Qu'appelle Tribal Council (#1041)	Proposal on Climate Change Adaptation Planning	File Hills Qu'appelle Tribal Council (FHQTC) will support its 11 member First Nations in adapting to climate change impacts. The tribal council will hire a Climate Change Coordinator to develop climate change education and plan a Climate Change Gathering and develop planning guidelines and templates to integrate climate change planning into other forms of planning. FHQTC will engage its membership though online and in-person sessions and traditional ecological knowledge will be collected from member communities. Project results will be shared with member First Nations.	2019-20: $174,400 2020-21: $143,360 Total: $317,760

Community	Recipient	Project Name	Description	Funding
Star Blanket Cree Nation	Star Blanket Cree Nation (#0387)	First Nation Climate Adapt Project	The objective of the project is to develop a climate change adaptation strategy for the community of Star Blanket. The following five steps are proposed to meet the objectives of the project: 1. Establish a working committee. 2. Develop a climate risk assessment protocol. 3. Identify key risk management actions. 4. Develop an implementation strategy. 5. Community review and update the plan for improved implementation on an ongoing basis.	2019-20: $99,360 2020-21: $0 Total: $99,360

Community	Recipient	Project Name	Description	Funding
Onion Lake Cree Nation	Onion Lake Cree Nation (#0344)	Climate Adaptation—Drainage Assessment	The proposed project will involve an assessment of community drainage systems to determine if existing infrastructure has sufficient capacity to handle current and future extreme precipitation events. This assessment will identify areas where infrastructure should be upgraded to reduce the risk of flooding, and areas where existing infrastructure should be maintained. Once completed, the assessment will guide the construction of future drainage infrastructure.	2019-20: $168,560 Total: $168,560
Meadow Lake Tribal Council	Meadow Lake Tribal Council (#1120)	Climate Change Mitigation Using Flood Risk Mapping	The funding will support the use of drone technology to map the topography of each reserve and utilize this information for flood risk mapping. Information collected will be used by the reserves for land-use planning.	2019-20: $86,638 2020-21: $86,638 Total: $173,276

Community	Recipient	Project Name	Description	Funding
Onion Lake Cree Nation	Onion Lake Cree Nation (#0344)	Onion Lake Cree Nation Building Community Capacity to Adapt to Climate Change	This project will assess the climate risks faced by Onion Lake Cree Nation through consultation with the community, gathering knowledge from Elders, and reviewing scientific information regarding climate change on Onion Lake Cree Nation lands. The project will also include strategic planning sessions with a Youth Council and community leadership, community engagement sessions, and classroom training to increase community capacity to undertake planned adaptive measures.	2019-20: $74,790 2020-21: $128,172 Total: $202,962

Community	Recipient	Project Name	Description	Funding
Waterhen Lake First Nation	Waterhen Lake First Nation (#0402)	Waterhen Lake First Nation Flooding	Waterhen Lake First Nation proposes a flood mapping project for the Beaver River area surrounding the community in order to plan for current and future impacts of climate change, notably flooding. Waterhen Lake First Nation will partner with a consultant to develop flood inundation boundaries of the Beaver River within the community and the surrounding area and conceptual flood mitigation options will be presented. The results of the project will help the community to adapt to changing weather patters and provide the nation with engineering flood maps with a more fulsome picture, which will be used to inform building housing and roadway infrastructure south of the Beaver River.	2020-21: $177,158 2021-22: $21,218 Total: $198,376

Community	Recipient	Project Name	Description	Funding
George Gordon First Nation	Wichehtowak Limnos Consulting Services Ltd. (#8985) (for George Gordon First Nation (#0391)	George Gordon First Nation Adapt Program	Funding to undertake a climate change risk assessment and adaptation planning. The project will include the use of both Indigenous Knowledge and Protocol and western science methodologies.	2020-21: $130,065 2021-22: $130,065 Total: $260,130
Cote First Nation, Keeseekoose, The Key First Nation, Kahkewistahaw First Nation, Sakimay First Nations	Yorkton Tribal Council (#1122)	South Saskatchewan Climate Assessment and Vulnerabilities	The project will build climate change awareness in participating member communities, develop community climate change risk assessments and adaptation plans as it relates to community infrastructure and emergency preparedness.	2020-21: $115,500 2021-22: $84,500 2022-23: $29,500 Total: $229,500

Community	Recipient	Project Name	Description	Funding
Red Earth Cree Nation	Red Earth Cree Nation (#0356)	Mapping the flooding on our lands	Red Earth Cree Nation proposes a community project to conduct risk assessments focussed on inland flooding. The project will take place over 1 year with the goal of information gathering and mapping the extent of flooding. Knowledge of the lands by Elders, women, hunters, fishers, trappers and gatherers will be gathered and transferred onto professionally printed maps. Prince Albert Grand Council will provide in-kind support to transfer hand-drawn mapping information onto professionally printed maps.	2021-22: $167,613 Total: $167,613

Onion Lake Cree Nation	Onion Lake Cree Nation (#0344)	Adaptation planning for Areas Identified as high risk for Flooding	Onion Lake Cree Nation (OLCR) proposes a drainage assessment in order to plan for current and future impacts of climate change. The project, which builds from the results of the 2019 Drainage Study funded by First Nation Adapt, will look to lands south of the previous studied boundary, which includes lands that OLCN own, to the edge of the North Saskatchewan River. Similar to the previous study, OLCR will partner with a consultant to analyze flood-prone areas in the community, assess the condition of culverts that contribute to poor drainage in the community, and determine mitigative measures to protect ONLC's infrastructure (with Cost D estimates). The results of the project will help the community to adapt to changing weather patters and provide the nation with engineering flood maps with a more fulsome picture, which will be used to inform community planning regarding the construction of new infrastructure and potential initiatives to protect existing infrastructure from	2021-22: $210,000 Total: $210,000

Community	Recipient	Project Name	Description	Funding
			flooding.	
Pelican Lake, Witchekan Lake	Agency Chiefs Tribal Council (#1087)	ACTC Response to In-Land Flooding	Agency Chiefs Tribal Council proposes a regional project to conduct risk assessments and adaptation planning focussed on inland flooding. The project will be completed over two years and will help the community better understand flooding and climate change risks and provide recommendations for infrastructure and community planning adaptation measures. The project will include community engagement, incorporation of Indigenous Knowledge and a drainage assessment for the two communities of Pelican Lake First Nation and Witchekan Lake First Nation. The University of Saskatchewan and University of Calgary will provide technical and engineering support.	2021-22: $203,550 2022-23: $207,575 Total: $411,125

Community	Recipient	Project Name	Description	Funding
Lac La Ronge Indian Band	Lac La Ronge Indian Band (#0353)	Climate Change Adaptation Planning for Community Capacity Building through Wildfire Mitigation Strategies and Flood Plain Mapping & Recommendations of Adaptation Processes	Lac La Ronge Indian Band (LLRIB) is proposing a community flood mapping and risk assessment of community infrastructure. The project will take place over two years and consist of local flood plain studies that are based on community engagement and GIS technologies. There is also the opportunity to build capacity through GIS training and adaptation planning in each of the LLRIB communities. This project will build on information gathered through FireSmart and will be tailored to the needs of each of the 6 communities.	2021-22: $90,225 2022-23: $55,025 Total: $145,250

Community	Recipient	Project Name	Description	Funding
11 First Nations in Saskatchewan	File Hills Qu'appelle Tribal Council (#1041)	Proposal on Climate Change Adaptation Planning	File Hills Qu'appelle Tribal Council (FHQTC) is carrying out an adaptation planning project; it is addressing knowledge gaps that were discovered in the previous project carried out by the Tribal Council. The project is 2 years long, addressing community concerns associated with natural emergencies and First Nations Infrastructure. The main goal of the project is to conduct climate change assessments and adaptation plans for the Lower Qu'appelle River and the Cypress Hills Interprovincial Park. This will be achieved through regional risk assessments, community engagement and gathering of Indigenous Knowledge. This project will be undertaken with considerations from the 11 member nations.	2021-22: $172,260 2022-23: $169,510 Total: $341,770

Community	Recipient	Project Name	Description	Funding
Mosquito, Grizzly Bear's Head, Lean Man First Nation	Mosquito First Nation (#0343)	Flood Potential Mapping/Drainage Assessment	The Mosquito, Grizzly Bear's Head, Lean Man First Nation proposes a project that will combine risk assessment, flood mapping, adaptation planning and cost-benefit analysis. The main community concern is to increase drainage issues which poses more risk on community infrastructure. This project involves the collection of topographic data, survey and culvert assessment, drainage assessment and flooding potential mapping. Associated Engineering Ltd will be providing services on behalf of the community.	2022-23: $147,000 Total: $147,000

Okanese Band	Okanese Band (#0382)	Kikawinaw Askiy: Reconciling with Indigenous Sacred Ecology	Funding for Okanese First Nation to develop a climate change risk assessment and drainage assessment to improve flood and drought resilience. This project builds on the results of the previous project with First Nation Adapt (Kikawinaw Askiy), which developed a climate monitoring network and produced a climate change adaptation plan that identified flooding and drought as a key concern and priority for this project. The study, which will be completed with technical support from their consultant, aims to assess climate change risks and produce a drainage assessment while taking a two-eyed seeing approach that blends western science and Indigenous Knowledge. The results of this study will allow the community to adapt to changing weather patterns and provide the Nation with engineering flood maps, which will be used by the community to improve drainage issues, and prioritize future adaptation actions that can take place in Okanese First Nation.	2022-23: $184,000 2023-24: $487,466 Total: $671,466

Nekaneet First Nation, Wood Mountain Lakota First Nation, Piapot First Nation, Muscowpetung Saulteaux Nation, Pasqua First Nation, Little Black Bear's Band of Cree & Assiniboine Nations, Okanese First Nation, Star Blanket Cree Nation, Peepeekisis Cree Nation,	File Hills Qu'appelle Tribal Council (#1041)	Climate Change Adaptation Strategy	Funding for File Hills Qu'appelle Tribal Council (FHQTC) to conduct a multi-phased project to support adaptation planning to address the impacts of climate change. The study, which is built from previous work completed by FHQTC, aims to develop a regional climate risk assessment for Treaty 4 territory, develop a FHQTC adaptation strategy and action plan, and conduct a groundwater risk assessment in the context of climate change. FHQTC will leverage its existing relationships with an academic partner to complete the work, and will also provide opportunities for youth to participate in the project in a meaningful way through direct engagement and training. Results of this project will provide FHQTC with a regional overview of climate change impacts, which may help to inform localized adaptation strategies and priorities by member communities.	2023-24: $368,669 2024-25: $370,119 2025-26: $1,000 Total: $739,788

Community	Recipient	Project Name	Description	Funding
Carry-The-Kettle Nakoda Nation.				

Community	Recipient	Project Name	Description	Funding
Red Earth Cree Nation	Red Earth Cree Nation (0356)	Climate Change, Annual and Seasonal Flooding on Our Lands and the Socio-Economic Impacts for the Red Earth Crees	Funding for Red Earth Cree Nation to conduct community-led flood mapping, building on the results of the RED EARTH flood mapping project conducted in 2021–2022. The previous study allowed Red Earth to gather Indigenous Knowledge from various knowledge holders to determine flood-prone areas in the community. The project will leverage these findings to continue to gather input from community members not engaged in the previous phase due to COVID-19 restrictions. This information will be used to support the protection and preservation of community infrastructure and sites of cultural significance at risk to coastal erosion and flooding. It will also support emergency management practices and inform land-use planning.	2023-24: $95,760 2024-25: $20,160 Total: $115,920

Witchekan Lake First Nation	Witchekan Lake First Nation (#407)	Utilizing Local Knowledge and Flood Mapping to Support Climate Resilience in Witchekan Lake	Funding for Witchekan Lake First Nation to conduct a multi-phased Flood Mapping Study to support adaptation planning to address the impacts of climate change. The study, which was informed by previous data gaps identified from the Agency Chiefs Tribal Council Flood Mapping Project previously supported by the program, aims to better assess flood risk from rising water tables, while taking a two-eyed seeing approach that blends western science and Indigenous Knowledge, with a strong emphasis on capacity-building. The results of this study will help Witchekan Lake First Nation to adapt to changing weather patterns and provide the nation with engineering flood maps, which will be used to inform future community planning regarding the construction of new infrastructure and potential initiatives to protect existing infrastructure from flooding and high-water tables. It will also support emergency management practices and inform land use planning.	2023-24: $121,807 2024-25: $315,175 2025-26: $1,500 Total: $438,482

Community	Recipient	Project Name	Description	Funding
George Gordon First Nation	Wicehtowak Limnos Consulting Services LP (WLCS), wholly owned by, and the stewardship coordinating organization for George Gordon First Nation (#391)	Assessing Indigenous Traditional Resources: Creating a Resilient Climate Future	Funding for Wicehtowak Limnos Consulting Services (WLCS) to conduct a climate data gap assessment and adaptation planning to address the impacts of climate change. The study, which builds on previous climate change adaptation planning efforts from WLCS funded by the program, identified a need for more localized climate data to help inform future adaptation initiatives in the nation. This project aims to define past climate in the traditional territory of the community to predict future conditions by incorporating a two-eyed seeing approach that blends western science with Indigenous Knowledge. This work will allow the community to develop a climate resiliency tool that will help the nation move towards climate sovereignty.	2023-24: $241,960 2024-25: $30,245 2025-26: $30,245 Total: $302,450

Community	Recipient	Project Name	Description	Funding
Kawacatoose First Nation	Kawacatoose First Nation (#0393)	Drought Risk Assessment on Kawacatoose First Nation Reserve	Funding for Kawacatoose First Nation (KFN) to conduct a drought assessment project on its reserve in order to support adaptation planning to address the impacts of climate change. The study, which KFN will complete with technical support from their academic partner, aims to address drought issues affecting the community's food security by developing a risk assessment and adaptation plan driven by community awareness and engagement activities. The results of the project will help the community adapt to climate change, mitigate the impacts of drought on food security, and help the community inform future adaptation priorities.	2024-25: $89,333 2025-26: $121,000 2026-27: $106,950 Total: $317,283

Community	Recipient	Project Name	Description	Funding
Muskowekwan First Nation	Muskowekwan First Nation (#0392)	Drought Risk Assessment on Muskowekwan First Nation Reserve	Funding for Muskowekwan First Nation (KFN) to conduct a drought assessment project on its reserve to support adaptation planning to address the impacts of climate change. The study, which KFN will complete with technical support from their academic partner, aims to address drought issues affecting the community's food security by developing a risk assessment and adaptation plan driven by community awareness and engagement activities. The results of the project will help the community adapt to climate change, mitigate the impacts of drought on food security, and help the community inform future adaptation priorities.	2024-25: $94,333 2025-26: $149,000 2026-27: $106,950 Total: $350,283

Pheasant Rump Nakota First Nation	Pheasant Rump Nakota First Nation (#0409)	Flood Mapping on Pheasant Rump Nakota First Nation Reserve	Funding for Pheasant Rump Nakota Nation (PRNN) to conduct a multi-year Flood Mapping Study to support adaptation planning to address the impacts of climate change. The study, which the community will complete with technical support from their consultant and academic partner, aims to assess flood risks and the seasonal impacts of high ground water in the community while taking a two-eyed seeing approach that blends western science and Indigenous Knowledge. The results of the project will help the community to adapt to changing weather patterns and provide the nation with engineering flood maps and a water management plan, which will be used to inform community planning regarding the construction of new infrastructure and potential initiatives to protect existing infrastructure from flooding and high groundwater. It will also support emergency management practices and inform a community response plan to flooding and support the	2024-25: $263,606 2025-26: $131,359 2026-27: $156,931 Total: $551,896

Community	Recipient	Project Name	Description	Funding
			amendment of PRNN's land use plan.	

Nations not present on this list and have not accessed FNA.

Treaty 4 Territory

- Saskatchewan Tribal Councils Cowessess First Nation—An independent First Nation not affiliated with a tribal council.
- Indigenous peoples in Saskatchewan Fishing Lake First Nation—An independent First Nation not affiliated with a tribal council.
- Saskatchewan Tribal Councils Ochapowace First Nation—Member of the South-East Treaty #4 Tribal Council.
- Saskatchewan Tribal Councils White Bear First Nation—Member of the South-East Treaty #4 Tribal Council.

Treaty 5 Territory

- Cumberland House Cree Nation—Member of the Prince Albert Grand Council.

Treaty 6 Territory

- Federation of Sovereign Indigenous Nations Beardy's & Okemasis' Cree Nation—An independent First Nation not affiliated with a tribal council.
- Federation of Sovereign Indigenous Nation Big Bear Band—An independent First Nation not affiliated with a tribal council.
- Indigenous peoples in Saskatchewan Chakastaypasin First Nation—An independent First Nation not affiliated with a tribal council.
- Federation of Sovereign Indigenous Nation Thunderchild First Nation—An independent First Nation not affiliated with a tribal council.

Treaty 8 Territory

- Saskatchewan Tribal Councils Black Lake Denesuline First Nation—Member of the Prince Albert Grand Council.
- Fond du Lac Denesuline Nation—Member of the Prince Albert Grand Council.

Treaty 10 Territory

- Saskatchewan Tribal Councils Birch Narrows Dene Nation—Member of the Meadow Lake Tribal Council.
- Buffalo River Dene Nation—Member of the Meadow Lake Tribal Council.
- Saskatchewan Tribal Councils Canoe Lake Cree First Nation—Member of the Meadow Lake Tribal Council.
- Saskatchewan Tribal Councils Clearwater River Dene Nation—Member of the Meadow Lake Tribal Council.
- Saskatchewan Tribal Councils English River First Nation—Member of the Meadow Lake Tribal Council.

Appendix D: Engagement Agendas

In-Person

First Nation Engagement on Flood Mapping in Saskatchewan

Tuesday, November 18, 2025

Sandman Hotel and Suites Regina

1800 Victoria Avenue East, Regina, SK

9:30am—2:30pm

8:45AM	Morning Snacks and Refreshments Come early to sign-in and join us for refreshments.
9:30AM	Welcome and Introduction Welcome and Opening by Elder Art Francis, Piapot First Nation Welcome and Introduction by Facilitator Cara Lenoir, Mahihkan Management Roundtable Introductions
10:00AM	Gaps in Flood Mapping Overview
10:15AM	Discussion Block 1 1. What are the issues and challenges your community experiences with flood mapping? 2. How can the guidelines be changed to protect Traditional land use activities in your Traditional Territory?
11:30AM	Flood Mapping Data Access & Usage Overview
12:15PM	LUNCH

1:00PM	Discussion Block 2 3. Other than funding, how can NRCan support your First Nation community to access additional data for flood mapping? 4. What data would help to make flood mapping support good decisions in your First Nation community? 5. What should be the process to access NRCan data for flood mapping?
2:00PM	Key Takeaways from Natural Resources Canada
2:15PM	Next Steps and Final Thoughts
2:30PM	Session Adjourns

Virtual

First Nation Engagement on Flood Mapping in Saskatchewan

Wednesday, February 11, 2026

9:30am—12:00pm CST

9:30AM	Welcome and Introduction Welcome and Opening by Elder Welcome and Introduction by Facilitator Cara Lenoir, Mahihkan Management
9:50AM	Overview of Flood Mapping—What We Mean by Flood Mapping • Presented by Jean-Samuel Proulx-Bourque, Natural Resources Canada What We Heard in Regina Engagement Session • Presented by David Cook, Natural Resources Canada
10:05AM	Gaps in Flood Mapping Overview
10:15AM	Discussion Block 1 3. What are the challenges and issues your community experiences with flood mapping? 4. What are the impacts on your Traditional areas from flooding? What has been done to mitigate impacts?
11:00AM	Flood Mapping Data Access & Usage Overview Review of Maps and Resources • Presented by Juno Garrah, Natural Resources Canada
11:10AM	Discussion Block 2 6. Other than funding, what information and supports would help you make flood maps for your community?
11:45AM	Key Takeaways from Natural Resources Canada

11:55AM	Next Steps and Final Thoughts
12:00PM	Session Adjourns

Appendix E: List of Participating Nations and Organizations

Participating First Nations

- Ahtahkakoop Cree Nation
- Beardy's & Okemasis Cree Nation
- Birch Narrows Dene Nation
- Buffalo River Dene Nation
- Canoe Lake Cree Nation
- Carry the Kettle First Nation
- Chakastaypasin Band
- Cowessess First Nation
- Flying Dust First Nation
- Kahkewistahaw First Nation
- Kawacatoose First Nation
- Lac La Ronge Indian Band
- Makwa Sahgaiehcan First Nation
- Muskoday First Nation
- Ochpowace Nation
- One Arrow First Nation
- Onion Lake Cree Nation
- Pasqua First Nation
- Pelican Lake First Nation
- Pheasant Rump Nakota First Nation

- Piapot First Nation
- Red Earth First Nation
- Star Blanket Cree Nation
- Sturgeon Lake First Nation
- White Bear First Nation
- Zagime Anishinabek First Nation

First Nation Organizations/Tribal Councils

- File Hills Qu'Appelle Tribal Council
- Prince Albert Grand Council
- Saskatoon Tribal Council
- Yorkton Tribal Council