

Climate Change Adaptation Strategy

Town of Torbay, NL

September 2026



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R1	Emma Power	Sept 14 th , 2026	Final draft for Town review
R2	Emma Power	Sept 21st, 2026	Minor edit

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1. PROJECT BACKGROUND

This report has been prepared by Fundamental Inc. as part of the [Local Leadership for Climate Adaptation \(LLCA\)](#) project. This is an initiative of the Green Municipal Fund, a program funded by the Government of Canada and delivered by the Federation of Canadian Municipalities (FCM). The Town of Torbay received 80% funding for this project, 20% being the Town's contribution.

The LLCA is intended to help municipalities plan, test, and implement tailored climate adaptation solutions that protect their residents and assets. The *Climate Ready Plans and Processes* LLCA funding stream helps communities to adapt to the impacts of climate change by developing climate risk assessments and climate adaptation strategies which are critical for safeguarding infrastructure, protecting essential services, and ensuring the well-being of all residents.

The main body of this report includes the **Climate Change Adaptation Strategy** (status as of September 2026) which resulted from this initiative, as well as foundational and guiding content to ensure comprehensive understanding and effective implementation of the strategy going forward.

The following project activities contributed to the development of this strategy:

Climate Change Vulnerability Assessment (see Appendix A)

A climate vulnerability assessment involves analyzing the latest local climate data available along with geographical information and lived-experience of the community to identify risks associated with climate change.

Public Engagement (see Appendix B & C)

A public survey was conducted between November 2025 and January 2026 which received 79 responses, and an in-person public session was held at Torbay Common on February 11th, 2026 which had 10 attendees.

Wetland Inventory (see Appendix D, full report provided under separate cover)

Wetlands play important roles in flood risk mitigation, surface water filtration, ground water retention, and wildfire resilience, all of which are relevant to Torbay's climate resilience. Feaver's Lane, in partnership with Aquatic Conservation Initiative and College of the North Atlantic, completed a wetland and waterbody mapping exercise for Torbay as part of this project.

2. CLIMATE ADAPTATION STRATEGY

The Climate Adaptation Strategy has been organized into categories which align with the climate change vulnerability assessment. Six of the categories are based on climate hazards - **Drought/Water Supply, Inland Flooding, Extreme Temperatures, Wildfire, Storms, and Coastal**. The remaining two categories, **Power Outages** and **Emergency Response**, include risks and action items that are relevant to multiple climate hazards.

Just as our watersheds, forests, oceans, air, and infrastructure are always interacting, no climate hazard is actually separate from another. Vulnerabilities identified under one category are likely related to several other categories, and many action items similarly address multiple hazards. Some method of organization was required, however, to enable comprehensive planning and simplified presentation. Risks and actions were placed in whichever category they best fit, and repetition across categories was avoided wherever possible. Connections across categories are noted at the top of each section under **compounding/cascading hazards**.

The strategy tables for each category directly connect each action item/recommendation with the risk(s) they aim to address. Some action items noted are complete, ongoing, or planned (a timeline and resources have been allocated), others are currently being investigated by Town Staff, and others are ideas/recommendations to be considered going forward. Ideas and items under investigation will be reviewed by Staff and Council during annual budget reviews, Municipal Plan/Strategy reviews, and as funding opportunities or other prompting events arise.

The Climate Adaptation Strategy is a living document which will be revised regularly. This report presents a 'snapshot' of the action items, recommendations, and their status as of September 2026. The working Strategy file (managed by Town Staff) is a spreadsheet which has further columns for action planning (priority, timeline, cost, responsibility) and implementation tracking.

The action items/recommendations below are listed in no particular order.

2.A. DROUGHT/WATER SUPPLY

Climate projection: inconsistent precipitation with higher frequency and duration of dry periods

Compounding/cascading hazards: Extreme Heat, Wildfire - prolonged extreme heat events can contribute to drought conditions; Drought conditions increase wildfire risk.

Risk/Vulnerability to Service Area/ Population	Impact/Implications	#	Action Item/Recommendation	Status
Reductions in or loss of municipal potable water supply and/or associated impacts to water quality	- Water conservation orders, boil water advisories, potential state of emergency - Significant cost and inconvenience to residents and the Town to source and distribute bottled water	1.1	Great Pond Water Supply Development Project (a detailed climate hazard assessment was completed specifically for this project in Feb 2026)	Ongoing
		1.2	Seek options for a third water supply source	Idea
		1.3	Formalize a Water Conservation and Drought Response Bylaw/Plan Include, e.g.: tiered water use restrictions (e.g. Stage 1: voluntary conservation; Stage 2: mandatory conservation; Stage 3: emergency restrictions) with a colour scale or other visual mechanism of improving resident understanding and advanced preparedness; Encourage water conservation even when there is not an active threat to supply; Include considerations of compounding hazards like extreme heat and wildfire; standard trigger points and process for pumping water from one source to another; Publish materials permanently on "Emergency Preparedness" webpage.	Ongoing

Risk/Vulnerability to Service Area/ Population	Impact/Implications	#	Action Item/Recommendation	Status
Reductions in or loss of potable water supply from private wells	- Inconvenience, added cost, property value impacts, and potentially health risks for affected households - Note that PFAS contamination of groundwater in the Southern area of Town (near the airport) is an additional concern, however, it is not related to projected climate changes	1.4	Update of groundwater model	Ongoing
		1.5	Coordinate with the Province to develop a standard procedure for providing water to households with dry or otherwise impacted wells	Investigating
		1.6	Public education to help homeowners identify whether/how the reliability of their well can be improved. Promote any Provincial or Federal financial assistance programs that exist which could offset cost of improvements.	Idea
		1.7	Develop a collection of possible supports for households if their wells run dry. Consider what the Town's role could be (e.g. list of taps available at current municipal facilities, installation of new public water-filling stations) and what roles could exist within the community (e.g. network/database of those on municipal water system that would be willing to be connected to a household in need). Some supports or procedures could potentially be formalized within the Drought Response Plan (# 1.3 above).	Idea

Risk/Vulnerability to Service Area/ Population	Impact/Implications	#	Action Item/Recommendation	Status
Reductions in or loss of water available for fire suppression	- Potential significant risk to life and property	1.8	Develop a Drought-Condition Fire Suppression Protocol (could be included as a specific part of the Water Conservation and Drought Response Plan - Action 1.3 above). The purpose of this activity is to consider various potential scenarios in advance to increase preparedness for situations where hazards compound. Investigate partnerships with other municipalities or agencies, potential for an emergency water reserve, etc.	Idea
		1.9	Explore dry hydrant installation at strategic pond/water body locations in current and new developments	Ongoing
Agriculture & home gardens	- Potential significant negative impacts on crops such as reduced yields or complete crop failure	1.10	Distribute guidance materials (from Provincial or other sources) for home gardeners and small-scale agriculture on efficient irrigation, drought-tolerant planting, etc. Specifically encourage the installation of rainwater collection systems to reduce demand on municipal system and wells (utilize existing educational materials). Potentially provide financial or other incentives to residents to implement (idea to investigate partnerships to offer bulk-price or subsidized rain barrels, similar to MMSB's compost bin program)	Idea
General Water Conservation Promotion		1.11	Promote the TakeCharge Energy Savings Kit available to income-qualified residents (includes two faucet aerators and low-flow showerhead) and provide guidance around harvesting rainwater and greywater, and using drought-resistant plants and landscaping practices with lower water requirements.	Idea
Future Development		1.12	Consider requirements or incentives for low-flow water fixtures, rainwater collection and/or greywater systems, and low-water-usage landscaping practices in all new builds to reduce demand on the municipal system and groundwater supply	Investigating

2.B. INLAND FLOODING

Climate projection: Increasing frequency and intensity of extreme precipitation events; Historical 1-in-100 year events are becoming more like 1-in-25 year events

Compounding/cascading hazards: Drought, Wildfire - drought and wildfires can leave land especially dry and more susceptible to overland flooding

Note: The Town commissioned studies in 2018-2019 to identify flood risk areas and mitigation options and has been implementing the resulting Stormwater Management Plan (the key actions of which have been translated into the table below). References to Appendices or page numbers refer to the Stormwater Management Plan (SWMP) document.

Vulnerable Area	Risk Description	#	Action Item/Recommendation	Status
Skipper's Landing (near Civic #11)	Cutoff drainage ditch behind Skipper's Landing homes lacks capacity, causing overland flow onto properties and basement flooding during heavy rain.	2.1	Deepen and widen ditch [SWMP Appendix G].	Complete
Western Island Pond Drive (Civic #30)	Low-lying private property at #30 W. Island Pond Dr. is in a topographic depression. During major storms, runoff builds up and overwhelms two undersized culverts, flooding the property and overtopping the road.	2.2	Upsize to twin 1400mm CSP culverts [SWMP Appendix G]	Planned
Middle Three Island Pond Road	Twin culverts (1400 mm & 1000 mm) under a gravel section of Middle Three Island Pond Rd. are under-capacity for a 100-year storm, likely causing road washout during extreme rainfall.	2.3	The SWMP mentions [Page 33] that consequence of failure in this instance is fairly low due to the fact that there is little to no infrastructure in the immediate area.	Investigating
Bauline Line	Several culverts at low points along Bauline Line are under-capacity	2.4	Upsize culverts [SWMP Appendix I,G]	Idea

Vulnerable Area	Risk Description	#	Action Item/Recommendation	Status
Bridge Road (Civic #20)	Residential property at #20 Bridge Road experiences flooding when the adjacent brook overflows. The house elevation is nearly level with the stream, so any overtopping sends water onto the property (has occurred in past storms).	2.5	A detention pond structure upstream would be ideal	Planned
Rattling Brook Road	Upstream end of twin 1500 mm culverts on Rattling Brook Rd. is in a very flat section of stream, causing water to pond at the inlet. During a 100-year event, runoff backs up and eventually flows across the road.	2.6	Place berms on either side of the inlet. Upgrade twin 1500 mm CSP culverts at the outlet to 2000mm culverts	Investigating
Cannon Marsh Road	Twin culverts conveying Whiteway Pond outflow under Cannon Marsh Rd. are flat-grade and get overwhelmed by 100-year storms, causing flooding over the road. (Field inspection also found a concrete jersey barrier crushing the culvert outlets, further reducing capacity.)	2.7	Remove concrete barrier and upsize culverts. Place earth berm on both sides of the upstream side of the stream to confine the runoff to the existing stream. [SWMP Appendix H]	Complete
Country Drive (Whiteway Pond outlet)	Twin 600 mm CSP culverts under Country Drive (at Whiteway Pond's outlet) are undersized. Model results show that 100-year storms would overwhelm them, causing flooding on Country Drive.	2.8	Replace with 800 mm CSP culverts and construct berms upstream	Ongoing
Hickey's Lane & Country Drive (intersection)	The 900 mm culvert at Hickey's Lane/Country Dr. overtops during heavy rain. Overland flow runs across the Hickey's Lane & Country Drive intersection in 100-year events.	2.9	Construct a berm along the stream [SWMP Appendix H]	Complete

Vulnerable Area	Risk Description	#	Action Item/Recommendation	Status
Russworthy Place	The 1200 mm culvert on Russworthy Place (downstream of Country Dr.) is currently under capacity, leading to localized flooding in that area for 100-year storm events.	2.10	Construct earth berms [SWMP Appendix H]	Investigating
Crowe's Lane	Street has a history of washouts; four culverts were installed to connect wetlands, but extreme storm simulations show all four would be overwhelmed. A 100-year event could cause another road washout.	2.11	Increase culvert size, widen channel, lower pond levels [SWMP Page 46-47]	Planned
Anstey's Cove Lane & Davalan Place	Despite an earth berm added after 2014, the model shows major flooding still occurs in the Anstey's Cove Lane area during updated 100-year storms. Runoff bypasses the berm and flows into Anstey's Cove Lane (and adjacent Davalan Pl.)	2.12	A possible solution to the issue surrounding flooding on Anstey's Cove Lane would be to lower the water levels present in Withrod Pond and Watts Pond by 1 foot. [SWMP Page 46-47]	Investigating
Rosebud Street / Cordelia Crescent	A 900 mm culvert on Rosebud St. (near Cordelia Cres.) is partially crushed large rock. During heavy rain, the stream overtops its banks – water spills onto a residential lot (#29 Cordelia) and a playground.	2.13	Upsize culvert to 1200 mm) and construct an earth berm	Complete
Forrest River Road Subdivision	A natural stream adjacent to the new subdivision overtops its banks in heavy rain and spills into the subdivision.	2.14	Constrict an earth berm [SWMP Appendix G]	Investigating
Civic #23 Lynch's Lane	This address is flagged in the study for potential property damage under existing floodplain conditions. The study shows the stream reaches capacity, flow spills into the wetland and water ponds northwest of the Lynch's Lane arch culvert	2.15	Construct a berm or retaining wall	Planned
Mahon's Lane	1.0 m water depth near homes and 0.2 m/s velocity - some risk to human safety if someone fell in during an event.	2.16	Construct a berm or retaining wall	Planned

Future Development	Further development in flood-prone areas will ultimately lead to future issues and costs. Homes may not be able to obtain insurance for flood damage if known to be in a flood-prone area.	2.17	Determine scale (inclusion criteria) and mechanism of protection (conservation zoning, SAM designation, etc.) of wetlands as outlined in the latest delineation (2026)	Ongoing
		2.18	Build upon the 2019 stormwater modelling and the 2026 wetland delineation to create a detailed watershed model for the entire community. Such a model would be able to simulate various precipitation scenarios while also considering the impacts of sea level rise and storm surges to better identify areas at risk of flooding.	Idea
		2.19	Consider on-site and downstream future flood risk when reviewing development applications. Consider rezoning to disallow development in high risk locations	Ongoing
		2.20	Consider review of engineering design guidelines to determine/research different culvert and/or bridge structures to withstand flood events	Idea

2.C. EXTREME TEMPERATURES

Climate projection: hotter days expected more often than experienced historically; destabilized climate system can also result in extreme cold beyond what we're used to

Compounding/cascading hazards: Drought, Wildfire, Power Outages - prolonged extreme heat events can contribute to drought conditions and increased wildfire risk; High electricity demand for cooling along with heat stress on electricity transmission infrastructure could contribute to power outages during an extreme heat event.

Risk/Vulnerability to Service Area/ Population	Impact/Implications	#	Action Item/Recommendation	Status
Extreme heat is a health risk to individuals in private residences (particularly those that are isolated, elderly, or have pre-existing conditions) and retirement/long-term care facilities	- Seniors and children are especially vulnerable to extreme heat. Death can result in severe cases, as was the case for over 600 people in BC in 2021. - Most homes in NL do not have a source of cooling - Potential for compounding risk if heat event is aligned with water supply issues or power outage	3.1	Adopt an Adequate Cooling Bylaw requiring a minimum amount of cooling capacity in all new residential buildings, including retirement/long-term care homes	Idea
		3.2	Consider expanding applicability of the Adequate Cooling Bylaw to all existing retirement/long-term care homes and rental properties. Would require establishing a deadline for compliance and an enforcement mechanism - more complex and subject to pushback than the above item.	Idea
		3.3	Update Torbay Common and Torbay Fire Hall from primary and alternate "Warming Centre" to "Warming AND Cooling Centre" in the Emergency Management Plan and public communications.	Ongoing
		3.4	Develop partnerships with other public institutions, businesses, etc. to provide additional cooling spaces or other supports (e.g. drinking water, wading area, etc.) during heat emergencies	Idea
Extreme heat is a health risk to individuals in public institutions (e.g., children in schools or day cares, guests at community centres, staff at Town facilities)	- Lack of cooling in these institutions could result in cancellation of programming or hazardous conditions for patrons	3.5	Assess and document cooling and heating capacity at all Town-owned and publicly accessible facilities and establish programming cancellation thresholds and protocols for extreme heat events.	Idea

Risk/Vulnerability to Service Area/ Population	Impact/Implications	#	Action Item/Recommendation	Status
Extreme heat and generally higher summer temperatures may have impacts on tourism (East Coast Trail) and outdoor activity	Increasing temperatures may have a positive impact on outdoor activity and tourism, though the prevalence of more very hot days may be a deterrent to some, or individuals may become distressed if they are not equipped for the weather (carrying enough water, etc.). Increasing presence of disease-bearing ticks and mosquitos may also impact outdoor activity	3.6	Increase public awareness of the presence of ticks and other new-to-the-area pests and how to prevent health impacts	Idea
		3.7	Develop heat advisory protocol and public communication plan, including guidance on use of the East Coast Trail. Define trigger conditions (e.g., max temperature, max humidity).	Idea
		3.8	Develop a Forestry Management Plan to support maintenance and expansion of urban tree cover which provides shade and overall heat-mitigation, among other environmental benefits. May include incentives or requirements for shade trees and green infrastructure in new developments.	Ongoing
Extreme cold can also put vulnerable populations at risk, particularly if combined with power outages	Compared to extreme heat, extreme cold is somewhat less of a concern because: 1) the overall trend is that winters are getting warmer because of climate change, 2) all homes and buildings in NL are already equipped with heating systems, and 3) while extreme cold can also be fatal in extreme situations, that is a less likely occurrence compared to an extreme heat event	3.9	Remind residents of Warming/Cooling Centre locations annually. Regularly assess whether additional centres are needed for geographic coverage and/or capacity.	Idea
		3.10	Develop partnerships with other public institutions, businesses, etc. to provide additional warming spaces or other supports during winter/cold or general power outage emergencies	Idea
Agriculture & home gardens	Higher summer temperatures and longer summers may have positive impacts on agriculture in Newfoundland, however, periods of extreme heat or unexpected cold spells can stress crops, as well as the presence of more or new pests.	3.11	Encourage home-based and commercial agricultural activities to make use of an extending growing season and increase food security. Promoting a variety of crops and sustainable practices could help to ensure some level of local production despite potential temperature or precipitation extremes. Could potentially involve tax or other incentives to encourage commercial agricultural activity.	Idea

2.D. WILDFIRE

Climate projection: increasing risk of fire weather (dry, warm, and windy)

Compounding/cascading hazards: Drought, Extreme Heat, Storms (lightning) - the risk of wildfire increases as drought and/or extreme heat conditions are occurring, and at the same time these factors can make containing a fire more difficult due to lower available water supply, increased water demand, and unfavourable firefighting conditions. Lightning strikes can cause wildfires to start.

Risk/Vulnerability to Service Area/ Population	Impact/Implications	#	Action Item/Recommendation	Status
Health risk and disruption to usual activities due to wildfire smoke (which may travel from a fire that is not located directly in the Town)	- Exacerbation of existing respiratory conditions, cancellation of outdoor events - If combined with an extreme heat event, may introduce additional risk/complication as windows and air exchangers should be closed/off to keep smoke out, but those without cooling systems may rely on these things to cool the house	4.1	Share Environment and Climate Change Canada-issued air quality advisories and public guidance (e.g. on closing windows/air exchangers, use of air purifiers, avoiding outdoor activity, etc.) as relevant. Some information may be shared periodically/proactively to increase awareness (e.g. description of what different index levels mean)	Ongoing
		4.2	Expand Torbay Common and the Fire Hall as Warming/Cooling AND Clean Air spaces. Ensure that air quality can be maintained by existing HVAC systems during a smoke event.	Investigating
		4.3	Provide guidance to local businesses and organizations on how to create Clean Air spaces to contribute in an emergency. Maintain a list of these spaces for public information.	Idea
Middle Three Island Pond Road has one route in/out. All properties along Bauline Line may be at higher risk due to being surrounded by forest	Isolation risk, delayed emergency response, difficult evacuations (especially for mobility-limited residents); potential for residents to be cut off during fast-moving events	4.4	Develop an Emergency Evacuation Plan for single-access road corridors (Middle Three Island Pond Road and Bauline Line). Define shelter-in-place vs. evacuate triggers. Establish pre-evacuation support protocols for mobility-limited residents.	Ongoing

Risk/Vulnerability to Service Area/ Population	Impact/Implications	#	Action Item/Recommendation	Status
Potential impact on tourism (East Coast Trail)	Wildfires are becoming more likely in all forested areas. When conditions are very dry, trails may have to be closed for safety.	4.5	Develop wildfire risk-based trail advisory protocol and public communication plan in coordination with the East Coast Trail Association. Define trigger conditions (e.g., Fire Weather Index thresholds).	Investigating
Risk to all private and public properties	Any property is at risk if a wildfire moves through the Town. Impacts could be catastrophic.	4.6	Complete wildfire risk assessment, including feasibility of town-perimeter fire break, water supply fire breaks (Action 4.10), and other mitigation options (such as managing forest deadfall after storms, controlled burns, etc.). Also includes public education activities.	Ongoing
		4.7	Promote free FireSmart Home resources to all residents, with particular attention paid to Bauline Line and Three Island Pond Road properties.	Ongoing
		4.8	Add all fire suppression resources (hydrants, pond pumping stations) to GIS	Ongoing
		4.9	Consider introducing fire suppression requirements for new developments in areas unserved by municipal water system (e.g. dry hydrants, pond systems/pumping points)	Investigating
North Pond (and future Great Pond) water supply are surrounded by forest	A fire near the water supply could have negative impacts such as contamination from ash or fire suppression substances, or depletion of the supply due to suppression efforts	4.10	Investigate fire breaks around North Pond and future Great Pond municipal water supply areas to protect from wildfire contamination. Engage NL Forestry and Water Resources for expertise (as cutting near water supplies may have unintended negative impacts on the water supply/quality or flood risk), and ensure alignment with most recent guidelines and regulations	Ongoing

2.E. STORMS

Climate projection: storms are becoming more frequent and intense (precipitation, wind, lightning, and coastal impacts)

Compounding/cascading hazards: Power Outages, Inland Flooding, Wildfire - Increased likelihood of power outages during heavy winds or due to freezing rain/ice; Increased probability of thunderstorms during which lightning can cause wildfires or high winds can assist spread. (Specific areas at risk during a heavy rainfall or rain-on-snow event are listed under Inland Flooding.)

Risk/Vulnerability to Service Area/Population	Impact/Implications	#	Action Item/Recommendation	Status
Strong winds, potentially related to Atlantic hurricanes which are becoming more frequent and intense	- Damage to public and private property, including from flying ocean/coastal debris. - Downed trees and/or powerlines	5.1	Develop a Storm Preparedness Protocol for Town operations (e.g. pre-storm resident communications/guidance, priority road clearing list, post-storm rapid damage assessment, equipment-sharing agreements with neighbouring municipalities, etc.).	Idea
Heavy snow events	- Impacts to transportation network, more plowing demands - Potential isolation of vulnerable populations		The public education piece may consider increasing awareness of the dangers of storm surges, downed power lines, household preparedness, etc. Actions related to emergency response are covered on Tab 8	
Rain-on-snow or freezing rain events (due to winter temperatures hovering around zero more often)	- Can lead to flooding or dangerous icy conditions - More freeze-thaw cycles in milder winters could increase strain on infrastructure like pavement, resulting in more potholes and more repairs	5.2	Reassess infrastructure maintenance scheduling and budget to consider projected increased freeze-thaw stress	Idea

2.F. COASTAL

Climate projection: Sea level rise expected to be about 1 m by 2100; Hurricanes becoming more frequent and intense in the Atlantic; Ocean Warming & Acidification

Compounding/cascading hazards: Inland Flooding, Storms - stormwater moving toward the coast can combine with water moving in from the coast, creating a worse flooding situation; High winds can result in high waves/storm surges.

Risk/Vulnerability to Service Area/ Population	Impact/Implications	#	Action Item/Recommendation	Status
Torbay Beach + Island Pond Brook Trail + Tom Jennings & Tom Gosse Stage	- A storm surge and/or sea level rise could impact The Battery (parking lot and trail along the beach) and could cause North Pond Brook to back-up, potentially causing flooding upstream - Flooding of the stormwater/sewer outfall pipe located on Torbay Beach could cause sewer back-ups or upstream flooding - Historically significant area (Amhurst National Historic Site) - Disruption in this area could have an impact on the tourism industry - It would take a severe event to directly impact homes on Lower Street	6.1	Torbay Beach restoration project with Aquatic Conservation Initiative and Stewardship Association of Municipalities - tree and shrub planting to improve shoreline stability and habitat	Ongoing
		6.2	Develop a Coastal Hazard Management Plan Could involve further investigation of risks to outfall pipes/back-ups, potential for further nature-based shoreline restoration/protection or engineered solutions, and protocols for high-water events (i.e. triggers for event cancellation)	Idea
Tapper's Cove Wharf & Harbour Authority	- A storm surge and/or sea level rise could wash out the wharf and the parking lot, significantly impacting the commercial fishery - This would also impact East Coast Trail hikers and tourists who use this location as a lookout and parking spot to access Father Troy's Trail	6.3	Wharf Reconstruction Project to improve resilience to sea level rise and extreme weather	Ongoing

Risk/Vulnerability to Service Area/ Population	Impact/Implications	#	Action Item/Recommendation	Status
Silver Mine Head	One section of Silver Mine Head path may be impacted by a moderate-severe storm surge event	6.4	Coordinate with East Coast Trail Association to assess condition of the Silver Mine Head path regularly. Assess the need for stabilization measures, public advisories, or restrictions.	Idea
Tourism - iceberg watching	There may be more icebergs some years in the nearer future as ice sheets break apart more easily, but long term there is likely to be less and less and eventually none as the ice completely melts before it ever gets to NL due to the warmer ocean.	6.5	Engage Tourism NL and local tourism operators on long-term tourism product diversification as iceberg availability becomes less predictable. Explore alternative ocean-based tourism (whale watching, kayaking, diving).	Idea
Fishery	Fisheries may need to completely adjust which species they target or modify fishing locations or times due to shifting ecosystems	6.6	Facilitate dialogue between the Town, Harbour Authority, and local fishers on climate adaptation for the Torbay fishing industry. Connect with DFO's Climate Change and Fisheries Adaptation resources. Advocate to federal and provincial governments for fishery support programs.	Idea
Future Development	Residential development could technically still occur in the area of Lower Street and The Battery, despite increasing risk from sea level rise, storm surge, and other coastal impacts (e.g., flying debris).	6.7	Consider including an additional municipal plan policy statement and/or general regulation to carefully consider any proposed new development or expansion of development in proximity of the beach.	Idea

2.G. POWER OUTAGES

Climate projection: increasing likelihood of power outages due to extreme weather (storms, extreme hot or cold impacting supply/demand balance)

Note: This category focuses specifically on back-up power needs which may be relevant to a number of different climate hazards. This is in contrast to the actions in the hazard-specific categories which are meant to reduce the likelihood or severity of specific hazards.

Vulnerable Population, Service or Asset	#	Action Item/Recommendation	Status
Private Residences	7.1	Explore potential for neighbourhood-scale renewable energy and backup power systems	Idea
		Current FCM opportunity for identifying areas within Torbay which could be suitable for renewable energy development. This would be the first step toward any type of community-supported renewable energy project. This initial step may be able to be done as a stand-alone item, or included in a bigger feasibility project seeking funding from FCM.	
	7.2	Conduct public education around solar energy and battery storage systems, utilizing the Town Hall installation as an example.	Idea
	7.3	Promote available programs for improving home thermal efficiency (insulation, heat pumps, weatherization) to reduce extreme temperature risks during outages.	Idea
	7.4	Encourage back-up heating and power options for new construction such as wood heating systems and stand-by generators.	Idea
Long-term care/retirement homes	7.5	Assess backup power capacity (generator availability and fuel supply) at all long-term care and retirement facilities in Torbay. Confirm continuity of heating and cooling during extended outages. Share findings with NL Health Services.	Idea
Schools and day cares	7.6	Assess backup power capacity and emergency closure protocols at all schools and day cares. Ensure all operators have plans for extreme temperature events with power loss.	Idea

Vulnerable Population, Service or Asset	#	Action Item/Recommendation	Status
Torbay Common (primary Warming/Cooling Centre)	7.7	Install back-up power generator at Torbay Common (primary warming/cooling centre)	Ongoing
	7.8	Consider seeking funding for a zero-emission solar + battery back-up system (to reduce generator fuel use and provide on-site power in situations of fuel shortage)	Idea
Water distribution system	7.9	Ensure back-up power is available for water distribution system(s)	Complete
Torbay Town Hall & Fire Hall (communication centre, alternate Warming/Cooling Centre, emergency response centre)	7.10	Install permanent back-up power at Town/Fire Hall building (rather than the existing mobile system) Consider seeking funding for a zero-emission solar + battery back-up system (some solar panels already present)	Investigating

2.H. EMERGENCY RESPONSE

Climate projection: Increasing likelihood and severity of compounding or cascading hazard occurrences requiring more robust planning and response

Note: This category intends to cover "general" emergency response processes which may be relevant to a number of different hazards. This is in contrast to the actions in the hazard-specific categories which are meant to reduce the likelihood or severity of specific hazards.

Risks/Scenarios	#	Action Item	Status
The Municipal Emergency Management Plan (MEMP) template provided by the Province does not incorporate the outcomes from the actions on this tab. Risk of additional resources/protocols being lost	8.1	Ensure that any outcomes generated through the below actions are added to the Town's 'package' of emergency response resources. Where the MEMP template does not provide the flexibility to directly incorporate additional scenario planning, compounding risks, etc., include as additional supporting Town documents/protocols, ensure that all are located together with the MEMP, and that all key staff are aware.	Ongoing
Residents not being aware of ongoing emergencies (i.e. those not on social media/internet)	8.2	Implement a multi-channel emergency alert and public notification system (email, SMS/text, automated calls, social media, Town website) to reach ALL residents including those without internet access	Complete [VoyentAlert!]
Residents not being aware of the emergency plan for their neighbourhood	8.3	Regularly communicate with the public about the emergency management plan to increase awareness and comfort in advance of an event. Highlight the evacuation routes for each neighbourhood/area, emergency response center locations, etc.	Idea
Town not being able to communicate with residents if power and phone services are down	8.4	Develop a Backup Communication Protocol for extended power and phone outages. Options: community amateur (ham) radio network (coordinate with Amateur Radio Emergency Service - ARES NL), neighbourhood liaison volunteer network, or outdoor alert siren for severe events.	Idea

Risks/Scenarios	#	Action Item	Status
Residents unable to evacuate on their own (i.e. no vehicle, mobility issues)	8.5	Develop a Vulnerable Persons Registry for Emergency Evacuation Support – identify residents requiring transportation or other assistance during emergencies. Establish a volunteer driver network or agreement with local transit provider for emergency evacuation transportation.	Idea
Low-income, newcomers, or other vulnerable residents needing accommodations after an evacuation	8.6	Establish formal Memoranda of Understanding (MOUs) with local facilities and organizations (schools, churches, community centres) for post-evacuation emergency accommodations, including accessible options and options for residents with pets. Engage Red Cross on their national emergency accommodations framework.	Idea
Residents needing somewhere to house their pets in an emergency situation	8.7	Identify or establish a pet-friendly emergency shelter arrangement – explore partnership with NL SPCA, local kennels, or a community volunteer host network for emergency pet boarding. Communicate availability to residents as part of emergency preparedness messaging.	Investigating
Residents unable to access the heating/cooling centre	8.8	Establish a transportation support program to designated warming/cooling centres for residents without vehicles during extreme temperature or power outage emergencies. Options: volunteer driver network or emergency transit agreement with private provider. Link to Vulnerable Persons Registry.	Idea
Emergency response vehicles not being able to access residents due to road disruption (flooding, washout, downed tree, fire, etc.)	8.9	Develop a Road Access Resilience Plan: map high-risk road segments vulnerable to flood, washout, downed trees, or fire. Identify alternative access routes. May also include a traffic management strategy to avoid broader transportation network disruptions and keep evacuation routes clear.	Idea
Difficulty locating individuals in distress on the East Coast Trail (during extreme heat, wildfire, or a non-climate scenario)	8.10	Investigate the potential for increased signage on the ECT that would allow individuals to better describe their location to first responders.	Investigating

3. FOUNDATIONAL CONCEPTS & DECISION FRAMEWORK

The purpose of this section is to describe the logical framework behind the Climate Adaptation Strategy and Vulnerability Assessment reports and ensure Town Staff and Council understand the documents' place/applicability in the broader context of municipal planning and management. This information may be especially useful down the road to ensure alignment for new staff and elected officials that were not involved in the initial strategy development. The ultimate goal is for climate resilience rationale to be integrated as a key consideration in all municipal decision-making, necessarily this requires all decision-makers to be thoroughly apprised and well-informed on climate conscious decision metrics.

3.A. CLIMATE CHANGE PROJECTIONS

The climate change projections considered in the vulnerability assessment (Appendix A) were obtained from [Climatedata.ca](https://climatedata.ca). This is the primary source of climate change information for Canada, published by Environment and Climate Change Canada (ECCC). The data included on [Climatedata.ca](https://climatedata.ca) is updated as global climate models are updated. Information can be viewed using their interactive maps.

Climate change projections are developed based on a compendium of modeled scenarios. These scenarios are developed based on different amounts of greenhouse gas (GHG) emissions being released into the atmosphere, which is influenced by political, economic, technological, and other factors. These scenarios change as climate scientists update models with new data, and as actual rates of global warming and its impacts are experienced.

The inputs of these models and scenarios are large, complex data sets compiled by international networks of academic institutions and scientific organizations. It is neither necessary nor practical for every Town staff person or councillor to become a climate scientist or dive into these details.

Rather, what is important, is to understand the general trends and how the information can be used to enable well-founded municipal decision-making around e.g. infrastructure sizing and location, zoning and land use planning, etc.

- ➔ **For Newfoundland and Labrador, climate change is (on average) resulting in warmer, wetter, and stormier weather, but also an increase in extremes and general instability and unpredictability.** As we've already seen in recent years, while we may get heavier than normal rainfall at some points, we're experiencing drought at other points. Similarly, while our summers and winters are getting warmer on average, we may still experience cold spells.
- ➔ **The main consideration for long-term municipal planning is that historical records and experiences are no longer accurate predictors of what we may experience in the future.** Globally, climate change appears to be progressing faster than the models expected. Because the models are based on averages, they can show us what the future may hold in a general sense, but cannot predict specific

extreme events in any particular place. Rather than rely on our memories, we must now use the best available science to consider future possibilities.

- ➔ **Given the inherent uncertainty involved in predicting the future, and climate impacts experienced around the world to date, best practice advocates for a cautious and conservative approach.** For municipal decision-making and emergency planning where many people may be impacted and planning timeframes are long, this translates to considering the highest impact projections. One can't prepare for every possible outcome, but being conservative means being as prepared as possible for the worst-case scenario given the resources available.

While the industry is shifting, not all engineering firms or design/planning professionals are currently accustomed to considering climate projections in their designs and still rely on historical data or precedents. This introduces avoidable risk. **A key takeaway from this section for municipal decision-makers is to recognize and actively request and confirm that appropriate climate projections and extreme weather scenarios have been incorporated into every project.** Without considering projected climate changes, communities could end up with infrastructure that is unable to withstand projected future conditions, ultimately costing more money and potentially lives or livelihoods.

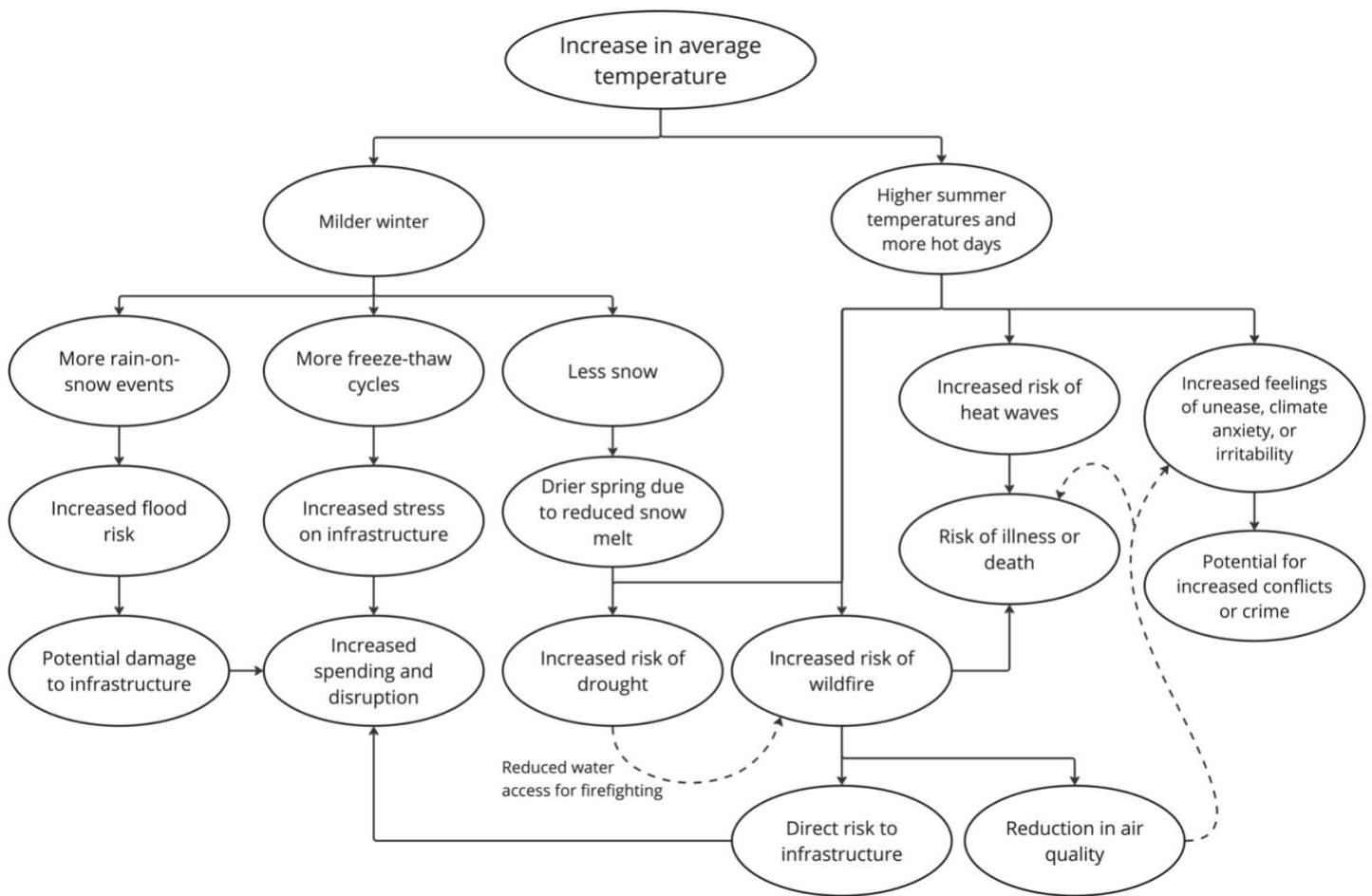
3.B. COMPOUNDING & CASCADING RISKS & IMPACTS

Climate change is impacting the nature of vulnerabilities we are susceptible to, how often we experience them, and to what degree. We are also seeing an increase in **compounding and/or cascading risks** – situations where multiple impacts are occurring at once, or when one impact leads to another.

For example, an extreme heat event introduces public health risks on its own, but if the extreme heat event corresponds with a power outage or drought, the risks are even higher as it is more difficult to keep people cool and hydrated – multiple risks are compounding in this case. An example of cascading risks could be how after a wildfire occurs and large amounts of forest are destroyed, the ground is less able to absorb water, increasing the risk of flooding during the next significant precipitation event.

The semantical difference between compounding and cascading risks is not critical; **the key takeaway is that we cannot consider different climate hazards in isolation.** Climate change will continue to make it more likely that we experience several issues at once, which has implications for emergency response.

The “compounding and cascading” concept can also be applied to projected climate impacts. Even seemingly small changes in climate can cause domino or snowball effects that quickly become complex. The following flow chart illustrates this using an increase in average temperature as an example – this may help explain why average warming of a few degrees can be a big deal, even if it may not sound like a lot.



3.B.I. A NOTE ON RISK QUANTIFICATION & PRIORITIZATION

Risk, as a concept, is understood pretty well in general terms, but quantifying risk to aid in decision making can be tricky. Many municipal climate vulnerability assessments and action plans attempt to quantify risk using probability/likelihood and consequence/severity rankings. These ranking systems can vary significantly in complexity – some simply rank probability and consequence on a scale of, e.g., 1 to 5, for a particular hazard (illustrated by the below matrix); others make rankings across several impact indices (social impact, economic impact, etc.) and then calculate weighted averages to come up with an overall risk score. While different methodologies each have merits, what we’ve found is that numeric rankings are often predominantly based on intuition. Some ranking systems consider how often and severe similar events have been in the past in the area, but as discussed in Section 3.A., historical precedents are constantly being overturned due to climate change.

Risk score = Consequence X Likelihood		Consequence				
		Very Low 1	Low 2	Moderate 3	High 4	Very High 5
Likelihood	Almost Certain 5	Moderate 5	High 10	Very High 15	Very High 20	Very High 25
	Likely 4	Moderate 4	High 8	High 12	Very High 16	Very High 20
	Possible 3	Low 3	Moderate 6	High 9	High 12	Very High 15
	Unlikely 2	Low 2	Moderate 4	Moderate 6	High 8	High 10
	Rare 1	Low 1	Low 2	Low 3	Moderate 4	Moderate 5

This diagram is from the [Climate Change Adaptation Guidebook for Forest-Based Communities](#) released by Natural Resources Canada in 2026 (page 35). This image has been provided for illustration purposes only – the colours used in Torbay’s Climate Adaptation Strategy and Vulnerability Assessment tables are not related to this or any other ranking methodology.

The unfortunate reality is that we cannot confidently predict how likely something is to occur. In academia and highly technical areas, mathematical probability functions can be utilized, but they are still often based on datasets with high amounts of variability. We can imagine what the consequences may be in any given situation, and that imagining exercise is important for emergency response planning, but assessing many types of consequences can be largely qualitative and subjective (mental health impacts, for example). A complicated numerical ranking system may make us feel like we are more certain in our decisions (we feel like we’ve added *precision* or replicability/consistency to the process), but that sense of certainty could be false (it does not actually make us more *accurate* or ‘correct’ in our determinations).

Probability and consequences matter, but whether an action gets prioritized in a municipal context depends on more than that. For example, one hazard could be ranked as higher risk than another, but funding is simply not available to address it so it isn't a near-term priority. A different hazard may be considered unlikely, but increasing preparedness for it is relatively simple. A particular project may be high priority for the current administration, but a change in staff, council, or local context could shift things around later on.

It is for these reasons that a formal risk ranking system was not used for this vulnerability assessment. As the adaptation planning process proceeds, a simple and flexible "Low, Medium, or High" priority designation is recommended. This ensures that actions can be differentiated from each other enough to facilitate focus and progress, while not creating inflexibility for the Town or unreasonable expectations from the public.

For example, a high-priority action could mean:

- The climate risk is significant (the event is likely to occur and/or would have significant impacts on the population or infrastructure);
- the action is a top priority in the municipal strategic plan, for economic/community development or other reasons;
- the action is easy and/or low cost to implement;
- the action must be done soon, for regulatory, public health, or other reasons;
- and/or the action would have significant positive impact.

More technical risk quantification approaches have their place. For example, the Town commissioned a climate vulnerability assessment specific to the Great Pond water supply development project which follows the Public Infrastructure Engineering Vulnerability Committee (PIEVC) Protocol. As a high investment and high impact engineering project, this level of assessment makes a lot of sense, and is now typically required by Federal and Provincial funding programs. In contrast, this Torbay-wide climate vulnerability assessment and adaptation strategy broadly consider all Town assets and a PIEVC-level of assessment does not improve clarity in terms of overall decision making for the Town as whole.

3.C. BIG PICTURE

Beyond the weather that we experience day to day, climate change is fueling a number of other shifts that may have direct or indirect impacts on Torbay. For example, many places around the world - such as those with historical climates that were already very hot or prone to extreme events, or coastal and island communities near sea level - may become largely uninhabitable as climate change progresses. This is likely to result in mass migration, either proactively or in response to disasters (climate refugees). It is possible that Canada will become a sought-after place to live, and Newfoundland and Labrador

could see potential benefits from population growth and associated economic development. Even within Canada and NL, climate change may influence where people want to live. For example, NL will continue to offer a more temperate climate than the prairies, but many coastal communities within NL may face risks from sea level rise that cannot be overcome. **The Town of Torbay, with its higher elevation, proximity to St. John's, and rural feel could appeal to individuals and families seeking alternatives in any of these situations.** This may be something to keep in mind when planning for long-term growth.

Another factor that could contribute to a shift in where people are willing to live is the insurance industry. As extreme weather events become more frequent and severe, insurance companies are limiting what they cover. This is already impacting development in coastal communities, as well as in flood- or wildfire-prone areas across Canada and NL. While there have been conversations Federally around some type of [national flood insurance program](#), where this may go is currently unclear. **In Torbay, and any NL communities, new development must consider climate risk from the start or homeowners could be left with uninsurable properties.**

Climate change is also beginning to impact global food security as extreme events destroy crops, or average conditions shift so significantly that certain items can no longer be grown where they traditionally have. Since NL imports so much of its food, any disruptions in the global food system will be felt locally. As we've seen in 2025-2026, international conflicts can also impact food security via disruption of fuel and fertilizer supply chains (and such international conflicts may become more likely as earth's resources become more scarce and valuable). Extreme weather events can also impact the transportation of food to NL. **These factors, combined with an anticipated improvement in conditions for agriculture in NL on average (e.g., longer growing season) and Torbay's history of farming, are compelling reasons to strongly encourage agricultural activity, on both commercial and household/community scales.**

Globally, reaching various 'tipping points' (major shifts in or collapsing of important atmospheric, ocean, or biological systems) is a possibility which we cannot disregard. Such events could completely change the world as we know it.

These "big picture" considerations have been mentioned here, not because the Town of Torbay can do too much about them on the global scale, but having an understanding of the broader context can help to build support for local actions that may improve preparedness over the long-term.

3.D. NATURAL ASSETS

Various terms - natural assets, green infrastructure, nature-based solutions - have been coined in recent years to describe more or less the same thing: how naturally occurring landscape features like wetlands and forests provide services, resiliency, and protection to communities. The academic differences in the definition of these different terms is not critical – **the key concept to understand is that vegetated areas**

absorb, filter, and purify water which contribute to a municipality's ability to manage stormwater, maintain ground water levels, reduce water pollution, and prevent erosion. Historically, there has been a tendency to develop communities without much consideration of the function of these natural features, 'replacing' their functions with pipes, culverts, and mechanical treatment systems which come with upfront and ongoing maintenance costs, environmental impacts, and comparatively increased risks of failure.

By conserving existing natural features of a landscape as much as possible, we reduce the need for 'grey' solutions (pipes, etc.), ultimately saving money, supporting ecosystems, and reducing risk. This is why the wetland inventory component of this project was important: by mapping out where all the wetlands are in Torbay, disruption to those systems can be minimized when new developments are proposed (see Appendix D).

Along with mitigating flood risk, wetlands have the additional benefit of protecting communities against wildfires. Wet landscapes are naturally less susceptible to fire so encountering them can slow a fire's progress. The water stored in wetlands can become a resource for firefighting crews, or provide refuge for wildlife and livestock during a fire. Ensuring that wetlands are conserved can therefore directly improve a community's ability to respond to and recover from a wildfire.

Where engineered solutions are still required, we can choose to more closely mimic natural systems which have greater ability to respond to extreme conditions. For example, an engineered wetland can retain large amounts of stormwater without 'breaking' the way that a pipe of fixed size would, allowing the system to return to normal operations faster and with less expense (more resilient). Nature-based solutions can also provide additional benefits such as creation of new habitats for wildlife or beautiful greenspaces for residents.

3.E. CONNECTIONS TO OTHER MUNICIPAL DOCUMENTS & PRIORITIES

This document is the Town of Torbay's Climate Change **Adaptation** Strategy. Climate change adaptation is about taking action to prepare for the impacts of climate change which are now expected or already occurring due to the changes in Earth's atmosphere caused by excessive GHG emissions.

The Town of Torbay also has a Climate Change **Mitigation** Plan, originally developed in 2020. Mitigating climate change means taking action to reduce the GHG emissions which cause climate change, the purpose being to reduce the amount of change as much as possible.

In general, the more we act to mitigate climate change, the easier it will be to adapt, but there is an amount of climate change that is somewhat guaranteed at this point which we must prepare for. **Ideally, we find solutions that increase our resilience to climate change and also reduce (or at least do not increase) emissions.** Conversely, we want to reduce emissions in ways that do not compromise our resilience.

Climate change mitigation and adaptation are closely intertwined, and are not (or should not be) separate from overall community development and management planning. **It is important that the actions within the mitigation and adaptation plans align with and reflect the priorities contained within the Municipal Plan, Development Regulations, and other core strategy documents.** If there is a lack of integration, development could proceed in ways which compromise the climate change mitigation or adaptation goals.

Emergency response and disaster management are related to climate change adaptation, but there are distinct differences. The goal of climate change adaptation planning is prevention – using local climate change projections to inform our decision-making and take **proactive** measures to mitigate risks. Emergency response planning considers how we **react** when an incident occurs, climate change-related or otherwise.

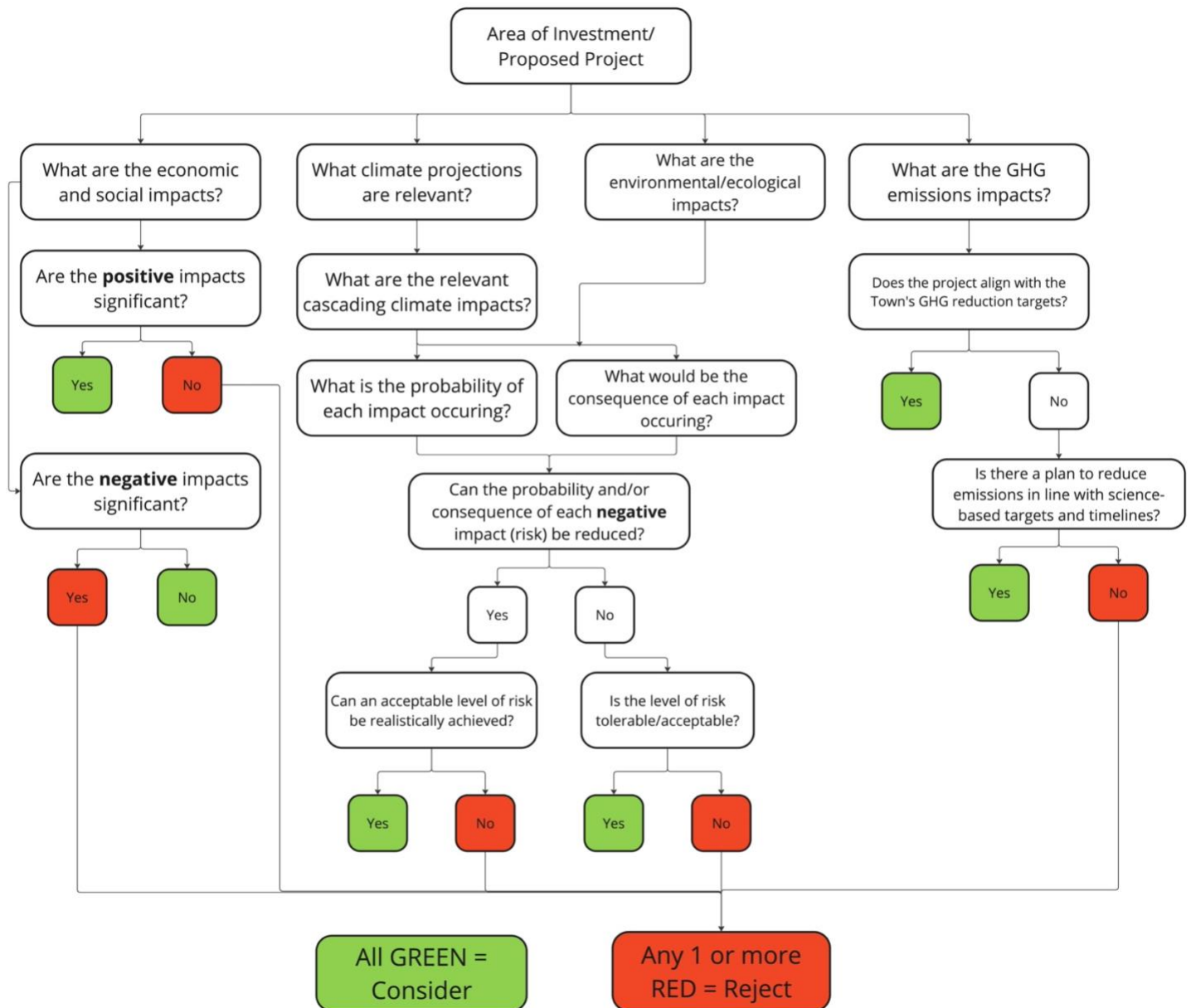
The Town of Torbay has a Municipal Emergency Management Plan (MEMP) which is based on a template provided by the Provincial government. This template addresses the main processes/procedures, and key responsibilities and contacts for a variety of emergency situations. At present, the template does not directly address the risks of compounding/cascading climate impacts. This is where **the Climate Adaptation Strategy can result in outputs that supplement and strengthen the MEMP.**

3.F. CLIMATE-CONCIOUS DECISION-MAKING

Making a climate-conscious decision involves considering the content in each of the previous sections – What are the projections? What are the risks? What is the ‘big picture’ context? How does this interact with nature? How does this connect to other Town priorities?

The following flowchart illustrates where “go/no-go” points could be articulated into a municipal decision-making process. This is, of course, simplified - there will always be nuances to consider for any given situation – but in general, to achieve climate resilience and responsible economic and community development, a project should not proceed if *any* of the following is true:

- Project does not significantly benefit the economy and/or people of the community
- Project has significant negative impacts on people or the economy
- Project has one or more intolerable climate-related or environmental risks
- Project does not currently align with and there is no plan to meet science-based emission targets



What “tolerable” or “acceptable” means in terms of climate risk is similar to what it means in the financial world. We must make a judgement about how much loss we are willing to accept in order to try to maintain a particular baseline or experience a potential gain, within the context of an uncertain future. There are no ‘right’ answers, and perceptions will vary from person to person, and potentially even from day to day depending on our experiences, values, and biases.

Determining what our risk tolerance is in any situation typically involves answering hard questions. For financial investments this may be, “would I be okay with losing X amount of money in the short-term in order to potentially gain X in the long term?”. When considering climate risks and adaptation options, some questions could be:

- Would we be okay with potential negative impacts of taking X action in the near-term in order to avoid X climate impact in the long term?
- Alternatively, would we be okay with experiencing X climate impact as a result of deciding not to take X action?
- What is the possibility that X action will fail? What would be the consequences? Who could be liable?
- What amounts and types of losses are acceptable? Physical, financial, ecological, human?

Honest discussions which include a variety of perspectives and high-quality sources of information are the only real way forward when it comes to making these risk-based decisions. There will most likely be trade-offs, which may be difficult to reconcile. On top of dealing with the data uncertainties of climate change, there are also psychological barriers and cognitive biases that impact our decision-making ability in this context. Some of these are discussed in the next section as they are particularly relevant to engaging with the public.

In the end, municipalities can only try their best to make financially-responsible and scientifically-defensible decisions given the information and resources that they have at the time. This climate change vulnerability assessment and guidance content is one resource that can contribute to this, among many others.

4. GUIDANCE FOR FURTHER PUBLIC ENGAGEMENT

The purpose of this section is to provide guidance to Town Staff and Council regarding communicating effectively about the Climate Adaptation Strategy and Vulnerability Assessment. The goal is to build trust around the Strategy early on so that there is public support when it comes time to finalize plans and implement actions, especially for actions which may involve significant changes or impacts to a person's daily life. Climate change can be an overwhelming and sometimes polarizing topic, and having an understanding of how individuals process this type of information can be helpful in achieving desired outcomes. This section aims to equip Town representatives with some insights and tips for ongoing public engagement and internal discussions around climate adaptation, including navigating emotional conversations that may arise.

4.A. INTERNAL BUY-IN & IN-COMMUNITY MESSENGERS

The first step in building public trust around any municipal strategy, plan or policy is to build support for the initiative internally. Town councillors and staff should feel comfortable with the content of the Climate Adaptation Strategy, including the rationale for particular actions, and should be able to discuss it with and answer questions from residents, referring to external sources and resources as needed. If Town representatives appear uncertain about the Strategy, residents may not feel confident in the Town's commitment to it or ability to make progress. While external consultants have contributed to the development of the Strategy, the resulting document belongs to the Town – **a sense of ownership must be cultivated within the Town as an organization in order for a sense of ownership to develop across the broader community.**

To develop and portray this sense of ownership, it is suggested that communications about the Strategy be conducted primarily by the Town and/or designated in-community messengers, rather than external consultants. Research has shown that who delivers information can significantly impact the recipient's perception of that information. If residents are familiar with, relate to, and respect the messengers, they may be more likely to positively engage with the information rather than dismiss or challenge it. **The Torbay Environment Advisory Committee (TEAC) and other key figures in the community could play important roles in this regard.**

4.B. COMMUNICATING ABOUT CLIMATE VULNERABILITY

As discussed in Section 3.A, no Town staff person or councillor is expected to become a climate scientist, but some residents may have questions about the vulnerability assessment. Some may question why certain climate change scenarios are considered over others, some may firmly believe that climate change is not something that humans have any influence over, and others may not believe the climate is changing at all.

For those that are interested in the specifics of the climate projections, simply refer to the key points discussed in Section 3.A, and direct them to [Climatedata.ca](https://climatedata.ca) for more information. There is an abundance of resources here including a [Learning Zone](#) which covers many topics.

For those that are skeptical, common ground can usually be found. Most people agree that being prepared for extreme weather events is important and that we should consider risks when making infrastructure investments or planning decisions. In this way, whether climate change ‘causes’ those events and risks or not isn’t particularly relevant, and debating such can get in the way of having productive conversations.

No matter what an individual’s core beliefs are, **we are all subject to a variety of psychological responses when faced with information that may impact us.** When it comes to thinking about climate change, our vulnerability, and the actions we must take, recent research and experience tells us a few key things:

- ❖ **Honesty goes a long way.** While talking about risks can be hard, research indicates that it is generally better in the long-term to fully communicate them rather than avoid or downplay them. Being transparent about how much the risk can realistically be mitigated is also important. Individuals may react in a variety of ways to such information, and we must allow time and space for those reactions to occur (see the next section for more on this).
 - **Generally, awareness of risks helps engage participation and adoption of recommended actions.** However, a key phenomenon to be aware of is the human tendency to deny risks, not because of their perceived likelihood or severity, but because of the implied changes to the status quo required to address it. We would often rather do nothing and “see what happens” in order to avoid disrupting our current situation or experience the discomfort involved in fully considering what the potential consequences could be. This could be an underlying reason for denial of climate change overall.
 - **Disclosing known climate risks to the public may be a matter of legal obligation for municipalities.** A [2022 analysis by East Coast Environmental Law](#) (focused on flood risk, specifically), found that the common law of negligence or “failure to warn” is the most likely source of municipal liability in future climate change loss and damage disputes. Read more in the full report linked above, or this [summary document](#).
- ❖ **The source of the information and ideas matters.** People feel more trust in information, and more support for proposed actions, when it comes from sources they see as authoritative and representing their group. Hearing the same message from several trusted sources is especially effective. As mentioned above, Town officials and community members, such as those on the TEAC, can fit this bill.
 - **Leadership from the Town can also contribute to reducing climate anxiety** among community members. Lack of government action can fuel feelings of hopelessness, so

knowing that there is someone in charge who cares and is committed to doing what they can, can help ease the minds of concerned residents.

- ❖ **How something is framed can impact who connects with it.** For audiences that are not receptive to or may negatively react to the term 'climate change' due to their underlying beliefs, it could be entirely avoided while still discussing the same topics. For example, instead of talking about flood, drought, and wildfire prevention options as 'climate change adaptation' measures, we can stick with 'emergency preparedness' language. By meeting people where they are and connecting ideas to something that matters to them, we can encourage participation from groups that are otherwise unlikely to engage.
 - Climate change mitigation actions can be harder to sell because "emissions" are fairly abstract (typically a focus on energy cost savings can help), but climate adaptation actions are more easily **tied to direct impacts that a particular individual or household has experienced or can imagine experiencing**. Focusing on this in public messaging can be helpful in gaining support.
- ❖ **Action requires a baseline of attention** – we engage with what has captured our attention.
 - Use **stories, rather than statistics**, to support information sharing. The facts and figures presented in the Climate Vulnerability Assessment are important, but may not be the best starting places for discussions. It's better to talk about what people have experienced, what people elsewhere in the province or the world have experienced, and how the community imagines dealing with similar things in the future.
 - Attention tends to be better captured by **positive images and discussions** about climate change (e.g., potential solutions) rather than negative ones (e.g., consequences of not implementing a certain action). This encourages people to envision the community they want, rather than focus on what they could lose and potentially become "frozen" by feelings of fear or hopelessness.
- ❖ **There are generational differences.** Climate impacts are different for younger and older residents. Young people often feel dismissed when discussing climate concerns with older residents, while older people can feel shut out from these conversations due to assumptions that it doesn't concern them and/or they can't contribute directly to action. It is important that both youth and seniors feel their perspectives are valued and their contribution is encouraged.
 - For **young people**, this often looks like participating in actions that are **future-focused**, with a view of what their community will look like in 50 or 100 years and beyond.
 - For **older people**, it could include highlighting their **knowledge, resilience, and expertise as long-term residents** of the community, and as people who have likely already survived considerable unwanted changes and upheavals to life as they knew it.

These factors apply to both members of the public and Town staff and Council as decision makers. Being aware of these things can help us better understand different perspectives, have meaningful conversations, and help us make decisions both rationally and compassionately.

4.C. NAVIGATING DIFFICULT CONVERSATIONS

Communication around climate risks or proposed adaptation actions may involve difficult conversations with residents, particularly when an individual resident or family is (or could be) severely affected. The following guidelines are adapted from the SPIKES protocol, developed by the medical field for delivering bad news to patients.

❖ S - Setting

- Have conversations in a private, comfortable space
 - This could be at a resident's home or at the Town office
- Involve significant others (e.g., family members in same household, neighbours)
- Take time to connect and establish rapport
- Manage time constraints and interruptions

❖ P - Perception of situation/seriousness

- Determine how much information the person or family already has about their level of risk
- Listen to person's experience and view of their situation
- Accept denial, and do not attempt to counter it at this stage

❖ I - Invitation to give information

- Ask if the person wants to know how they will/may be affected
- Accept their right not to know specifics
 - Regarding municipal liability as mentioned above, making the information publicly available and offering to provide further details should be sufficient to demonstrate the Town's effort to inform, whether or not an individual chooses to engage with the information.
- Offer to answer questions later if they don't feel ready right now

❖ K - Knowledge

- Use language the person can understand
- Give information in small chunks
- Check whether they are understanding what you've said
- Respond to their reactions as they occur
- Give the facts accurately and directly – be transparent about the hard news and the potential solutions (or lack thereof), given the information you have
- Give any positive information early – e.g., if issue can be addressed without significant disruption to the resident

❖ E - Explore emotions and empathise

- Identify emotions the person may be feeling
- Give them time to express emotion
- If appropriate, briefly share some of your own emotions about the need for the community to adapt, or about what the resident may have to experience
 - *See below for more on addressing emotion.*

❖ S - Strategy and summary

- Ask if the person has questions or would like clarification
- Share where they can find further information – can be helpful to have a summary in writing
- Identify next steps and clear timeline for follow-up (where possible)

Some additional points to keep in mind when approaching these conversations in a climate context:

- ❖ **It's likely to get emotional.** Residents may not frame their reactions in terms of sadness, anxiety, or grief, and may instead show frustration or anger. It is important to keep in mind that reactions of anger are often a way of expressing deeper sadness or anxiety, and to ensure residents feel heard during these conversations.

This can be done by:

1. Reflecting what a resident is saying (e.g., "I can hear this is really stressful for you")
2. Clarifying (e.g., "When you say you don't think you can handle this, what part feels like too much to handle?")
3. Summarizing (e.g., "What I'm hearing I can do to help is ____". Does that sound right?).

While planning conversations with individual residents who are particularly at risk, it may be helpful to trial run your wording with other people beforehand. Like anything else, listening well and responding with patience take practice, especially when emotions are high.

- ❖ **People may need more support.** When individuals feel able to regulate the emotions they experience in response to climate change, they are better able to participate in solution development. Making residents aware of available supports can therefore help the entire community move forward. CLIMAtlantic has put together a list of [resources for eco-anxiety](#) which could be passed along to residents. Climate Cafés (often virtual, offered regularly through groups such as [Nova Scotia Climate Cafés](#)) can be beneficial in helping individuals connect with others that share their feelings. General [Government of NL mental health resources](#) and community figures that residents already have relationships with (e.g., doctors, therapists, or faith leaders) can also help, though awareness of climate change-specific concerns may vary by provider. Residents may also

benefit from discussion or support groups organised by the Town, as well as one-on-one conversations with a Town councillor or staff member about specific concerns.

- ❖ **Getting involved helps.** Research shows that being involved with climate actions helps alleviate the impacts of climate anxiety and sadness. It often isn't enough to know there are changes underway – it's important for residents to feel they are *actively contributing* to those changes and that they have an essential role to play in helping themselves and their neighbours (this research finding is particularly strong for seniors and youth). It is therefore important to encourage direct resident involvement in adaptation projects where possible. This could include hosting tree planting events, hiring people from the town to work on adaptation projects, or facilitating knowledge exchange between older and younger residents (whether climate-related or not).

5. APPENDIX A – CLIMATE CHANGE VULNERABILITY ASSESSMENT

This assessment consists of a series of tables summarizing the climate hazards that may impact Torbay and what the implications of those hazards may be. It has considered events experienced to date and the local climate change projections for the future. The following table provides a high-level summary:

Hazard	Climate Projection	Risks in Torbay
Drought/Water Supply	More inconsistent precipitation patterns with higher frequency and duration of dry periods	Reductions in or loss of municipal potable water supply and groundwater for private wells with significant implications for resident comfort and safety
Inland flooding	Increasing frequency and intensity of extreme precipitation events	Increasing risk of stormwater management systems becoming overwhelmed resulting in road washouts and property damage
Extreme Temperatures	Hotter days expected more often than experienced historically Destabilized climate system can also result in extreme cold beyond what we're used to	Public health risks associated with heatwaves particularly for vulnerable populations without access to cool spaces (e.g. seniors, children, lower income households, etc.). Risk of an extreme temperature event corresponding with a power outage.
Wildfire	Increasing risk of fire weather across the province (dry, warm, and windy)	Direct wildfire risk due to forested areas within and around the Town. Health risks associated with smoke impacts from fires within or outside of Torbay.
Storms	Increasing chance of events with high winds, freezing rain, or heavy snow	Risk of property damage, transportation network disruptions, isolation of vulnerable populations, dangerous outdoor conditions, and strain on infrastructure
Coastal	Sea level rise expected to be about 1 m by 2100 Hurricanes becoming more frequent and intense in the Atlantic Atlantic Ocean is warming and becoming more acidic, changing the ecosystem	Direct risk largely limited to Torbay Beach and Tapper's Cove Wharf areas, both of which contribute significantly to the economy of Torbay via tourism and the fishery.

5.A. CLIMATE CHANGE PROJECTIONS SUMMARY

The below climate change projections were obtained from ClimateData.ca in June 2025 for the Avalon Peninsula of Newfoundland and represent the SSP5-8.5 high warming scenario of the most recent AR6 climate model (unless otherwise noted).

AT A GLANCE: warmer overall with more hot days, more precipitation overall with more frequent and intense storms, higher sea level and higher risk of hurricanes and storm surges, higher wildfire risk

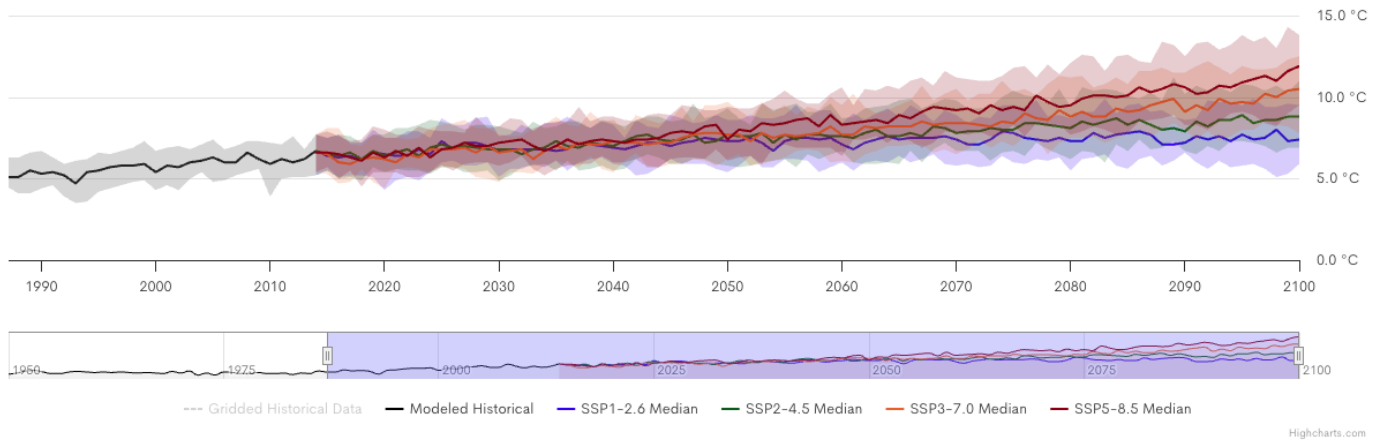
5.A.I. TEMPERATURE

ClimateData.ca Index	Historical Average for 1981-2010	Future Projection for 2041-2070	Future Projection for 2071-2100
Mean Temperature	6 °C	8 – 9 °C	9 – 12 °C
Days with Tmax > 27°C	0 days	2 - 11 days	6 - 43 days
Days with Humidex > 30°C	0 days	3 - 19 days	11 - 59 days
Frost Days	150 days	74 - 113 days	28 - 89 days

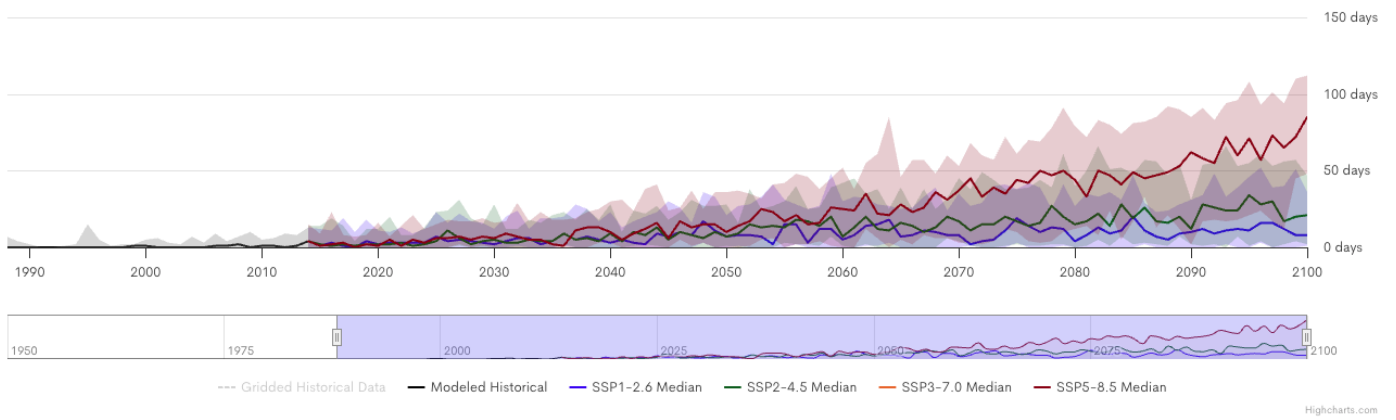
In the graphs below, the blue line is the lowest warming scenario (considers that significant global efforts are made to reduce emissions and/or earth systems are able to stabilize) and the red line is the highest warming scenario (considers that emissions continue to increase and/or changes in earth systems continue to progress). The green and orange lines represent in-between possibilities. The black line shows what has been the case historically. The solid lines are the median values and the shaded areas around the lines represent the possible range.

It is currently best practice for municipalities to plan for the highest warming scenario where possible to ensure public safety and infrastructure resilience.

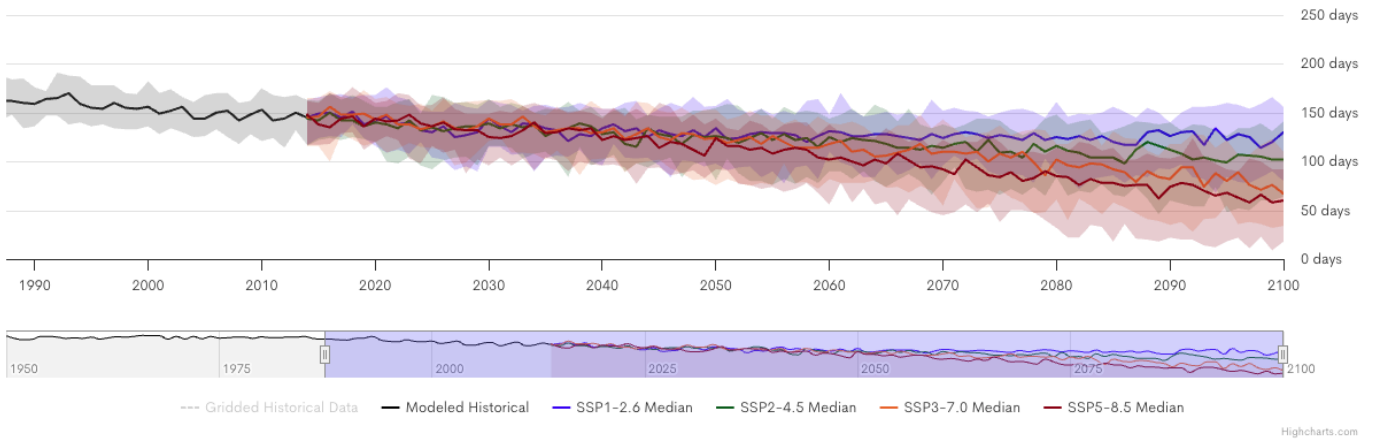
Mean (average annual) Temperature for Torbay, NL



Days with Humidex above 30°C for Torbay, NL



Frost Days for Torbay, NL



- As most homes and buildings in this region do not have air conditioning systems, there is an increasing chance of extreme heat events impacting the population, particularly vulnerable groups like seniors, children, those with pre-existing conditions, outdoor workers, or the unhoused.
- A warmer climate also means that ecosystems are shifting. We may see new plants, animals, and insects that we haven't historically, some of which may have impacts on agriculture (new pests, ability to grow new crops), culture (change in species available to hunt or fish), or health (new disease-spreading insects like mosquitos and ticks).

KEY TAKEAWAYS - warmer overall, hotter and longer summers with increased risk of heat waves, warmer and shorter winters, changes in local ecosystems

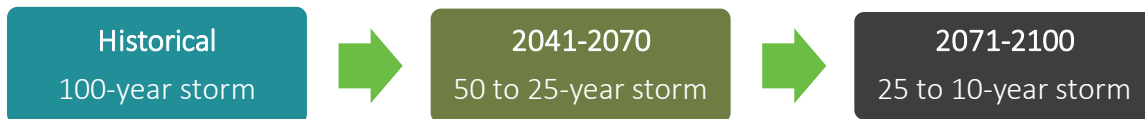
5.A.II. PRECIPITATION

ClimateData.ca Index	Historical Average 1981-2010	Future Projection for 2041-2070	Future Projection for 2071-2100
Total Precipitation	1647 mm	1697 - 1838 mm	1726 - 1941 mm
Wet Days $\geq$ 20 mm	19 days	22 - 26 days	24 - 28 days

The global climate models show that precipitation is going to increase overall, but they have more trouble estimating specific precipitation amounts, types, or timing in specific places.

[Intensity-Duration-Frequency \(IDF\) curves](#) are maintained by the Provincial Government to inform infrastructure design. The below table shows the amount of rain in millimeters (mm) that could fall within a single 24-hour period about once every 2, 5, 10, 25, 50 or 100 years on the Avalon Peninsula - heavier rain events are more rare.

Gov. NL IDF CURVES	Average Frequency of Event (every X years)					
24 Hour Duration Precipitation Event (mm)	2	5	10	25	50	100
Historical (Observational records to 2015)	67	94	112	134.5	151.5	168
2041-2070	86	114.5	134	159.5	178.5	198
2071-2100	88	119	142.5	172	193.5	215.5



- What was considered a 1-in-100 year storm in the past (i.e. 168 mm in 24 hours) will happen more often in the future because of climate change (168 mm in 24 hours could happen every 50 or 25 years instead by 2050 or even more often by 2100)
- In other words, the chance of it raining 168 mm in 24 hours used to be about 1% each year, but in 2050 it could be between 2% (1 out of 50) and 4% (1 out of 25) - or, a storm of this size will become 2 to 4 times more likely to happen (by 2100, it could be 6 or 10 times more likely).
- There will still be storms that are only 1% likely to happen each year, but those storms will be bigger than before - in 2050, a 24 hour 100-year-storm may be 198 mm instead of 168 mm.

Local experts also expect:

- Less consistent/more unpredictable precipitation (longer dry periods between incidents of heavier precipitation – may have impacts on local water supplies and agriculture)
- More rain, rain-on-snow, or rain-on-frozen-ground events during the winter (higher flood risk)
- More frequent and severe thunderstorms (risks associated with lightning, hail, heavy winds)

KEY TAKEAWAYS – more precipitation overall, more intense and frequent storms with increased risk of flooding, potential for more/longer dry spells, less likely to snow

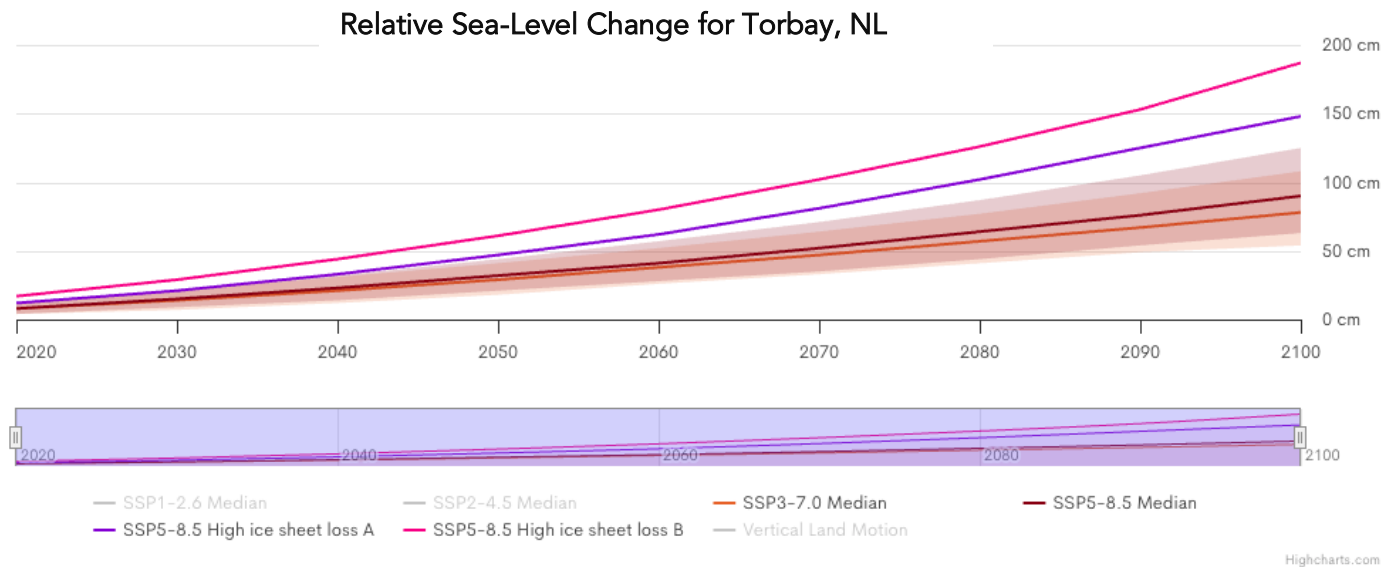
5.A.III. RELATIVE SEA LEVEL RISE

Metric:

Year	Low Projection (SSP3-7.0)	Medium Projection (SSP5-8.5)	High Projection (SSP5-8.5 High Ice Sheet Loss Scenario A-B)
2050	30 cm	32 cm	48 - 62 cm
2070	47 cm	52 cm	82 - 102 cm
2100	78 cm	90 cm	149 - 185 cm

Imperial:

Year	Low Projection (SSP3-7.0)	Medium Projection (SSP5-8.5)	High Projection (SSP5-8.5 High Ice Sheet Loss Scenario A-B)
2050	~1 ft	1 ft 1"	1 ft 7" – 2 ft 1"
2070	1 ft 7"	1 ft 9"	2 ft 8" – 3 ft 4"
2100	2 ft 7"	2 ft 11"	4 ft 11" – 6 ft 1"



These projected changes are with respect to the average conditions across the period 1994-2015 and consider the [vertical motion of land](#). The different emissions scenarios or SSP's ([Shared Socio-economic Pathways](#)) represent possible future development pathways for our society on a global scale. They consider the policy commitments of different countries, levels of international cooperation, economic activity, and population trends. On top of this, there is uncertainty around how quickly the Antarctic ice sheets will melt. Since it is very difficult to predict what will actually happen in all of these realms, climate vulnerability exercises such as this one are more so about assessing the possible outcomes and determining what level of risk is tolerable for a given location or situation.

Overall, the ocean and atmosphere are beginning to behave in ways that they have not historically, and changes are occurring at a pace that is surpassing even the most conservative climate models. We must therefore be prepared for surprises.

Also consider:

- [Recent studies](#) have shown that it is now **twice as likely** for hurricanes in the Atlantic to develop from a Category 1 to a major hurricane (Category 3 or higher) within 24 hours compared to the 1970s and

80s. This increased storm activity is expected to continue increasing as the ocean warms, increasing the frequency and magnitude of storm surges for coastal communities.

- Even if not a hurricane, storms with heavy precipitation and strong winds can create large waves which impact the coast, particularly if the storm aligns with high tide.
- These events, or just sea level rise on its own, may cause existing stormwater and sewer outfalls to become below the water level, resulting in inland flooding and sewer back-ups.
- Sea level rise is also raising the ground water level, resulting in basement flooding or the inability to construct basements in coastal areas.

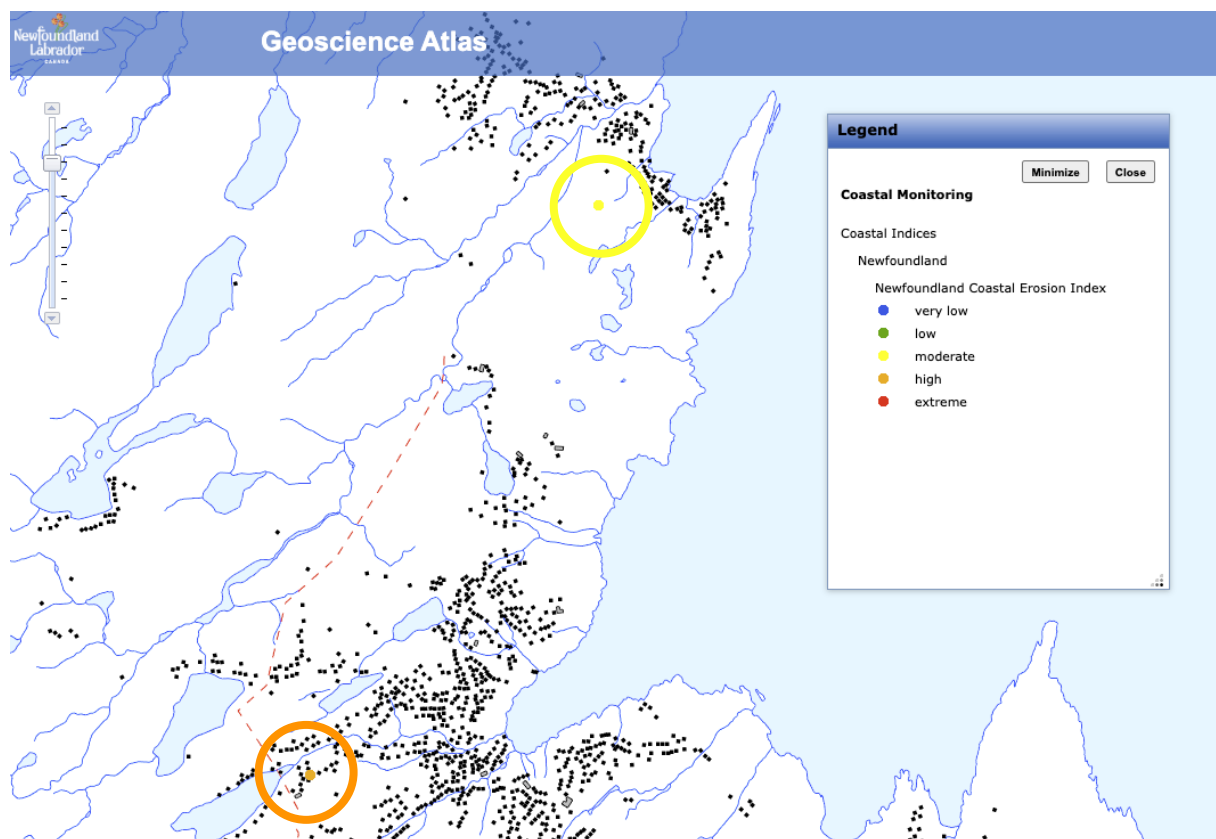
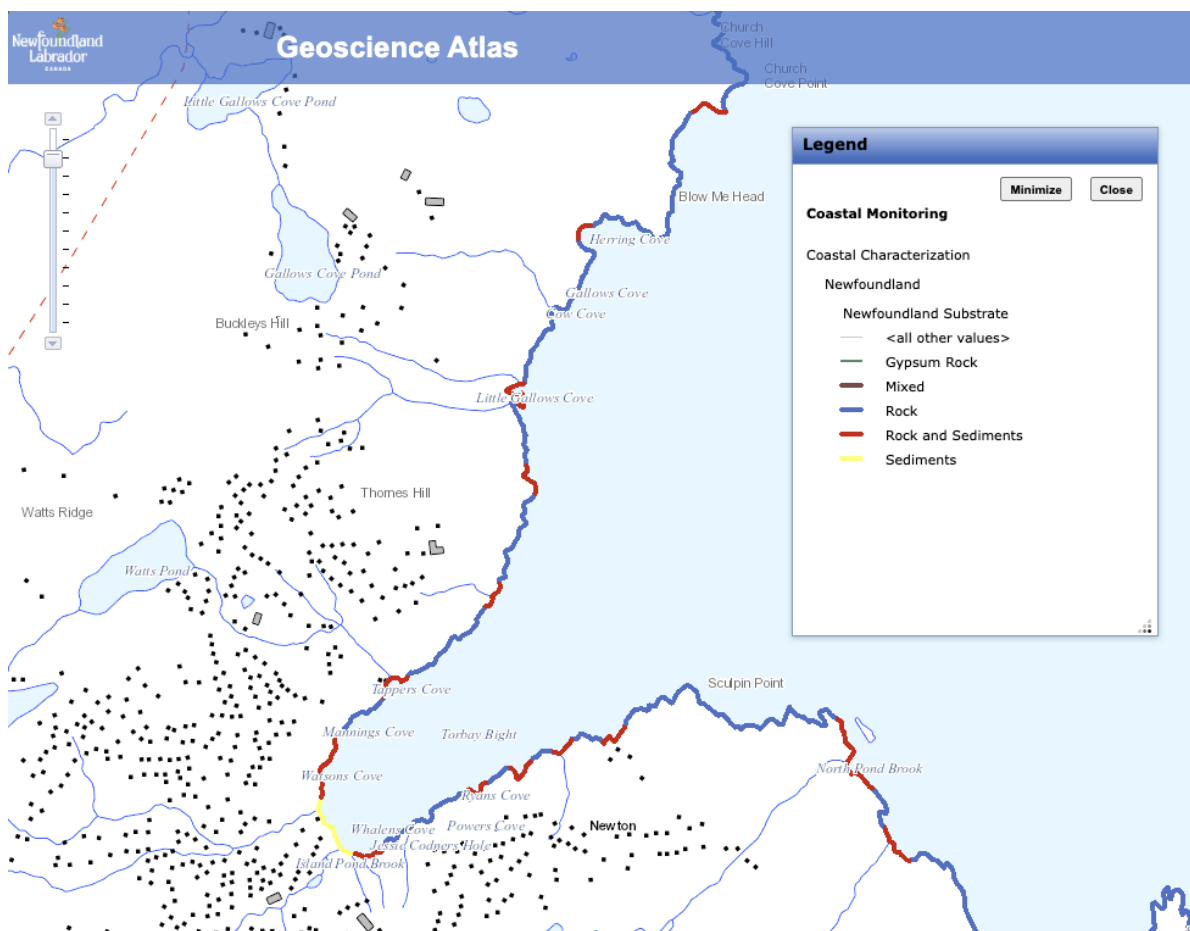
The [NL Coastal Flood Simulation App](#) is an online tool that helps to visualize what a certain coastal water level would mean for an area. By adjusting the water level slider, we can represent different amounts of sea level rise and/or storm surges. This exercise was completed for Torbay and potentially at-risk areas are identified in the Coastal section of the Vulnerability Assessment Results.

KEY TAKEAWAYS – a significant amount of sea level rise is expected which will change the location of our coastlines, higher baseline sea level means waves and storm surges have larger impact, hurricanes and storm surges are becoming more likely and more severe

5.A.IV. COASTAL EROSION

The Geological Survey of Newfoundland's [Geoscience Atlas](#) provides the coastal characteristics across the province as well as indices for coastal erosion potential. The coastline of Torbay is largely rocky and steep, except for Torbay Beach which is primary sediment. It is this beach area that is most susceptible to erosion.

In general, the risk of coastal erosion is expected to increase due to climate change because of sea level rise, reduced sea ice (which can protect the coast from wave action), and increased wave action and storm surges.



5.A.V. WILDFIRE

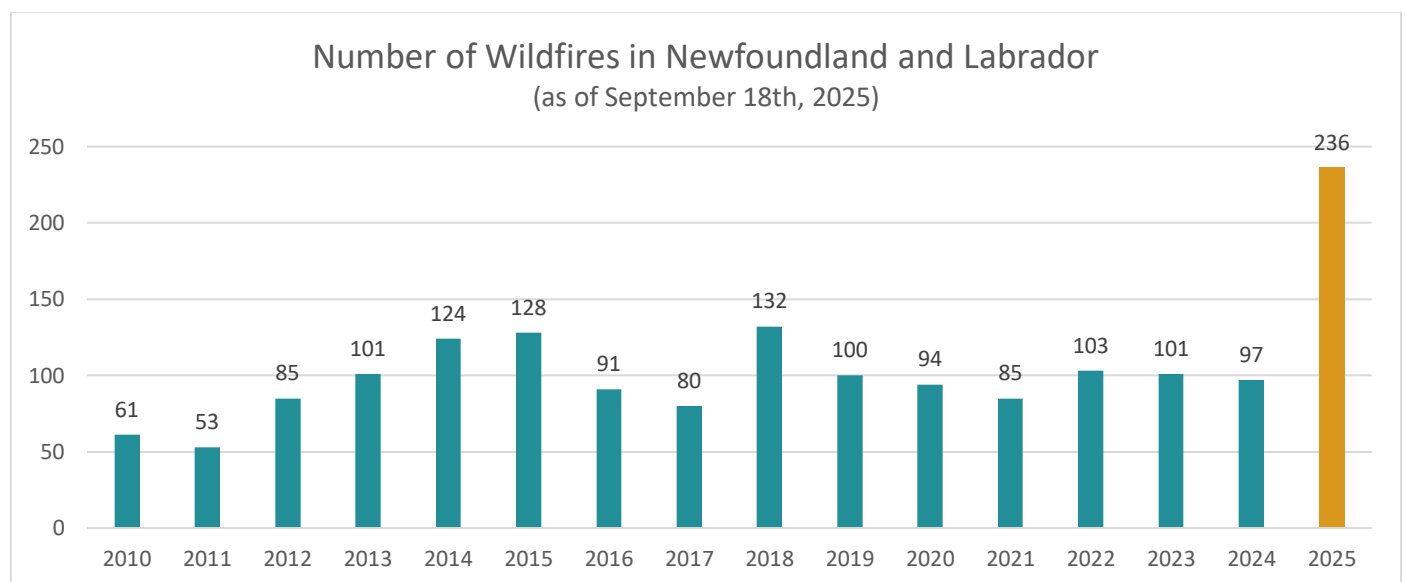
Factor	Historical Average for 1971-2000	Future Projection for 2041-2070	Difference
Fire Season Length	180 days	224 days	+ 44 days

In 2025, the wildfire season was April 24th to September 30th on the Island of Newfoundland. From 2014 to 2021 the fire season started on May 1st.

Between 2011 and 2021, 81.9% of the wildfires in the Eastern Region were caused by residents or recreational activities (ignition from cigarettes, campfires, etc.), 1.5% by lightning, and 16.6% by other (garbage dump, industrial operations, etc.) or unknown causes.

Also consider:

- the above temperature projections (warmer overall, more hot days = higher fire risk)
- the above precipitation projections (more dry periods, more lightning, less snow = higher fire risk)
- the amount of forested area in the region and its proximity to critical infrastructure and evacuation routes (especially where there is only one way in and out of an area)



The total number of wildfires is not directly related to the total area that is burned. Number of wildfires or total area burned may also not necessarily reflect the degree to which communities are impacted – a single wildfire of modest size may still cause significant impacts depending on its location.

KEY TAKEAWAYS – wildfire season is getting longer, wildfire-supporting weather conditions are occurring more often (fires can start and spread more readily), wildfires are most often started by the activity of people

5.B. VULNERABILITY ASSESSMENT RESULTS

5.B.I. DROUGHT/WATER SUPPLY

- inconsistent precipitation with higher frequency and duration of dry periods

Risk/Vulnerability to Service Area/Population	Impact/Implications
Reductions in or loss of municipal potable water supply and/or associated impacts to water quality	• Water conservation orders, boil water advisories, potential state of emergency • Significant cost and inconvenience to residents and the Town to source and distribute bottled water
Reductions in or loss of potable water supply from private wells	• Inconvenience, added cost, property value impacts, and potentially health risks for affected households • Note that PFAS contamination of groundwater is an additional concern, however, it is not related to projected climate changes
Reductions in or loss of water available for fire suppression	• Potential significant risk to life and property
Agriculture & home gardens	• Potential significant negative impacts on crops such as reduced yields or complete crop failure
COMPOUNDING/CASCADING HAZARDS → Extreme Temperatures, Wildfire Prolonged extreme heat events can contribute to drought conditions. Drought conditions increase wildfire risk.	
RELATED COMMUNITY CONCERNS → Housing Development (must have adequate water supply to support additional homes)	

5.B.II. INLAND FLOODING

- increasing frequency and intensity of extreme precipitation events
- Historical 1-in-100 year events are becoming more like 1-in-25 year events

The Town commissioned studies in 2018-2019 to identify flood risk areas and mitigation options and has been implementing the resulting Stormwater Management Plan:

Risk Area	Study Finding	Study Recommendation	Status
Skipper's Landing (near Civic #11)	Drainage ditch too small causing basement/property flooding in heavy rain	Widen/deepen ditch	Completed (2021-2022)
Western Island Pond Drive (Civic #30)	Property floods during major storms because two culverts are undersized and runoff pools	Upsize culverts	Ongoing (2025-2026)
Middle Three Island Pond Road	Two culverts under gravel section likely too small for a 100-year storm, risking road washout	Lower priority as little infrastructure in immediate area	Investigating
Bauline Line	Several culverts are too small	Upsize culverts	Provincial Jurisdiction
Bridge Road (Civic #20)	Brook overtops and floods property; house sits nearly level with stream	Detention Pond	Planned
Rattling Brook Road	Ponding at culvert inlet; backs up and overtops road in extreme storms	Upsize culverts and construct berms	Investigating
Cannon Marsh Road	Culverts overwhelmed and in need of repairs	Upsize culverts and construct berms	Completed (2020-2021)
Country Drive (Whiteway Pond outlet)	Culverts undersized; 100-year storms would flood the road	Upsize culverts and construct berms	Ongoing (2026)
Hickey's Lane & Country Drive (intersection)	Culvert overtopping sends flow across intersection in major storms	Construct berm	Completed (2020-2021)
Russworthy Place	Culvert too small; localized flooding in 100-year events	Construct berm	Investigating

Risk Area	Study Finding	Study Recommendation	Status
Crowe's Lane	History of road washouts: four culverts are too small for extreme storms, risk of another washout	Bigger culverts, wider channel, lower pond	Planned (2026)
Anstey's Cove Lane & Davalan Place	Berm added post-2014 but flooding still predicted in updated 100-year storms; flow bypasses berm into streets.	Lower both ponds 1 foot to add storage, upgrade stream/ditch to carry runoff.	Investigating
Rosebud Street / Cordelia Crescent	Damaged culvert causes the stream to overtop in heavy rain, flooding one property and affecting a nearby playground.	Upsize culverts and construct berms	Completed
Forrest River Road Subdivision	Adjacent stream overtops during heavy rain and spills into the subdivision	Construct berm	Investigating
Civic #23 Lynch's Lane	Identified as at risk: stream hits capacity, flow spills into the wetland	Build a berm or retaining wall	Planned (2026)
Mahon's Lane	Flood modelling shows up to ~1.0 m depth near homes with potentially high speed flows, creating some safety risk.	Build a berm or retaining wall	Planned (2026)
COMPOUNDING/CASCADING HAZARDS → Drought, Wildfire			
Drought and wildfires can leave land especially dry and more susceptible to overland flooding			
RELATED COMMUNITY CONCERNS → Housing Development			
Further development in flood-prone areas will ultimately lead to future issues and costs. Homes may not be able to obtain insurance for flood damage if known to be in a flood-prone area. New development can also create more flooding downstream if stormwater management systems are not designed properly.			

Flood risk is higher near wetlands or bodies of water such as ponds, rivers, and streams because they are typically in relatively low-lying areas. If wetlands are disturbed, such as by development, flood risk can increase downstream because wetlands provide natural storage for excess water. See Appendix D for summary results of the 2026 Wetland Inventory and Watercourse/Waterbody updates.

5.B.III. EXTREME TEMPERATURES

- hotter days expected more often than experienced historically
- destabilized climate system can also result in extreme cold beyond what we're used to

Risk/Vulnerability to Service Area/Population	Impact/Implications
Extreme heat is a health risk to individuals in private residences (particularly those that are isolated, elderly, or have pre-existing conditions) and retirement/long-term care facilities	• Seniors and children are especially vulnerable to extreme heat. Death can result in severe cases, as was the case for over 600 people in BC in 2021. • Most homes in NL do not have a source of cooling • Potential for compounding risk if heat event is aligned with water supply issues or power outage
Extreme heat is a health risk to individuals in public institutions (e.g., children in schools or day cares, guests at community centres, staff at Town facilities)	Lack of cooling in these institutions could result in cancellation of programming or hazardous conditions for patrons
Extreme heat and generally higher summer temperatures may have impacts on tourism (East Coast Trail) and other outdoor activity	Increasing temperatures may have a positive impact on outdoor activity and tourism, though the prevalence of more very hot days may be a deterrent to some, or individuals may become distressed if they are not equipped for the weather (carrying enough water, etc.). Increasing presence of disease-bearing ticks and mosquitos may also impact outdoor activity
Extreme cold can also put vulnerable populations at risk, particularly if combined with power outages	Compared to extreme heat, extreme cold is somewhat less of a concern because: 1) the overall trend is that winters are getting warmer because of climate change, 2) all homes and buildings in NL are already equipped with heating systems, and 3) while extreme cold can also be fatal in extreme situations, that is a less likely occurrence compared to an extreme heat event
Agriculture & home gardens	Higher summer temperatures and longer summers may have positive impacts on agriculture in Newfoundland, however, periods of extreme heat or unexpected cold spells can stress crops, as well as the presence of more or new pests.
COMPOUNDING/CASCADING HAZARDS → Drought, Wildfire, Power Outages Prolonged extreme heat events can contribute to drought conditions and increased wildfire risk. High electricity demand for cooling along with heat stress on electricity transmission infrastructure could contribute to power outages during an extreme heat event.	

5.B.IV. WILDFIRE

- increasing risk of fire weather (dry, warm, and windy)

Risk/Vulnerability to Service Area/Population	Impact/Implications
Health risk and disruption to usual activities due to wildfire smoke (which may travel from a fire that is not located directly in the Town)	• Exacerbation of existing respiratory conditions, cancellation of outdoor events • If combined with an extreme heat event, may introduce additional risk/complication as windows and air exchangers should be closed/off to keep smoke out, but those without cooling systems may rely on these things to cool the house
Middle Three Island Pond Road has one route in/out. All properties along Bauline Line may be at higher risk due to being surrounded by forest (see Image 1 below)	Isolation risk, delayed emergency response, difficult evacuations (especially for mobility-limited residents); potential for residents to be cut off during fast-moving events
Potential impact on tourism (East Coast Trail)	Wildfires are becoming more likely in all forested areas. When conditions are very dry, trails may have to be closed for safety.
Risk to all private and public properties	Any property is at risk if a wildfire moves through the Town. Impacts could be catastrophic.
North Pond (and future Great Pond) water supply are surrounded by forest (see Image 1 and 2 below)	A fire near the water supply could have negative impacts such as contamination from ash or fire suppression substances, or depletion of the supply due to suppression efforts
COMPOUNDING/CASCADING HAZARDS → Drought, Extreme Heat, Storms (lightning) The risk of wildfire increases as drought and/or extreme heat conditions are occurring, and at the same time these factors can make containing a fire more difficult due to lower available water supply, increased water demand, and unfavourable firefighting conditions. Lightning strikes can cause wildfires to start.	

Image 1 – Northern Torbay is quite heavily forested. Bauline Line and Middle Three Island Pond Road in particular are surrounded by forest with limited/singular road access. Area surrounding future water supply, Great Pond, is forested.

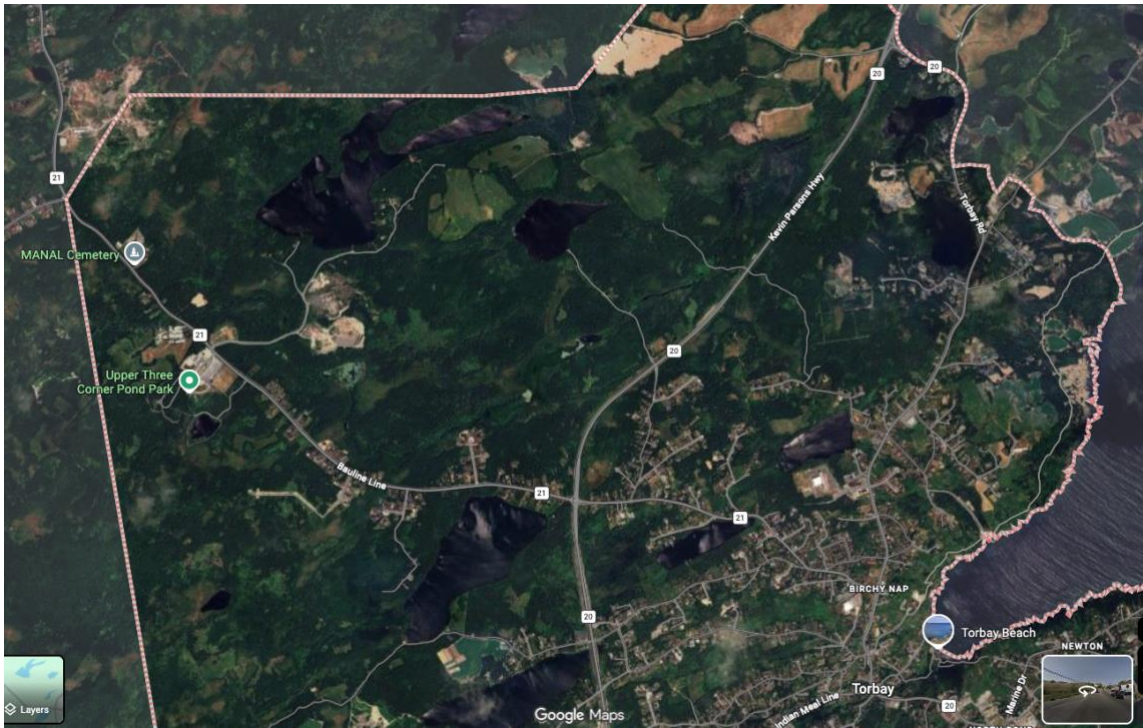
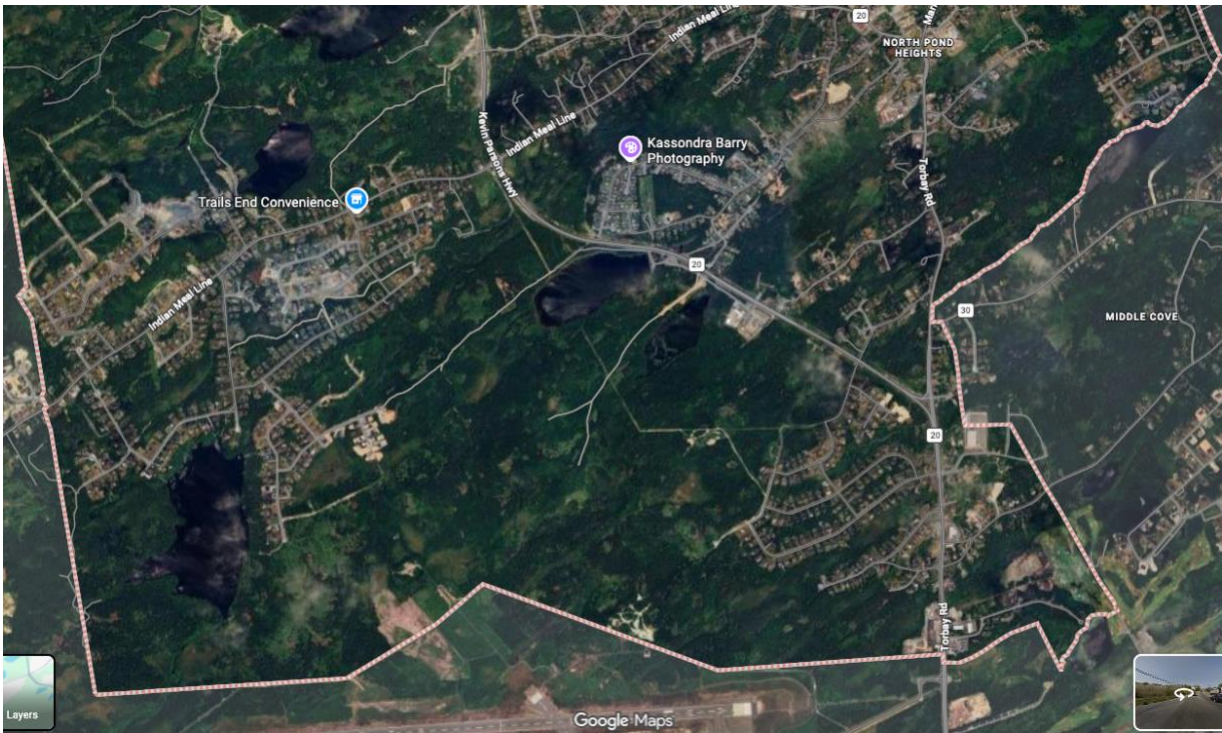


Image 2 – There is a large area of forest in Southern Torbay as well, however, it is likely to be more well monitored due to its proximity to the airport, and the neighbourhoods are less isolated. Area surrounding current water supply, North Pond, is forested.



5.B.V. STORMS

- storms are becoming more frequent and intense (precipitation, wind, and coastal impacts)

Risk/Vulnerability to Service Area/Population	Impact/Implications
Strong winds, potentially related to Atlantic hurricanes which are becoming more frequent and intense	• Damage to public and private property, including from flying ocean/coastal debris. • Downed trees and/or powerlines
Heavy snow events	• Impacts to transportation network, more plowing demands • Potential isolation of vulnerable populations
Rain-on-snow or freezing rain events (due to winter temperatures hovering around zero more often)	• Can lead to flooding or dangerous icy conditions • More freeze-thaw cycles in milder winters could increase strain on infrastructure like pavement, resulting in more potholes and more repairs
COMPOUNDING/CASCADING HAZARDS → Power Outages, Inland Flooding, Wildfire Increased likelihood of power outages during heavy winds or due to freezing rain/ice; Increased probability of thunderstorms during which lightning can cause wildfires or high winds can assist spread; specific areas at risk during a heavy rainfall or rain-on-snow event are listed in the Inland Flooding category	

5.B.VI. COASTAL

- Sea level rise expected to be about 1 m by 2100
- Hurricanes becoming more frequent and intense in the Atlantic
- Atlantic Ocean is warming and becoming more acidic, changing the ecosystem

Risk/Vulnerability to Service Area/Population	Impact/Implications
Torbay Beach + Island Pond Brook Trail + Tom Jennings & Tom Gosse Stage (see Image 3 below)	• A storm surge and/or sea level rise could impact The Battery (parking lot and trail along the beach) and could cause North Pond Brook to back-up, potentially causing flooding upstream • Flooding of the stormwater/sewer outfall pipe located on Torbay Beach could cause sewer back-ups or upstream flooding • Historically significant area (Amhurst National Historic Site) - Disruption in this area could have an impact on the tourism industry • It would take a severe event to directly impact homes on Lower Street
Tapper's Cove Wharf & Harbour Authority (see Image 4 below)	• A storm surge and/or sea level rise could wash out the wharf and the parking lot, significantly impacting the commercial fishery • This would also impact East Coast Trail hikers and tourists who use this location as a lookout and parking spot to access Father Troy's Trail
Silver Mine Head (see Image 5 below)	One section of Silver Mine Head path may be impacted by a moderate-severe storm surge event
COMPOUNDING/CASCADING HAZARDS → Inland Flooding, Storms Stormwater moving toward the coast can combine with water moving in from the coast, creating a worse flooding situation. High winds can result in high waves/storm surges.	
Tourism - Iceberg Watching	There may be more icebergs some years in the nearer future as ice sheets break apart more easily, but long term there is likely to be less and less and eventually none as the ice completely melts before it ever gets to NL due to the warmer ocean.
Fishery	Fisheries may need to completely adjust which species they target or modify fishing locations or times due to shifting ecosystems
RELATED COMMUNITY CONCERNS → Economy (tourism, fishery)	

Image 3 – Torbay Beach considering a 3.7 m water level, which could represent (for example), a Hurricane Fiona-level storm surge (2.7 m) on top of 1 m of sea-level rise.

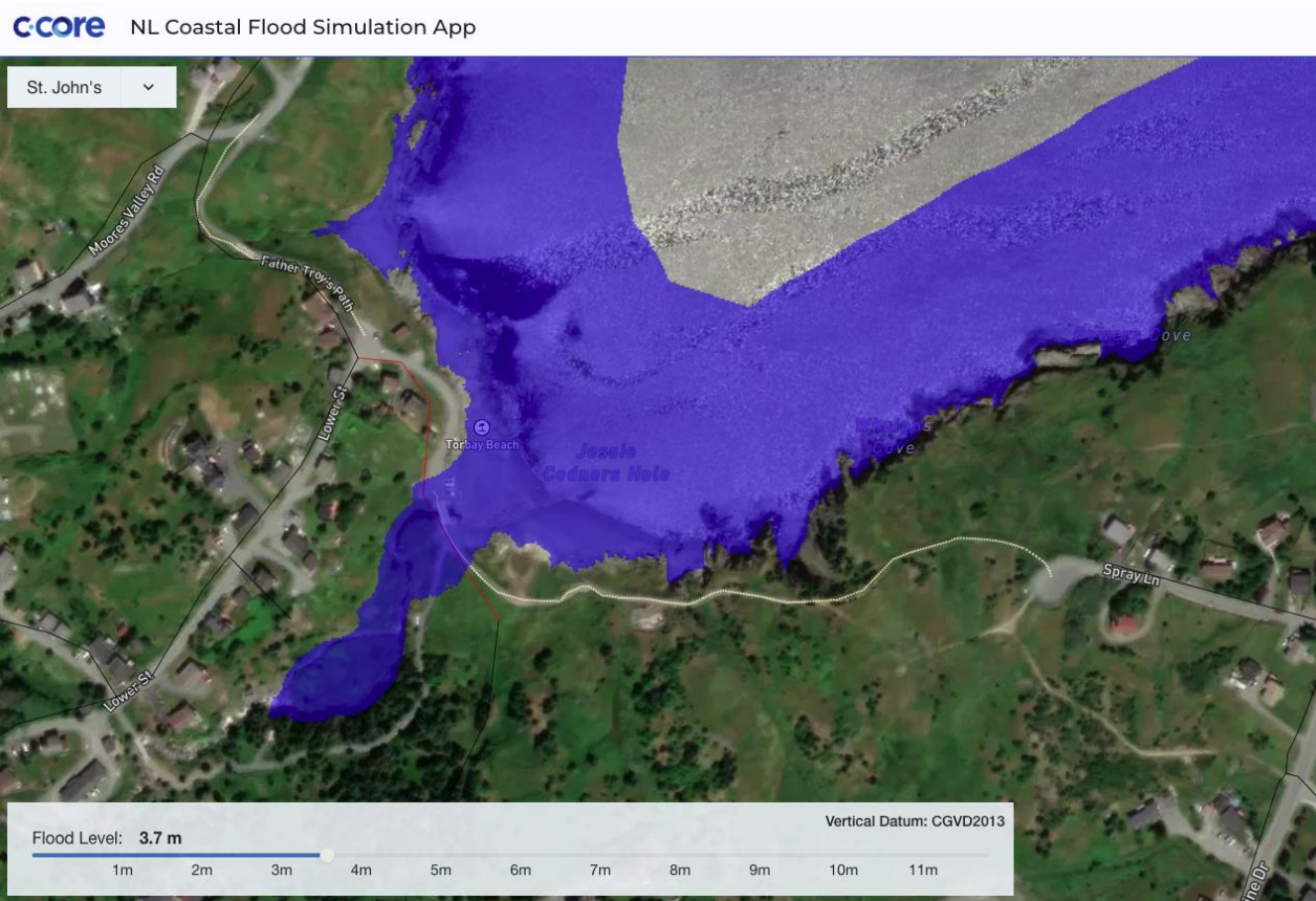


Image 4 – Tapper's Cove Wharf & Harbour Authority considering a 3.7 m water level, which could represent (for example), a Hurricane Fiona-level storm surge (2.7 m) on top of 1 m of sea-level rise.

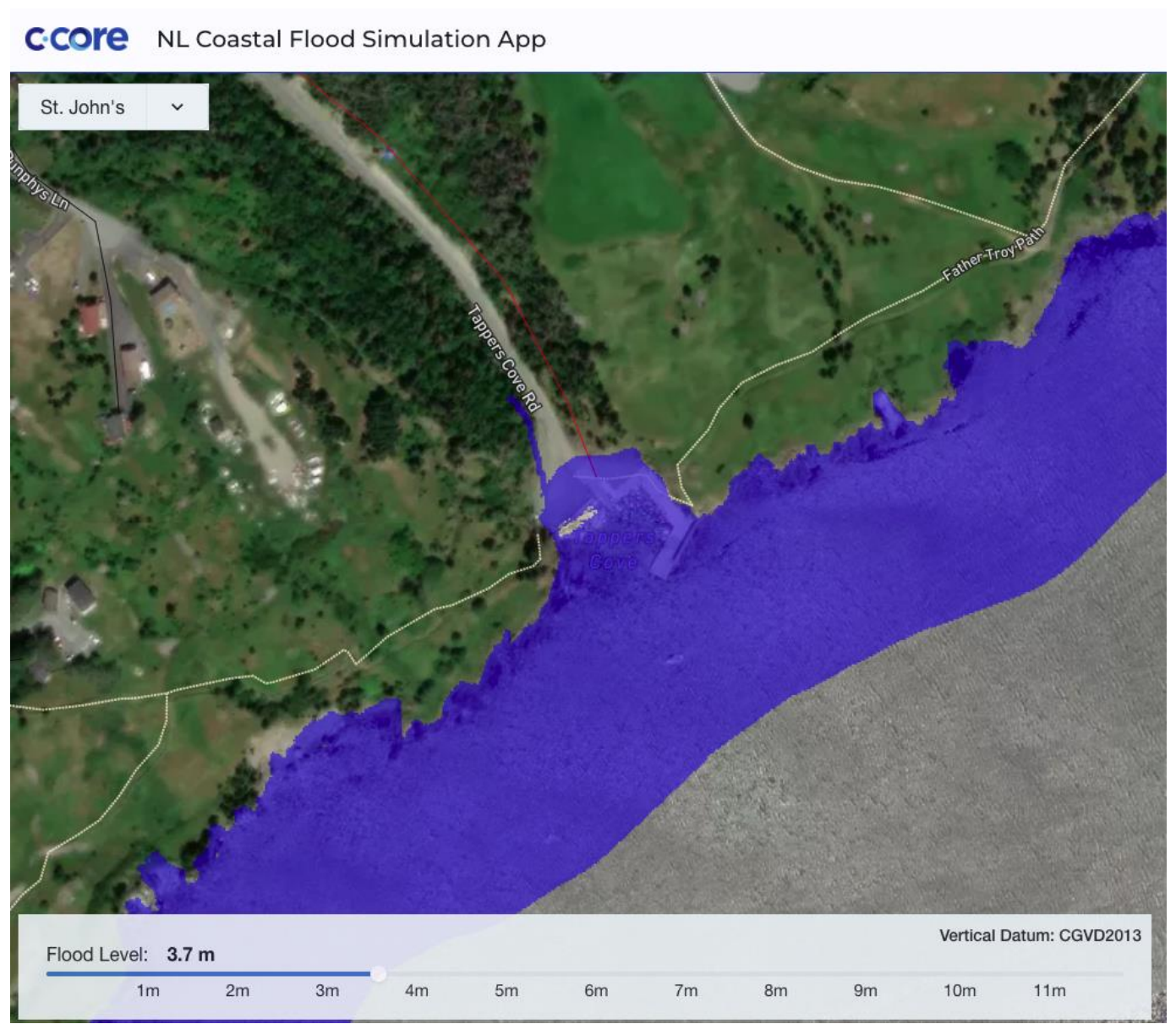


Image 5 – Silver Mine Head considering a 3.7 m water level, which could represent (for example), a Hurricane Fiona-level storm surge (2.7 m) on top of 1 m of sea-level rise.



5.B.VII. POWER OUTAGES & EMERGENCY RESPONSE

Preparedness for power outages and emergency response procedures are relevant to a number of different climate hazards. Effective action planning requires identification of vulnerable populations, services, or assets, and imagining scenarios.

Potential Vulnerabilities to Power Outages:

- Private Residences
- Long-term care/retirement homes
- Schools and day cares
- Torbay Common (primary Warming/Cooling Centre)
- Water distribution system
- Torbay Town Hall & Fire Hall (communication centre, alternate Warming/Cooling Centre, emergency response centre)

Emergency Response Risks/Scenarios:

- Residents not being aware of ongoing emergencies (i.e. those not on social media/internet)
- Town not being able to communicate with residents if power and phone services are down
- Residents unable to evacuate on their own (i.e. no vehicle, mobility issues)
- Low-income, newcomers, or other vulnerable residents needing accommodations after an evacuation
- Residents needing somewhere to house their pets in an emergency situation
- Residents unable to access the heating/cooling centre
- Emergency response vehicles not being able to access residents due to road disruption (flooding, washout, downed tree, fire, etc.)
- Difficulty locating individuals in distress on the East Coast Trail (during extreme heat, wildfire, or a non-climate scenario)

6. APPENDIX B – ‘WHAT WE HEARD’ SUMMARY

A public survey was conducted between November 2025 and January 2026 which received 79 responses. The survey was designed to capture local perspectives on climate change impacts, levels of emergency preparedness, and priorities for future community planning. An in-person public session was held at Torbay Common on February 11th, 2026 to discuss the findings of the Climate Risk and Vulnerability Report and gather further input from residents about their concerns and aspirations for the future of Torbay. 10 residents attended.

What’s Important to Us

- Safe & reliable water supply
- Electricity and fuel costs
- Public safety (including sidewalks) and effective emergency response
- Costs of maintaining, repairing and insuring homes
- Reliable road and transport network
- Supporting vulnerable populations
- Community health and well-being
- Nature, being close to the ocean, sense of community & small town feel
- Peaceful & rural environment, access to nature and the health of local ecosystems
- Access to locally grown food - home gardens & preserving and building on Torbay’s farming heritage
- Local economies - tourism, farming, fishing



Community Observations & Main Areas of Concern

Water-Related Impacts

- Water conservation order due to drought/low water levels - very frightened by lack of water in the summer of 2025, worried about wells also being stressed in drought conditions
- Concerns about residents wasting water, education on conservation mindset needed

- Frazil ice impacting water intake at the North Pond
- Boil water advisory due to poor quality
- PFAS contamination in groundwater (note that this is not related to climate change but is still an environmental concern)
- Ocean waves or storm surge impacting properties
- Coastal erosion impacting properties
- Erosion along river/pond shorelines impacting properties and the East Coast Trail
- Roads being flooded or washed out
- Water pooling on properties (e.g. yard or driveway)
- Water in basements (mild/moderate flooding)
- Widespread/severe flooding in homes
- Concerns about wetlands conservation, water resources & housing development pressures

Other Climate Change-Related Impacts

- Residents concerned about increasing storm frequency and temperatures
- Smoke from wildfires
- Worried about potentially needing to evacuate due to wildfire or flooding
- Some sense of residents feeling unprepared for extreme weather events, drought, wildfires
- Hot temperatures for prolonged period with no access to cooling
- Strong winds that damaged property, also shale coming off rocks and blowing up
- Extended power outages due to storms
- Heavy snow which impacted the ability to leave/get to their homes
- Other perspectives that climate change could help with gardening and hiking
- Poor garden or farm yields due to unfavourable temperatures or precipitation
- Changes in observed animal and plant species

Environment

- The 'upside' of climate change is that the growing season is extending and ability to grow certain plants not possible before. Looking to areas in the world with a climate like we'll have in the future (to adapt).
- Eye-opening summer as a gardener, residents started using rain barrels.
- Lots of interest in local food growing, gardening and tree planting. Wind is an issue - need to plant more trees. Town is participating in FCM's tree planting program.
- More trees are needed for shade. Resident suggested shading areas near retirement homes with trees rather than bare parking lots.
- Provision drinking water stations for hikers on the East Coast Trail.

- Feet of the East Coast Trail eroded by Motion Point. Other parts of the trail that have moved, hikers feel uncomfortable walking there.

Climate Change Preparedness

Feedback from the online survey results indicated that most respondents feel somewhat prepared, meaning they have taken some steps but do not feel fully ready for major emergencies. A smaller portion (20 people) reported feeling very prepared, while some indicated that they were not prepared at all or unsure of their readiness (9 people). These results suggest that residents need some level of additional support to become more or fully prepared.

Resources Needed

- A reference guide providing information on what to do in different scenarios (a list of helpful items for each type of emergency to prepare for)
- Share a detailed plan of what would happen in case of an emergency or evacuation
- Fire Smart guide for homes
- Financial help
- Networking help
- Physical help
- Assistance (financial or otherwise) with tree removal and also for tree planting

Perception of Climate Change

- Nearly 70% of survey respondents feel concerned about climate change followed by feelings of anxiety, fear, and sadness.
- Many residents are already experiencing climate-related impacts such as drought-related water restrictions, boil water advisories, and storm-related disruptions.
- The prevalence of negative emotions suggests that the community generally takes climate change seriously and views it as a real and present threat rather than an abstract issue.
- Many participants indicated they feel only somewhat prepared and expressed a strong desire for additional resources and support.

7. APPENDIX C - DETAILED PUBLIC SURVEY RESULTS

7.A. INTRODUCTION

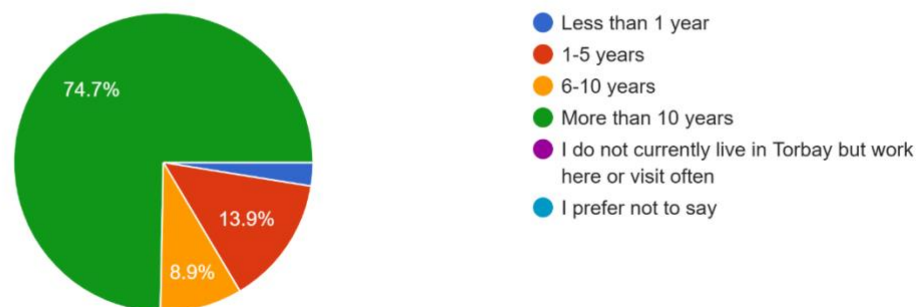
As part of this climate adaptation planning project, a community survey was conducted to gather input directly from Torbay residents and business owners. The survey was designed to capture local perspectives on climate change impacts, levels of emergency preparedness, and priorities for future community planning. Understanding the experiences and concerns of those who live and work in Torbay is essential to developing practical and effective adaptation strategies.

A total of 79 responses were received. The survey was published in November 2025 and closed on January 31st, 2026. The survey included questions on topics such as respondent's demographics, observed water- and weather-related impacts, household preparedness, emotional responses to climate change, and priorities related to infrastructure, public safety, community well-being, and environmental protection.

7.B. RESPONDENT DEMOGRAPHICS

The first section of the survey gathered general demographic information from respondents, including length of residency and age groups in Torbay. These questions provided context for understanding how perspectives on climate impacts and future priorities may vary across different segments of the community

How long have you lived in Torbay?
79 responses

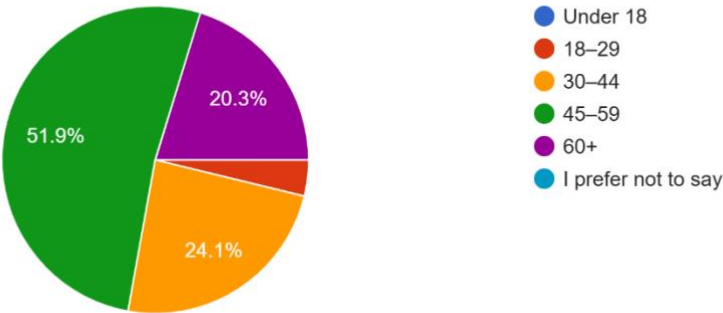


A total of 79 individuals responded to this question. 59 respondents indicated that they have been living in Torbay for more than 10 years. An additional 7 respondents reported living in the community for 6–10 years, 11 respondents for 1–5 years, and only 2 respondents indicated they had lived in Torbay

for less than one year. Overall, the responses demonstrate that most participants have deep and established connections to the community.

Which age group do you belong to?

79 responses



Total of 79 people have responded to this question. The number of people from each age group, can be found in the table below.

Age Group	Number of Participants	Approximate Length of Stay in The Community
18-29	3	2 Participants from this age group have lived in Torbay for more than 10 years and one participant indicated 1-5 years.
30-44	19	Most participants from this age group have been living in Torbay for more than 10 years. Some participants mentioned 1-5 and 6-10 years as well. And only one participant, mentioned they have been living there for less than a year.
45-59	41	Most participants from this age group have been living in Torbay for more than 10 years. Some participants mentioned 1-5 and 6-10 years as well. Only one participant mentioned they have been living there for less than a year.
60+	16	Most participants from this age group have been living in Torbay for more than 10 years. Some participants mentioned 1-5 and 6-10 years as well.

Participants were also invited to share, in their own words, what makes Torbay feel like home. Across responses, several common themes emerged. Most frequently, residents highlighted Torbay’s strong sense of community, describing it as friendly, welcoming, and close-knit. Many respondents emphasized the small-town and rural character of Torbay, noting that it offers a quiet, peaceful lifestyle

while still being close to St. John's and urban amenities. Another dominant theme was the natural environment, particularly proximity to the ocean, access to trails and green spaces, and the scenic beauty of the area.

7.C. CLIMATE CHANGE IMPACTS IN TORBAY

7.C.I. WATER-RELATED IMPACTS

Respondents were asked whether they or their household had experienced a range of water-related climate impacts in Torbay in recent years including:

- ❖ Water conservation order due to drought/low water levels
- ❖ Boil water advisory due to poor quality
- ❖ Ocean waves or storm surge impacting owned/used properties
- ❖ Coastal erosion impacting owned/used properties
- ❖ Erosion along river/pond shorelines impacting owned/used properties
- ❖ Roads being flooded or washed out
- ❖ Water pooling on properties (e.g. yard or driveway)
- ❖ Water in basements (mild/moderate flooding)
- ❖ Widespread/severe flooding in homes

The figure below indicates that many Torbay residents have already experienced a range of water-related climate impacts, though the frequency and severity vary by issue. The most reported impacts were A) **water conservation orders due to drought or low water levels**; B) **boil water advisories due to poor water quality**, with 33 and 27 respondents respectively indicating they experience these events "often, multiple times a year." Issues related to localized flooding were also prominent, particularly water pooling on private property, where 18 respondents reported frequent occurrences and 22 reported experiencing it at least once or twice.

In contrast, more severe or location-specific impacts such as coastal erosion, storm surge damage, and widespread/severe home flooding were reported less frequently, with most respondents indicating they had never experienced these events. These results suggest that adaptation efforts in Torbay should prioritize water supply reliability, drinking water quality, stormwater management, and residential drainage improvements, as these represent the most frequent and broadly experienced climate-related challenges for residents.

Highlighted Quotes from Participants:

- ❖ ***Water conservation orders due to drought or low water levels***

"Severe water shortage in 2025 due to abnormally dry weather conditions in winter & summer."

❖ Boil water advisories due to poor water quality

"The EXTENDED water ban, discoloration and contamination are our main issue. Unable to drink our water and no access to safe clean water is extremely upsetting and frustrating."

❖ Water Pooling on private properties

"Culvert washed out on my lane and cut off my property from the main road at one point. Flooding in my basement seems to be related to river that adjoins my property and floods once the culverts reach over capacity."

Water Resource Impacts in The Town of Torbay



7.C.II. OTHER CLIMATE-IMPACT CATEGORIES

Respondents were also asked to indicate whether they or their household had experienced other climate related impact categories in Torbay in recent years. These questions explored issues such as:

- ❖ Smoke from wildfires
- ❖ Worried about potentially needing to evacuate due to wildfire or flooding
- ❖ Hot temperatures for prolonged period with no access to cooling
- ❖ Strong winds that damaged property
- ❖ Extended power outages due to storms
- ❖ Heavy snow which impacted the ability to leave/get to their homes
- ❖ Poor garden or farm yields due to unfavourable temperatures or precipitation
- ❖ Changes in observed animal and plant species

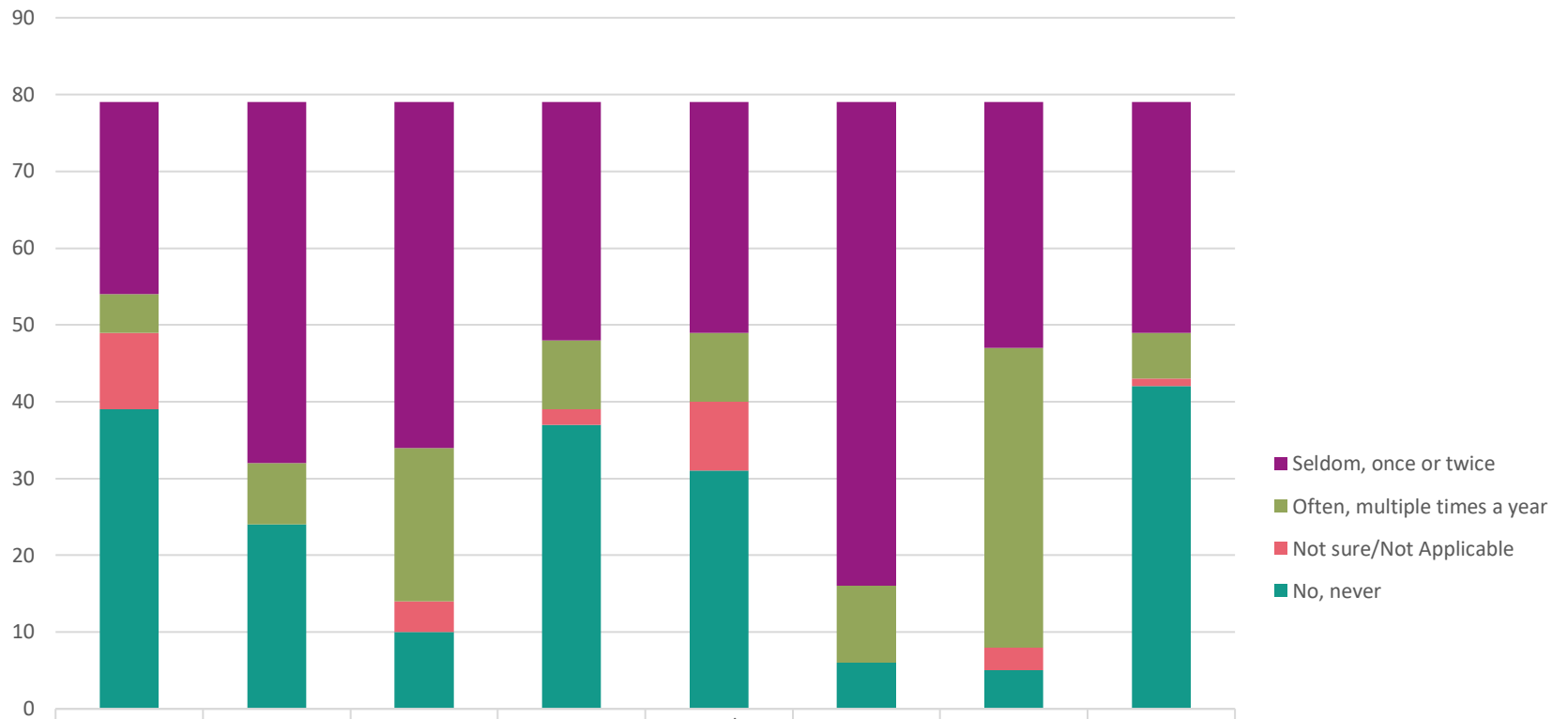
The figure below shows the other climate impact categories reported by participants. The most frequently reported issue by a large margin was **strong winds** that damaged property, with 39 respondents indicating this occurs “often, multiple times a year.” This suggests that wind-related damage is a significant and recurring concern for many households. Heavy snow affecting the ability to leave or reach home was the second most reported impact, with 20 respondents experiencing this often, highlighting challenges related to winter storm events and mobility. Other impacts such as extended power outages due to storms and smoke from wildfires were experienced at least once or twice by many residents but were reported as frequent occurrences by relatively few respondents (8 and 10 respondents respectively).

Highlighted Quotes from Participants:

- ❖ **Strong winds that can damage the property**
“The wind damage is coming more often, and the severity has increased noticeably in the last 10 years.”
- ❖ **Smoke from wildfires**
“Smoke from wildfires and dry conditions in woods areas that made us nervous that a fire could start at anytime.”

“Drought this past summer, leading to drier vegetation surrounding the house. Wildfire risk.”

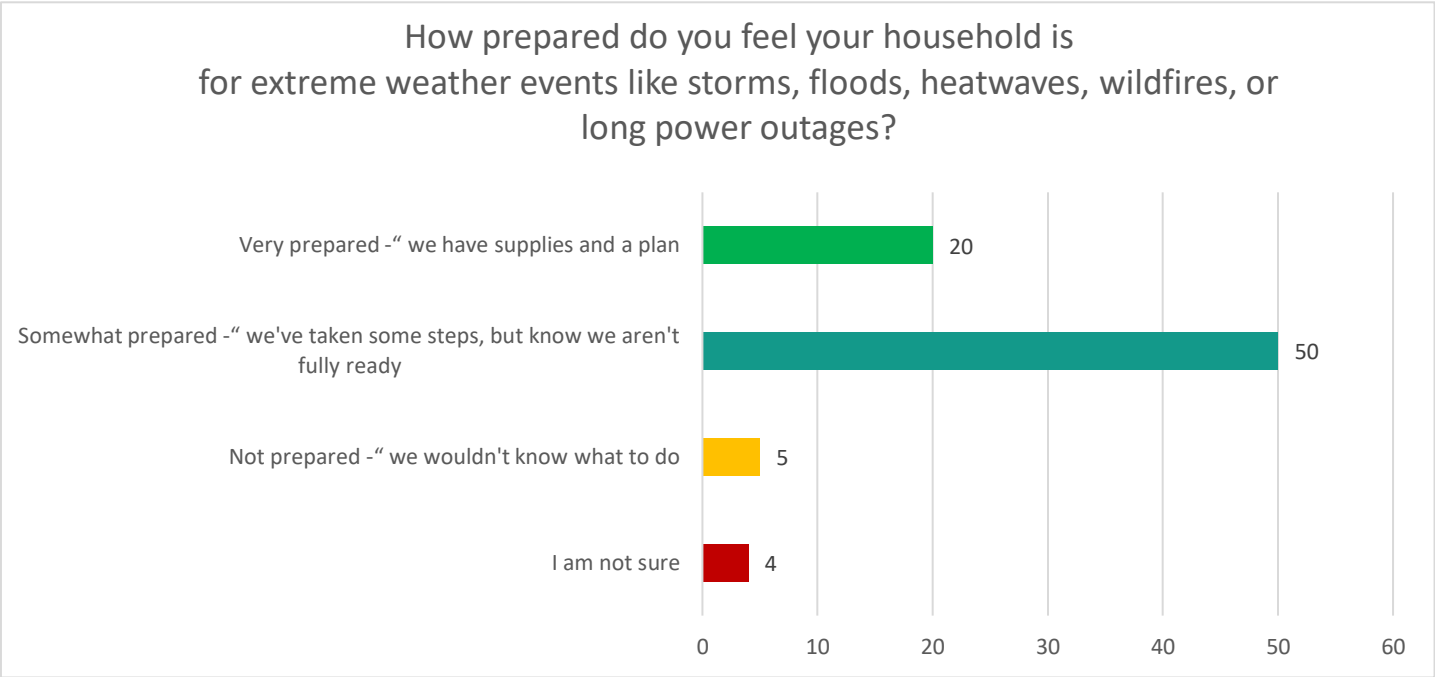
Other Climate Impact Categories in the Town of Torbay



	Changes in observed animal and plant species	Extended power outages due to storms	Heavy snow which impacted your ability to leave/get to your home	Hot temperatures for prolonged period with no access to cooling	Poor garden or farm yields due to unfavourable temperatures or precipitation	Smoke from wildfires	Strong winds that damaged property	Worry about potentially needing to evacuate due to wildfire or flooding
■ Seldom, once or twice	25	47	45	31	30	63	32	30
■ Often, multiple times a year	5	8	20	9	9	10	39	6
■ Not sure/Not Applicable	10		4	2	9		3	1
■ No, never	39	24	10	37	31	6	5	42

7.D. CLIMATE CHANGE PREPAREDNESS

Respondents were asked how prepared they feel their household is for extreme weather events such as storms, floods, heatwaves, wildfires, and long power outages. The figure below shows the reported levels of preparedness among participants. Most respondents indicated that they feel somewhat prepared, meaning they have taken some steps but do not feel fully ready for major emergencies. A smaller portion (20 people) reported feeling very prepared, while some indicated that they were not prepared or unsure of their readiness (9 people). These results suggest that residents need some level of additional support to become more or fully prepared.



Next, participants were asked to select the types of support that would be most helpful to them. The table below provides an overview of the connection between how prepared respondents felt and which kinds of assistance would be best. The numbers in the table represent the number of participants who selected each resource type. Because the question was designed to allow multiple selections, individual respondents were able to choose more than one option at the same time.

Level of Preparedness	A Reference Guide	Financial help	Networking help	Physical help	I'm not sure	I already feel prepared	Other
Very Prepared	8	8	4	4	-	9	- I guess we don't know what we don't know, we feel prepared but without having proper information maybe we are not as prepared as we believe we are.
Somewhat prepared	28	30	17	9	8	2	-A list of helpful items for each type of emergency to prepare for. - Dangerous brush needs to cut, pre-emptive fire breaks in strategic areas at high risk, emergency water plan, emergency shelter, emergency food and sanitary items stockpiled, town evacuation plan (what if major routes are cut off?). - Water and sewer services in Torbay south.
Not Prepared/ Not Sure	5	6	5	1	2	-	-

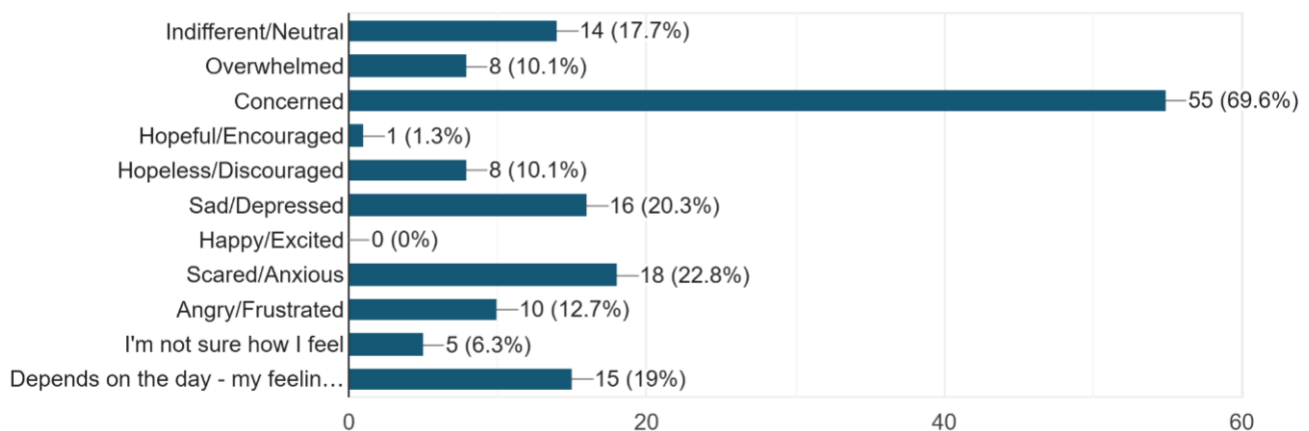
Among those who feel somewhat prepared, the strongest demand was for financial help (30 respondents) and reference guides providing information on what to do in different scenarios (28 respondents). Networking support and physical assistance were also selected by this group. Among respondents who described themselves as very prepared, many still expressed interest in additional resources and financial assistance, suggesting that they are open to learn and obtain more resources if provided. For respondents who were not prepared or unsure, interest was again highest in financial help, reference guides, and networking assistance.

7.E. CLIMATE CHANGE PERCEPTIONS

Participants were asked how they feel when thinking about climate change. As shown in the figure below, the most common response was “concerned,” selected by nearly 70% of respondents, followed by feelings of anxiety, fear, and sadness. These results align closely with earlier sections of the survey, which showed that many residents are already experiencing climate-related impacts such as drought restrictions, boil water advisories, and storm-related disruptions. The prevalence of negative emotions suggests that the community generally takes climate change seriously and views it as a real and present threat rather than an abstract issue. The emotional responses also help explain why many participants indicated they feel only somewhat prepared and expressed a strong desire for additional resources and support.

When I think about climate change I feel... (Select all that apply)

79 responses



Building on the previous finding that many participants feel only somewhat prepared and expressed a strong desire for additional resources and support, the survey results were further examined to explore the relationship between level of preparedness and emotional responses toward climate change. The figure and table below illustrate how feelings about climate change vary across different preparedness groups.

Feelings	Very Prepared (% of Total Respondents)	Somewhat Prepared (% of Total Respondents)	Not Prepared (% of Total Respondents)	Not Sure (% of Total Respondents)
Concerned	12 (60%)	37 (74%)	3 (60%)	3 (75%)
Indifferent/neutral	6 (30%)	7 (14%)	1 (20%)	-
Overwhelmed	1 (5%)	6 (12%)	-	1 (25%)
Hopeful/Encouraged	1 (5%)	-	-	-
Hopeless/Discouraged	1 (5%)	6 (12%)	-	1 (25%)
Sad/Depressed	5 (25%)	11 (22%)	-	-
Scared/Anxious	5 (25%)	13 (26%)	-	-
Angry	3 (15%)	6 (12%)	-	1 (25%)
Not Sure	2 (10%)	2 (4%)	1 (20%)	-
Depends on the day- My feelings might vary	3 (15%)	11 (22%)	-	1 (25%)

The table indicates a connection between perceived preparedness and feelings towards climate change. Respondents who reported feeling “Somewhat Prepared” were more concerned, overwhelmed, and hopeless/discouraged than those who believe they are “Very Prepared”. The two groups selected other negative emotions similarly (sad/depressed, scared/anxious angry).

The “Very Prepared” group selected “indifferent/neutral” more often than the “Somewhat Prepared” group. A closer look at some of these responses (about two or three participants) and comparing their earlier responses regarding experienced climate-related impacts, shows that many of these individuals reported that they had never been affected or had only been affected once or twice. This suggests that their neutral or indifferent emotional response may be linked to limited personal experience with climate impacts, or to a perception that the changes they have observed are not connected to climate change.

Participants who felt “Not Prepared” or “Not Sure” showed lower overall response counts, but their answers were concentrated in emotions such as concern and uncertainty.

It is important to note that some participants selected the option “Depends on the day – my feelings might vary.” Because respondents were allowed to choose multiple emotions, this option was most often selected alongside several negative emotions, suggesting that participants were indicating their feelings fluctuate over time. For example, shifting between sadness, anger, or anxiety depending on daily experiences or news related to climate change.

7.F. COMMUNITY PRIORITIES FOR CLIMATE ACTION PLANNING

In the final section of the survey, participants were asked to prioritize a range of issues related to climate resilience, community services, and long-term planning in Torbay. These questions asked participants to prioritize actions such as:

- ❖ Access to back-up power during outages
- ❖ Access to locally grown food
- ❖ Access to nature and the health of local ecosystems
- ❖ Community health and well-being
- ❖ Costs of maintaining, repairing, and insuring my home
- ❖ Electricity and fuel costs
- ❖ Maintaining cultural heritage
- ❖ Public safety and effective emergency response
- ❖ Reliable communication networks
- ❖ Reliable road and transportation network
- ❖ Reliable water supply
- ❖ Strong community connections
- ❖ Supporting local industries like tourism, farming, and fisheries
- ❖ Supporting vulnerable populations

The figure below summarizes how residents ranked each category as high, medium, or low priority. The results show a consistent emphasis on infrastructure and safety-related needs. The highest levels of “high priority” responses were given to:

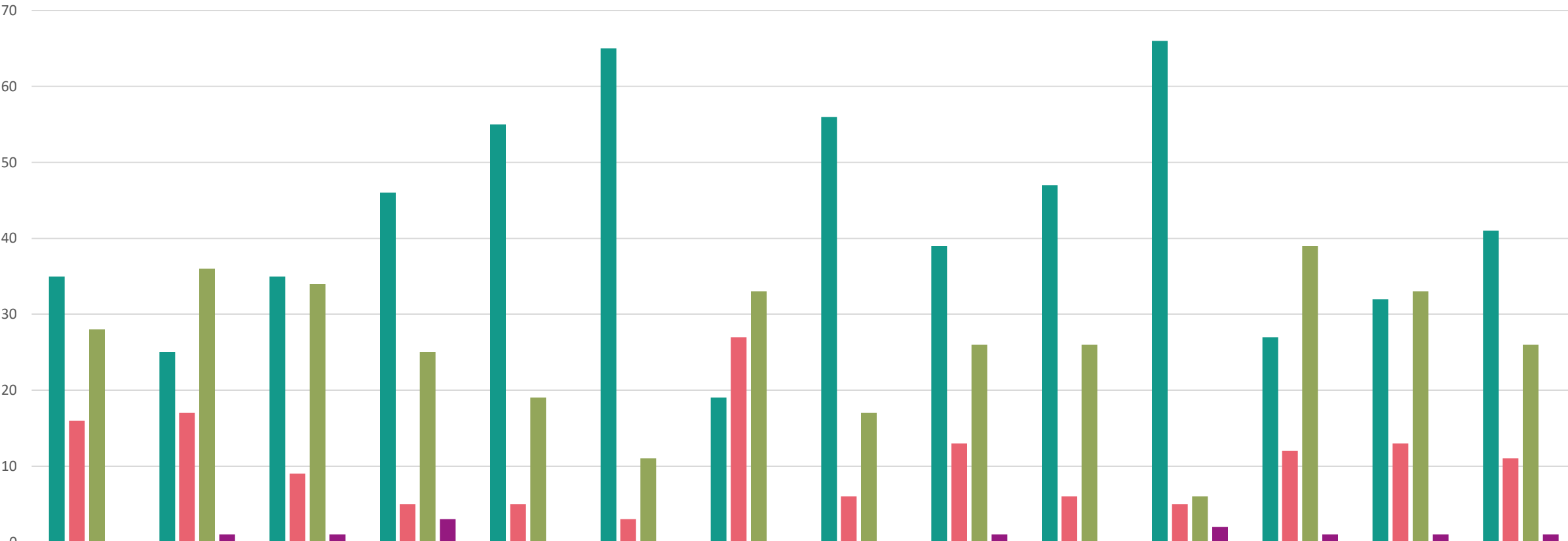
- ❖ Reliable water supply (66 respondents)
- ❖ Electricity and fuel costs (65 respondents)
- ❖ Public safety and effective emergency response (56 respondents)
- ❖ Costs of maintaining, repairing, and insuring homes (55 respondents)
- ❖ Reliable road and transportation networks (47 respondents)

These priorities align closely with earlier sections of the survey, where many residents reported experiencing water-related impacts, storm disruptions, and concerns about emergency preparedness.

Social and community-oriented priorities also received substantial support. Community health and well-being (46 high-priority responses) and supporting vulnerable populations (41 high-priority responses) were identified as important by many participants.

Environmental and local economic considerations were viewed as important, though somewhat less urgent compared to infrastructure needs. Categories such as access to nature and the health of local ecosystems, supporting local industries (tourism, farming, and fisheries), and strong community connections received a mix of high and medium priority rankings.

Community Priorities



	Access to back-up power during outages	Access to locally grown food	Access to nature and the health of local ecosystems	Community health and well-being	Costs of maintaining, repairing, and insuring my home	Electricity and fuel costs	Maintaining cultural heritage	Public safety and effective emergency response	Reliable communication networks	Reliable road and transportation network	Reliable water supply	Strong community connections	Supporting local industries like tourism, farming, and fisheries	Supporting vulnerable populations
High priority	35	25	35	46	55	65	19	56	39	47	66	27	32	41
Low priority	16	17	9	5	5	3	27	6	13	6	5	12	13	11
Medium priority	28	36	34	25	19	11	33	17	26	26	6	39	33	26
Not sure/Not Applicable		1	1	3					1		2	1	1	1

7.G. COMMENTS RECEIVED

Infrastructure, Overall Community Safety and Environment

1. Would like to see our town play a more proactive role in promoting awareness of climate change and some guidelines on simple, everyday things individuals can do you protect themselves and their property.
2. Sidewalks will improve safety AND keep the community healthy and active. Walking the streets in Torbay is not safe or enjoyable. Not enough trail networks where I live up in Eagle Nest Ridge to safely get to Forest Landings trails. Kids are not safe on Indian Meal Line.
3. Tight control on spending so as to help homeowners fireproof their properties, i.e. removal of trees too close to homes. Same spending controls to help pay for more secure and safe water supplies.
4. My main priority is sufficient water.
5. Well advertised community emergency shelter, even when a crisis hits only specific neighbourhoods, not the entire town.
6. Priority should be infrastructure, and water supplies.
7. The water issues NEED to be fixed ASAP
8. Good, clean drinking water for all town residents as well as a good sewer system, not different systems and water for certain areas of town!
9. Public transportation to/from St John's, and within Torbay. Trail network should be better connected.
10. I feel that Torbay lacks a lot for its residents in terms of outdoor spaces - walking trails, simple sidewalks lack in a lot of places it is not safe to walk, run or use a stroller on many streets in Torbay. It would be nice to have a large public park similar to something like Bowring Park, Bannerman Park, or Mount Pearl Park - somewhere where families and adults could come together and use outdoor spaces. Not just a playground for kids but walking trails and larger green spaces for picnics or general use. Of course, before any other development in Torbay is done, I feel the water issues need to be dealt with. I have huge concerns surround Torbay's plans to build hundreds of low income and small residential homes in 2026; we barely have enough water to support the current residents. Really water should be the top priority and until then we don't expand. In order to get greater tax dollars to support development Torbay really needs a business centre similar to Mount Pearls Donovan's where larger taxes can come from businesses to support community efforts.
11. I am concerned about property values given the lawsuit and water situation in Torbay.

12. Invest in sidewalks. Residents cannot keep active on our busy roadways in fear of being hit by a car. Invest in more walking trails that connect subdivisions.
13. Access to affordable tree removal is important, especially where there is dead vegetation or vegetation close to property.
14. Reduce development till proven water is in place, and conservation areas are there to help with the overall health of the town, stop development that further damages the water tables and reserve water areas.
15. There needs to be more thought out into supplying all town residents with a good water system and new homes or complex should be built until the water system has been developed for all. People on well water lost their water this past summer and there isn't anything available for them in this situation!
16. Stop developing houses when they impact flooding of other areas.
17. The Town should certainly have an emergency preparedness plan that covers inferential scenarios that is accessible to residents. Emergencies take place from catastrophic events and do most damage when we are not prepared.
18. Share a detailed plan of what would happen in case of an emergency or evacuation. Ex potential building that could house people, fire department's role etc. Give upfront guidelines of what would happen at each level of government warnings in order to avoid backlash and improve compliance. Ex. If high fire potential no.open fires, ATV use in wooded areas etc.
19. Protection of our water supply has to be a priority given what happened in 2025. Perhaps there needs to be a fresh look at the real and current capacity of North Pond given how low it went down last summer/fall and how little recharge there was.
20. We need to limit development, so we don't max out our water supply again. We need to maintain green spaces near the centre of Torbay, and not only around the ed
21. I can not express how concerned I am about water levels in the town with all of the new building the town is encouraging and promoting. You need to take care of the people already here before brining more in.

Social and Community-Oriented

1. I am not overly concerned about newcomers. I'd like to take care of the seniors and children. The vulnerable ones left behind the newcomers.
2. More local childcare, especially regulated childcare.
3. Torbay historically has had abundant farmland. this has been dramatically lost. housing can not be further developed in the area responsibly. need to prioritize farming on available land that is being occupied but not being used for its proper purpose. lots of young people interested in starting a business like that. perhaps the owners of farmland that is not being used could make a deal and allow people to come in and develop it the way it should be used. community owned boats to help people without a boat participate in the food fishery to aid in food security. Torbay could leverage its rural farming heritage to assist people in developing small home gardens/green houses to grow some of the more expensive food items like turnips, cabbage, peppers, etc. (Develop this from the "Victory gardens" of the WWII era). free farming work shops at the commons would be excellent.
4. More sidewalks around Torbay
5. modular affordable housing
6. Happy that the town is finally hiring a full-time fire chief, but I sincerely hope that the town hires outside the current members as it would be much better for the department and would get the firehouse in order!!
7. Affordability - taxes
8. Keeping Torbay rural - leaving green space and rough trails for community use. New safety plans and maps for ATV use. Allowing residents who enjoy such activities to do so while helping others feel safe. Helping seniors stay in their homes and have access to amenities. Create Volunteer organizations to help. Not everything has to have a huge price tag. For example, Pouch Cove and Bauline Free food pantries for seniors - low income. Give residents an opportunity to help others!
9. Loving the work on the hiking trails, access to nature and dog stations etc.
10. Mandatory house numbering - notices issued if not visible from street at night; ensuring properties are insured
11. Endless growth is not sustainable, whether it's an economy or a town population. I hear the town talk about needing growth and it simply isn't true. Chasing growth in spite of certain realities is a recipe for disaster. Do other things to mitigate taxes, let the town grow organically from there. We simply can't sustain growth.

Climate Change

Positive

1. Some people are still confused about climate change and will go to their hot watery grave swearing it hasn't happened. Preparedness has nothing to do with environmental activism. From a scientific standpoint, the question is no longer whether anthropogenic climate change is happening, or whether it is already impactful. It's, "how bad is this going to be for our community and what can we do to prepare?"

Negative

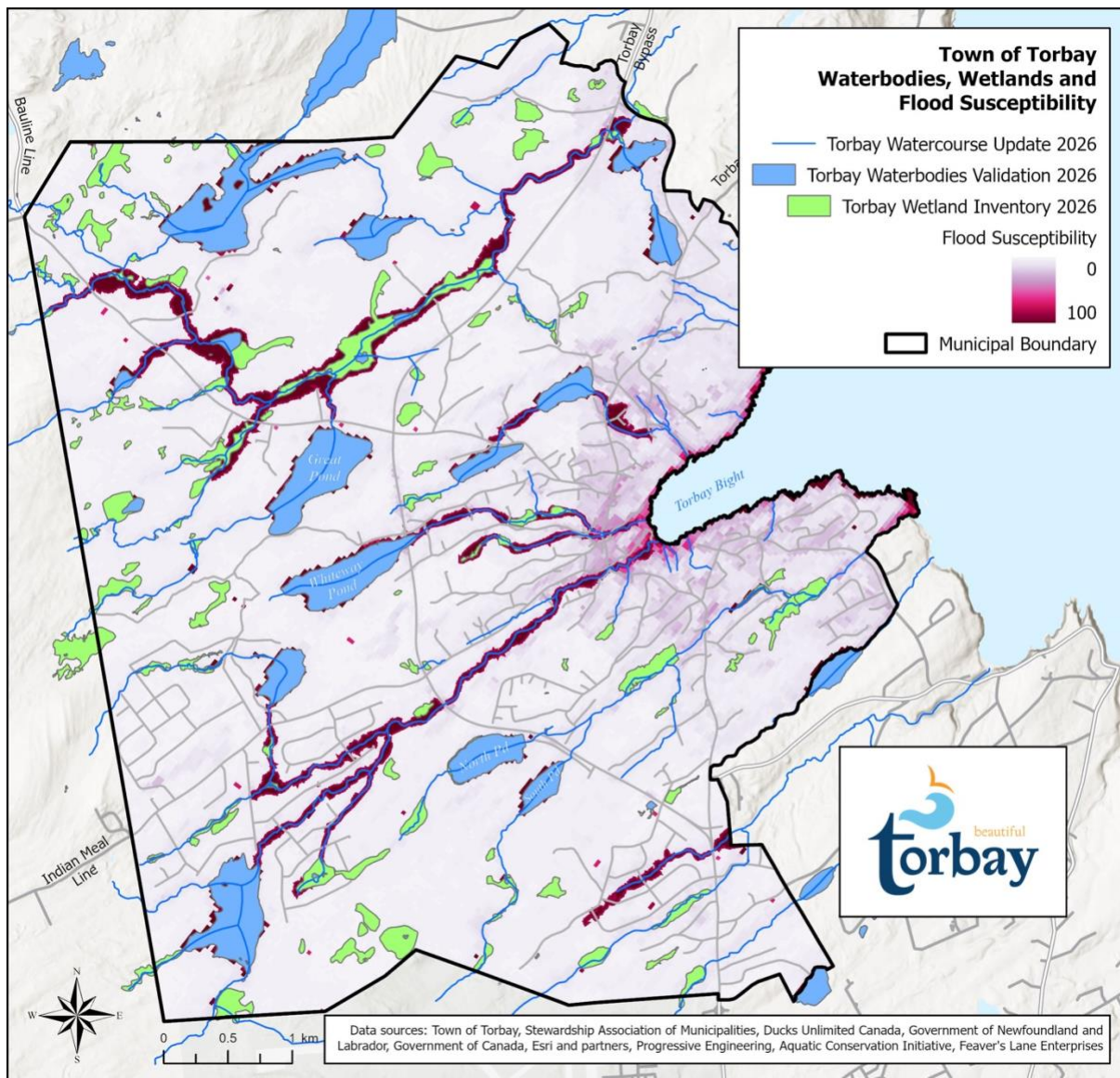
1. The climate is always changing. 2030 agenda is over taking common sense. We have been through multi-ice ages and the people that should be accountable are not. The colour printed brochures might look nice, but I think the town wastes too much money on marketing material.

8. APPENDIX D - WETLAND INVENTORY SUMMARY

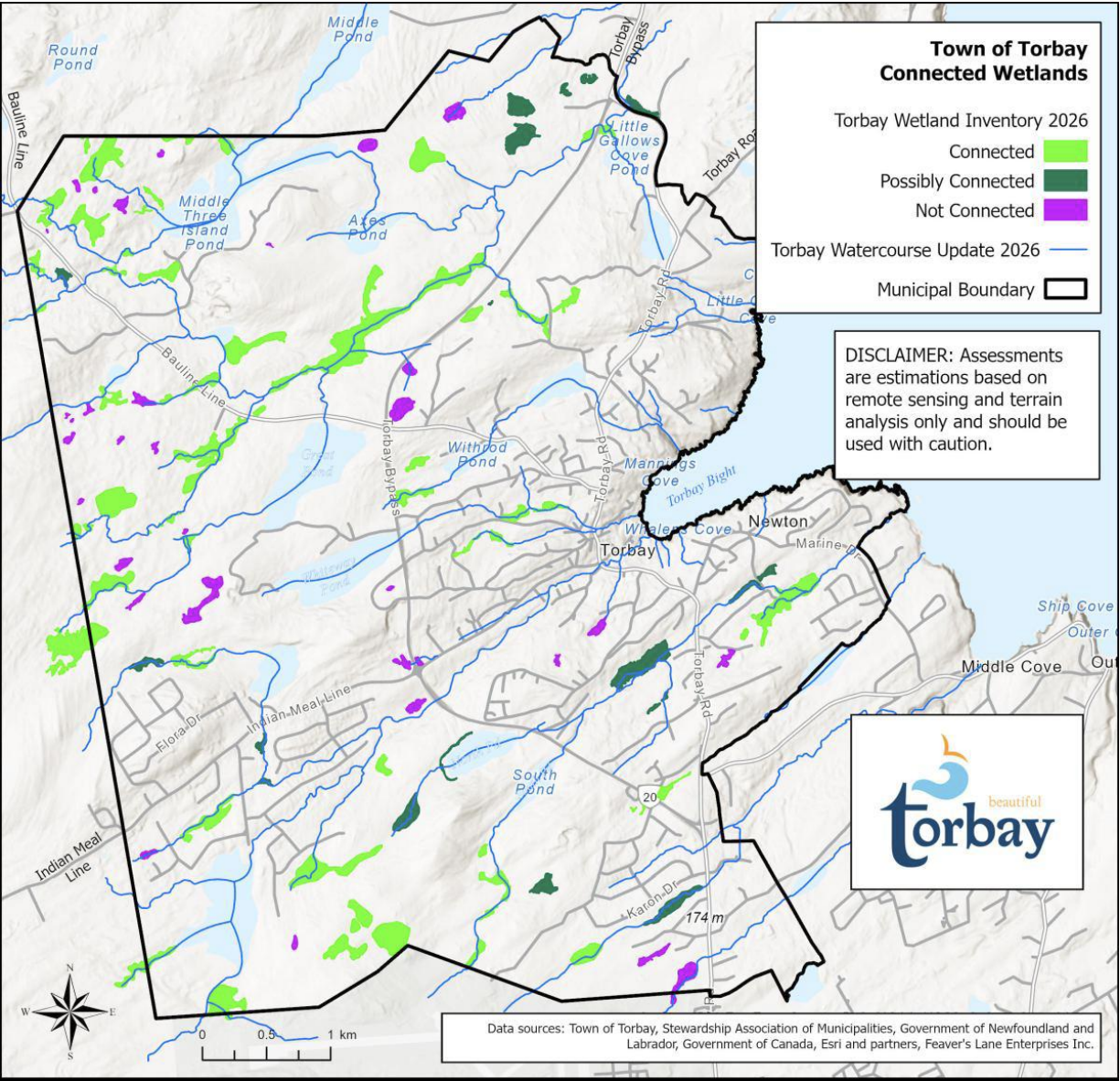
The following map shows the key outcomes of the wetland inventory exercise completed by Feaver's Lane, in partnership with Aquatic Conservation Initiative and College of the North Atlantic. An update of Torbay's waterbodies and watercourses was also conducted within this scope.

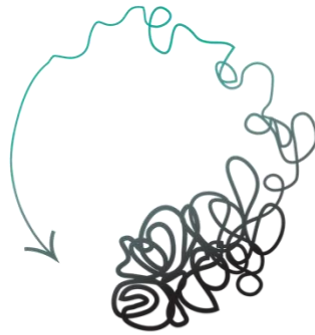
The mapping was completed using aerial imagery, LiDAR and other Federal datasets, previous studies completed by Ducks Unlimited and the Provincial Department of Forestry, Agriculture, and Lands, and field verification.

A full technical report titled "Torbay Wetland Inventory: Watercourse and Waterbody Update" was provided to the Town under separate cover.



Along with delineating the boundaries of the wetlands, this exercise also investigated whether wetlands are hydrologically connected to each other. This is important because connected wetlands are more ecologically significant – impacts to one can impact others. Knowing which wetlands are connected can inform development planning to reduce community flood risks and maintain the important functions that the wetlands serve.





fundamental
inc