Community Disaster Resilience Planning Guide Resources

Community Mapping

Overview

When undertaking the mapping component of a Disaster Resilience Plan, it is essential to understand why mapping is important, how to map, and what to map. This document provides a variety of mapping techniques, symbols and resources that can help your community to create a map for disaster planning.

Why Create a Map?

The first thing that everyone should ask themselves before starting a mapping exercise is why they want to create a map? Creating a map can be an extremely important piece of planning for disasters and developing resilience but it is important to ask why you are creating the map before investing time and energy into the process.

There are many reasons why an individual or a community may want to create a map. Maps, like images, can convey a great deal of information without using words. Creating a map in a disaster-planning context can be an important exercise to build understanding of community disaster resources, awareness of previous disasters and resilience to future disasters. Maps can also be very effective ways of visually explaining a disaster plan in communities that have low literacy skills. It is important to understand why creating a map is the right step for your community before committing the time, energy and resources required to create a community map.

The map will also be a critical piece of completing your Risk and Resilience Planning.

This section on Community Mapping covers:

Develop or Create a Community Map

Developing a community map begins with exploring whether or not your community has an existing map that can be used for the purposes of completing your hazard, risk, resiliency and impact analysis. In addition, it covers types of maps, who should be involved in developing your community map, establishing community outer boundaries and how to establish internal community zones.

How to Map

The basics of mapping include using scales, ensuring orientation is clear, using a legend and understanding the standard colours for mapping in Canada. In addition, it covers the commonly used symbols for mapping in Canada, including special symbols for Indigenous communities.

What to Map

There are a host of items that can be mapped: 1) transportation networks; 2) critical infrastructure; 3) geographical information; 4) ecological zones; 5) internal boundaries; 6) community sites; 7) land use; and 8) demographics.

Mapping Resources

This section provides a wealth of websites and databases to help you find and access information that will be helpful to you when creating your community map.

Develop or Create a Community Map

When developing a community map it is important to ask four questions: 1) does a community map already exist? 2) what types of maps do we need? 3) who needs to be involved in creating the community map? 4) how do we create a community map? and 5) what boundaries should we use?

Does Your Community Have an Existing Map?

One of the first things you should find out is if your community has an existing map. Many Indigenous communities have a community band map while most municipalities will have maps of

its municipality. Depending on your area there may be regional or county maps that include multiple smaller communities. The maps may or may not be tailored to disaster planning but it could provide a starting point to understand the area and how others have represented the community.

Good places to look for a community map include:

- Online (see mapping resources)
- Local museums or historical societies
- Libraries
- Tourist centres
- Government archives
- Tribal or grand councils
- First Nation resources
- Municipal websites
- Regional District or County websites
- Provincial or Territorial websites
- Google Earth

Types of Maps

Understanding the different types of maps that exist will be useful; review existing maps and determine what kind of maps you have located. If you have not identified any useable maps then consider what kinds of maps would be helpful. Review the types of maps listed below. Various maps such as thematic, resource-based, and composite maps can help guide the project in the right direction.

Physical Maps: Physical maps show the landscape of an area. They are often very colourful, where water is in blue, and elevations (the height of the land) are in different colours with low lying lands in green and high mountain peaks in brown.

Topographic Maps: Topographic maps are similar to physical maps but they include contour lines to show the exact elevation of an area. The closer the contour lines are to each other, the steeper the land. Contours are usually labeled in metres or feet above sea level.

Thematic Maps: Thematic maps are used to portray information related to a particular theme. These maps use gradations or different colours to depict information of a landscape. For example, a land-use map may have parks in green, commercial areas in orange, industrial areas in pink etc. A thematic map showing population density among neighborhoods may show areas of low density in pale green and areas of high density in dark green. These maps are highly versatile and can provide information related to a wide variety of themes.

Inventory or Resource Maps: Inventory or resource maps are similar to thematic maps but use pictures or symbols to show the location of various activities or resources. For example, a resource or inventory map may use a symbol such as a small fish to indicate a fishing area or a maple leaf to indicate a sugar bush.

Charts: Charts are used for marine and boating purposes. A nautical chart tells you the depth of the water at high and low tides so that you don't run your boat aground. Charts also warn you of rocks, locations of buoys, lighthouses, shoals, etc.

Transit Maps: Transit maps typically show the roads and other transportation infrastructure. They also can show the routes of buses, trains, subways, medical van routes, accessible transportation routes, school bus routes, etc.

Composite Maps: Composite maps take a variety of types of maps and integrate them into a single map. For example, a composite map may include a resource and transit map overlaying a thematic map. These maps can provide a lot of detail about a particular area but it is important not to overcrowd them with information.

Who Needs to be Involved?

After determining if your community has an existing map or deciding on how your community is going to create a new map, the next step in developing a community map is determining who needs to be involved in the mapping process. Certain people may need to be at the table, while others are important to include in the process. For example, if you are creating a GIS-based map you will need people who are well versed in GIS software, but it will always be important to involve a variety of stakeholders to emphasize different perspectives and experiences.

These can include community planners, government officials, Elders, the business community, utilities, member of the public and youth. The people that need to be involved in the mapping process will be different for every community but it is important to identify who should be involved in developing the community map and make sure they are at the table.

How to Create a Community Map?

When creating a community map you need to decide as a group the medium you want to use to create the map. Perhaps it will be a more traditional, paper based map, or perhaps you will create an electronic map using geographical information system (GIS) software. No matter how you create the map, it is important to keep in mind, cost, what types of resources your community has access to (e.g., computers, internet) and the how best to distribute the community map.

Geographical Information System (GIS) Mapping

If your community has access GIS software and a person who can manipulate GIS data, using GIS could be a great way to create a community map. Using GIS software, users can add in various layers of information, boundaries, and colours (e.g., roads, parks) to your maps and provide you with state-of-the-art mapping. If you don't have access to GIS map data please refer to the "Resources" section of this document that provides Internet websites with a variety of GIS-based maps available for download.

Internet-Based Mapping

There are a variety of Internet-based mapping interfaces that can be used to create interactive, customizable community maps. Internet-based mapping can be a very powerful tool to create a community map, which community members can access online, customize and even add

features to. These interfaces can range dramatically in cost and capabilities. For some examples of Internet-based mapping interfaces please consult the "Resources" section.

Paper-Based Mapping

Perhaps your community doesn't have access to GIS software or many of the members of the community do not have access to Internet connections. Perhaps your community lacks the mapping or computer expertise required to create these types of maps. Another option is to create a paper-based map. This is the most traditional method to make maps and can be quite powerful in its own right. Paper-based mapping usually brings a lot of people to the table and requires little mapping expertise.

Use of Mylar

As you build your Community Profile you will want to map a number of different items. Some of these will be particular buildings or sites such a community hall, a fire hall or school. Sometimes you will want to map specific zones – for example, areas subject to landslides, flooding or seasonal closure. In other cases you may wish to map highways or important infrastructure like water treatment plants and hydro transmission lines. All of the information is important but if you put it all onto one map, the map may become very cluttered.

You could make several different maps, putting some basic information on each map and then adding specific items or zones on specific maps. However, this requires a lot of work to re-create the map over and over. Another solution is to purchase Mylar sheets or rolls.

Mylar is clear polyester film that you can roll over your basic map and using felt pens you can draw over the map the items you wish to put onto one map. When you have enough items on the Mylar, you simply pull out another sheet and add additional items. If you like, you can also overlap the Mylar sheets to show a number of items and their relationship to each other. Mylar comes in different lengths and thickness. It can usually be obtained at a local arts and crafts store or it can be ordered online from sites like eBay or Amazon.

Identify Community Outer Boundaries

Identifying your outer boundaries is the first task. Approaches to establishing community borders can vary and are not always cut and dry. The types of boundaries your community wants to include may vary dramatically from another community. One community may want to establish borders that use local rivers and mountains as a guide delineating the community's outermost boundaries, while another community may want to use predefined political boundaries to create its community borders. There is no right or wrong answer when identifying community boundaries but it is important that the boundaries are clear and are well-defined prior to moving forward.

When creating a community map it is important to identify the boundaries of your community. Community boundaries do not have to be identical across the board; in fact one community may use electoral district areas to delineate the community boundaries while another may use key geographical areas such as rivers, creeks, or mountains. Some communities may wish to take a regional approach and include neighboring small communities in their planning. Others may want

to include traditional territory or Treaty land. There is no right or wrong answer, but what your community must do is identify its outer perimeter first.

Examples of potential boundaries:

☐ Treaty Boundaries   ☐ School District Areas

☐ Reserve Lands   ☐ Fire Protection Areas

☐ Municipal Boundaries   ☐ Health Services Areas

☐ Regional Boundaries   ☐ Search and Rescue Areas

☐ Electoral District Areas   ☐ Geographic Boundaries

☐ Census Tract Areas   ☐ Traditional Territory

☐ Other _____   ☐ Other _____

Once you determine the various boundaries your community wants to include, draw them on your map. Many of these boundaries may overlap. Look for the outermost boundaries and the innermost boundaries. Consider who the boundaries include and who they leave out. Decide where the outer boundary of your community lies and ink in this boundary. Try not to draw through individual properties. Make sure that there is nothing outside of this boundary that would be important to your community.

Establish Internal Community Zones

Further subdividing your community into internal zones can make your Disaster Resilience Plan easier to create; will help you understand where the places in your community are at high-risk and where at low-risk; where places have low levels of resiliency and where places are resilient. For example, having a high-risk zone can help individuals understand their immediate vulnerability, how their area will be impacted and serve as a foundation for creating plans for those in high risk areas.

After determining your outer community boundary take a step back from looking at the map and think about where it is that people live, work and play. Then look to see if there are any major roads, railways, rivers or mountains or hilltops that divide these areas. You should also think about how people in the community think of themselves. Zones can be chosen in many different ways. Usually, zones are created around neighbourhoods, or how residents see themselves in the community. Asking residents, "What area of town do you live in?" can serve as means of

dividing the community into zones. Residents may answer that they live in the Seymour neighbourhood, or the downtown area, or on the east side of the highway, or up on the hill or along the riverfront.

Do the people south of the highway relate to those north of the highway? Are there parts of the community that are occupied year-round and parts occupied by week-enders and/or summer residents? These are the types of questions you should consider.

It is important **not** to think about hazards at this point; don't create zones based on specific hazards. Every zone will be evaluated against every hazard so you don't want to create too many zones, but if you create too few then the map loses its purpose. Very small communities may just have two or three zones. Larger communities will likely have three to six zones, and large, urban communities may have ten or more zones.

You may want to characterize various zones in your community for the benefit of planning. For example, you could:

- Divide your community up into zones on a map that are parallel to your community's all-hazard evacuation zones.
- Identify zones by usage. For example, residential, schools, golf course, recreational, industrial, commercial etc.
- Explore other possibilities. What makes sense in your community?

Engaging residents will be critical during this stage of the mapping process.

How to Map

If you elect to create a map or to enhance an existing map, are you clear about how to map? Be sure to understand the basic components of mapping, including incorporating a: 1) scale, 2) orientation, and 3) a legend. It is also important to understand different methods for mapping and the most appropriate method for your project. It is also helpful to know that mapping has a set of standard colours that are used to map features.

If you choose to use an existing map, make sure it includes the three basic components.

Scale

One of the most basic elements when creating a map is to provide a sense of scale. It is important to be able to discern the rough distance between geographical features, key infrastructure and other elements being mapped. Without scale it is impossible to know if the hospital is five kilometres away from the school or five hundred kilometres away.

There are many ways to illustrate scale. However, the most common method is using a scale bar. This provides a ratio for how many map centimetres are equal to the corresponding real distance in kilometres. The ratio can be used with many different methods of measurement including inches and miles. The type of measurement is unimportant but what matters is that a sense of scale is provided and is clear.

For many mapping projects it can be difficult to develop an exact scale. In these cases, it is acceptable to have a rough scale. It is more important that a sense of scale is provided, rather than an exact scale. When using an approximate distance for scale be sure to clearly indicate that the scale is an estimation and is not exact.

Orientation

In addition to having a scale it is always important to orient your map as to where North is. Even if a scale is provided, without a clear idea of how the map is oriented it is impossible to know if the hospital is five kilometres to the North, South, East or West of the school. The most common method to illustrate orientation is using a compass. A compass does not need to be fancy and can be as simple as a line with an arrow indicating north.

Legend

A final component that all good maps have is a legend. A legend provides vital information about what is being mapped. Without a legend it can be very difficult to understand the story that the map is trying to tell. For example, if the map has a clear scale and orientation but does not have a legend it may be impossible to tell which building is the hospital or school.

Standard Colours for Mapping

Mapping has a set of standard colours that are used to map features. For the most part, these are intuitive. For example, you would not make land blue and water green. The following standardized colours are provided by Natural Resources Canada and have been adapted for this resource.

BLACK depicts cultural features, such as buildings, railways, pipelines and power-transmission lines. It is also used to show certain symbols, routes, geographical names, labels, boundaries and border and surround information.

RED depicts paved roads and streets, highway-route names and numbers, interchange numbers and certain symbols. A lighter shade of red is used to show international-boundary screens and built-up areas.

ORANGE depicts unpaved roads, streets and highway-route numbers on unpaved highways.

BROWN depicts relief features, such as contour lines, contour elevations, spot elevations and landforms, such as sand and moraines.

BLUE depicts natural hydrographic features, such as lakes, rivers, streams, falls, rapids and wetlands; as well as human-made features, such as reservoirs, dugouts, swimming pools, conduits, water wells, ditches and canals. A lighter shade of blue depicts open-water areas.

GREEN depicts vegetation, such as wooded areas, orchards, vineyards and hop fields, and is used as the primary colour for the image panel in the map surround.

GREY is used on the back of the map where the different symbols, lists of labels and abbreviations, notes and product information is printed.

PURPLE can be used to show updated information added over the original printed map.

What to Map

There are different approaches to mapping. Specifically, you may want to consider mapping: a) transportation networks; b) critical infrastructure; c) geographical information; d) ecological zones; e) boundaries; f) community sites; g) land-use specifics; h) sites of past hazardous events or disasters; and i) demographics. For all of the items you wish to map, there are unique symbols for you to indicate these on the map that are covered in the next section.

The following items give a set of examples of things that could be useful to include in a map. Many of these items will be very important for the resiliency assessment and impact assessment – in order to know what you could potentially lose in the community, should a disaster occur you have to know what's there to start with and how resilient it is.

Transportation Networks

- Airports
- Bridges and overpasses
- Bus depots and major bus routes
- Docks
- Ferry routes and terminals
- Helipads
- Highways
- Hiking trails
- Medical Van routes
- Migration routes
- Ports
- Railroads and stations
- Roads
- School Bus routes
- Snow mobile trails
- Winter roads

Critical Infrastructure

- Breakwaters
- Communication towers (e.g., cell phone)
- Dams
- Landfill sites
- Major cable lines

- Major hydro transmission lines
- Major pipelines
- Major telephone trunk lines
- Major water mains
- Sewage lagoons
- Sewage treatment plants
- Substations
- Water treatment plants

Geographical Information

- Beaches
- Creeks and streams
- Deserts
- Flood plains
- Forests
- Glaciers
- Lakes
- Marshes. bogs and swamps
- Mountains and hills
- Oceanfront
- Parks
- Rivers and deltas
- Volcanoes

Ecological Zones

- Areas of unique biodiversity
- Areas with endangered species (plants or animals)
- Berry patches
- Caribou calving areas
- Hunting grounds
- Medicinal plants
- Protected areas (e.g., Ceremonial sites, burial grounds)
- Salmon spawning grounds
- Sugar bush
- Traditional Territory (e.g., Indigenous or Treaty boundaries)

Boundaries

- Community boundaries
- Fire zones
- Geographical boundaries
- Police zones
- Private or Crown land
- Provincial or Territorial boundaries

- Regional or county boundaries
- Reserve boundaries
- School zones
- Traditional territory
- Treaty land

Community Sites

- Administration buildings
- Ambulance station
- Cemeteries
- Ceremonial sites
- Community centres
- Community hall
- Custom and border stations
- Cultural sites (Powwow grounds, long houses, museums)
- Faith-based buildings
- Fire halls
- Governance buildings (e.g., Band and Council offices, municipal buildings, provincial/territorial buildings, federal buildings)
- Heritage sites
- Hospitals and Urgent Care centres
- Medical clinics
- Medical labs
- Police station
- Residential buildings (e.g., homes; condominiums, assisted living, seniors and long-term care homes, residences for those with special needs)
- Schools, colleges and universities
- Special Use buildings (e.g., prisons and jails, court houses, libraries)
- Sport centres (e.g., ice rinks, curling, swimming pools)
- Tourist sites (e.g., zoos, aquariums, skiing, rafting)

In very small communities you may wish to plot every individual home on your map.

Land-Use

- Agricultural areas (e.g., farms, ranches, dairy farmers, vineyards, orchids)
- Commercial areas
- Industrial areas
- Natural Resources (e.g., logging camps, mines, gravel pits)
- Recreational areas (e.g., fishing grounds, hunting grounds, beaches, parks)
- Residential areas (e.g., single family and multi-family dwellings)

Sites of Past Hazardous Events or Disasters

Any place that has been subjected to past hazards should be mapped. This can include areas that have been prone to flood or fire in the past.

Demographics

It is also important to consider the demographics for each on your chosen zones. How many people live in the area? What kinds of people live in the area? Are they mostly renters or owners? Are there a lot of children or a lot of older persons? What is the general socio-economic level of the population? Referring back to your *Community Profile* will be helpful. Consider including a small box in a corner of your zone with the key demographic factors for that zone.

Mapping Symbols

You may want to consider using common mapping symbols to illustrate particular features including: a) transportation features, b) human made features; c) natural features; d) elevation; e) geological characteristics; f) land cover features (i.e. wooded area vs. grasslands); g) recreational features; h) agricultural and industrial activity; i) buildings; and others.

The majority of the following symbols are used on Canadian National Topographic System (NTS) maps and have been standardized to simplify the mapping process. Others were added to symbolize features that may be important to Indigenous communities. Your community may also wish to develop symbols that are meaningful to you. Be sure to include all symbols you use in your legend so that others will understand what is being shown on the map. The tables below describe some of the common symbols used on NTS maps and are included from the Centre for Topographic Information, Natural Resources Canada. You can also go to the Canadian National Topographic System website to learn more.
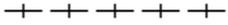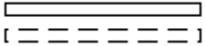
Transportation Features - Roads and Trails

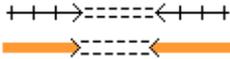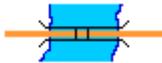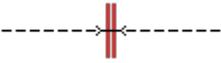| Feature Name	Symbol
Road - hard surface, all season	dual highway ▬▬▬
Road - hard surface, all season	more than 2 lanes ▬▬▬ 2 lanes ▬▬▬ less than 2 lanes ─────
Road - loose or stabilized surface, all season	2 lanes or more ▬▬▬ less than 2 lanes ▬▬▬

Feature Name	Symbol
Road - loose surface, dry weather	
Rapid transit route, road	
Road under construction	
Vehicle track or winter road	
Trail or portage	
Traffic circle	
Highway route number	

Transportation Features - Railways and Airports

Feature Name	Symbol
Railway - multiple track	
Railway - single track	
Railway sidings	
Railway - rapid transit	

Feature Name	Symbol
Railway - under construction	
Railway - abandoned	
Railway on road	
Railway station	
Airfield; Heliport	
Airfield, position approximate	
Airfield runways; paved, unpaved	

Other Transportation Features - Tunnels, Bridges, etc.

Feature Name	Symbol
Tunnel; railway, road	
Bridge	
Bridge; swing, draw, lift	
Footbridge	
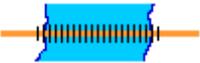
Causeway	
Ford	
Cut	
Embankment	
Snow shed	
Barrier or gate	

Hydrographic Features - Naturally Occurring

Feature Name	Symbol
Falls	
Rapids	
Direction of flow arrow	
Dry river bed	
Stream - intermittent	
Sand in Water or Foreshore Flats	

Rocky ledge, reef	
Flooded area	
Marsh, muskeg	
Swamp	
Well, water or brine; Spring	
Rocks in water or small islands	
Water elevation	2520±

Hydrographic Features - Human Made

Feature Name	Symbol
Lock	
Dam; large, small	
Dam carrying road	
Footbridge	
Ferry Route	
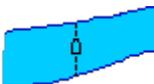
Feature Name	Symbol
Pier; Wharf; Seawall	
Breakwater	
Slip; Boat ramp; Drydock	
Canal; navigable or irrigation	
Canal, abandoned	
Shipwreck, exposed	
Crib or abandoned bridge pier	
Submarine cable	
Seaplane anchorage; Seaplane base	

Terrain Features - Geology and Geomorphology

Feature Name	Symbol
Cliff or escarpment	
Esker	

Pingo	
Sand	
Moraine	
Quarry	
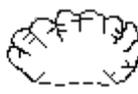
Terrain Features - Elevation

Feature Name	Symbol
Horizontal control point; Bench mark with elevation	
Precise elevation	.224
Contours; index, intermediate	
Depression contours	

Terrain Features - Land Cover

Feature Name	Symbol
Wooded area	
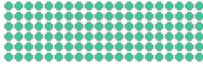
Orchard	
Vineyard	
Berry Patch	
Sugar Bush	❖
Wild Rice	≈
Medicinal Plants	❀
Protected Area	

Human Activity Symbols - Recreation

Feature Name	Symbol
Sports track	
Swimming pool	
Community Centre	
Snow Mobile Trails	IIIIIIIIIIIIIII
Fishing Area	
Hunting Ground	⊙

Feature Name	Symbol
Campground; Picnic site	
Hockey Rink	
Historic site or point of interest; Navigation light	
Trap Lines	⊙---------⊙

Human Activity Symbols - Agriculture and Industry

Feature Name	Symbol
Silo	
Elevator	▪E
Greenhouse	
Wind-operated device; Mine	
Landmark object (with height); tower, chimney, etc.	⊙100
Oil or natural gas facility	
Pipeline, multiple pipelines, control valve	

Pipeline, underground multiple pipelines, underground	
Electric facility	
Power transmission line multiple lines	
Telephone line	
Fence	-×—×—×—×—×-
Crane, vertical and horizontal	
Dyke or levee	
Firebreak	....
Cut line	– – – – – – – – – –
Landfill	
Water Treatment Plant	
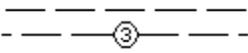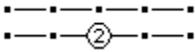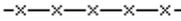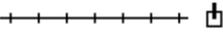
Human Activity Symbols - Buildings

Feature Name	Symbol
School; Fire station; Police station	

Church; Non-Christian place of worship; Shrine; Sacred Space	
Cultural site, meeting site	Cultural Site
Building	
Service centre	Ⓢ
Customs post	
Coast Guard station	Ⓖ
Cemetery	C
Ruins	R
Fort	

Mapping Resources

Internet-Based Mapping Websites

Google Earth and Maps

Google Earth has long been known as a great site to visit to get a 3D picture of your community. You will have to download and install files (they're free) to use Google Earth. Google Earth also has a "pin" feature which lets you add pins or markers to key sites on your map. You can also add in other features as described on the screen, including weather patterns, parks, etc.

Mapquest

MapQuest is easy to use – simply enter the name of your community and use the zoom slide to get to the best map of your community. You can also convert your map into an aerial map and display various businesses in your community.

ArcGIS Online

ArcGIS online is a powerful online mapping software platform. It comes at a cost but you can you can customize the map online to fit your community needs. Members of the community can also log in and add features to the map over time. ArcGIS online requires a strong Internet connection so if you are a remote community it may not be the best option.

ActivityInfo

This site allows users to create a map using ActivityInfo's database and upload new data directly using ODK software.

GIS Data Sources

National Data

- Atlas of Canada
- Canadian Geospatial Data Infrastructure
- Environment Canada
- Geo-Gratis
- Government of Canada Open Data Portal

Provincial Data

Alberta

- Alberta Open Data Portal
- AtlaLIS
- First Nations Alberta Technical Services Advisory Group Inc.
- GeoDiscover Alberta:

British Columbia

- Community Mapping Network BC
- DataBC
- GeoBC
- Open Data BC

Manitoba

- Manitoba Land Initiative

Maritimes (New Brunswick, Newfoundland and Labrador, Nova Scotia, Prince Edward Island)

- Community Mapping Infrastructure System Newfoundland and Labrador
- GeoNB
- GeoNova
- Newfoundland and Labrador Statistics Agency
- Open Data Newfoundland and Labrador
- PEI GIS Data Catalogue

Ontario

- Land Information Ontario
- Ontario Basic Mapping
- Ontario Data Portal
- Ontario Topographic Data
- Provinces of Ontario Open Data Portal

Quebec

- Energie et Ressources Naturelles Quebec
- Quebec Ouvert

Saskatchewan

- GIS Data
- Saskatchewan Open Data
- Saskatchewan Water Security Agency

Territories (Northwest Territories, Nunavut, Yukon)

- ATLAS (Administration of Territorial Land Act Systems)
- GeoYukon
- Nunavut Geoscience
- NWT Centre for Geomatics
- Yukon Maps

Municipal Data

Many municipalities' websites in Canada provide interactive maps and data to create maps. The type of information and quality will differ from municipality to municipality but this can be a good starting point when looking for data to create your community map.

Other

Provincial Geological Organizations

The following are examples of the types of maps that are available on provincial and territorial geological websites. They may be of assistance to you in completing your community map:

- Timber harvesting maps
- Resource development zones and protected areas
- Landscape units
- Old growth management areas
- Winter ranges for moose
- Key wetlands for moose
- Critical fish habitat and stream classification
- Back country
- Resource management areas
- Water Management (flood watch, habitat protection, stream flows and lake levels)
- Mineral access, tenures and much, much more.

Examples:

- Alberta Geological Survey
- Geology Ontario

Department of Fisheries and Oceans

The Fisheries and Oceans Canada website provides you with extensive maps and information on:

- Administrative boundaries;
- Aquaculture;
- Biological resources;
- Fisheries;
- Marine ecological classification;
- Offshore oil and gas and fishery disruption;
- Fishery statistics;
- Harbors.

Community Maps

- Your community volunteer fire department will most likely have a good map of your community that you could use
- On First Nations reserves, your Health Clinic or Band Office (e.g., public works or housing department) will have a map
- If you have a mutual aid agreement with a neighbouring municipality they may have a map of your community
- If you have a Search and Rescue (SAR) Team they will have a map of your community
- Your local regional and/or district representatives may have community maps
- You can access the Atlas of Canada from Natural Resources Canada and they will assist you in locating a map of your community. The cost ranges given the size and amount of detail on the map
- Provincial or territorial mapping and geography organizations
- Provincial or territorial community information databases

- Your local museum, historical centre or school library may have copies of a map of your community
- Your Tribal/Grand Council, Metis Council or town hall may have a map of your community
- The Canadian Cartographic Association may be able to locate a map for you,

Areas, Zones and Symbols

- For regional and district boundaries and associated services, contact your regional and/or district representatives and/or visit associated websites
- For school district boundaries contract your local school districts and/or visit associated websites
- For electoral and district boundaries contract your local government
- The Community Information Database has data regarding populations, zoning, thematic maps, economic zones or areas, maps, charts and databases
- For RCMP and provincial policing areas, contact local and/or regional police
- For fire protection areas contact local and/or regional fire departments
- For census track information, go to Census of Population
- Further to the symbols provided above the USGS provides a section on topographic maps that provides additional symbols and information on how to create new symbols