



TMPD Workshop Introduction to Spatial Thinking, Maps and Mapping

Richmond, February 19th & 20th 2020



Workshop Learning Objectives:

- Introduce spatial thinking and its relevance to effective Lands Governance within the context of the Framework Agreement
- Present the fundamentals of Mapping and Geographic Information Systems (GIS) and discuss different Mapping and GIS software options
- Explore the ethics of Mapping and GIS as a contemporary expression of Indigenous resurgence
- Share success stories from other FA signatory communities utilizing Mapping and GIS techniques

Parking Lot!



Review

Framework Agreement on First Nations Land Management (FA)

February 1996: FA Signed by 13 FN's & Canada. G2G.

Initiative to take back management, governance and control of on-reserve lands & resources.

FA provides the option to manage reserve lands & resources outside of the Indian Act (see handout)

Not a treaty, does not affect Aboriginal rights & title.

FA principles: transparency, accountability, community involvement

FA establishes the LAB & FNLARC

Signatories exercise their lands authority through a **Land Code**.

Operational communities negotiate funding through an Individual Agreement with Canada.



Framework Agreement – Undoing the Indian Act

Since 1876, Canada has attempted to control most aspects of indigenous lives in Canada through the *Indian Act* and impose colonial management of lands and resources on-reserve.

The FA is an agreement by which signatory First Nations and Canada **recognize** indigenous self-government over on-reserve Lands & Resources.



What does the FA do?

The FA provides examples (not a comprehensive list) of First Nation law-making powers and authorities.

First Nation governmental authority is **not** defined or delegated by Canada.

The FA outlines some basic requirements for a community to develop a **Land Code**.

The Land Code is the basic **Land Law** of the First Nation. It replaces ca. 44 sections of the colonial *Indian Act*.

Land Code

- Basic Land Law of the First Nation; drafted and approved by the community.
- Identifies reserve lands to be managed as “First Nation Lands”
- Establishes limits on the powers of Council
- Typically creates a Lands Advisory Committee, Lands Office, roles & responsibilities
- Procedures for making Laws
- Conflict of Interest Rules
- Dispute Resolution and appeals
- Rules governing the creation, granting, transferring, registration and cancellation of interests in Lands (leases, permits, certificates of occupation, etc.)



Framework Agreement

Land Protection

- FA prohibits municipal and provincial expropriation of reserve land, severely restricts Federal expropriations;
- The Parties intend that there should be both an **environmental assessment (EA)** and an **environmental protection (EP)** regime for each First Nation
- The First Nation environmental protection standards and punishments **will have at least the same effect** as those in the laws of the province or territory in which the First Nation is situated.
- The First Nation's environmental assessment process will be **consistent with requirements of the Canadian Environmental Assessment Act** (now the *Impact Assessment Act*)

Good Governance

Powers of Council under *Indian Act* vs. FA

Powers of Council	
<u>Indian Act</u>	<u>Framework Agreement & Land Code</u>
Imposed by Canada on communities with no consent or consultation	Negotiated on a G2G basis, developed and approved by community.
Only the Council may introduce land by-laws, with no requirement for membership input or consent.	Council is limited to the kinds of laws it can pass on it's own. Some laws (e.g. LUP, expropriation) may require ratification. There are due process requirements, members can propose new Laws.
Council may (with the approval of the Minister) negotiate leases up to 99 years	Council may only approve a lease in accordance with the rules of the Land Code, e.g. community ratification.
Council may use the land for development or other uses without the consent of the membership.	Council must draft a LUP that is typically voted on by communities. All uses of the land must comply with the LUP.
Council may grant land interests or uses to family members, themselves or friends.	Land Codes contain conflict-of-interest provisions to prevent this.
Council is accountable to the Department of Indian Affairs.	Council is accountable to the membership.
Membership cannot appeal a decision of Council.	Dispute resolution body is in place to handle appeals for decisions made by Council. Decisions can be overruled.





Intro to Mapping

- Review of the Framework Agreement
- What is Spatial Thinking and Mapping? Why is it useful?
- Examples of Maps
- History and ethics of Mapping
- Colonial Mapping, Cartography and Surveying

Definitions: Spatial Thinking



Spatial Thinking is what allows us to build a model that represents our place in space & time, to collect, share, analyze and interpret information about the world that matters to us.

It involves “identifying, analyzing, and understanding the location, scale, patterns and trends of the geographic and temporal relationships among data, phenomena, and issues.”

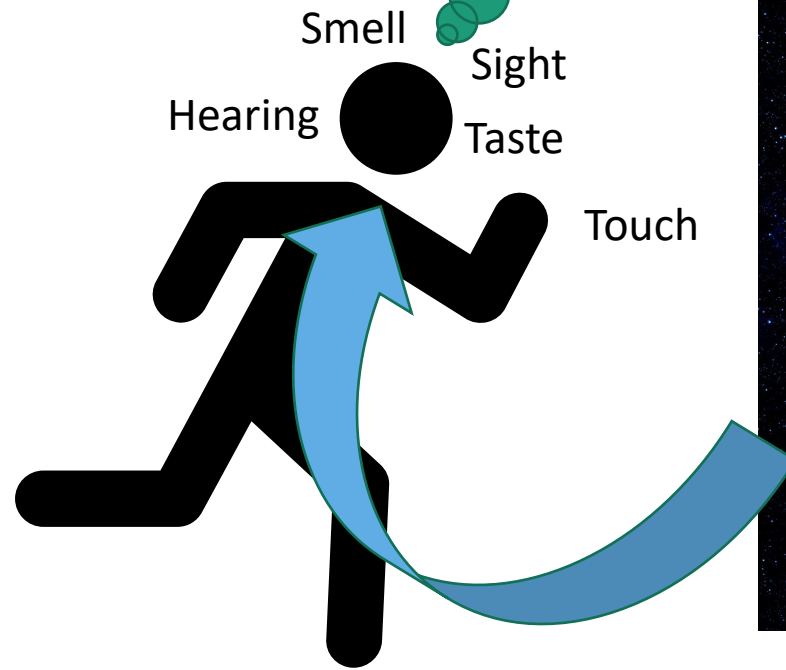
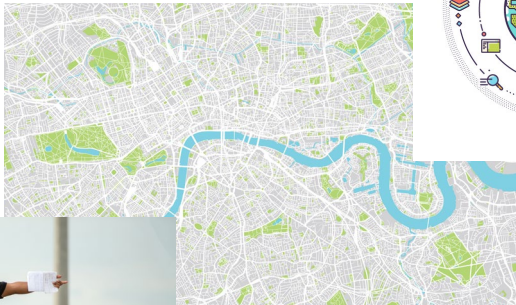
Maps are the most common way to visualize data about our world.

In a planning context, spatial thinking is a geographic perspective on how the world works, how systems function, how and why certain relationships exist, and also how we might approach and solve problems.



Spatial Thinking

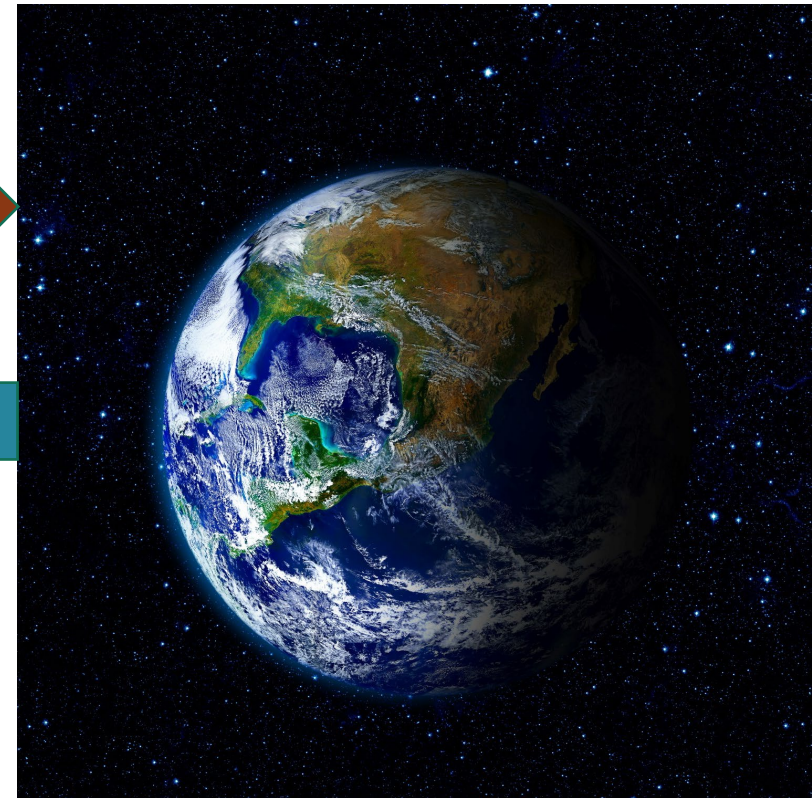
Spatial Thinking is like our 6th sense.



Proprioception

is the sense through which we perceive the position and movement of our body, including our sense of equilibrium and balance. Helps us understand and navigate our place in space/time

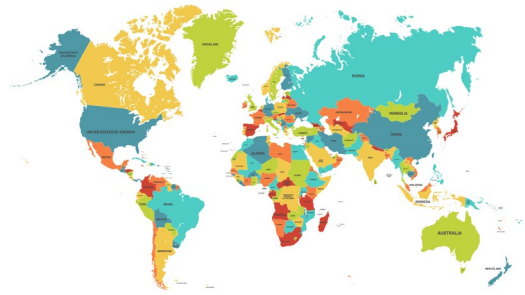
Representational Space.
Aka "Our Mental Model of Reality"
Aka "Reality Tunnel"





What does Spatial Thinking help us do?

-build a visual model to represent reality. For example:



Maps



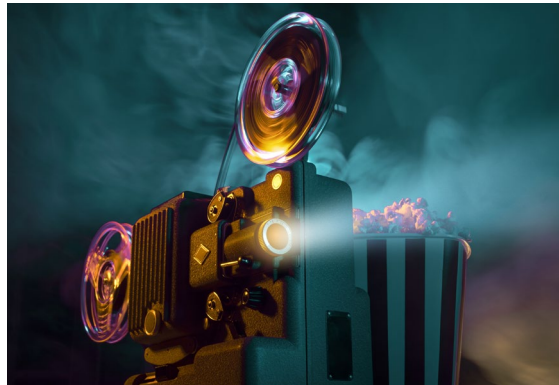
Lego!



Storytelling, Theatre & Dance



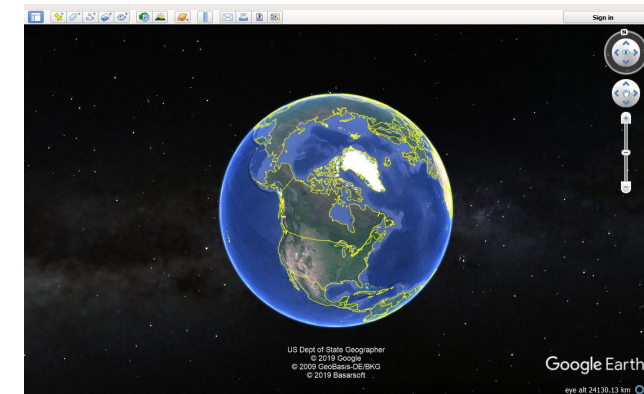
Art



Film



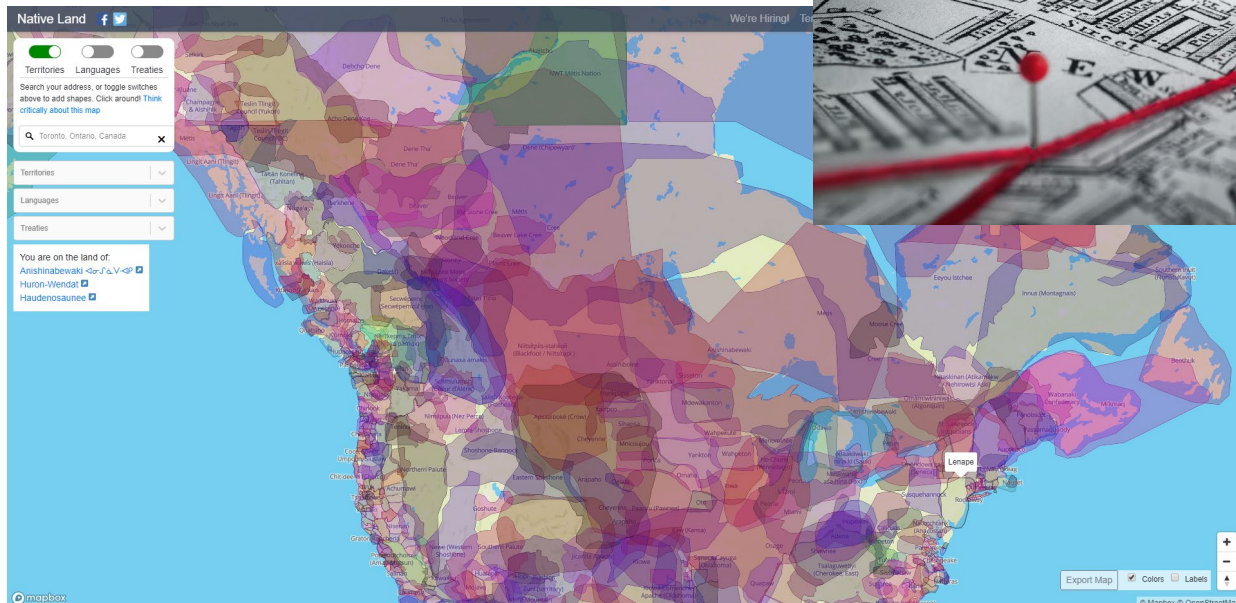
Video games



Virtual simulations

What does Spatial Thinking help us do?

-understand and visualize relationships & connections

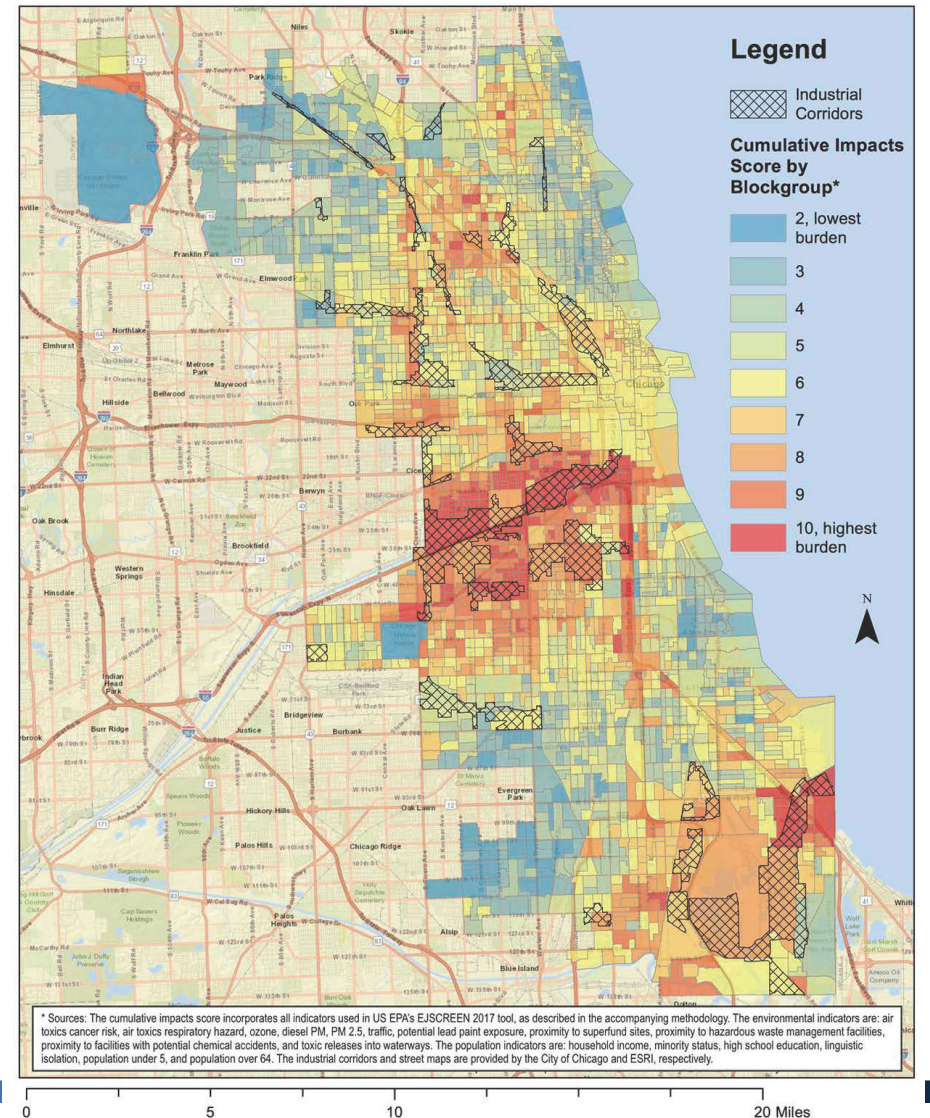


What does Spatial Thinking help us do?



-visualize relationships, see patterns

Cumulative Burden of Environmental Exposures & Population Vulnerability in Chicago



What does Spatial Thinking help us do?

-visualize relationships, see patterns



What does Spatial Thinking help us do?



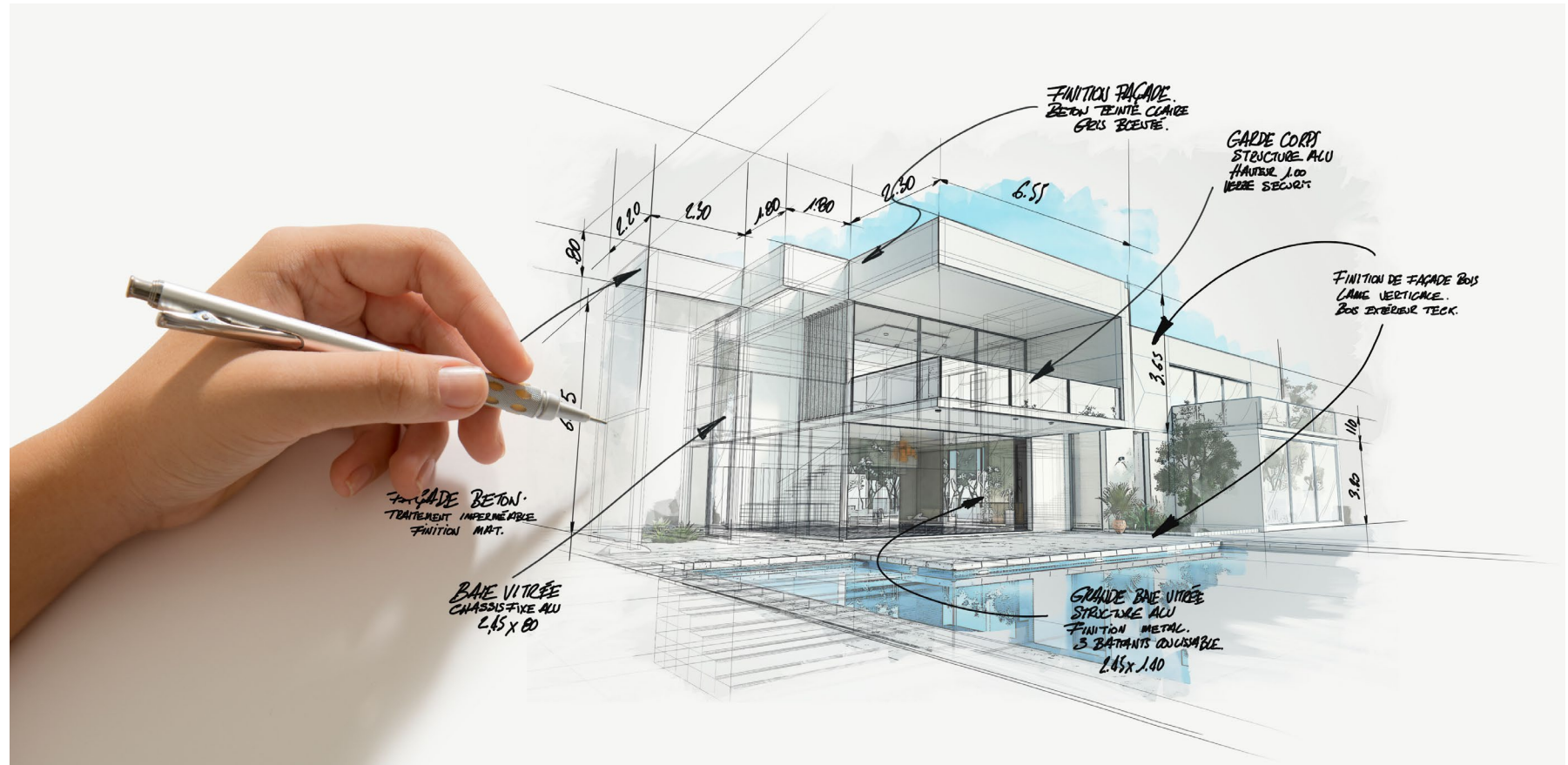
-imagine transformations



What does Spatial Thinking help us do?



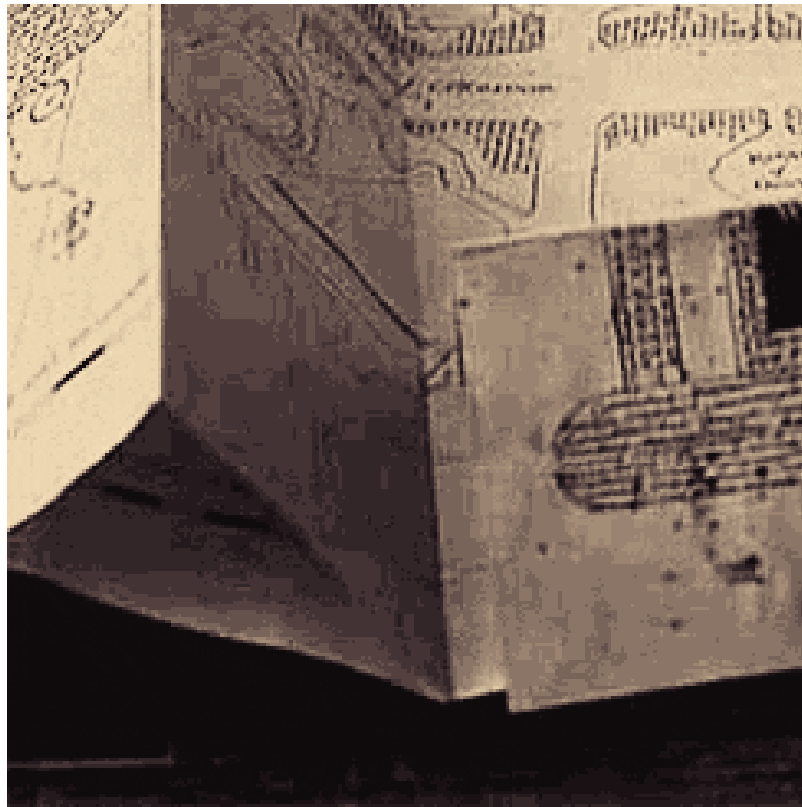
-Conceptualize new spaces and developments



What does Spatial Thinking help us do?



-helps us tell stories, and imagine other worlds



What does Spatial Thinking help us do?

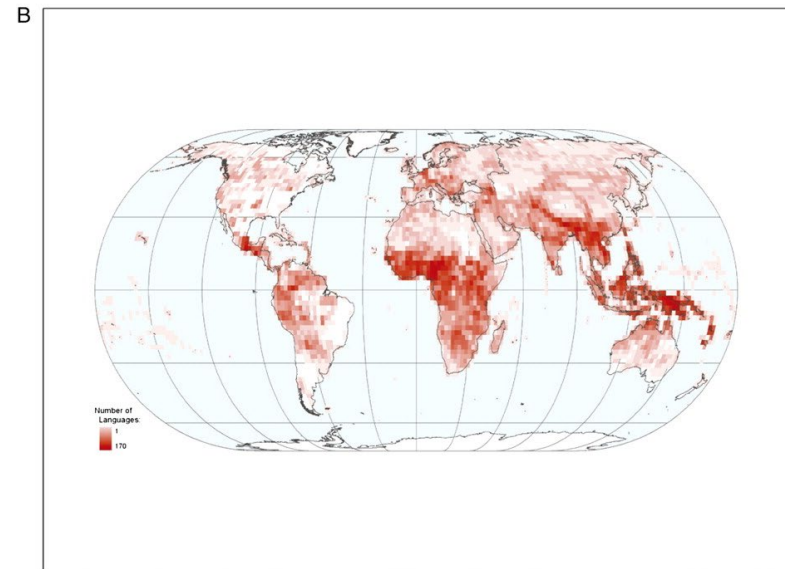
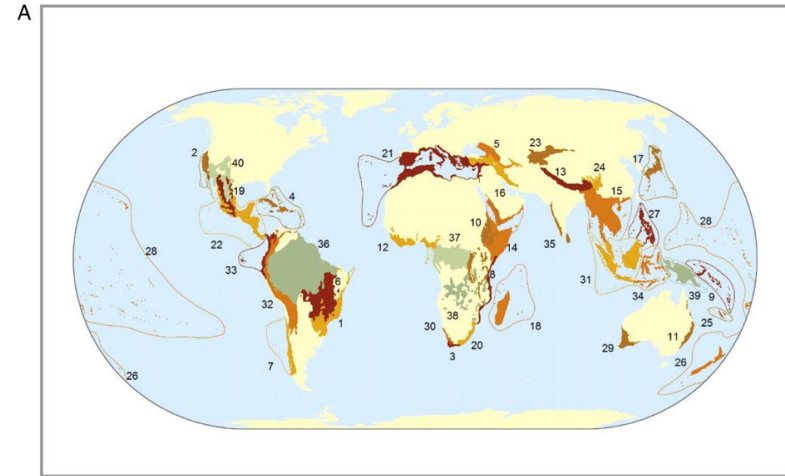
-see things from a new perspective



What does Spatial Thinking help us do?



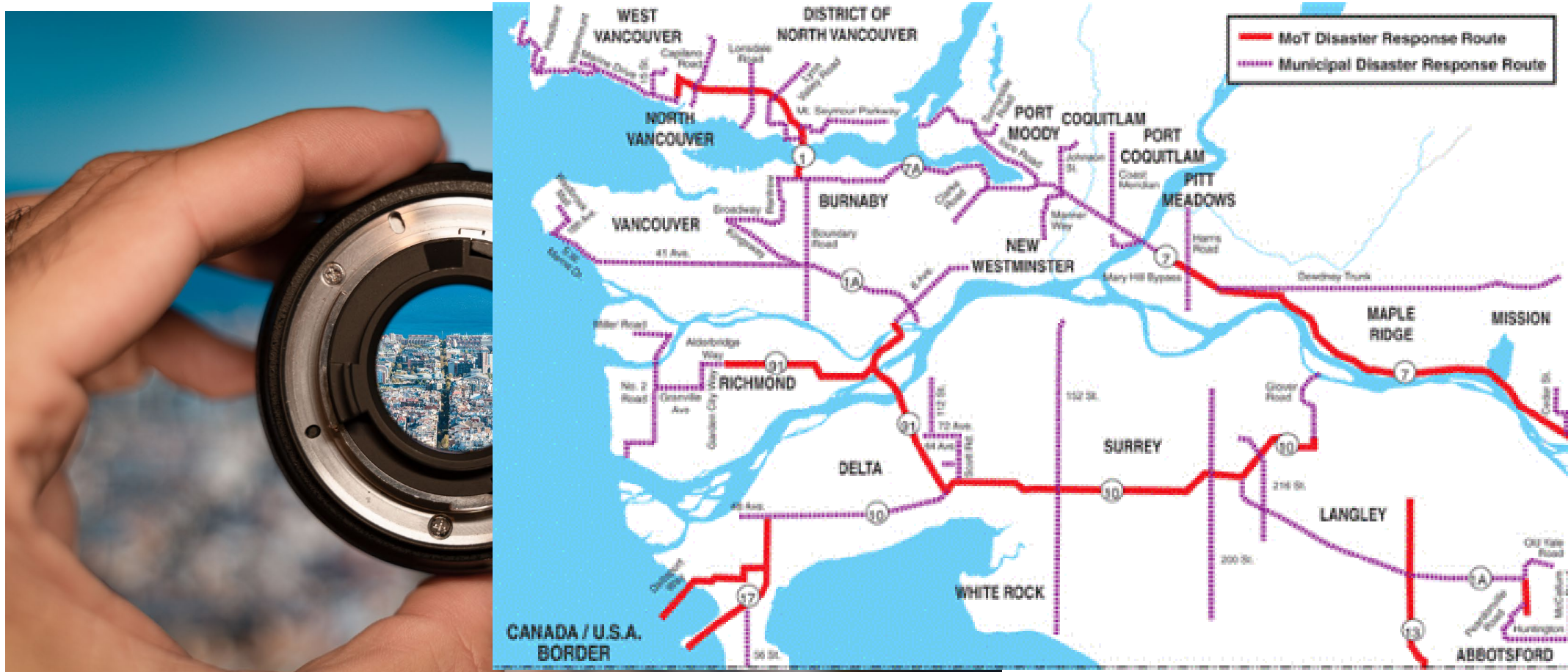
-uncover new connections



What does Spatial Thinking help us do?



-sort information – what's relevant and what's not?



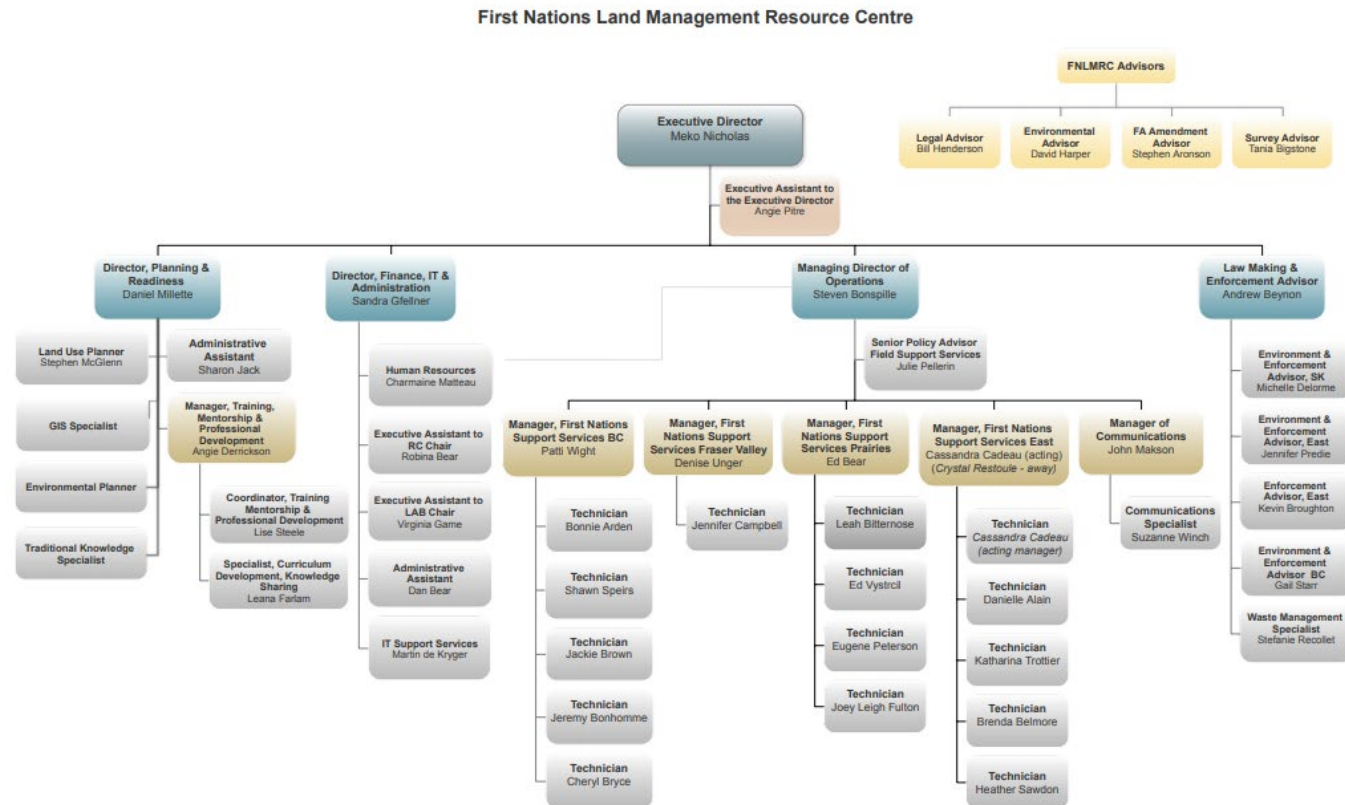
What does Spatial Thinking help us do?

-consider objects, buildings, issues, etc. in terms of their context



What does Spatial Thinking help us do?

-organize ourselves, understand roles & responsibilities





A stylized map of a city, likely London, featuring a prominent blue river (the River Thames) winding through a dense network of white streets. Green areas represent parks and open spaces. The map is overlaid with three blue text boxes containing information about maps and mapping.

Maps and Mapping

Maps are a popular and powerful way to visually represent information about our world.

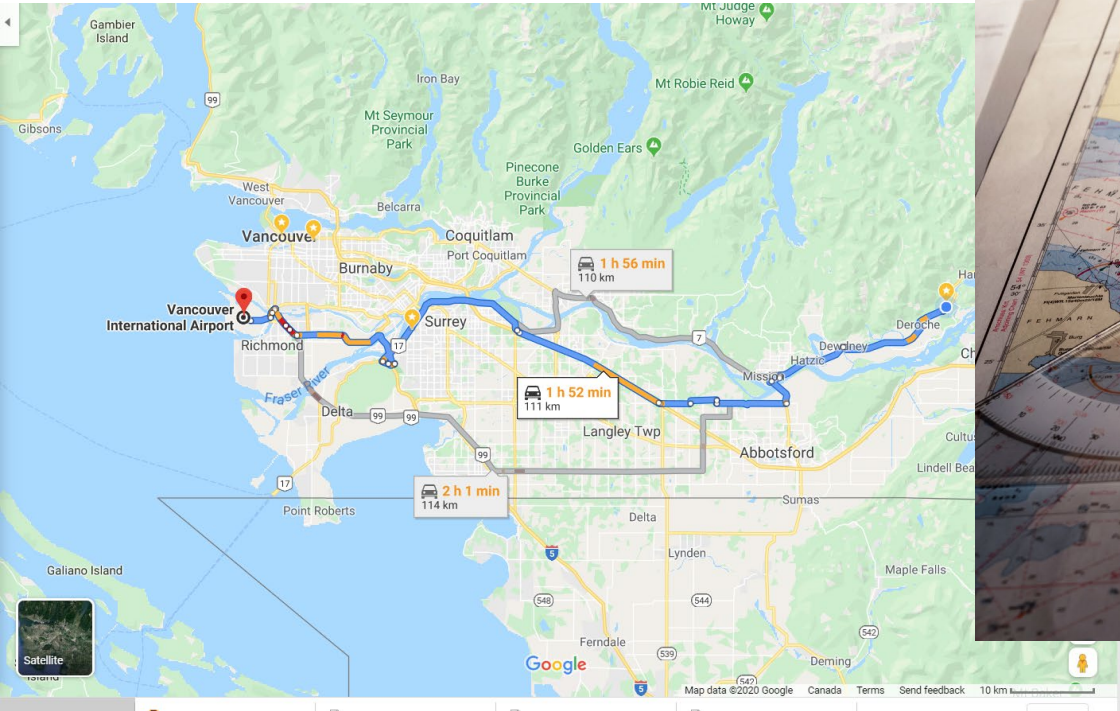
Maps can be almost anything! Usually they are a graphical, symbolic representation of a place, a process, structure, or system, usually displayed on a flat surface.

Maps come in many forms and are used by all cultures. They can represent information about the world that we value and that we need to help us better understand or navigate. Maps are **thematic**.

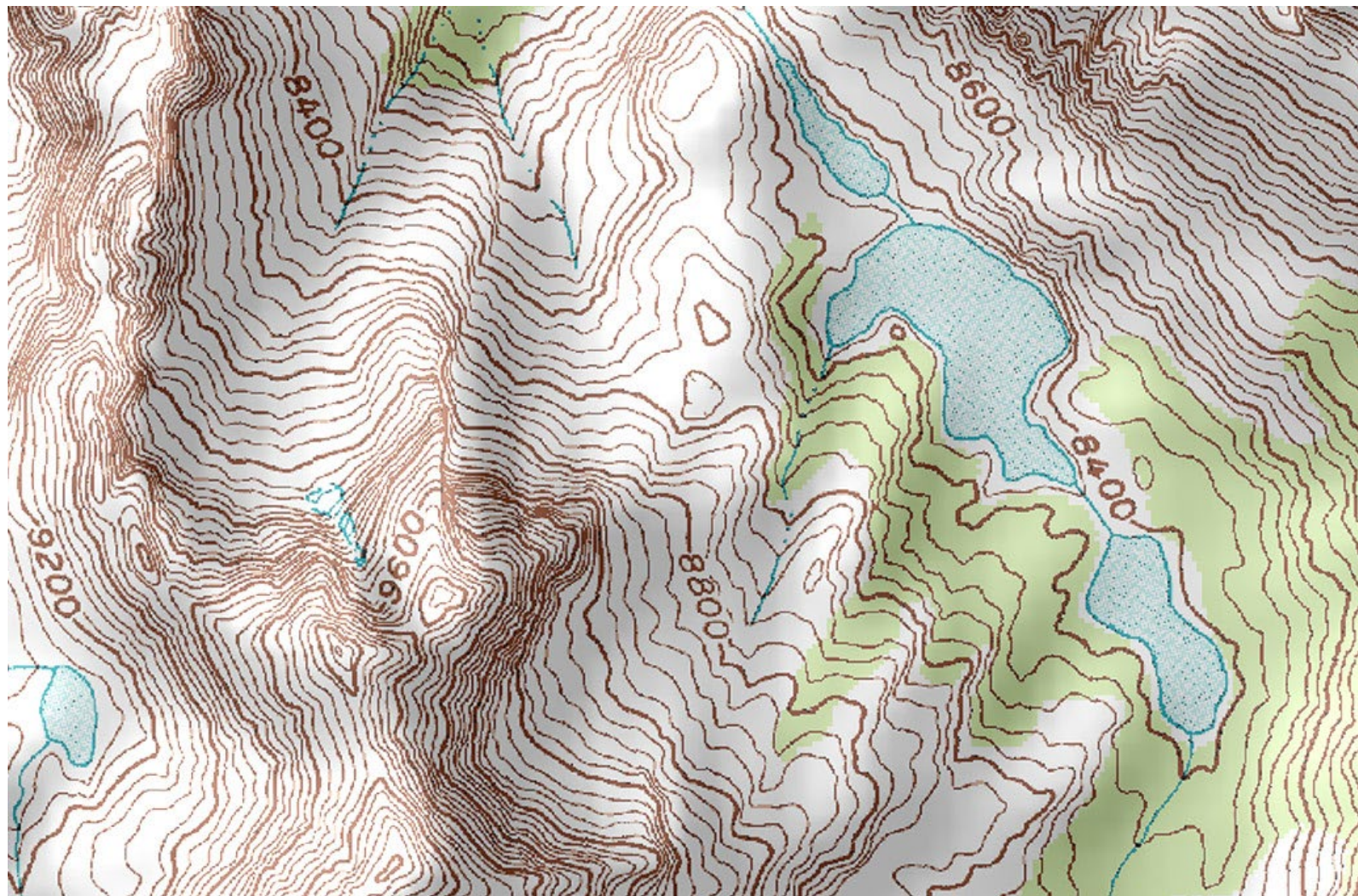
Types of Maps



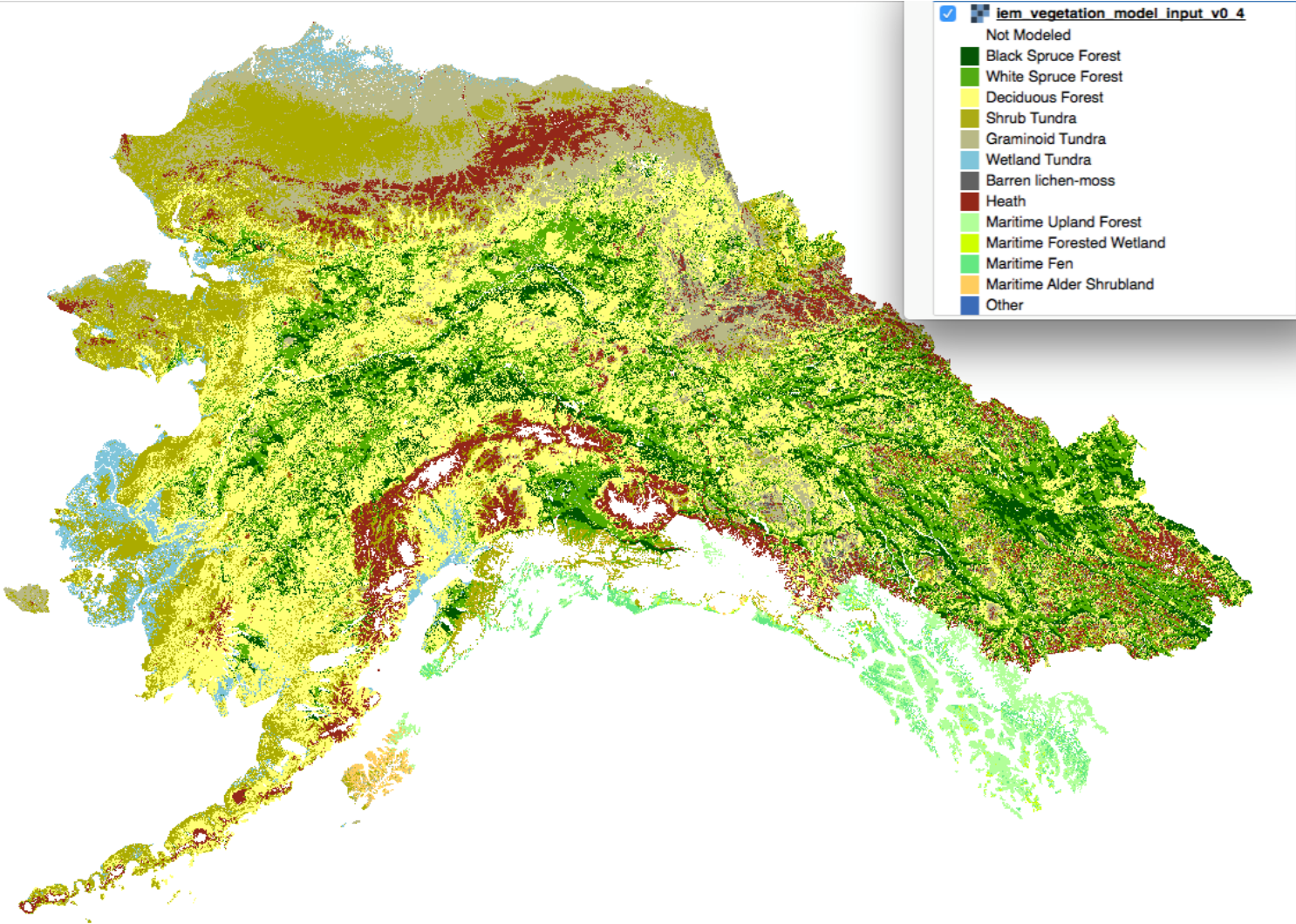
Types of Maps



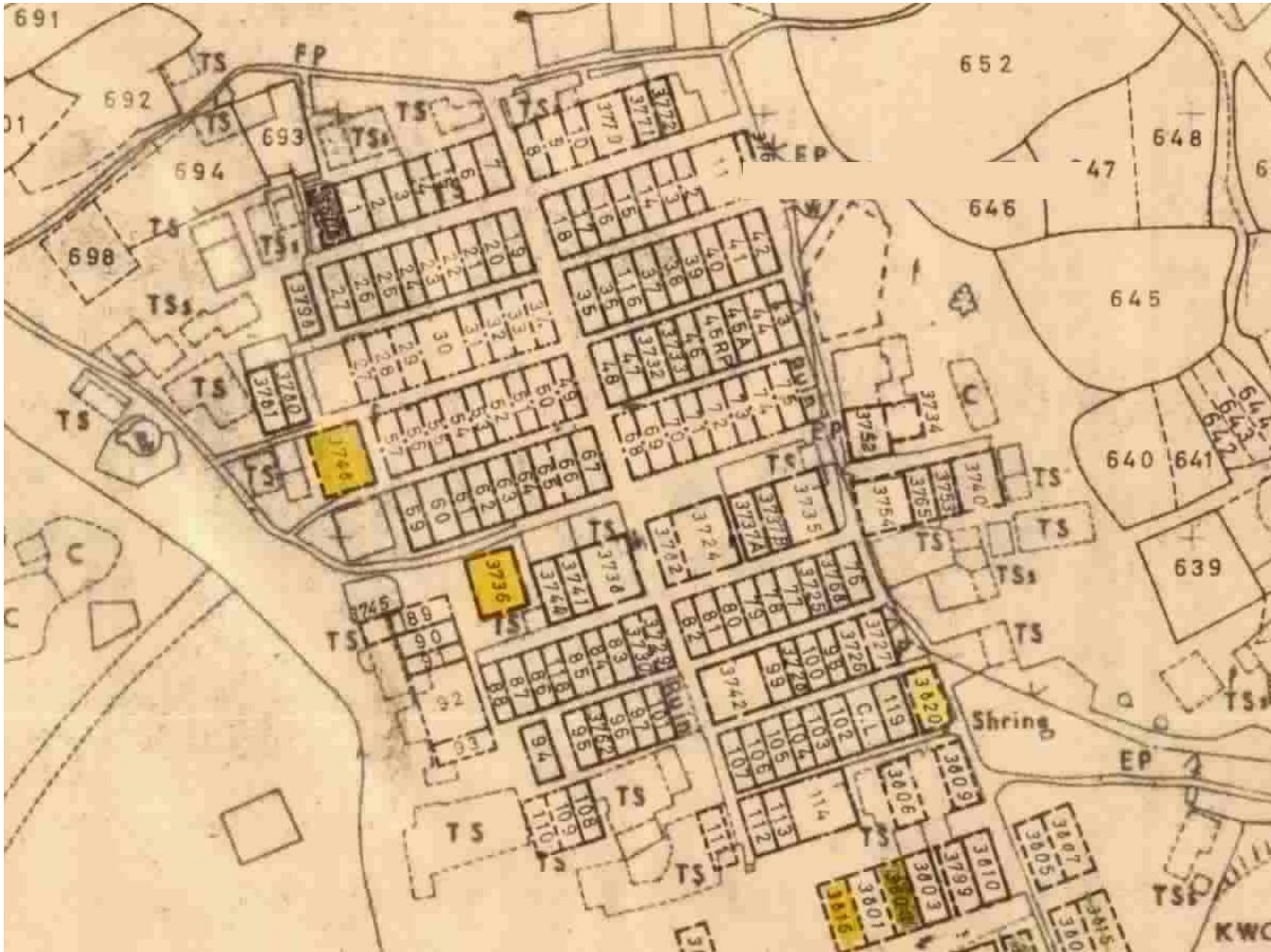
Types of Maps



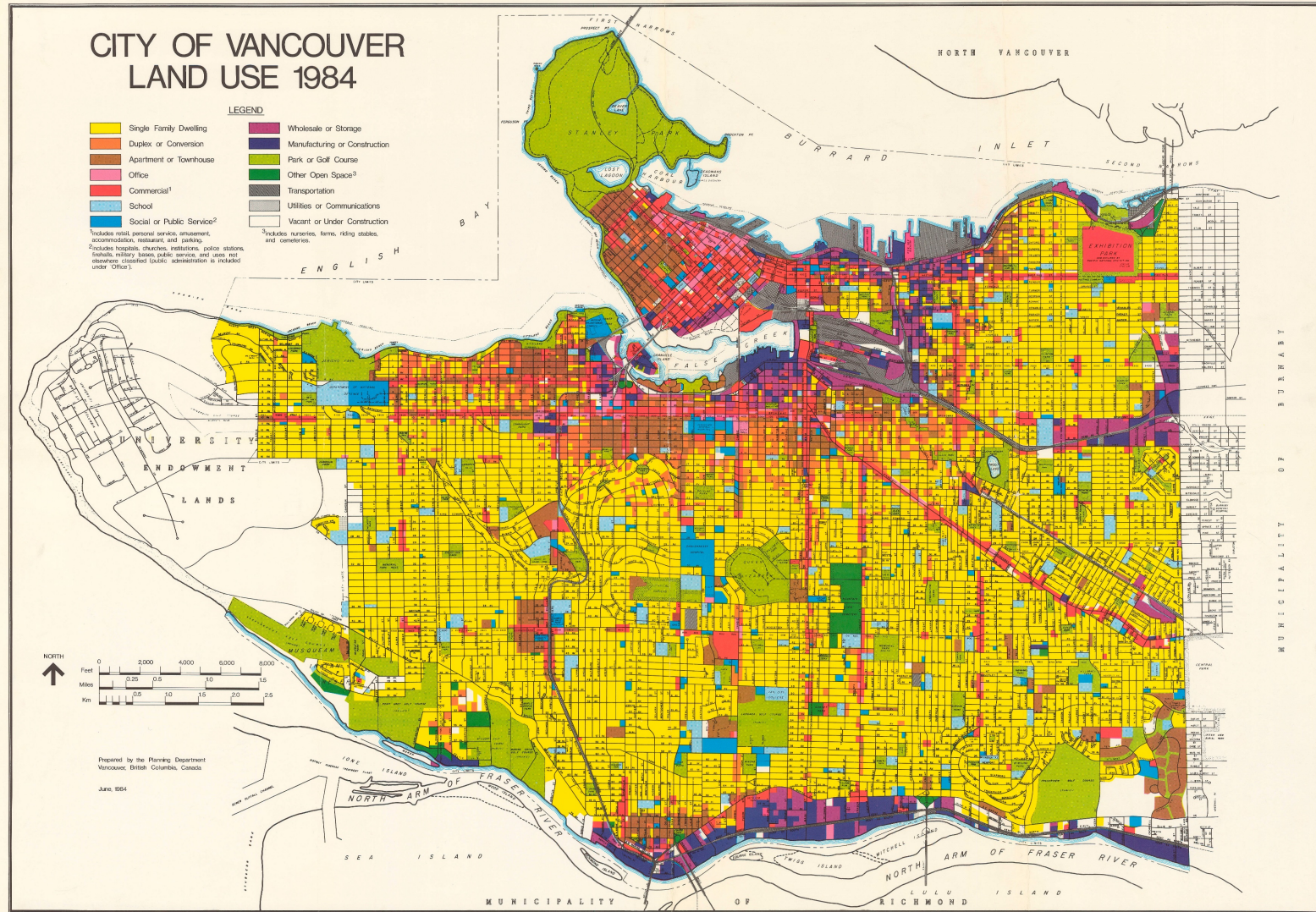
Types of Maps



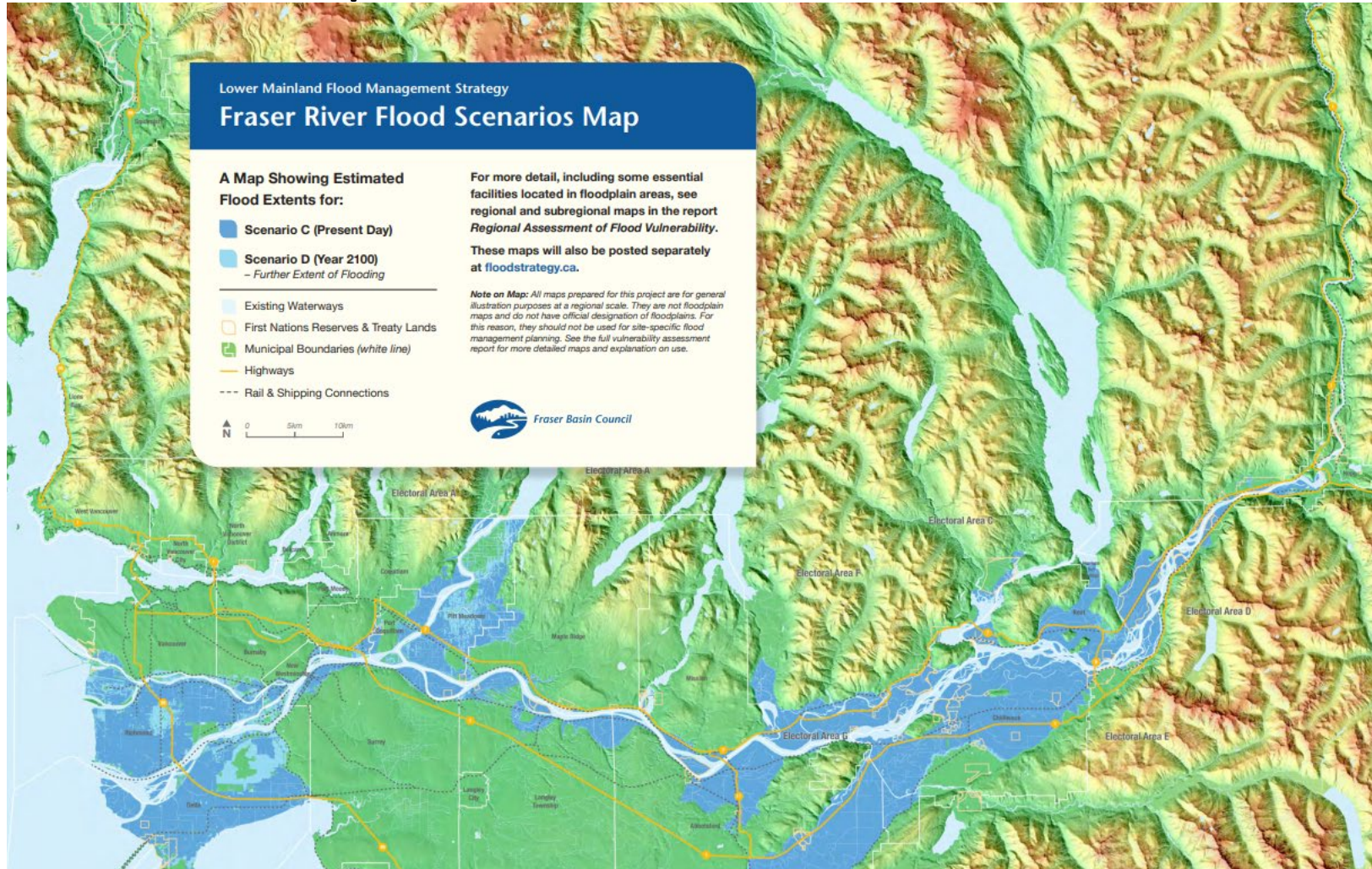
Types of Maps



Types of Maps



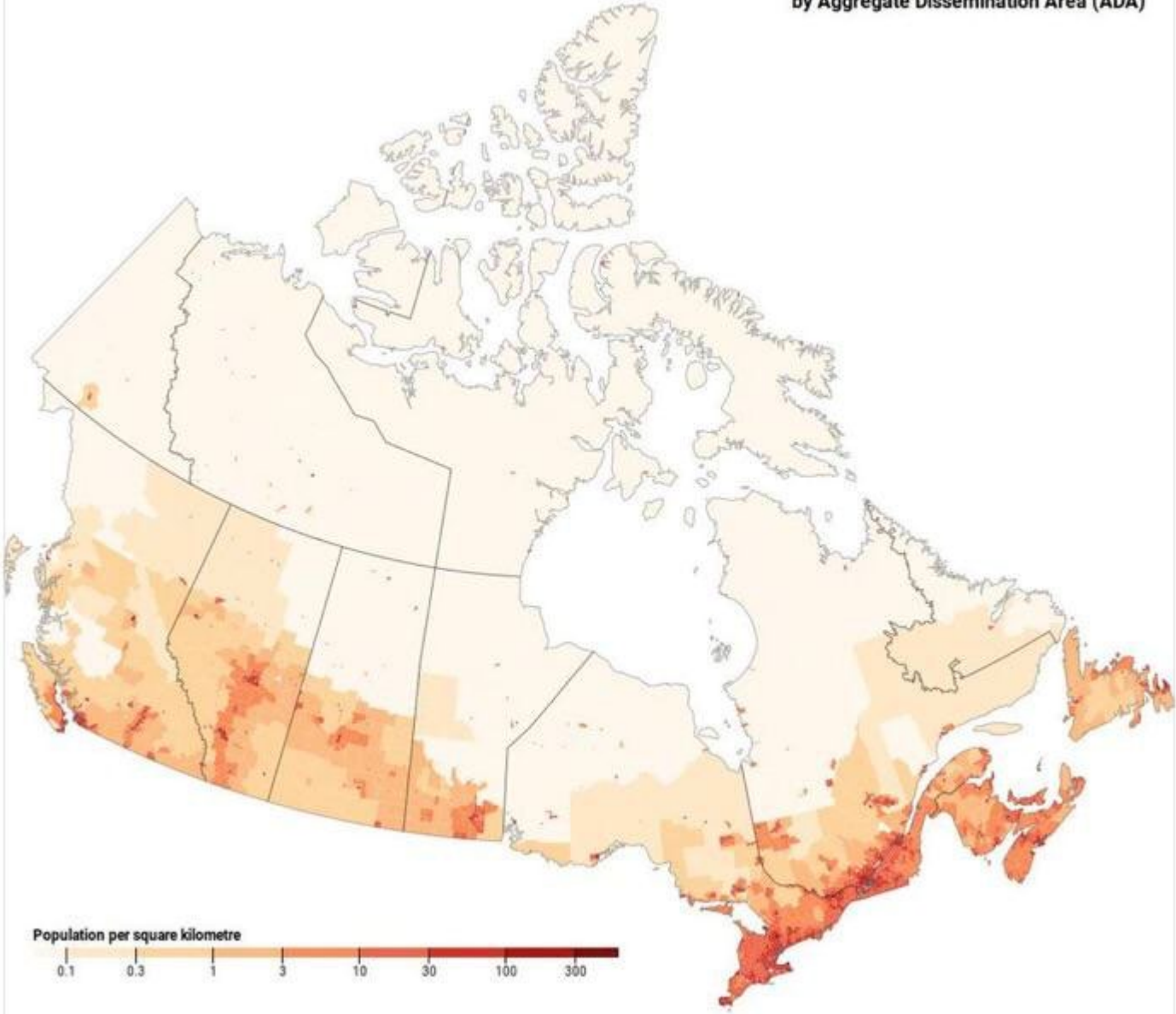
Types of Maps



Types of Maps

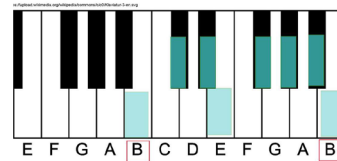
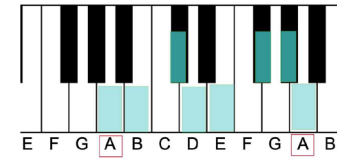
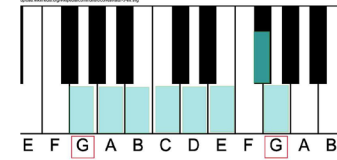
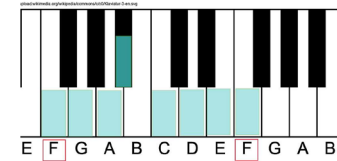
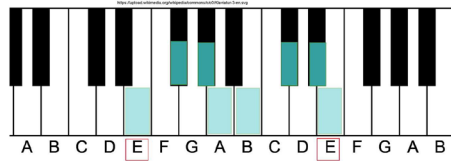
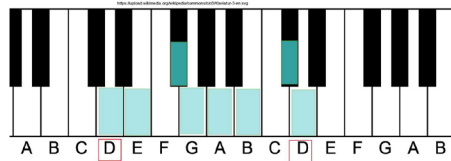
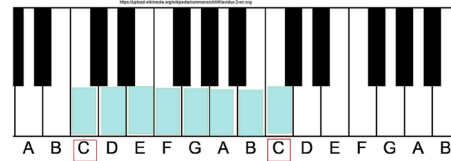
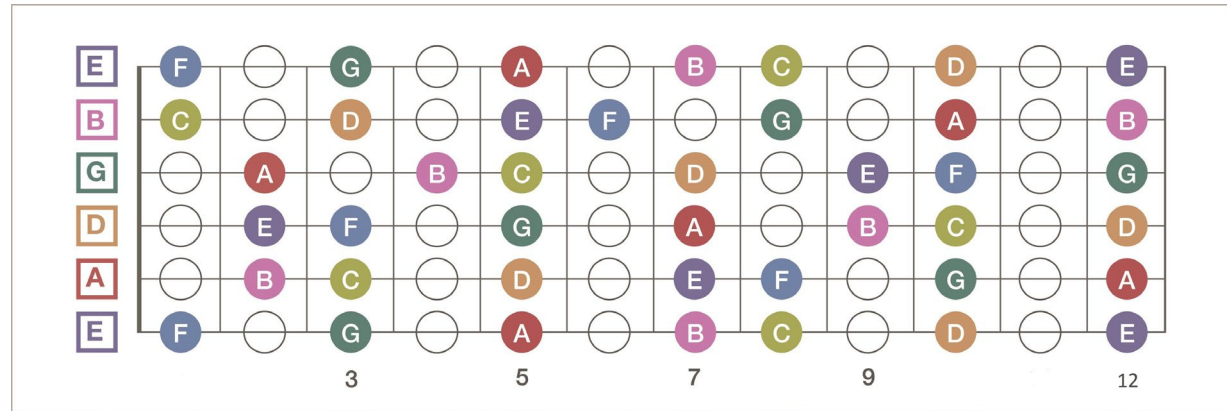


Population Density, 2016 Census
by Aggregate Dissemination Area (ADA)



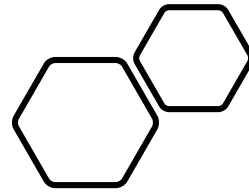
Types of Maps

Other?



major scale

Common features of a map



DOGSTAILS

Date
Orientation
Grid
Scale
Title
Author
Index
Legend
Sources



Indigenous Mapping

“Anything that territorializes serves a map-like function”

-Ken Brealey





Petroglyphs





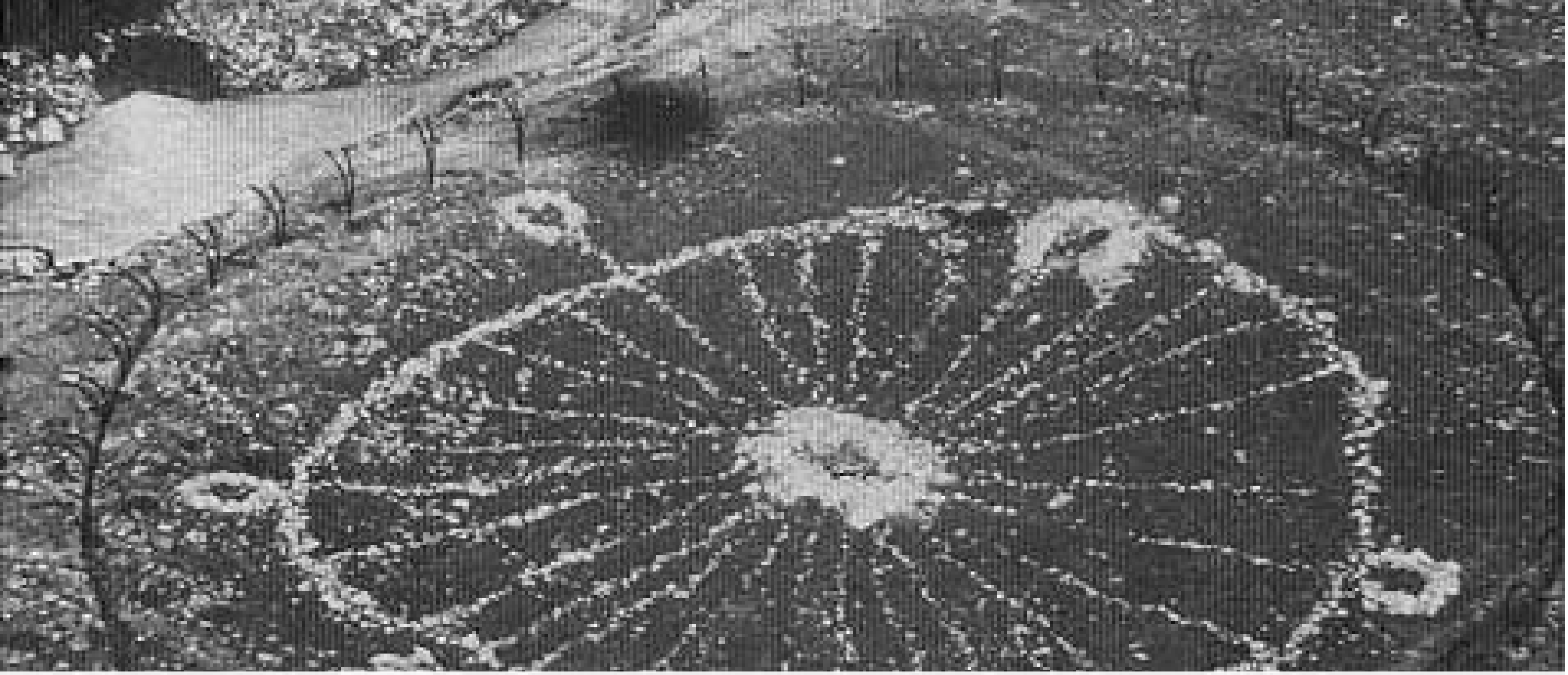
Australian Song Lines

<https://dl.nfsa.gov.au/module/1539/>

<https://www.youtube.com/watch?v=kVOG-RKTFIo>



Nazca lines



Medicine Wheels



Quipu



Totem Poles

The background of the slide is a dark gray field filled with intricate, white contour lines, characteristic of a topographic map. The lines are irregular and wavy, creating a complex, textured pattern. In the center of this pattern, the title "History of Modern Maps" is written in a clean, white, sans-serif font. The text is centered both horizontally and vertically, standing out clearly against the busy background.

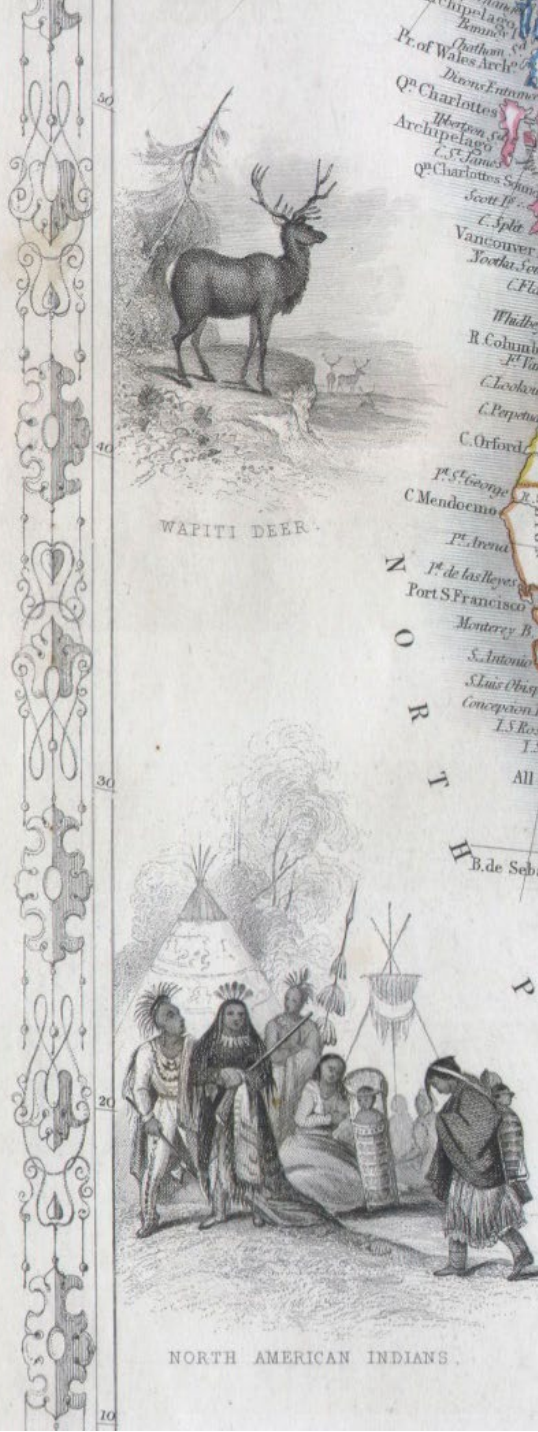
History of Modern Maps



Earliest Known Physical Maps



Early European Maps of "the World" and Turtle Island



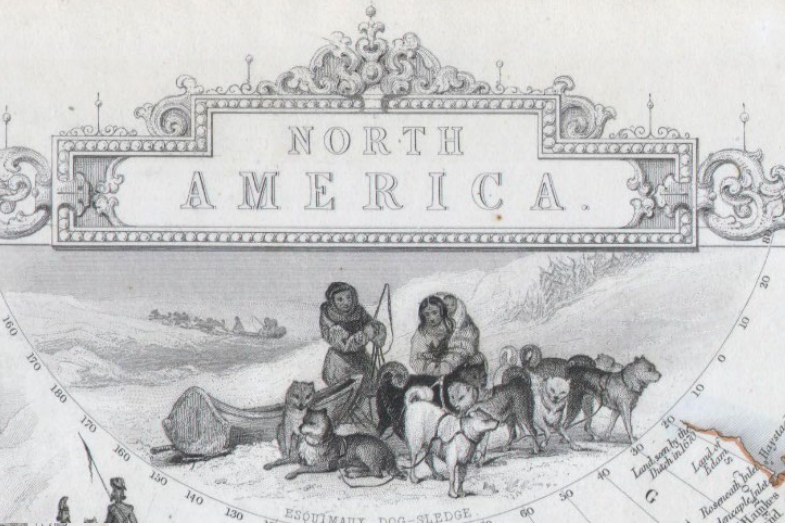
WAPITI DEER.



NORTH AMERICAN INDIANS.



WAPITI DEER.



ANCIENT MONUMENT, MEXICO.

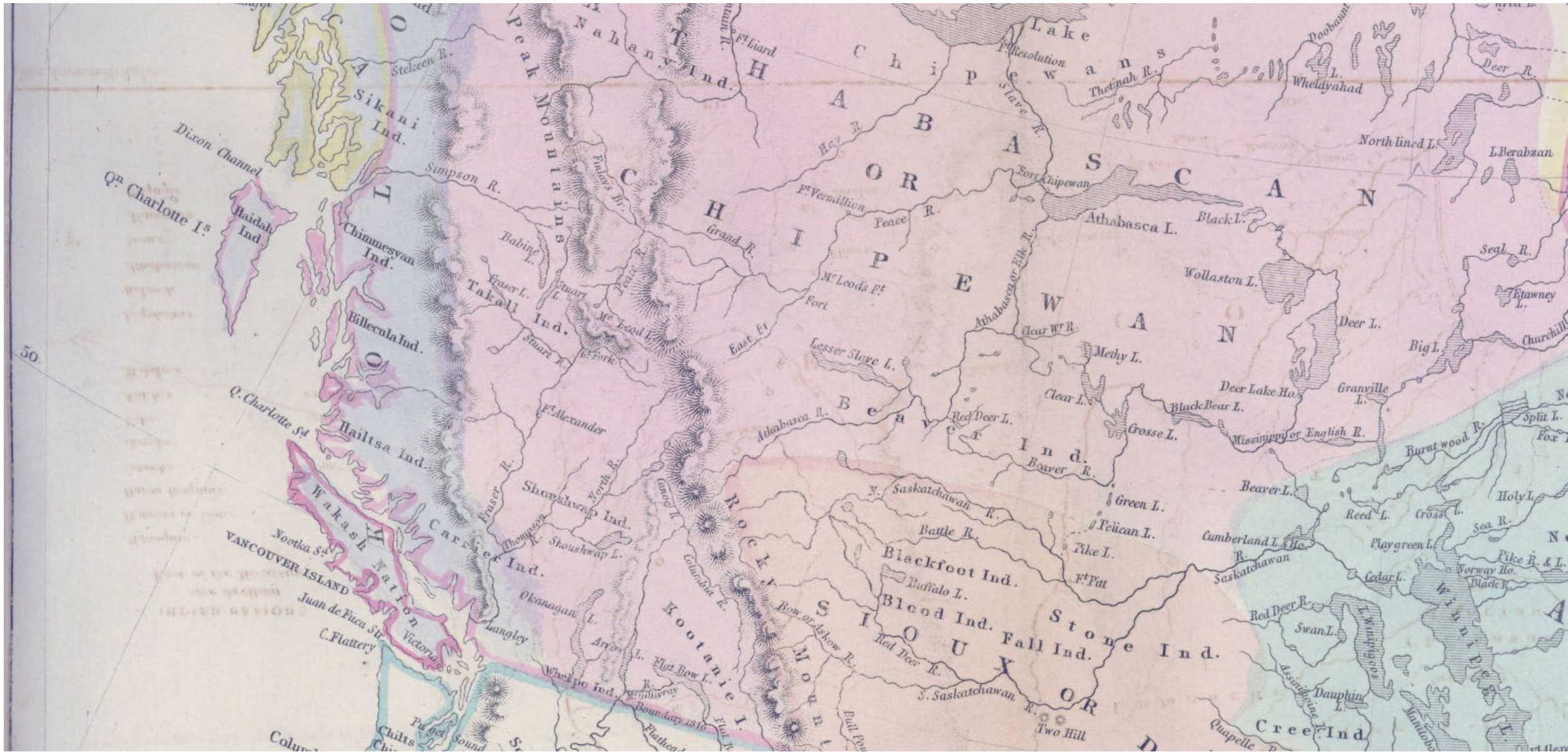
SCALE.

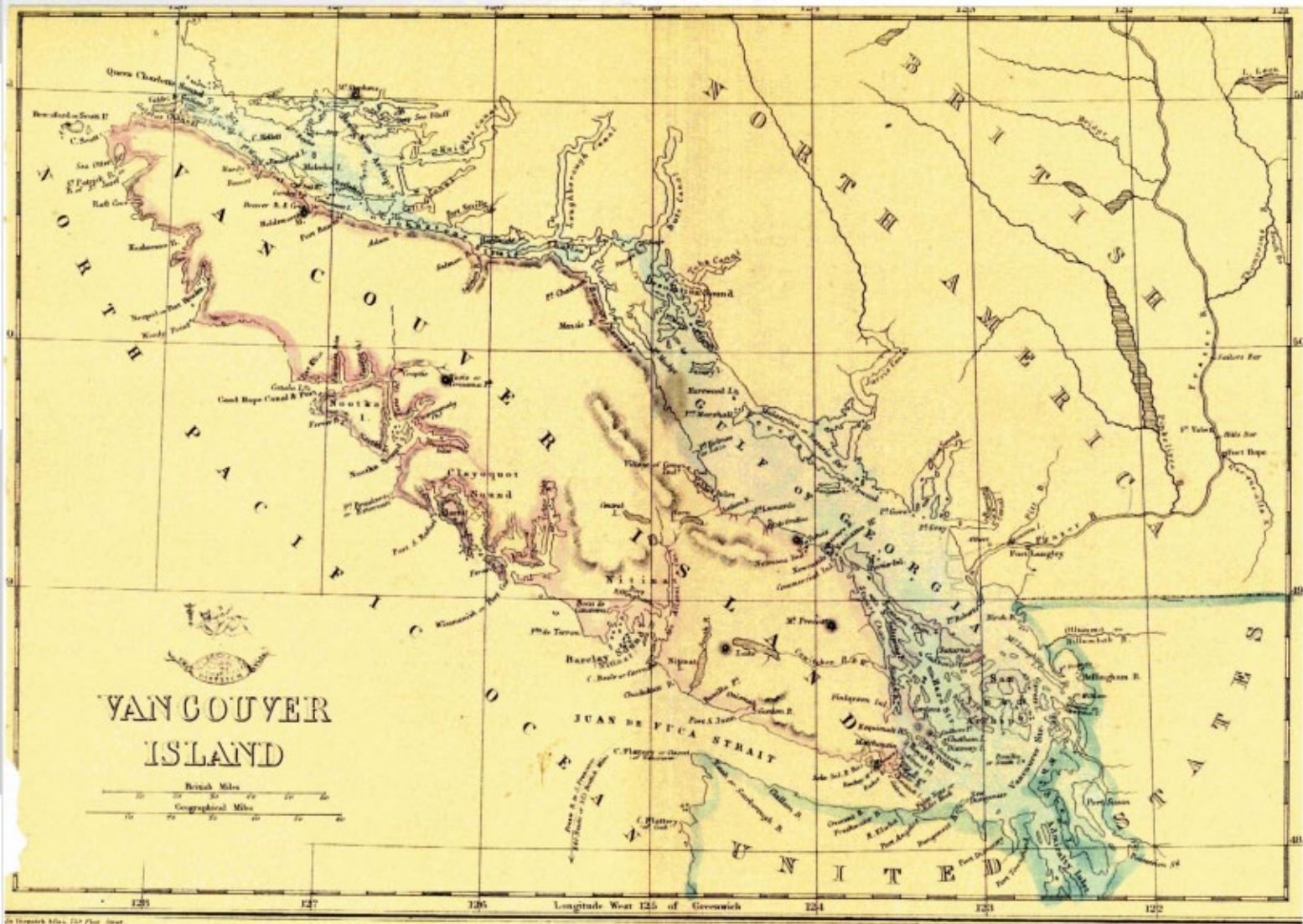
CONVOY OF DIAMONDS.

The Illustrations by J. Marchant & Engraved by J. Rogers

J & F. TALLIS, LONDON, LEIPZIG & DUBLIN

The Map Drawn & Engraved by J. Rapkin





By DePuech Map. 1874. Plate 100.

From a Survey by the U.S. Navy, 1859.

Deconstructing Colonial Maps and Mapping:

Spatial representations of the *Discovery Doctrine*

Mappers were the front lines of European Imperial Grid Expansion (250,000 km² per year).

“Mapping Them In & Mapping Them Out”

Early cartographers were making one geography while “unmaking” another

European colonization rests on the assumption of *Terra Nullius* (no one’s land), and a romanticized ideal of native people as ‘Other’, as Noble Savage, who, conveniently, lacks territoriality and requires religious salvation and/or progress towards the ideals of White civilization. Maps helped achieve this.

Relies on a global **geographic coordinate referencing system**

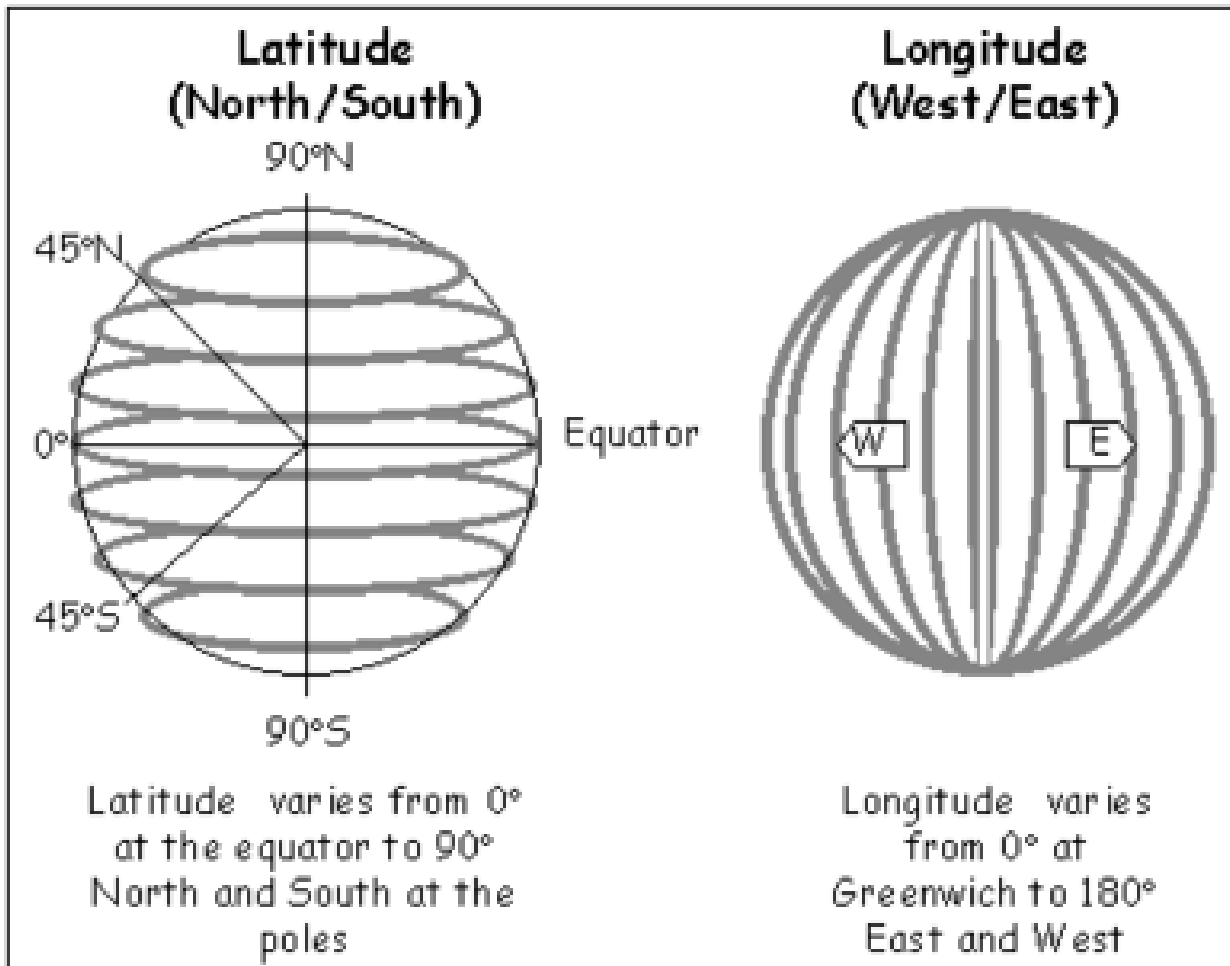


Geographic Coordinate Referencing System



Eratosthenes of Cyrene, c. 276 BC

Geographic Coordinate Referencing System



Cartography, was a means by which “distant regions could be brought into the regulatory fold of colonial governance” (from Clayton, 1992, “Geographies of the Lower Skeena, p. 54, quoted in Ken Brealey’s Master’s Thesis, UBC, p. 17).



Cartography and Surveying

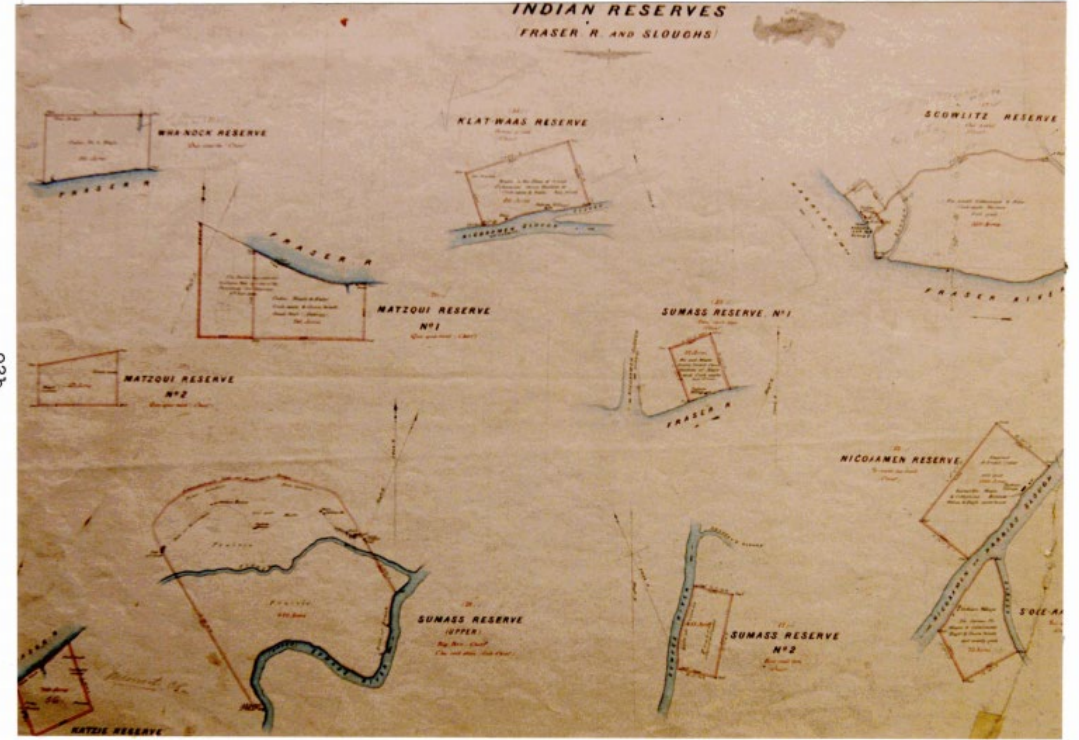
Land surveying is the technique, profession and science of determining the terrestrial or three-dimensional position of points and the distances and angles between them.

Land surveying has always been an essential element of contemporary land management & governance.

Surveying and Registering of Interests, e.g. Torrens title system. Certainty of interests, accurate land descriptions, and indefeasibility of land title.

Land surveyors must understand and apply the positioning standards and specifications established by the governing jurisdiction. I.e. Canada Lands Surveys Act (CLSA).

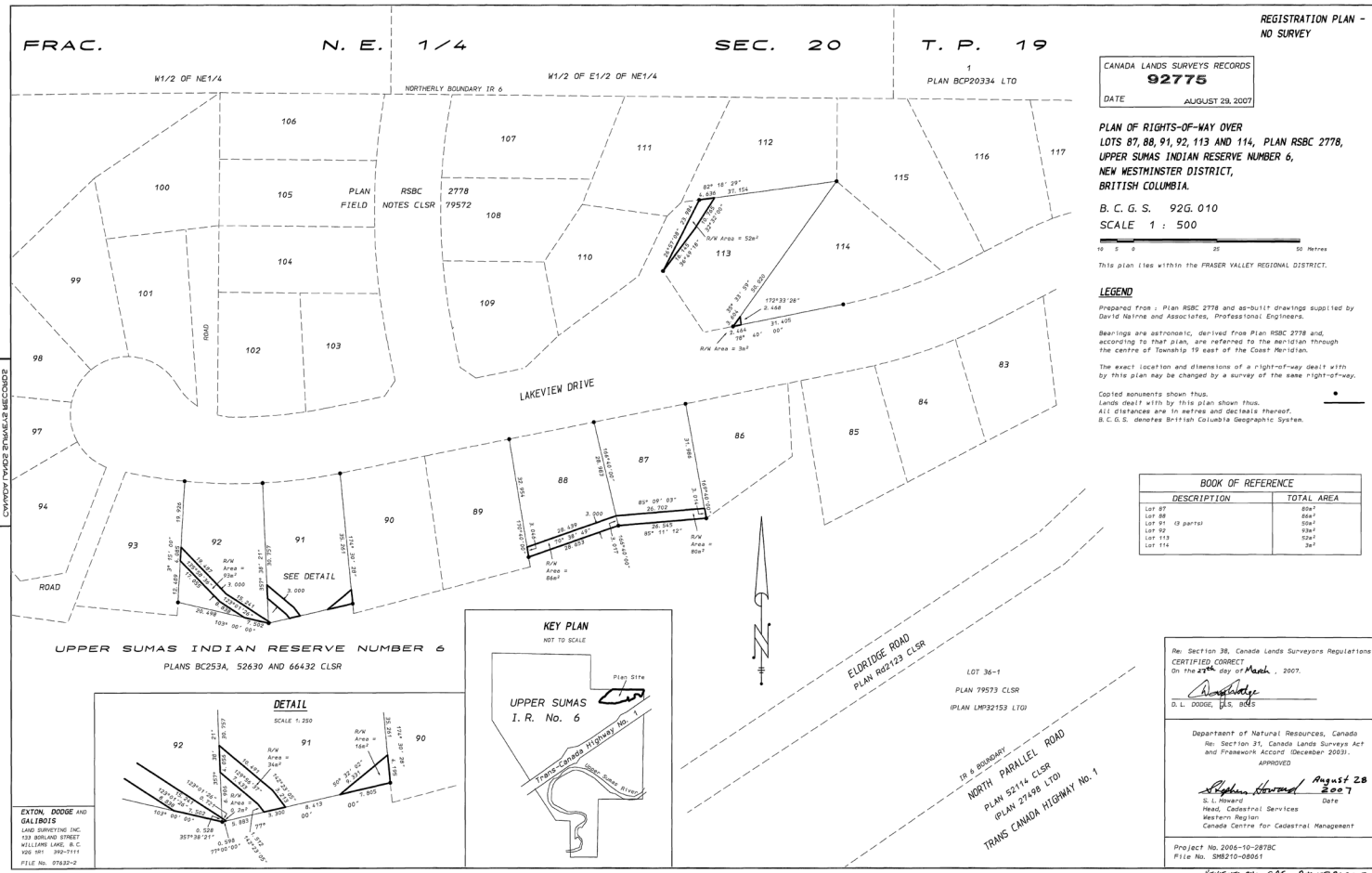




02h

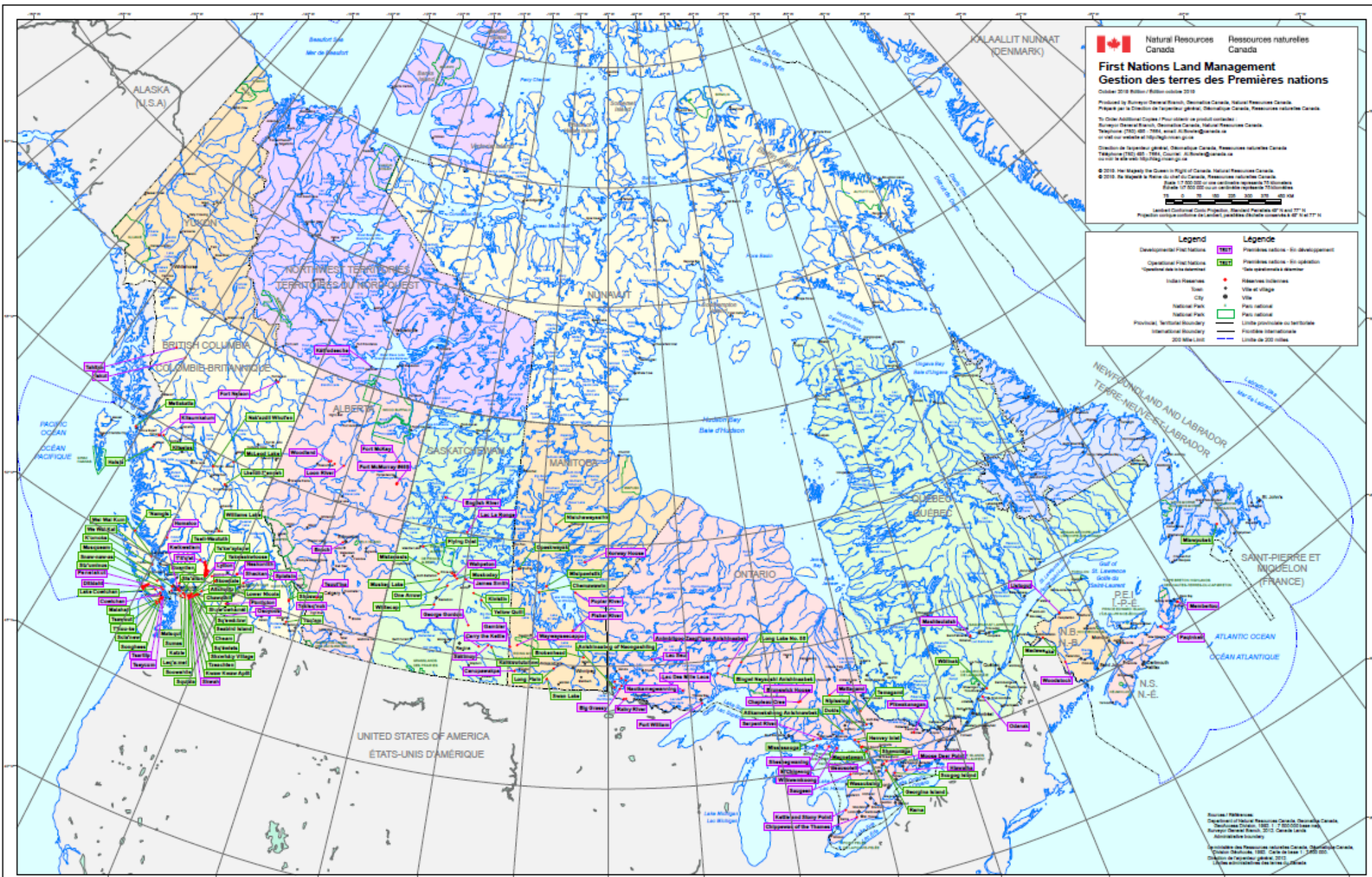
Land Surveying


Surveying was a primary apparatus of the state to establish control from a distance, establish and delineate private land interests and distinguish them from collective interests, to establish Indian reserves, and to dispossess indigenous lands.



Land Surveying

Surveying is an essential part of land management on-reserve, and the creation and registration of land interests.




Natural Resources Canada / **Ressources naturelles Canada**
First Nations Land Management
Gestion des terres des Premières nations
 October 2018 Edition / Révision octobre 2018

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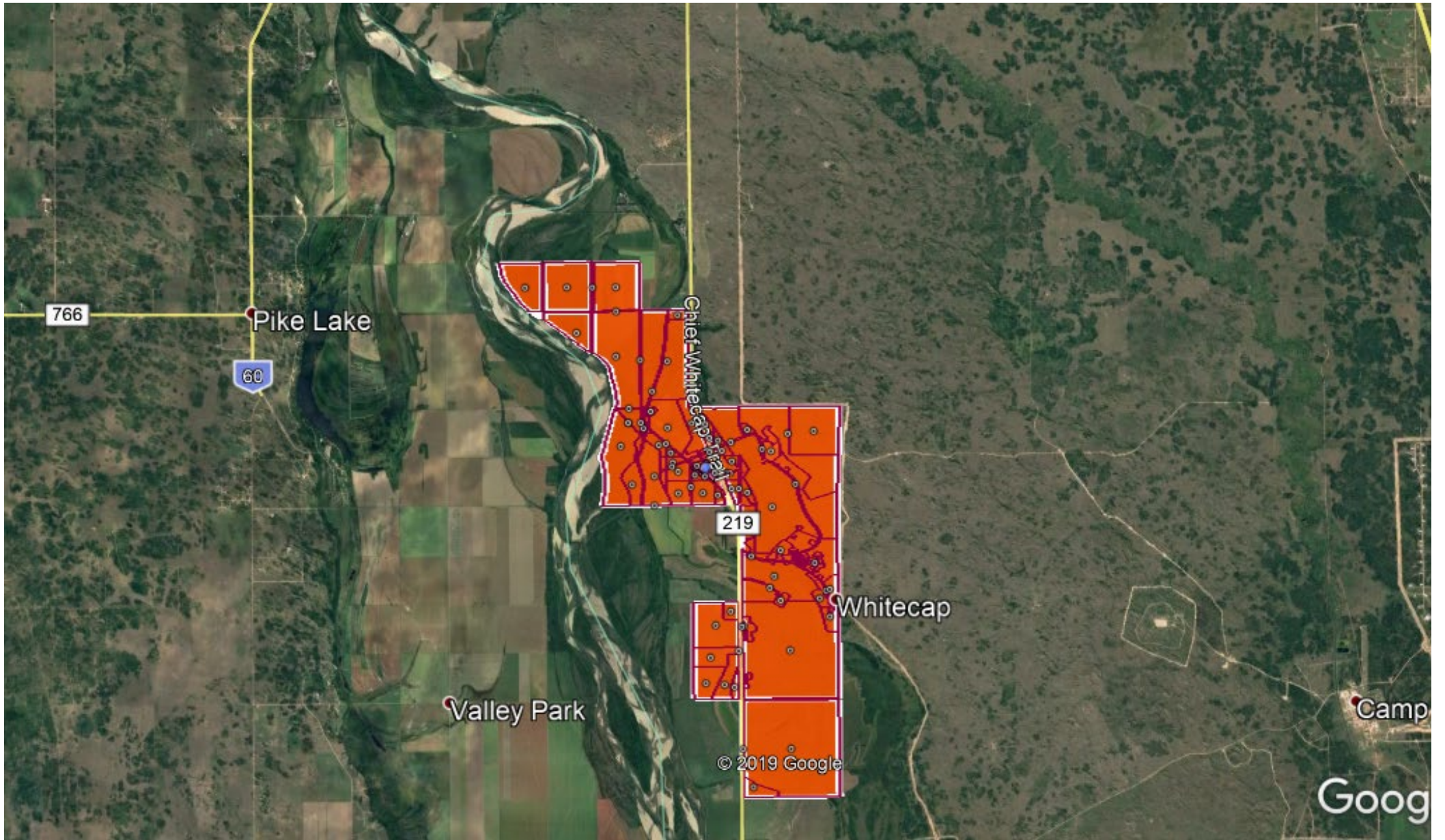
© 2018 Her Majesty the Queen in Right of Canada, Natural Resources Canada
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 Scale 1:250,000 or use coordinates separately 15 minutes
 Échelle 1:250 000 ou voir coordonnées séparément 15 minutes

0 100 200 300 400 500 KM
 0 100 200 300 400 500 Miles

Lambert Conformal Conic Projection, Standard Parallels 49°N and 77°N
 Projection cartographique conique de Lambert, parallèles standards 49°N et 77°N

Legend	Legende
Developmental First Nations	Premières nations - En développement
Operational First Nations	Premières nations - En opération
Operational First Nations in the process	Les opérations en cours
Indian Reserves	Reserves indiennes
Island	Ville d'île
City	Ville
National Park	Parc national
National Park	Parc national
Provincial, Territorial Boundary	Limite provinciale ou territoriale
International Boundary	Frontière internationale
200 Mile Limit	Limite de 200 milles

Sources / Références:
 Department of Natural Resources Canada, Geological Canada, 1:250,000 Scale Map
 Survey General Branch, 2013 Canada Land Administrative Boundary
 Archives des Ressources naturelles Canada, Géologie Canada, Carte de base 1:250,000
 Direction de l'arpentage géométrique, 2013
 Les données administratives des terres du Canada



Maps and Ethics

What a map doesn't reveal is often just as informative as what a map does reveal.

Maps are powerful. Maps are situated within, and are examples of, ideological power networks.

How we portray reality through maps can have major consequences.

Colonizers used maps to help them dispossess indigenous people from their lands. Now, the power and technology of mapping are being utilized by Indigenous people to reclaim their lands.

Ethics within an Indigenous mapping context is complex. Who is doing the mapping, and why? How do we represent people, place and the connections, activities and relationships inherent in indigenous worldviews?



Q&A

