

The Dawn of a New Age of

GeoPortals

Ben Arril, M.Sc.
Team Lead

Business Innovation and Emergency Response
GeoBC, Integrated Resource Operations Division

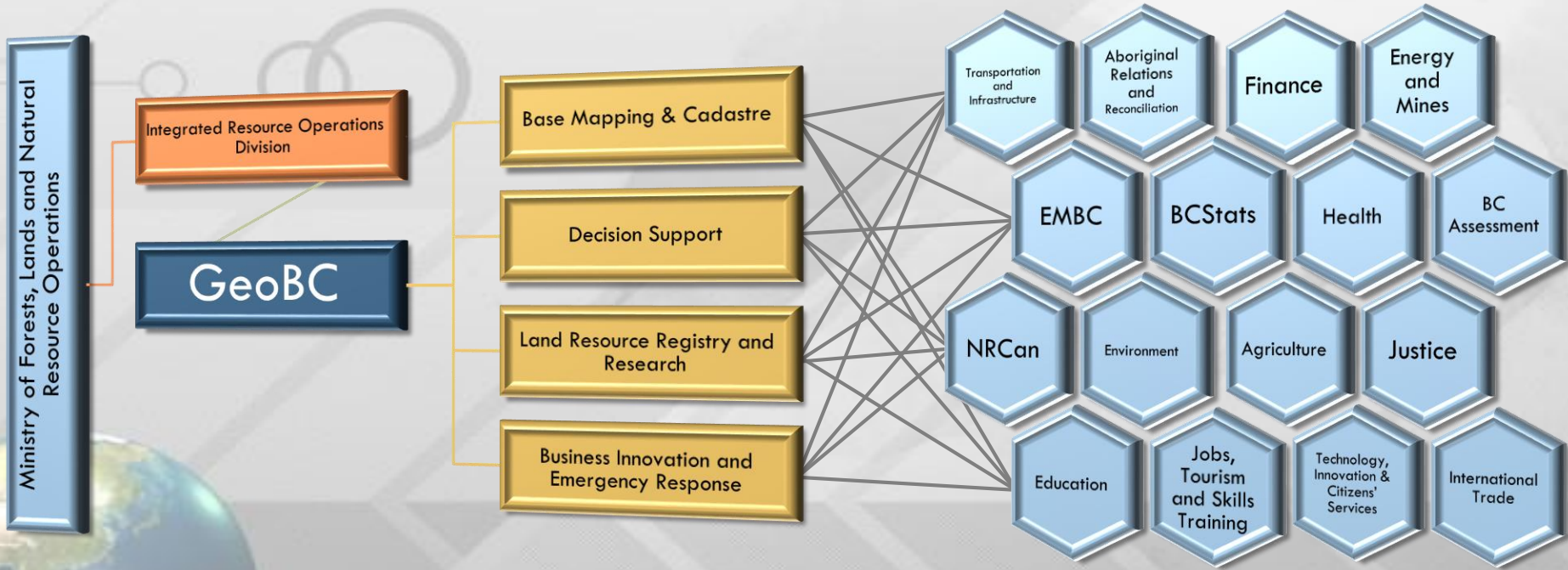
URISA Vancouver Conference
June 15th, 2017



Ministry of
Forests, Lands and
Natural Resource Operations

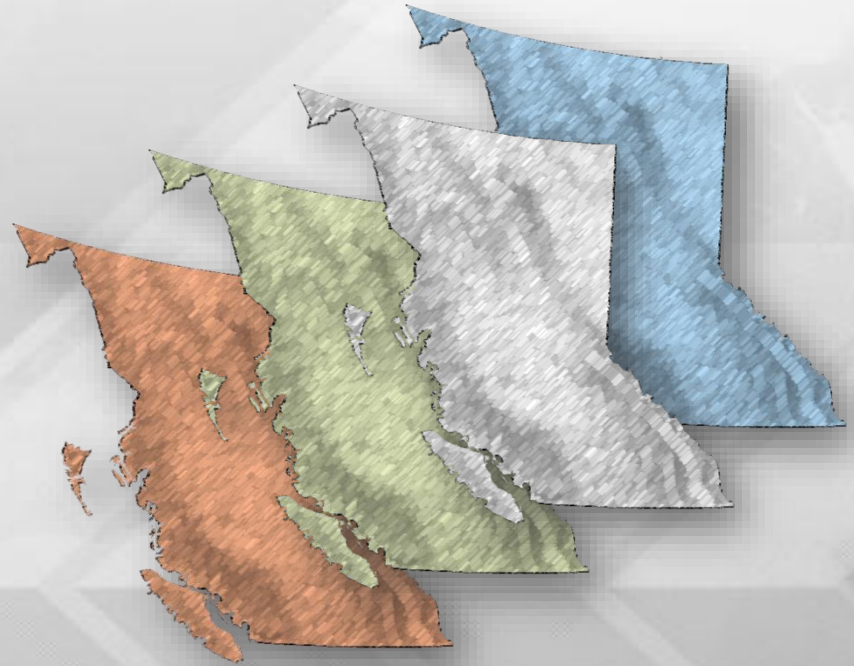
GeoBC

Welcome to GeoBC...



An Evolving Landscape...

- BC has a complex system of land-use and resources including **oil and gas, forestry, energy, recreation, tourism, agriculture, traditional use and fish and wildlife activities.**



ArcGIS Online...



Web-Mapping
Visualisation



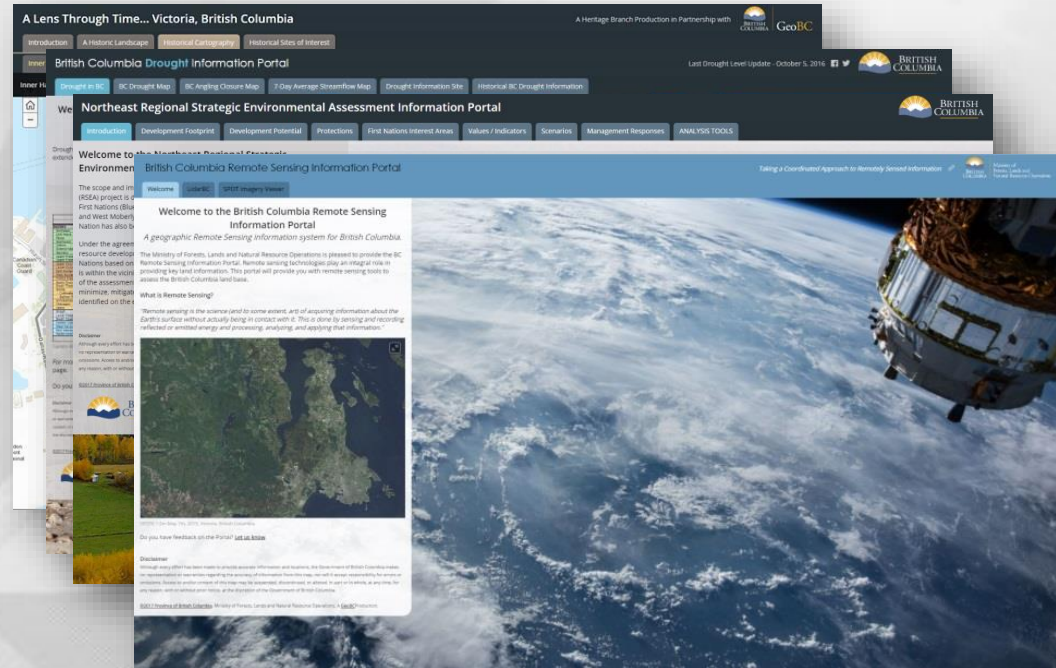
Awesome Web Mapping
Visualisation Server Hybrid
(AKA ArcGIS Online)



ArcServer

What is a GeoPortal?

- GeoPortal: Geographic Information Visualization and Support Interface (GIVSI).
- GeoPortals convey information from multiple sources through a "one stop shop" website (information portal).
- Displays spatial information, aspatial information, websites, forms, surveys all in one place.



Drought in BC...

- Drought is a recurrent feature of climate involving a deficiency of precipitation over an extended period of time, resulting in a water shortage.
- **GeoPortal Goals:**
 - Provide up-to-date drought information to the public;
 - Provide historical drought information; and
 - Provide an easy, efficient and FAST method to update drought information.



Drought in BC...

Historical BC Drought Information

Historical drought levels in British Columbia are located below. For more information please visit the [Drought Information](#) site.

2015 BC Drought Levels

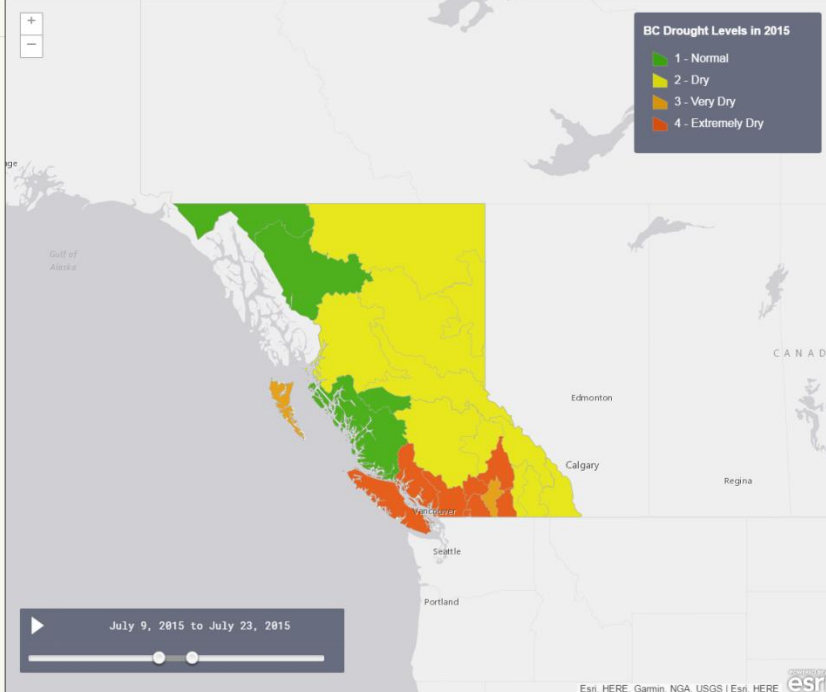
2015 DROUGHT LEVELS AT A GLANCE

Drought Levels	1 - Normal	2 - Dry	3 - Very Dry	4 - Extremely Dry
Basins	15-May-28	28-May-10-Jun	10-Jun-23-Jun	23-Jun-05-Aug
Northwest	1	1	1	1
Sitkine	1	1	1	1
Northwest	1	1	1	1
Peace	1	1	1	1
East Peace	1	1	1	1
Sikwani-Heath	1	1	1	1
Heathcote	1	1	1	1
Upper Fraser	1	1	1	1
Upper Columbia	1	1	1	1
Lower Columbia	1	1	1	1
East Kootenay	1	1	1	1
East Kootenay	1	1	1	1
Fraser-Foxton	1	1	1	1
South Thompson	1	1	1	1
Okanagan-Keenle	1	1	1	1
Karlu (Intersect July 23)	1	1	1	1
Keenle	1	1	1	1
Simulashien	1	1	1	1
Skagit	1	1	1	1
Lower Fraser	1	1	1	1
South Coast	1	1	1	1
Vancouver Island	1	1	1	1
North Coast	1	1	1	1
Central Coast	1	1	1	1

2016 BC Drought Levels

2016 DROUGHT LEVELS AT A GLANCE

Drought Levels	1 - Normal	2 - Dry	3 - Very Dry	4 - Extremely Dry
Basins	15-May-28	28-May-10-Jun	10-Jun-23-Jun	23-Jun-05-Aug
Northwest	1	1	1	1
Sitkine	1	1	1	1
Northwest	1	1	1	1
Peace	1	1	1	1
East Peace	1	1	1	1
Sikwani-Heath	1	1	1	1
Heathcote	1	1	1	1
Upper Fraser	1	1	1	1
Upper Columbia	1	1	1	1
Lower Columbia	1	1	1	1
East Kootenay	1	1	1	1
East Kootenay	1	1	1	1
Fraser-Foxton	1	1	1	1
South Thompson	1	1	1	1
Okanagan-Keenle	1	1	1	1
Karlu (Intersect July 23)	1	1	1	1
Keenle	1	1	1	1
Simulashien	1	1	1	1
Skagit	1	1	1	1
Lower Fraser	1	1	1	1
South Coast	1	1	1	1
Vancouver Island	1	1	1	1
North Coast	1	1	1	1
Central Coast	1	1	1	1



Flooding in BC...

- A flood event is described as an inundation of water beyond its normal confines, especially over what is usually dry land.
- **GeoPortal Goals:**
 - Provide up-to-date/real-time flood information for Emergency Management staff;
 - Provide an Emergency Management common operating picture; and
 - Provide an easy, efficient and FAST method to update flood information, add spatial flood data and provide a single window for resources.



Flooding in BC...

EMBC Flood Response Information Portal - Spring 2017

Last update: May 29, 2017, 11:05am



- Introduction
- Situation Reports
- Common Operating Picture Map
- Weather
- Social Media Map
- Planning Scenarios
- Damage Assessment Form
- Imagery Acquisition Planning

Ben.Arril_bccgov03

Sign Out

Damage Assessment Form

Damage Assessment Form for EMBC Test

Name of observer? *

What is the time of the assessment? *

This is a required question

What is the date of the assessment? *

This is a required question

Asset type?

- Building
- Infrastructure
- Private
- Transportation
- Other

Earthquakes in BC...

- British Columbia is the most seismically active province in Canada. Nearly 80% of the population of BC has a high probability of experiencing a damaging earthquake sometime in the next 50 years.
- **GeoPortal Goals:**
 - Provide up-to-date earthquake information;
 - Provide earthquake hazard probability; and
 - Provide an easy, efficient and FAST method to update earthquake information.



Earthquakes in BC...

British Columbia **Earthquake** Risk Information Portal Emergency Preparedness, Response & Recovery

When the Ground Shakes | Building Exposure | **Building Vulnerability** | Risk Scenarios | Tsunami Smart | Global Earthquakes Map | Dashboard | Shake Out BC

Physical Exposure - Operation View Add... Save Ben

Average Number of Buildings

447,138 Buildings

Construction Type

WOOD	~300,000
CONCRETE	~10,000
PRECAST	~10,000
BRICKMASONRY	~10,000
URMASONRY	~10,000
MANUFACTURED	~10,000
STEEL	~10,000

*URMASONRY = Reinforced masonry building construction type *URMASONRY = Unreinforced masonry building construction type

Construction Timeline

PRECODE	~10,000
LOWCODE	~100,000
MIDCODE	~150,000
HIGHCODE	~180,000

Highcode = Constructed after 2005 Midcode = Constructed between 1990 and 2005 Lowcode = Constructed between 1973 and 1990 Precode = Constructed before 1973

Average Population

2,311,011 People Average Occupancy | | | |--------------------|------------| | TotalCommuteOccp | ~1,000,000 | | TotalDestimeOccp | ~1,000,000 | | TotallighttimeOccp | ~300,000 |

MMI6

23%

The likelihood of an MMI 6 level earthquake occurring in the next 50 years (strong shaking - Felt by all, many frightened. Some heavy furniture moved, a few instances of fallen plaster. Damage slight).

MMI7

7%

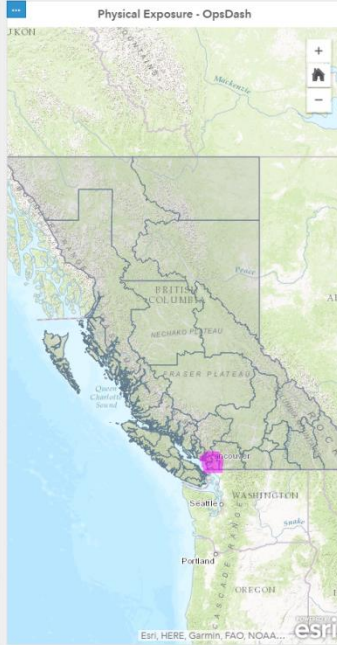
The likelihood of an MMI 7 level earthquake occurring in the next 50 years (very strong shaking - Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken).

MMI8

2%

The likelihood of an MMI 8 level earthquake occurring in the next 50 years (severe shaking - Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned).

Physical Exposure - OpsDash



Map showing physical exposure to earthquakes in British Columbia, including major cities like Vancouver, Seattle, and Portland, and geographical features like the Fraser River and the Coast Range.

Environmental Assessment in BC...

- Collaboratively evaluate land use and natural resource activities, plans, policies and programs and where they could impact First Nation lands in Northeastern BC.
- **GeoPortal Goals:**
 - Provide up-to-date environmental assessment information;
 - Improve communication and engagement and facilitate informed decision making; and
 - Provide users with the ability to perform spatial analysis through reporting.



Environmental Assessment in BC...



GeoBC

Northeast Regional Strategic Environmental Assessment Information Portal Last RSEA Update: May 19, 2017 BRITISH COLUMBIA

Introduction **ANALYSIS TOOLS** Significant Areas Land Ownership Land Cover Administrative Units Development Footprint Potential Development Protections Recreation Opportunity Spectrum

Agriculture **Forestry** Petroleum and Natural Gas Consolidated Roads Other Linear Features Mining Clean Energy Recreation & Tourism Urban **SUMMARY**

Overview Map

Forestry

For the purposes of Cumulative Effects any forest harvesting that is less than or equal to 20 years old is considered as development. The Forest Analysis and Inventory Branch produce an annual Consolidated Cutblock dataset.

Consolidated Cutblocks


Warehouse Layer Name
This dataset is not maintained in the BC geographic warehouse but is available from the Forest Inventory and Analysis Branch (Tim Salkeld)

Selection Criteria
Harvest_End_Year >= 1994 (20 years from the current year)

Limitations
This is a yearly compilation of forest harvesting blocks and therefore will not include harvesting that has occurred since the dataset was compiled. The dataset also makes no distinction between clear cuts and form of partial cutting.

Custodian/Key Contact - Tim Salkeld (Tim.Salkeld@gov.bc.ca)

Recommendations
It would be possible to update BTM with more recent imagery however there are currently no plans to do this.



WHERE ARE WE HEADED?

“Maps! Because Geographers know where things are, we just don’t know how to get there...”

- Ben Arril

“In the middle of every difficulty, lies opportunity...”

- Albert Einstein

THANK YOU!

QUESTIONS/COMMENTS,

IDEAS?...

Ben Arril



Ben.Arril@gov.bc.ca



250-952-5847



Ministry of
Forests, Lands and
Natural Resource Operations

GeoBC