CANADIAN CENTRE FOR CLIMATE SERVICES | CENTRE CANADIEN DES SERVICES CLIMATIQUES

Environment and Climate Change Canada | Environnement et Changement climatique Canada

Canada

From Data to Decision-Making: The Role of CCCS in Disseminating Flood-Hazard-Related Information

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November 3, 2025

Canadian Center for Climate Services (CCCS)

Speaker intro

Dhouha Ouali, Dr
Program Coordinator
CCCS-ECCC

- PhD in Water Sciences – Statistical hydrology (INRS-ETE)
- Pacific Climate Impacts Consortium (PCIC)
- Global Water Futures (GWF)
- Canadian Centre for Climate Services (CCCS)

What to expect

OUTLINE FOR TODAY

- Introduction to the CCCS
- Climate + Floods
- CCCS role in supporting national flood planning

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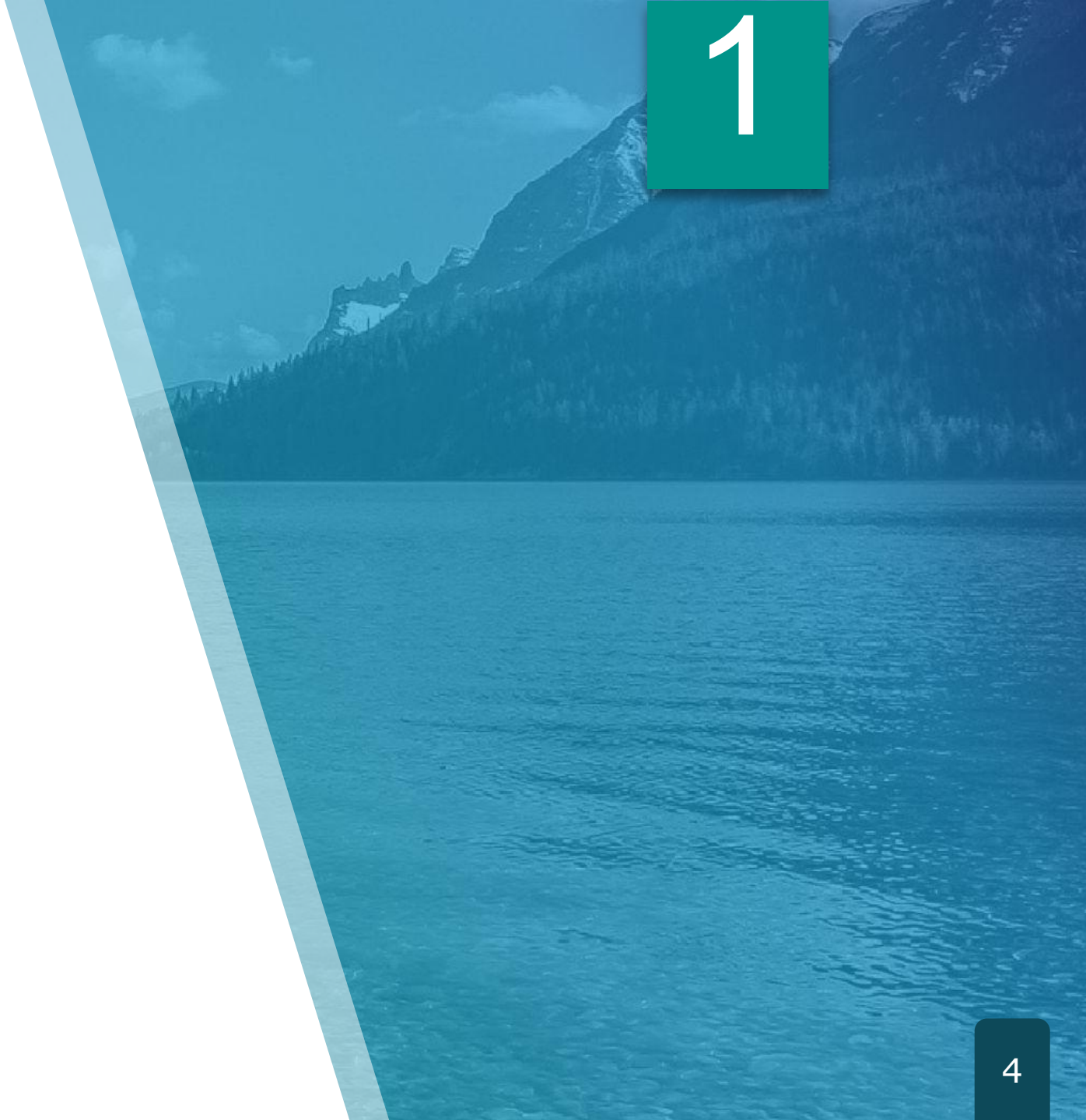
Introduction to the CCCS



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We make climate science actionable.

The Canadian Centre for Climate Services (CCCS) provides Canadians with information and support to consider climate change in their decisions.

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Who we are

LEARN MORE ABOUT THE CCCS

We provide Canadians with information and support to consider climate change in their decisions

ccsc-cccs@eg.gc.ca
Canada.ca/climate-services

Our role

THE CANADIAN CENTRE FOR CLIMATE SERVICES

- Increasing awareness and access to climate data
- Providing training and guidance
- Engaging with users to understand needs
- Developing new products collaboratively

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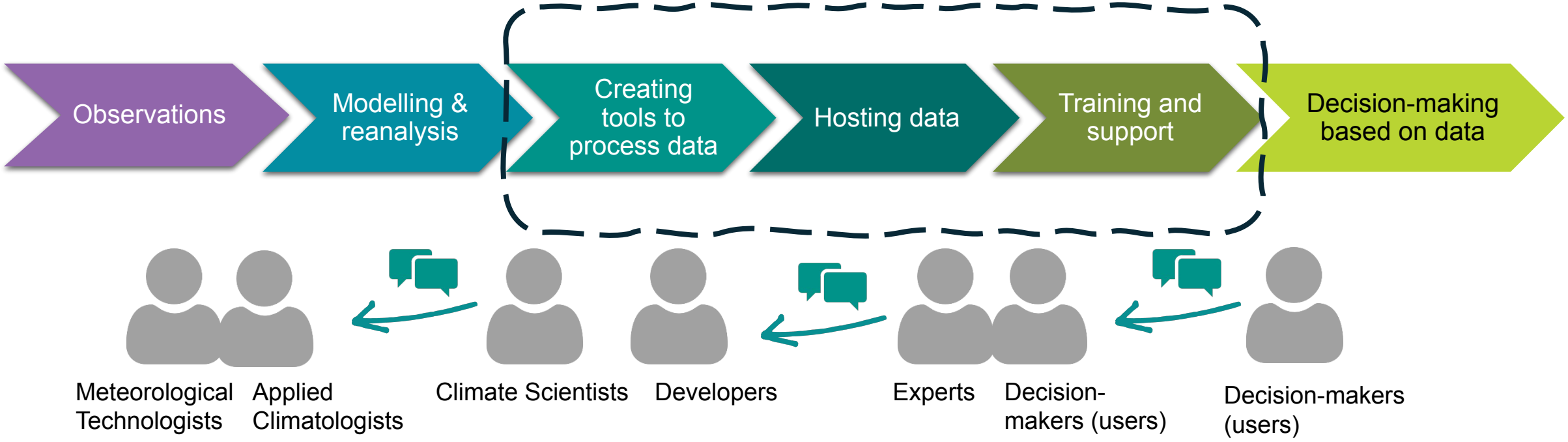
How climate services help

ENGAGING, PARTNERING, DRIVING INNOVATION

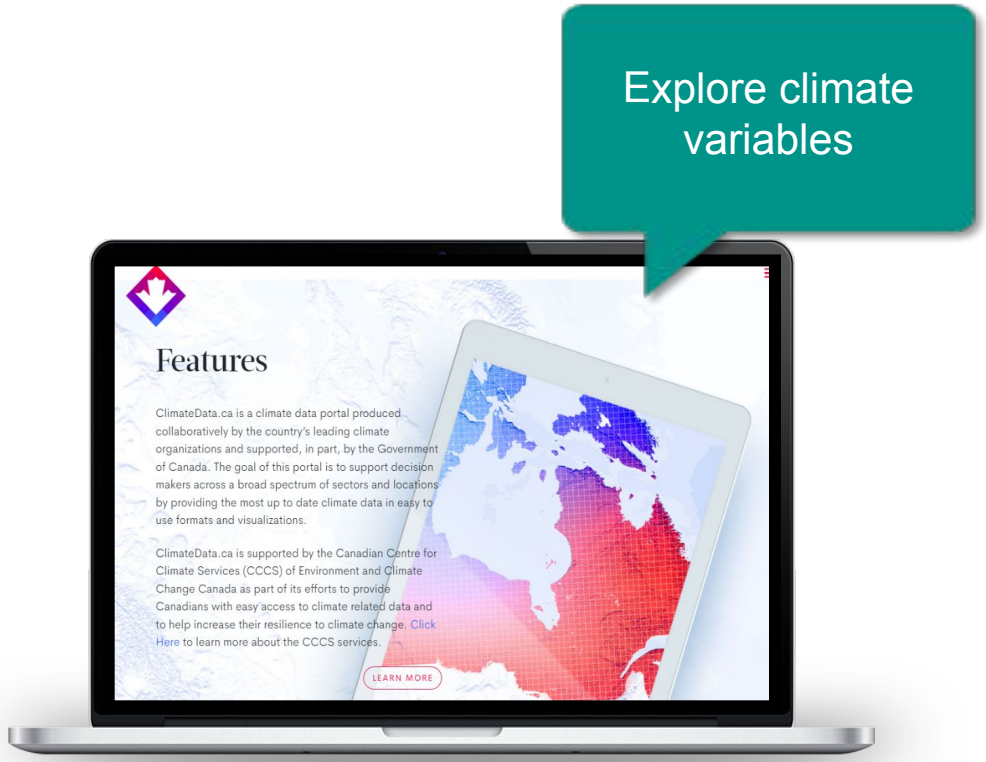


Enable decision-makers to use credible, science-based data to make informed choices about climate adaptation and resilience

ClimateData.ca

SUPPORTING OUR MAIN CLIMATE PORTAL

- Explore Canada-wide historical and future climate data
- Customize raw data analysis quickly and efficiently
- **Learn** about how to understanding and interpret future projections
- Get inspired by sectors who are already applying climate data to adaptation efforts



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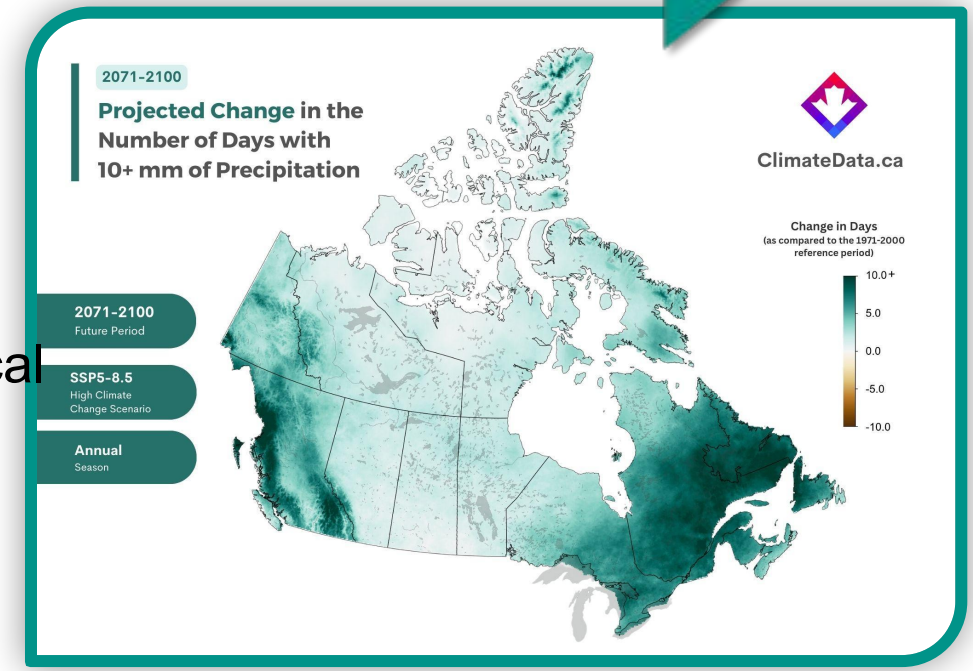
BUILDING A MORE RESILIENT CANADA

- 10x10km resolution future climate data for a range of emissions pathway
- Historical climate data
- Spatial analogues tool
- Temperature-shifted future IDF data
- Weather stations observations from the Meteorological Service of Canada
- Sea-level change data

High resolution climate data



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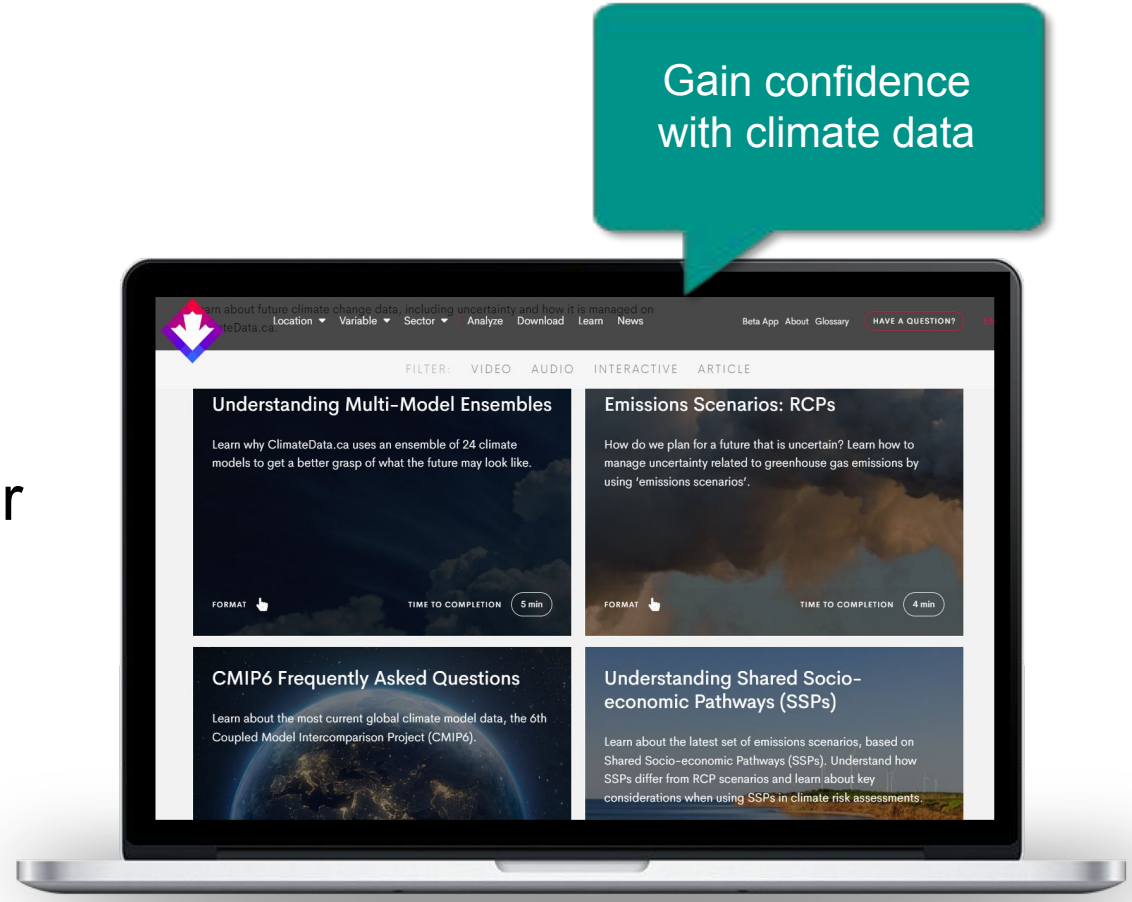
BUILDING CLIMATE LITERACY

Learning Zone

- Introduction to climate information for decision-making
- Understanding historical data
- How to use ClimateData.ca
- Downloadable training materials
- *More coming soon!*



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Floods in a changing climate

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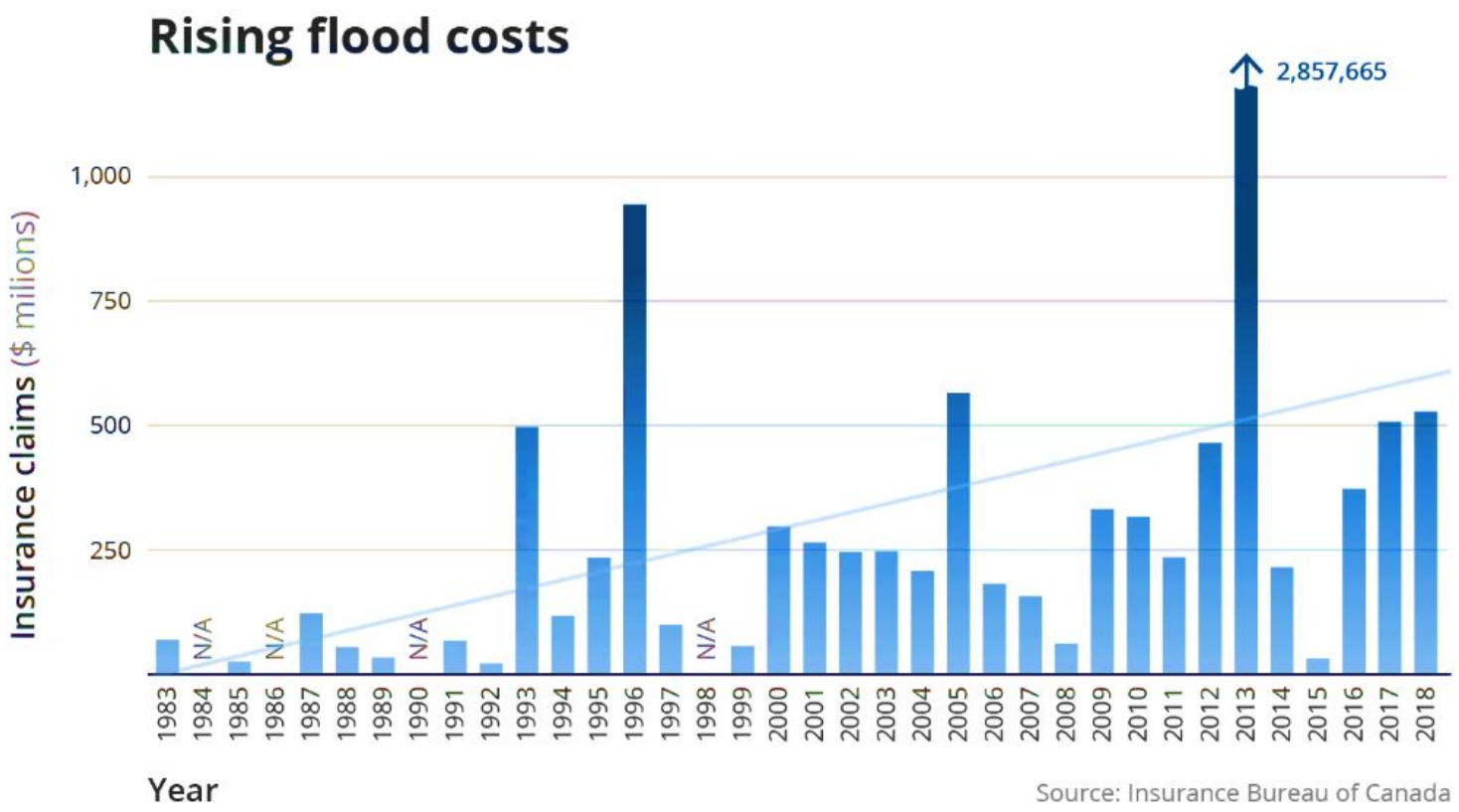
Floods in a Changing Climate: Why We Should Care



2024

$2.5B

2021

$5B

In Canada, 9% of population lives on 1-in-100-year flood plains

Floods + climate change

CHALLENGE

- Flood response differs based on location
- Floods occur for different reasons in the Canadian climate
- Flood indices are unique
- Flood data may not be grid/point-based
- Change in floods depends on the climate baseline
- Floods are often compound events with “memory”

Flood Hazard Identification and Mapping Program (FHIMP)

Create consistent, reliable flood hazard maps that help communities plan for floods and reduce related risks

FLOOD HAZARD IDENTIFICATION AND MAPPING PROGRAM

Partners: ECCC, NRCan Public Safety, G&C partners

Mission: “Create flood hazard maps that can help communities plan for flood events and implement mitigation strategies.”

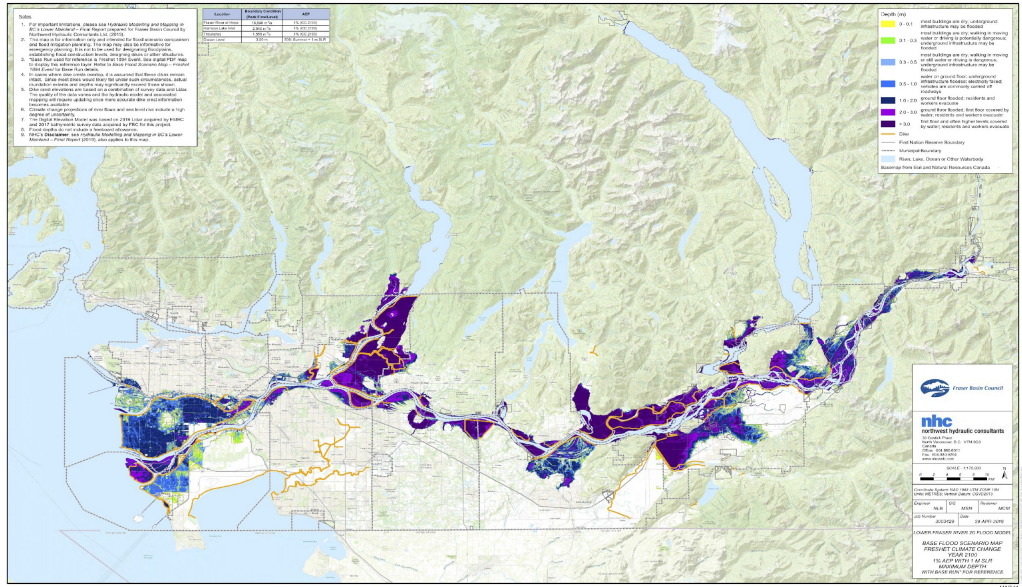
Funding: $227M (*$164M from NAS*)

What is flood mapping?

Flood maps show an area that may be covered by water

Flood maps offer many advantages to communities

- Provide a foundation for land use planning and government decision-making
- Support emergency management practices
- Enable flood mitigation activities like adding dykes or other infrastructure
- Empower citizens and property owners to make informed decisions related to flood risk



Lower Fraser River, BC, Northwest Hydraulic Consultants, 2019

Flood Hazard Identification and Mapping Program (FHIMP)

ECCC objectives

- Enhance the science behind hydrological modelling through **integrating climate change** into future hydrological simulations
- Support local flood mapping efforts

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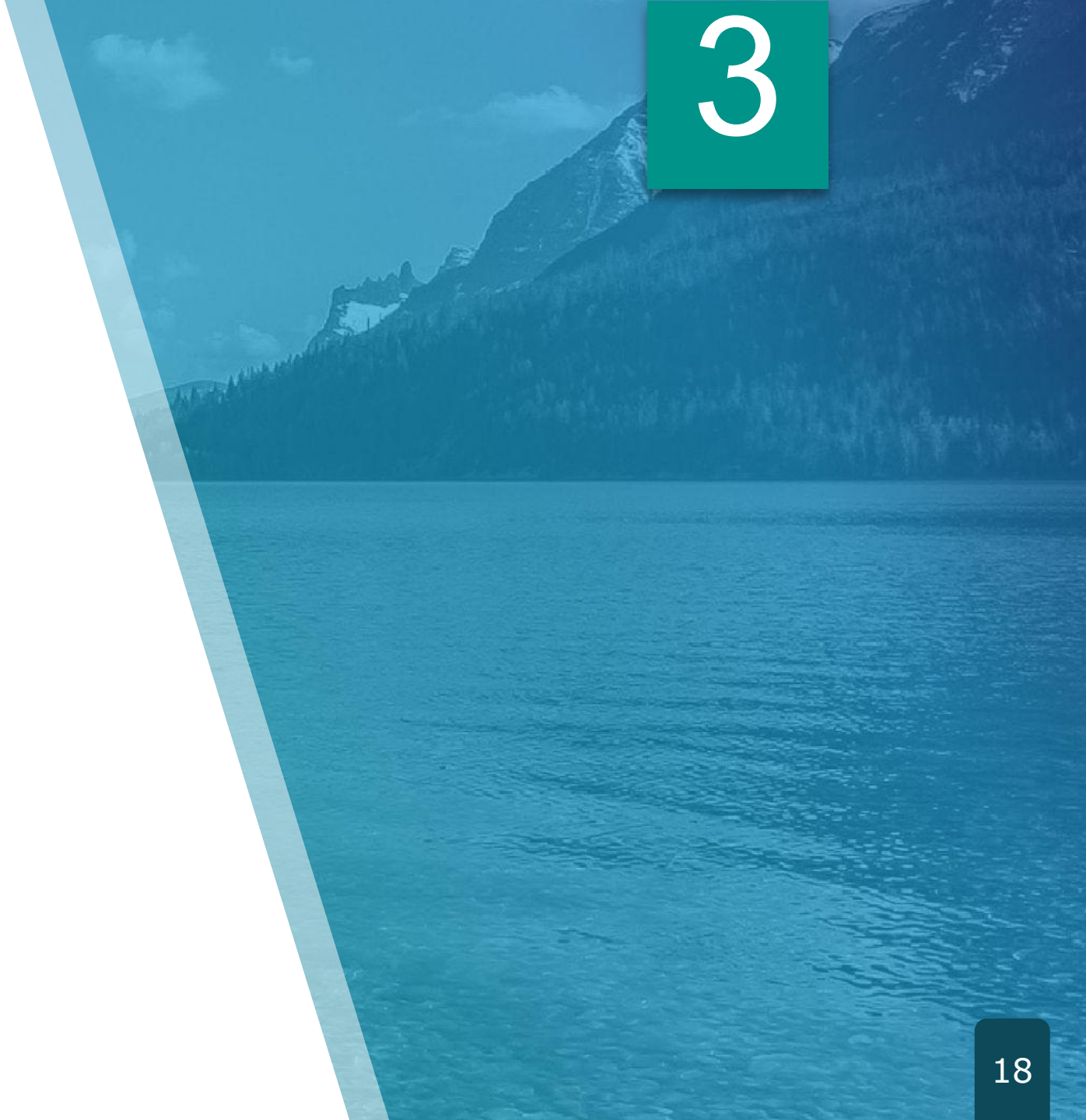
CCCS Role



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CCCS Role

CCCS supports our science partners to enable product delivery

FHIMP/ECCC RESEARCH

CCCS

DECISION MAKING

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Flood Hazard Identification and Mapping Program (FHIMP)

CCCS objectives

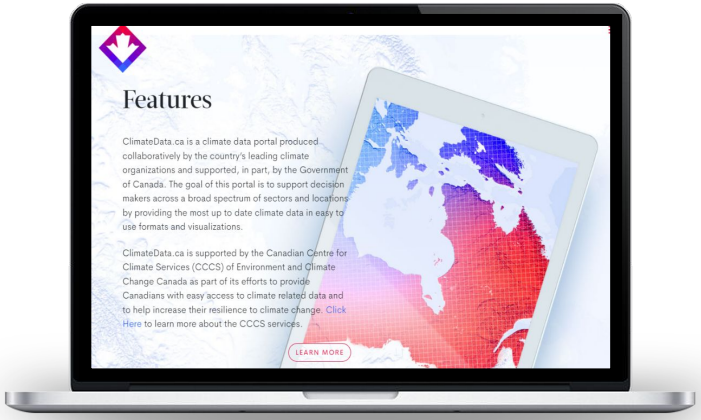
- Support FHIMP/NAS to assess, process, QC, host, and interpret climate data for floods
- Co-develop and deliver hydrometeorological data, information, guidance and training on CD.ca
- Align data choices, data delivery and training/guidance to user needs

How can we help?

Hydromet Data Portal on CD.ca

Providing:

- easy access to FHIMP-related products, tailored to users' needs
- Guidance and best practices for use



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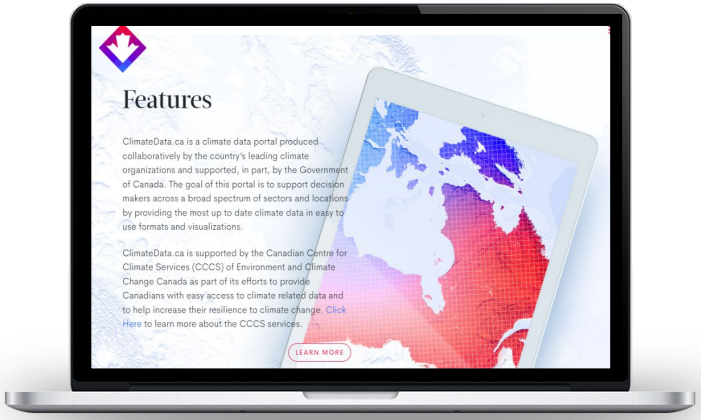
CCCS Role

- Data processing
- Engagement
- Training



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Data processing

- **Select and assess** hydrometeorological datasets to be hosted

  Gridded historical and future-projected atmospheric variables (e.g. temperature, rain, snow, …) and future Streamflow data

- **Quality Control:** Validate, ensure consistency and document the workflows
- **Process the data**: calculate indices and statistical summaries
- **Host and publish** datasets with standardized metadata and accessibility.
- **Interpret** and translate data into actionable insights for flood risk and climate adaptation

Engagement

Overview

Goal: Inform and facilitate the co-development of a **Hydrometeorological Data Portal (HDP)** with federal partners and end-users that **leverages** existing and future **FHIMP data**.

Outcome: An easy-to-interpret and user-friendly portal that is actionable and relevant across targeted sectors and audiences.

Training

PRODUCTS AND EVENTS

- **Provide information and guidance** about new datasets and products, limitations, navigation and example uses
- **Self-guided products** could include Learning Zone articles, audio recordings, recorded presentations and activities
- **Live events** could include CCCS hosted presentations, conference presentations/workshops and partner/client-hosted events
- Considering **article topics for publication ahead of launch** to support promotion of upcoming service, if needed

Conclusions

- User engagement and close collaboration with FHIMP partners and practitioners
- Co-production of data and delivery through the portal
- Equal focus on data and guidance development
- Advance nation-wide flood mapping coverage and share accessible flood hazard information with Canadians

Thank you

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Canada.ca/climate-services
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