



# WATER DATA HUB

CRACKING THE CODE (IN 3-D)

*DECIDE · DESIGN · DO*

AN OPEN SOURCE DATA DIALOGUE TOWARDS A COLUMBIA BASIN  
WATER MONITORING FRAMEWORK

**NOVEMBER 29-30, 2017  
INVERMERE, BC**

## **EXECUTIVE SUMMARY**

On November 29 & 30, 120 residents, guests and water experts gathered in Invermere, B.C. for a two-day event — A Water Data Hub Dialogue: Cracking the Code in 3D — to discuss current water monitoring initiatives and water data storage hubs used in B.C., Canada and in the USA, and what the next steps could be towards developing a collaborative water monitoring framework and data hub for the Columbia Basin.

The conference was designed to explore solutions to two situations: the Columbia Basin's inadequate water data as outlined in a 2017 CBT report by Dr. Martin Carver titled "Water Monitoring and Climate in the Upper Columbia Basin, Summary of Current Status and Opportunities"; and storage and access to Columbia Basin water data in a way that supports decision-making.



## DECIDE

Four purposes were identified for **WHY** a water monitoring Framework for the Columbia Basin was needed (in order of priority):

- Provide information to decision makers such as local government for asset management, provincial agencies for land management decision including the new Water Sustainability Act, and First Nations to meet the requirements of the United Nations Declaration on the Rights of Indigenous Peoples and the First Nations Water Quality Act.
- Strengthen and expand collaboration amongst governments, industry, communities and indigenous peoples; and establish a common vision, objectives and methods as a foundation for this collaboration.
- Signal trends and changes such as glacier melting and water resource changes.
- Advance regional water literacy

In terms of **WHAT** information is needed, participants identified the following priority data needs:

- increased water quality monitoring near waste disposal sites;
- drinking water source monitoring;
- integrated groundwater monitoring, including private groundwater sources;
- representative mid and high elevation snow/climate data with expanded analysis;
- wetland complex conditions; and
- information to support a regional water demand model and monitoring of actual use.

And participants outlined several categories of **WHO** needs to be involved:

- Data consumers/users (decisionmakers such as government, First Nations, community groups and individuals);
- Water monitoring protocol development and technical advisors;
- Data collectors from researchers and community groups to provincial agencies and industry;
- Data storage and access experts.

Many presentations clearly illustrated the wide range of existing and successful water monitoring frameworks and data hubs in B.C. and elsewhere, therefore there was a stress on collaboration and coordination, not reinvention.

## DESIGN

Many participants advocated for a 'hub of hubs' linking existing water monitoring information access points. Desired characteristics include:

- intentionally simple and user friendly;
- broad accessibility;
- flexible, taking in different kinds of data;
- and ability to analyze and filter data.

Guiding principles were also provided about how the HUB should be created and operated. They included:

- define a realistic, clear purpose based on users, with a focus and defined requirements
- set and follow clear priorities – do priorities well rather than trying to do it all;
- seek balance of basin and local scales, recognizing the cultural, social and ecological distinctive characteristics at local levels;
- ensure the design is scalable with the ability to grow, especially to respond to new Internet of Things technologies with different ways to collect, process, analyze and display data.

Many specific suggestions were provided about designing the HUB: such a liability, compatibility, automation and ongoing training.

## DO

The six critical elements listed below were identified as essential to successfully move forward with a Columbia Basin Water Monitoring Framework and Water Data Hub:

- Leadership
- Clear purpose
- Partnerships
- Sustained funding
- Basin specific design
- Gap analysis

Participants outlined the following ‘First Actions’ to move forward with the Framework and HUB:

- Identify purpose/project charter (see preliminary purpose statement on page 15)
- Secure seed funding
- Create initial small steering committee with internal self-organizing for partner groups
- Develop goals, organizational structure and costing
- Identify priorities for HUB development collectively
- Establish partnership agreements with roles and responsibilities

The conference conveners are working together to act on these recommendations. For further information contact:

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