Rethinking and Reclaiming Data

ICC Pre-Conference Workshop on August, 17, 2025

Organised by ICA Working Group Next Generation Cartographers, ICA Commission on Education and Training, ICA Commissions on Geovisualization, ICA Commissions on User Experience (UX) and ICA Commission on Cognitive Issues in Geographic Information Visualization

Where do you stand?

Human Barometer Intro Exercise

I trust the data
if I trust the source.

I do a background research about the data before I use it.

I know at least two ways to detect bias in the data.

I report metadata of my own research/work adhering to FAIR or similar principles.

Land acknowledgement

As a visitor here for a conference—and as someone who has traveled across these lands and waters, making memories – I recognize that Vancouver is on the unceded, ancestral territories of the **xʷməθkʷəy̓əm (Musqueam), səl̓ilwətaʔɬ (Tsleil-Waututh), and Sḵwx̱wú7mesh (Squamish) Nations**, with ties to **Hul’qumi’num, Stó:lō, and Stz’uminus (Chemainus) peoples.**

My time here—past and present—is woven with gratitude for the beauty of these places, and a responsibility to learn from Indigenous perspectives, to share awareness with fellow visitors, and to honor local traditions.

I hope to be a good visitor.

Statement developed with the help of Kōrero, land and waters acknowledgment assistant by native-land.ca

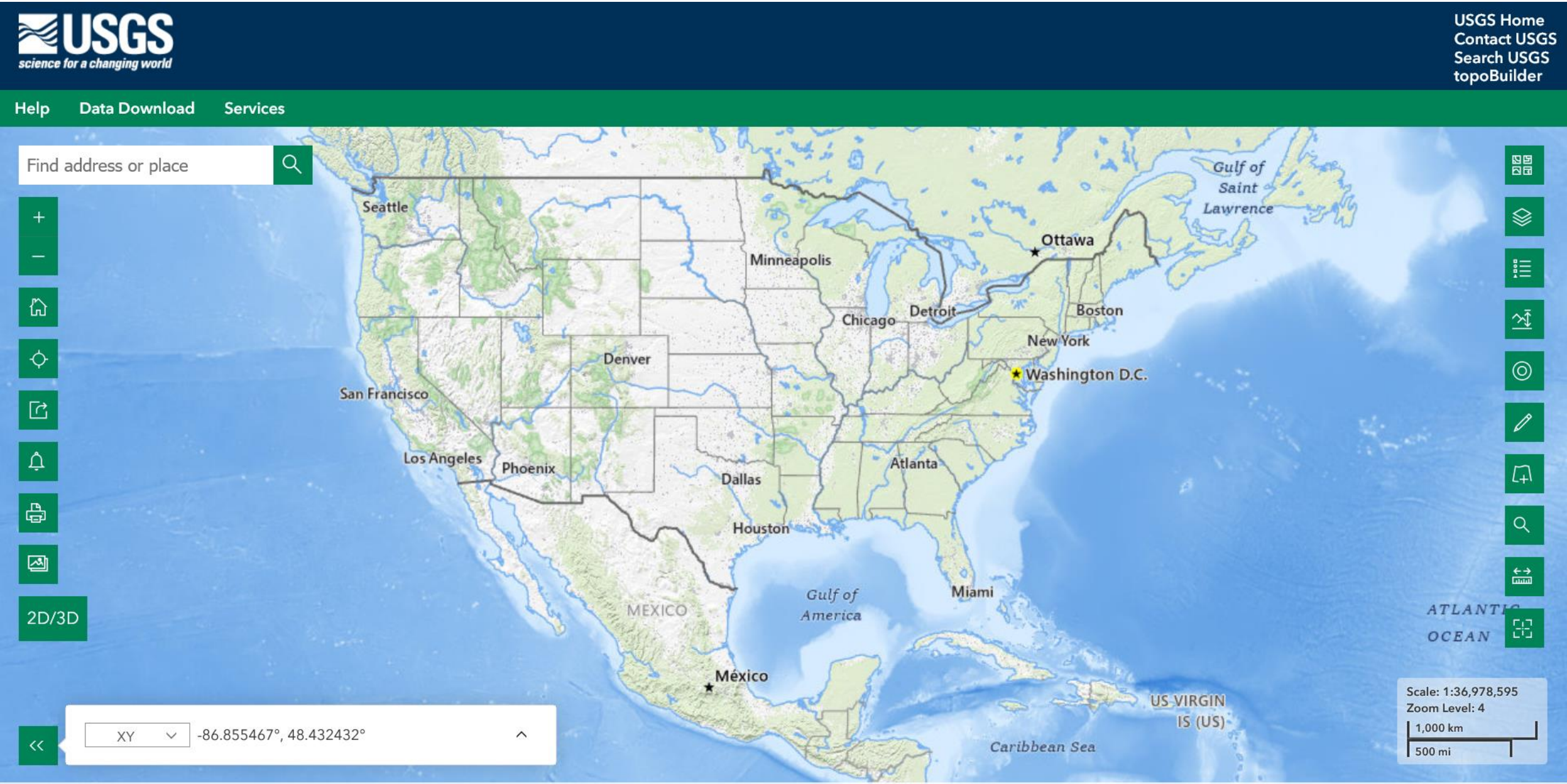
What to expect

- Intro presentation: Why and how to rethink data?
- Group Work Round 1: Context and Background Research of a Dataset

BREAK

- Group Work Round 2: (Re)framing the data - What could this become?
- Wrap-up

https://apps.nationalmap.gov/viewer/



“The gathering of information and its subsequent use are inherently political.”

Canada. Royal Commission on Aboriginal Peoples. Report of the Royal Commission on Aboriginal Peoples. Volume 3: Gathering Strength. p. 537(1997).

Critical Data Studies

Data are never objective, neutral, raw or universal

They are „products of unequal social relations,

and this context is essential for conducting accurate, ethical analysis ” (D’Ignazio & Klein 2020, p. 149)

Biases

Assumptions and biases are inherent in all data.

Biases

Some exemplary types:

- **Omission Bias**: What's left out?
- **Framing Bias**: How are things named or categorized?
- **Collection Bias**: Who collected the data, and how?

So, is biased data bad data?

Can you trust the data if you trust the source?

Data & Knowledge

- Traditional and Indigenous knowledge often dismissed as invalid
- Broadening the understanding of data (e.g. regarding format and organization)

Some Principles

FAIR developed by a consortium of scientists, designed to improve data-sharing and re-use: **Findable, Accessible, Interoperable, Reusable**

OCAP® developed by The First Nations Information Governance Centre, Canada, about governance of First Nations Information: **Ownership, Control, Access, Possession**

CARE developed by the Global Indigenous Data Alliance, build upon OCAP, designed to enable data sovereignty: **Collective Benefit, Authority to Control, Responsibility, Ethics**

Indigenous Data Sovereignty

- principle that individuals and communities should have control over the data relating to them
- roots in the claims of Indigenous people to be able to **control and protect their traditional knowledge, cultural heritage and territory, and the data relating to them**
- response to centuries of exploitative data extraction and marginalisation

Today‘s workshop: Exploring BC through datasets

Most of us are strangers in the datasets we‘ll explore (for more on strangers in the dataset, read Data Feminism Chapter 5)

We will explore this place partially through the data, not only the content of the datasets but mostly the **data settings**.

Group Work Round 1

Context and Background Research of a Dataset

How?

- Groups based on your post-it
- One dataset per group
- Dataset starter kit + worksheet
- Research the background of the dataset
- Distribute the work in your group,
  share findings in the end
- Take notes
- 20-30 minutes

Digital material:
https://github.com/ester-t-s/ICC-2025-Workshop-Rethinking-Data

Group Work Round 2

(Re)framing the data: What could this become?

How?

- New groups to combine various datasets from different categories
- Briefly share your datasets and findings from round 1
- Develop some conceptual ideas about how these datasets could be used, worksheet as guide
- Collect most important aspects / ideas / findings / concept on flipchart & post-its

Digital material:
https://github.com/ester-t-s/ICC-2025-Workshop-Rethinking-Data

Wrap Up

Results from Round 2

Which groups would like to briefly share their result from round 2?

What is your key learning from the context and background research?

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Not easy to find all the information. Ambiguity

Nice exercise to see how using a datset requires research and not only downloading and processing.

Some (important) characteristics of a dataset are missing from the metadata, or really hard to find

Spending time and slowing down when looking at data and its context is illuminating. I was horrified when I stopped to really read what was in the dataset... at best an elision of Indigenous genocide.

Some metadata difficult to find and many even unavailable. Really labourious to understand the real origins and biases of the data.

Political boundaries get imposed on data sets that cross the political boundaries, such as the ranges of caribou herds.

It is more difficult then I thought to find out the background information of the dataset. Often the same details are given without telling us a lot.

There are unknowns, things that we know, things that we don't know, and things that we don't know we don't know. This Historic Treaties dataset is a very good example of it.

What is your key learning from the context and background research?

Some values of some attributes are hard to understand. E.g. when the value of the attribute 'land type' is just one letter 'P' or 'C'. What does it mean?

Just how recursive our datasets are - how they start blending with other datasets because of decisions for interoperability, etc. the lineage grows so blurred. When does our data actually begin?

Finding information about data may take a lot of time. i should plan it in my research.

Meaningful , understand the BC history and roots

We still don't know enough about how the data was produced: which primary resources were used to compile the data set and how they are distributed across British Columbia

Looking for bases, for important information, It takes a lot of time

The BC Critical Habitat Data appeared to be one data set - but was collected from many different studies. For this reason I would suggest there be a note not to use it as one comparable data set.

Data can be incomplete for example not showing Caribou herd extent on the Alberta side. It is also not specified who is "others" listed as the data source - data souce not fully authorized.

What is your key learning from the context and background research?

without contexte most of these questions are hard to answer.

Different metadata items might require searching from separate data providers.

That we can learn alot more when we integrate various datasets that reflect different aspects of our world to mitigate the past and make better decisions for the future.

What methods for an ethical data practice in cartography came up during the process?

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The questions you ask to a dataset matters. Try different ones

Try to understand the place-based context (e.g. by talking to people, going to the place, literature / online research...)

Look at different datasets on the same topic and at different sources

Supplement mapping projects with other material that can make space for important information that doesn't show up on the maps (e.g. video, audio,...)

Not using really bad datasets

Talking to experts in the field related to the data.

Mentioning on the map the flaws of the used dataset

Add prominent text based caveats to maps which reveal limitations or inconsistencies in data sets used.

What methods for an ethical data practice in cartography came up during the process?

Contrast several datasets.

Talking to the people the data affects. Clearly state how the data was collected.

Find ways to visualize uncertainty and absences.

We need to form based standards and cross-referncing practices.

Whose ethics? Professional cartographic ethics? Ethics of the country? Ethics are also political. My worry here - as much as I believe in ethics and want to believe in ethics - is (more)

Important to call relevant stakeholders and indigeneous groups to join looking at the data.

Every data set can be abused in unexpected ways by unexpected bad actors. Ethically, what data sets should be restricted, and how?

To consult the data accuracy with the data source/data owner if not clear or not avaible in metadata.

What methods for an ethical data practice in cartography came up during the process?

(Finishing here) That they are universalizing. But a universal ethics is not possible. There are problems. Can we have multiplicity or how will we handle that? More thought needed...

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Closing

„Embracing the value of multiple perspectives shouldn’t stop with **transparency and reflexivity**. It also means actively and **deliberately inviting other perspectives** into the data analysis and storytelling process—more specifically, those of the people most marginalized in any given context.“

(D’Ignazio & Klein 2020 p. 137)

References and further resources

Brunsdon, C., & Comber, A. (2021). Opening practice: Supporting reproducibility and critical spatial data science. *Journal of Geographical Systems*, *23*(4), 477–496. https://doi.org/10.1007/s10109-020-00334-2

Criado-Perez, C. (2020). *Invisible women: Exposing data bias in a world designed for men*. Vintage Books.

Dalton, C., & Thatcher, J. (2014, May 2). *What Does A Critical Data Studies Look Like, And Why Do We Care?* https://www.societyandspace.org/articles/what-does-a-critical-data-studies-look-like-and-why-do-we-care

Daly, A., Devitt, S. K., & Mann, M. (Eds.). (2019). *Theory on demand: #29*. *Good Data*. Institute of Network Cultures.

D'Ignazio, C., & Klein, L. F. (2020). *Data Feminism*. The MIT Press. https://doi.org/10.7551/mitpress/11805.001.0001

D'Ignazio, C. (2022). Creative data literacy. Information Design Journal, 23(1), 6–18. https://doi.org/10.1075/idj.23.1.03dig

D'Ignazio, C. (2024). *Counting feminicide: Data feminism in action*. The MIT Press.

Filimowicz, M. (Ed.). (2023). *Algorithms and society*. *Decolonizing data*. Routledge. https://doi.org/10.4324/9781003299912

Guyan, K. (2022). Queer Data: Using Gender, Sex and Sexuality Data for Action. Bloomsbury Studies in Digital Cultures. Bloomsbury Publishing Plc.

Kukutai, T., & Taylor, J. (Eds.). (2016). Centre for Aboriginal Economic Policy Research (CAEPR). Indigenous Data Sovereignty: Toward an agenda. ANU Press. https://doi.org/116057

Kitchin, R. (2025). Critical Data Studies: An A to Z Guide to Concepts and Methods. Polity Press.

Loukissas, Y. A. (2019). All data are local: Thinking critically in a data-driven society. The MIT Press.

Lupi, G., Posavec, S., & Popova, M. (2016). Dear data. Princeton Architectural Press.

Seager, J. (2018). The Women's Atlas. Penguin Books.

The First Nations Information Governance Centre (Ed.). (2014). Ownership, Control, Access and Possession (OCAP™): The Path to First Nations Information Governance.

Williams, S. (2022). Data action: Using data for public good. MIT PRESS.

Wilkinson, M. D., et al. (2016). The FAIR Guiding Principles for scientific data management and stewardship. Scientific Data, 3(1), 160018. https://doi.org/10.1038/sdata.2016.18

Contact

To get in touch with workshop organisers, reach out to Ester Scheck.

Next Generation Cartographers