

ACCESS OFFICE HOURS



Tues. July 23



1:00 pm EDT



CanPath

15

CanPath and CANUE:
Leveraging existing data for health research

Dedicated to reconciliation with Indigenous Peoples

We acknowledge the traditional territories of the Mississauga of the New Credit First Nation, Anishnawbe, Wendat, Huron, and Haudenosaunee Indigenous Peoples on which the CanPath National Coordinating Centre at the University of Toronto now stands. The territory was the subject of the Dish With One Spoon Wampum Belt Covenant, an agreement between the Iroquois Confederacy and Confederacy of the Ojibwe and allied nations to peaceably share and care for the resources around the Great Lakes.

With CanPath teams working across Canada from coast to coast, we also acknowledge the ancestral territories that are home to many Indigenous people from across Turtle Island, and we are grateful to have the opportunity to work on this land.



Welcome to Access Office Hours!

- **CanPath Access Process** presented by Nouar Elkhair, CanPath Access Officer
- **CanPath Biosamples** presented by Treena McDonald, CanPath Biosamples Coordinator
- **CanPath Data & Navigating the Portal** presented by Sheraz Cheema, CanPath Data Manager
- **CANUE Overview** presented by Joey Syer, CANUE Data Director

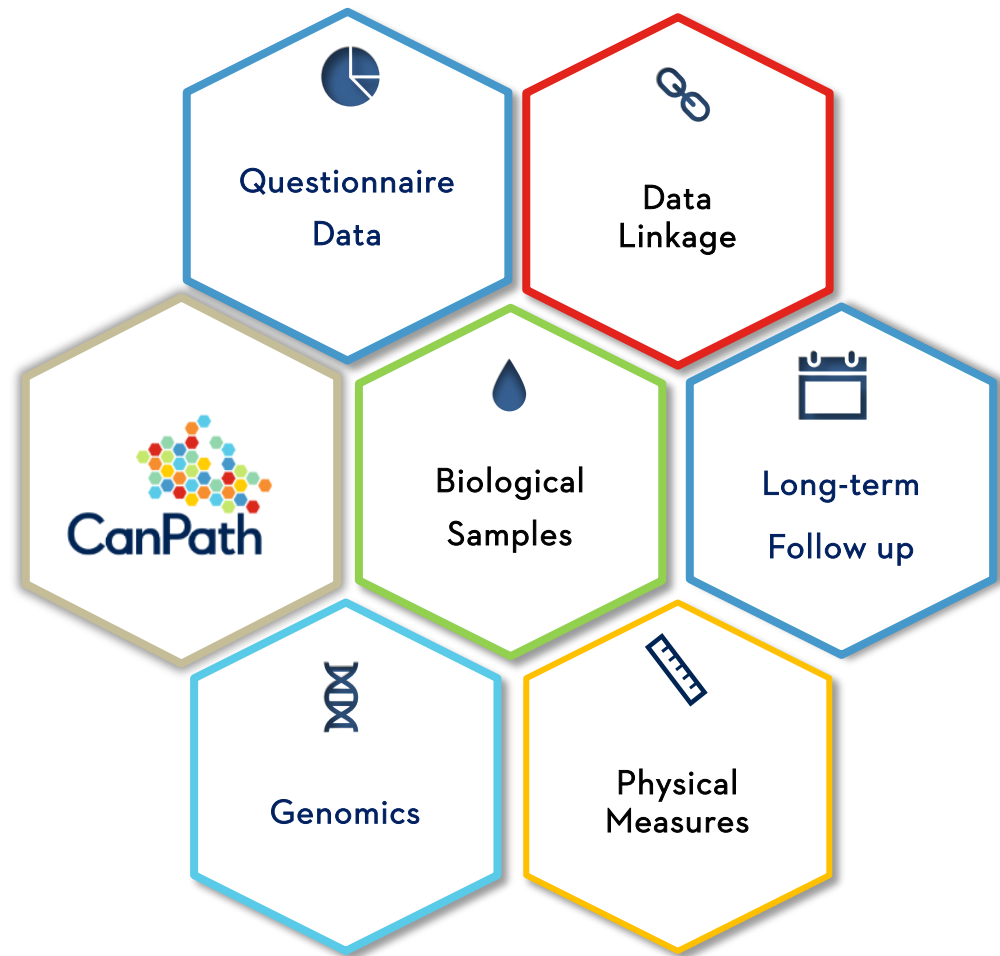


Access Process Overview & Application Tips

Nouar Elkhair | CanPath Access Officer



CanPath is a population-health research platform for assessing the effect of genetics, behaviour, health history and environment on chronic diseases. CanPath follows the health of 330,000 adult Canadians.



CanPath brings together seven cohorts across ten provinces



What documents are required to access CanPath Data and Biosamples?

- Access Application Form (register on the [access portal](#))
- Research protocol (having received ethics approval)
- Approval letter by a Research Ethics Board
- 2-page CV of the principal applicant
- Contact information of your legal institutional representative
- *Proof of scientific review or peer review, if available*
- *Evidence of funding, if applicable*



How quickly can I access Data or Biosamples?

Expedited vs. Full Access Review



Which applications are Expedited?

- Expedited Review
- Harmonized datasets include Baseline, Follow-up, COVID-19 data
 - BC Generations Project (BC)
 - Alberta's Tomorrow Project (AB)
 - CARTaGENE (QC)
 - Ontario Health Study (ON)
 - Atlantic PATH (NB, NS, PEI, & NL)
 - COVID Serology data also includes data from the Manitoba Tomorrow Project



Which applications require a Full Review?

- Full Access Review
- Biosample requests
- Data Linkage
 - linking CanPath data to administrative health data
 - Examples: ICES, AbSPOR, PopDataBC
- Regional data
 - Regional datasets held by the provincial cohorts (other than the harmonized datasets)



How much will it cost to access data?

- Cost recovery fees for data-only applications for academic researchers are available on the CanPath website.
- For [biosamples](#) and [industry-based research requests](#), contact access@canpath.ca

	Cost for the first dataset	Cost for each subsequent dataset
Researcher	\$3,000	\$1,000
Early-Career Researcher [†] <i>Canadian Institution</i>	\$750	\$250
Early-Career Researcher [†] <i>Non-Canadian Institution</i>	\$1,800	\$600
Graduate Student or Postdoctoral Fellow [‡]	\$250	\$190



FAQ

- Before applying, can I get estimates of the sample sizes for my project?
 - Yes, CanPath provides preliminary aggregate data for Data and Biosamples meeting your selection criteria.

- Can I get a Cost Estimate | Letter of Support before applying?
 - Yes, complete the form (available on the CanPath Portal)
 - Send it to apply@canpath.ca (~10 business days)

- What are the estimated timelines?
 - Expedited reviews: can be completed in 6-8 weeks
 - Full Access review: timelines vary

- Any tips on filling in the application form/required documents?



Application Tips



Emails

- institutional email addresses (no generic emails, Gmail, etc.)



Legal Institutional Representative

- Can legally bind the institution
- reviews and signs the agreement on behalf of your institution.



Team Members

- users accessing CanPath individual-level data and biosamples must also be listed on the REB



Scientific Abstract

- Objectives and methods are consistent with the scope and data requested



Lay Summary

- Published on the CanPath website
- Aims to inform participants how their data and biosamples are utilized



Protocol

- Specific - Not an “umbrella” protocol
- Aligns with the application
- REB must have an expiry date

Application Tips



Sample Sizes

- Define the study population, provide sample size and power calculations.



Scientific Peer Review

- Proof of Scientific peer review, if available
- Not required.



Alignment

- Align the protocol with the application
- Clear justification for access



Return of Data

- Derived data **must** be returned to CanPath
- Add details on the format of the returned data

Biosamples Overview & Application Tips

Treena McDonald | CanPath Biosamples
Coordinator



Biosamples | What's available?

- **Blood derivatives:** serum, plasma, DNA, red blood cells, whole blood in DMSO (>145K participants donated one or more blood derivative)
- **Urine** (>90K participants)
- **Toenails** (Atlantic PATH only, >30K participants)
- **Saliva:** DNA



Access to Biosamples

- *Biosample Access Guidelines* and *Biosample Feasibility Review* are available from the CanPath portal (<https://portal.partnershipfortomorrow.ca/page/samples>)
- Asks of >500 uL for non-DNA samples and >2 ug for DNA samples are considered a large ask and will require extraordinary scientific justification to be considered.
- Full Access Committee review is required for submissions seeking biosamples.
- Approved biosamples may be conditionally released in a staggered format.



Application Tips



Alignment

- Ensure that the requested biosamples are the same in the protocol and application.



of Participants

- If count is different than sample size, provide explanation and justification.



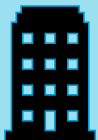
Measurement Units

- Clearly detail units of measurements for serum (volume)/ DNA (mass).



Tests vs. Biomarkers

- Test: are number of assays
- Biomarkers: number of markers measured
- e.g. 1 Test can measure 96 biomarkers.



Service Provider

- If a service provider is being used, please provide details regarding samples requested by the provider.



Return of Data

- Raw and analyzed data **must** be returned
- Add details on the format of the returned data

Data Overview & Application Tips

Sheraz Cheema | CanPath Data Manager



Datasets | What's available?

portal.canpath.ca

CORE

- 2008 – present
- 14 harmonized datasets
- Nearly 4k variables
- Up to 330k participants



GENOTYPE

- 50k+ participants
- 820k SNPs (Affymetrix UK Biobank Axiom® 2.0 gene chip)



CAHHM

- 2013 – 2019
- MRI; Cognitive; administrative (ER)
- 4.7k variables
- 7.7k participants



CanPath Datasets | Core

- Baseline Health and Risk Factor Questionnaire
- Baseline Health and Risk Factor Questionnaire – Additional Diseases
- Baseline Mental Health
- Baseline Physical Measures
- Follow-Up 1 Health and Risk Factor Questionnaire
- COVID-19 (2020) Questionnaire
- Baseline COVID-19 Antibody Questionnaire & Results
- Follow-up 1 COVID-19 Antibody Questionnaire & Results
- Genotyping Data available through CanPath and Regional cohorts (~50K participants)



Application Tips



Participants

- Case definition: participant self-report or registry data.



Number of Participants

- Avoid "all" or 'as many as possible'. (beyond scope)



Selection Criteria

- Clear inclusion/exclusion criteria
- Clarify required vs optional criteria



Case - Control Studies

- Clarify case-control matching criteria, for example, age or history of cancer



Variables

- Choose to receive a full dataset or select variables (a list of variables can be generated on the CanPath Portal).



Data Linkage

- How will the data be linked?
- Specify data holders and regions



The Canadian Urban Environmental Health Research Consortium | Overview

Joey Syer | Data Director

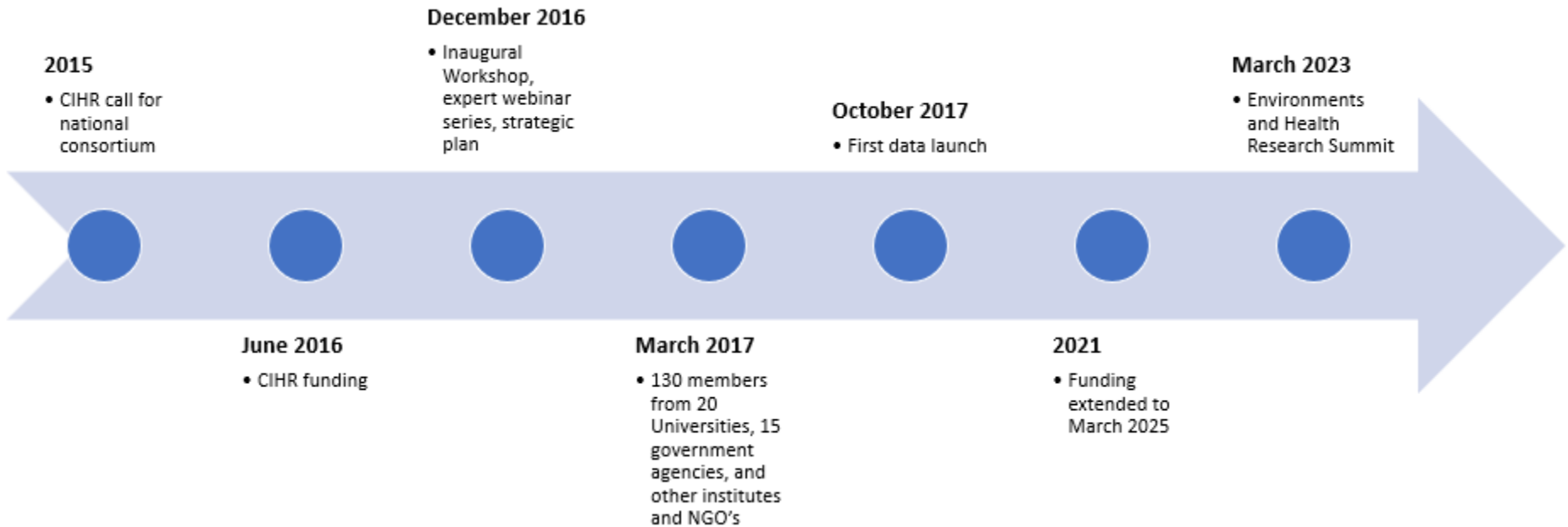


Presentation objectives

- CANUE background
- CANUE data holdings
- CANUE data portal
- CANUE spatial thinking / use in research



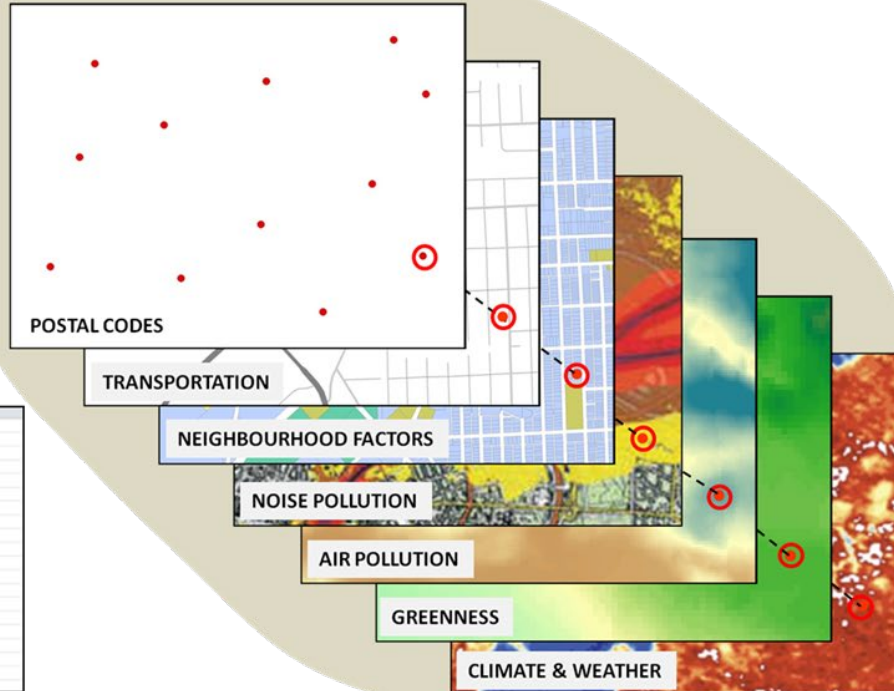
CANUE history



CANUE in a nutshell

Methods
Tools
Documentation
Distribution policy
Facilitation

Number	GivenName	MiddleInitial	Surname	Gender	StreetAddress	City
1	Bruce	R	Bloch	male	3131 Ferrell Street	Argyle
2	Marie	E	Humphreys	female	3062 Bond Street	Woonsocket
3	Sylvia	H	Carter	female	1483 Lakeland Terrace	Westland
4	William	E	Bentz	male	3318 Briercroft Road	New York
5	Shelly	R	Preston	female	3592 Todds Lane	San Antonio
6	Chad	P	Henry	male	3553 Grant Street	Tyler
7	David	L	Richardson	male	1289 Metz Lane	Marlton
8	Stephen	A	Pond	male	4316 Bridge Avenue	Lafayette
9	Jenny	P	Thomas	female	2941 Harron Drive	Baltimore
10	William	V	Fries	male	4300 Tanglewood Road	Jackson
11	Julio	D	Bessette	male	4177 Lauren Drive	Madison
12	Jerry	J	Nicholas	male	2722 Elk Street	Irvine
13	Thomas	A	Hunter	male	4112 Stadium Drive	Franklin
14	Edmund	C	Chagoya	male	3685 Essex Court	Brattleboro
15	David	E	Meador	male	1215 Stratford Drive	Kona
16	Joan	L	Mayfield	female	3137 Pin Oak Drive	Whittier
17	Maria	H	Gomez	female	1723 Yorkie Lane	Richmond Hill
18	Gregory	G	Miguel	male	3233 BreezeWood Court	Macksville
19	Gail	L	Griffin	female	2232 Arbutus Drive	Miami



1980's

2050?

CANUE DATA



A note on health data...



BC Centre for Disease Control



Statistics
Canada

Statistique
Canada

and more.....

Data holdings

NEIGHBOURHOOD FACTORS



GREENNESS



CLIMATE



AVAILABLE DATA

ANNUAL DATASETS

Greenness

Neighborhood

Air Quality

Weather

MONTHLY DATASETS

Air Quality

Weather



AIR QUALITY



NOISE



TRANSPORTATION

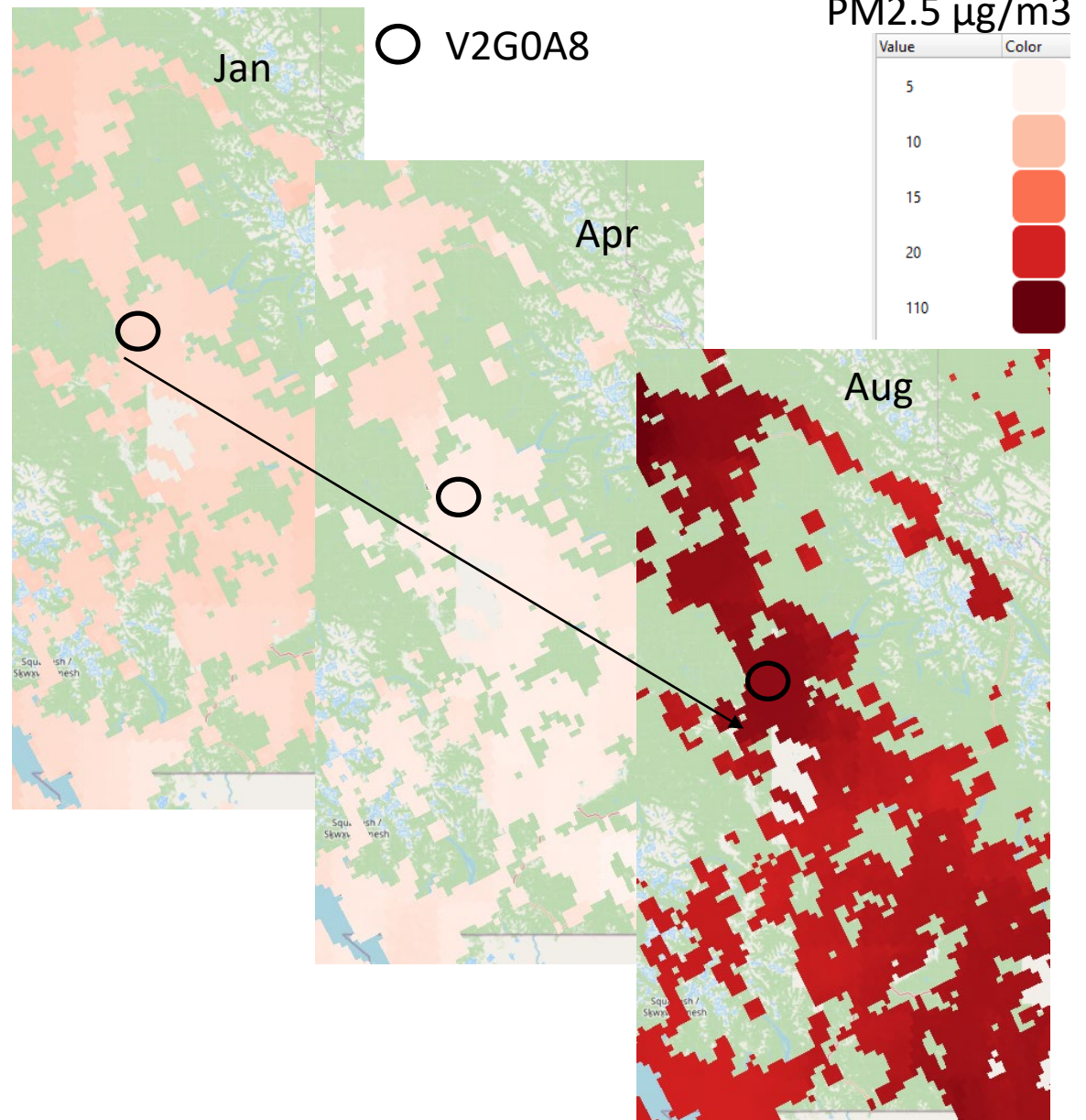


Data holdings

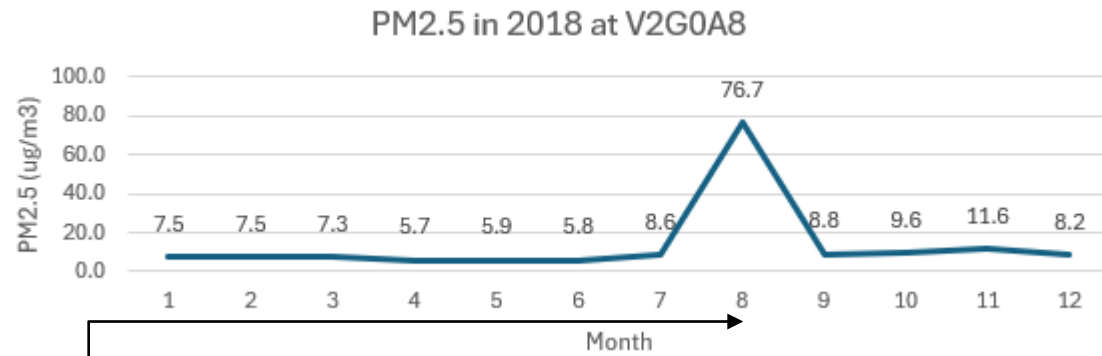
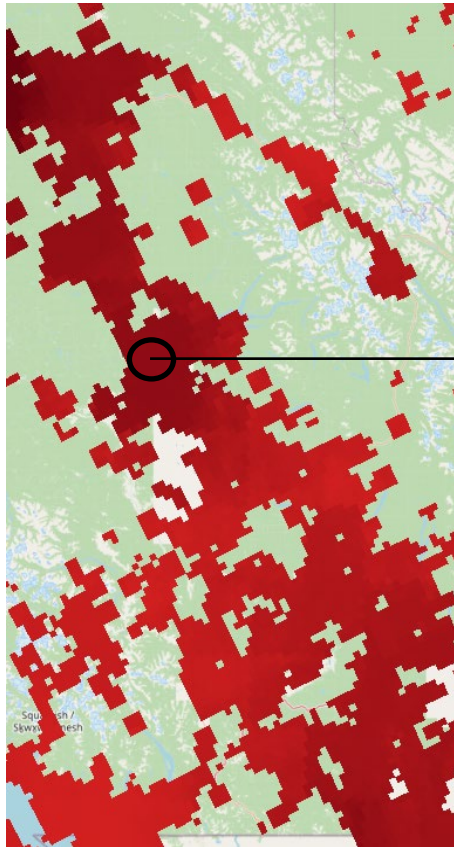
- DEMO: canuedata.ca



Spatial thinking

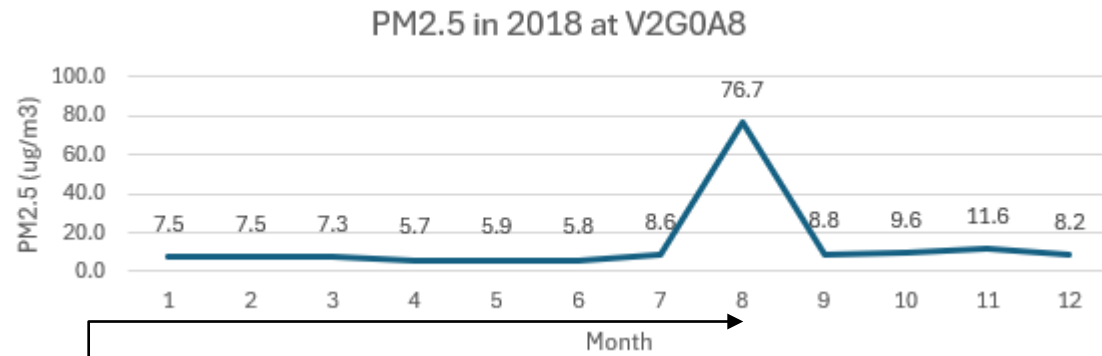
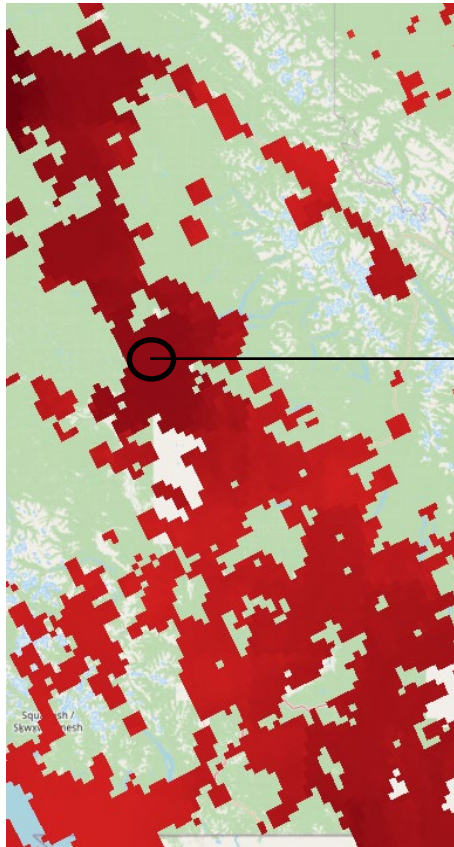


Spatial thinking



postalco	provi	jan_	apr_	aug_	hd1	hd2
de18	nce	18	18	18		
V2G0A8	BC	7.5	5.7	76.7	?	?

Spatial thinking



postalco	provi	jan_	apr_	aug_	hd1	hd2
de18	nce	18	18	18		
V2G0A8	BC	7.5	5.7	76.7	?	?



CANUE | CanPATH data in research

- Industrial air emissions, and proximity to major industrial emitters, are associated with anti-citrullinated protein antibodies [\[link\]](#)
- Examining the influence of built environment on sleep disruption [\[link\]](#)
- Gene-by-environment interactions in urban populations modulate risk phenotypes [\[link\]](#)
- Associations between paediatric obesity, chemical mixtures and environmental factors, in a national cross-sectional study of Canadian children [\[link\]](#)
- A cohort study of the multipollutant effects of PM_{2.5}, NO₂, and O₃ on C-reactive protein levels during pregnancy [\[link\]](#)



CanPath.ca



CanPath

Canadian Partnership
for Tomorrow's Health