

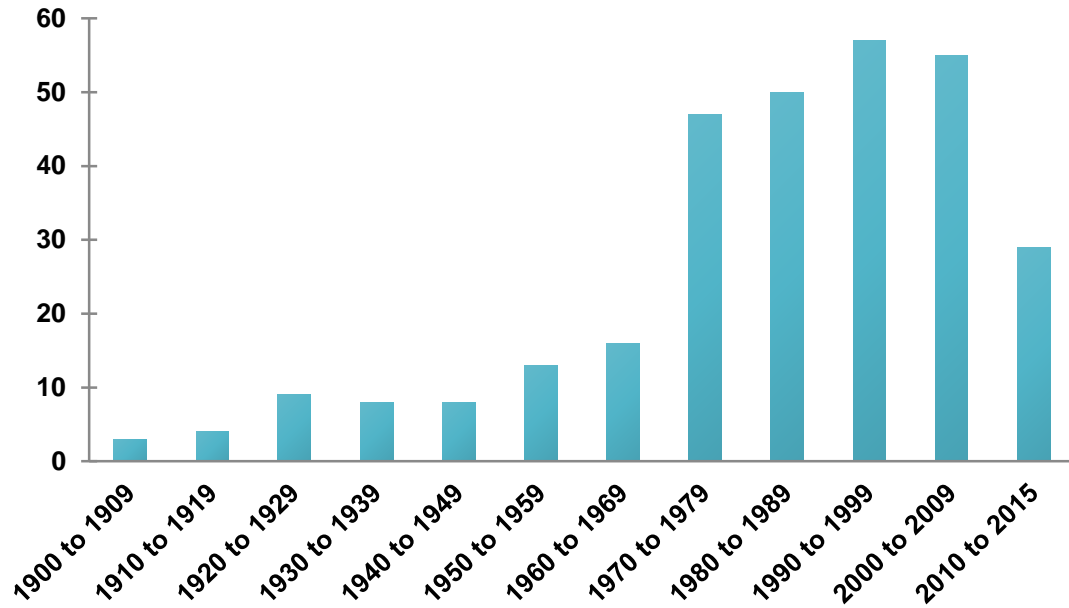
Flood in BC:

Hazards, Risks and A Way Forward

Understanding Risk, Victoria, April 2018

Tamsin Lyle, P.Eng | Principal | Ebbwater Consulting

Floods are a problem not to be ignored

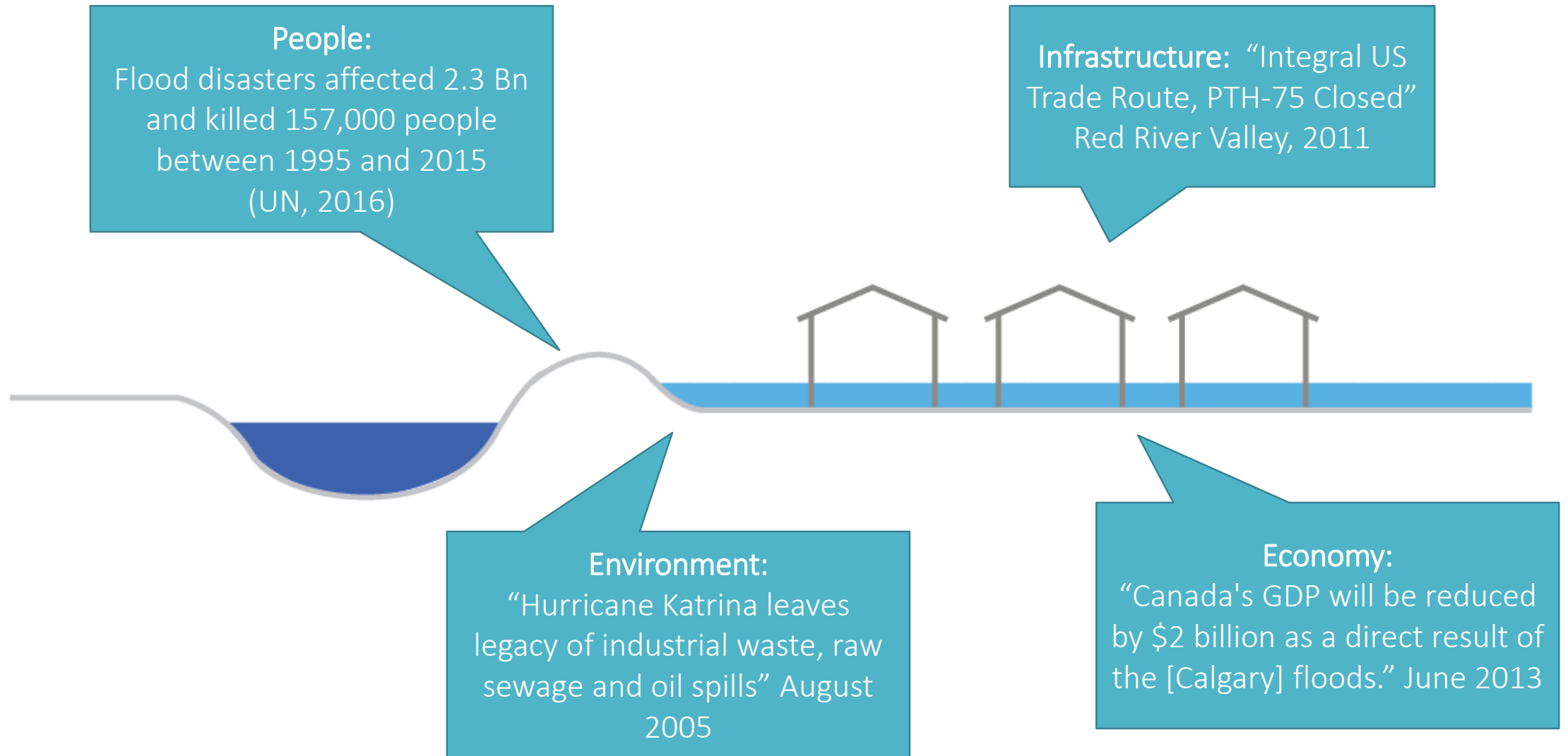


Flood Disaster Occurrences in Canada 1900-2015
(Canadian Disaster Database)

\$2.4Bn losses annually
\$673M paid by DFSA

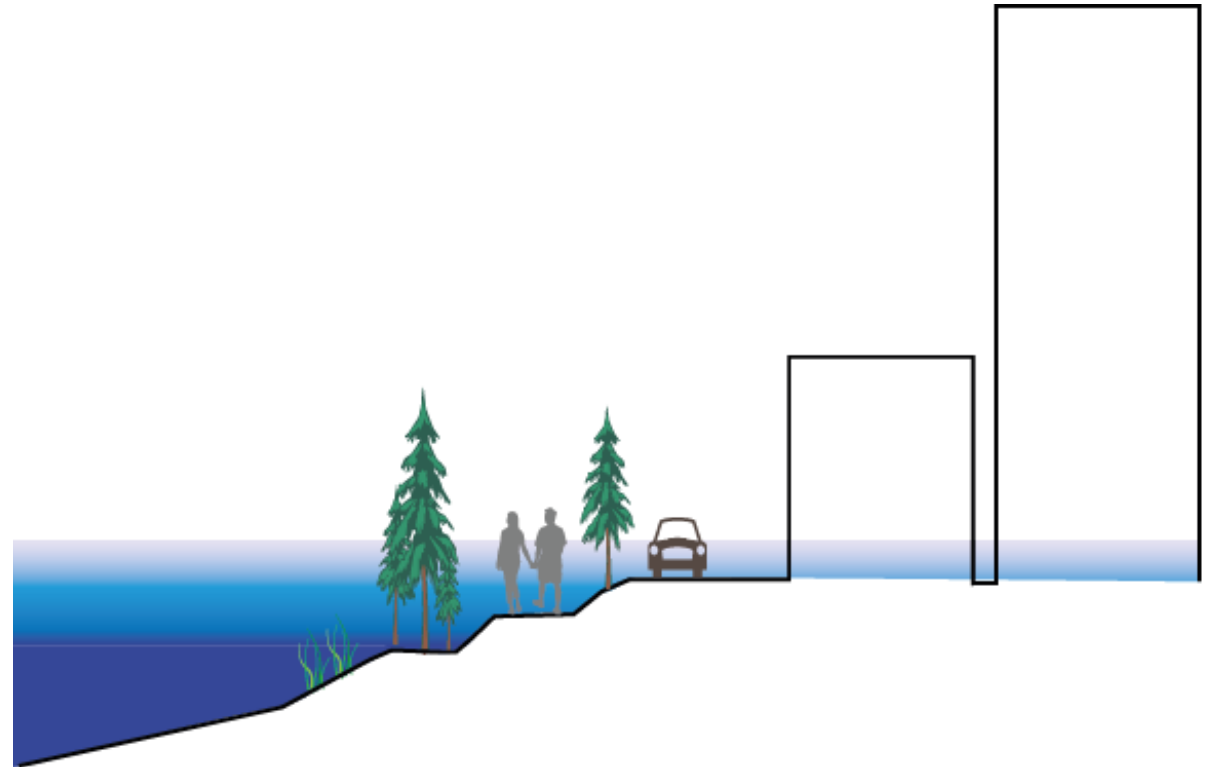
Annual Loss Estimate from Government of Canada
(Parliamentary Budget Office 2016)

That affect many things



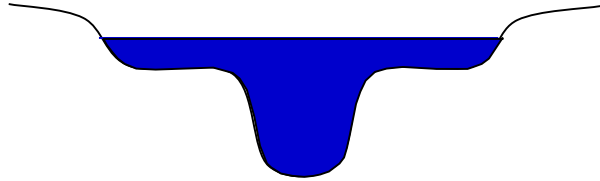
Flooding is a wicked problem

- High degree of technical complexity
- Multiple dimensions of uncertainty
- Multiple objectives
- High stakes, high emotions
- Intense political scrutiny
- High expectations for quality and transparency
- Limited resources in terms of time, money and personnel.

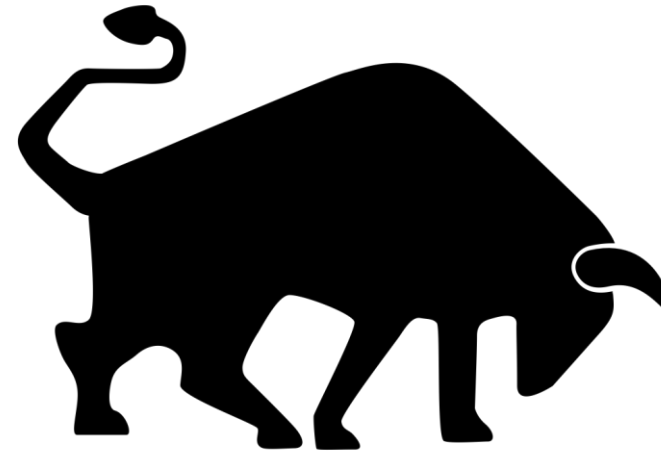
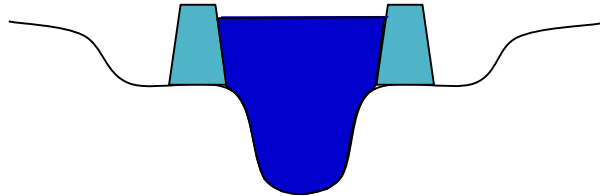


That historically we have managed with arrogance Man Will Conquer Nature

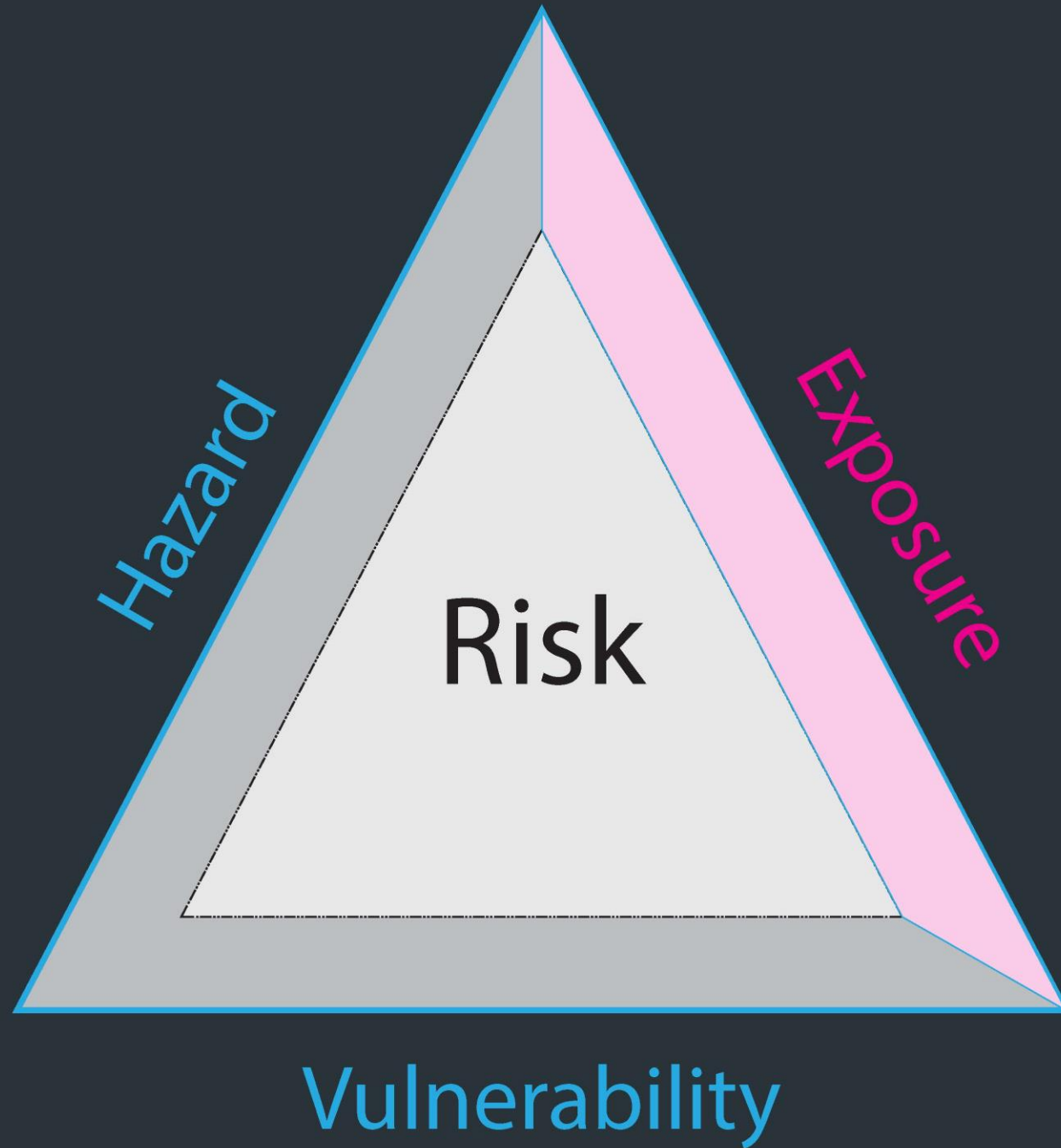
Natural Condition



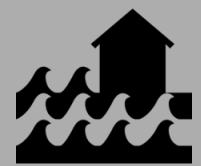
Dike Confinement



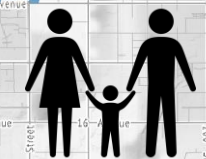
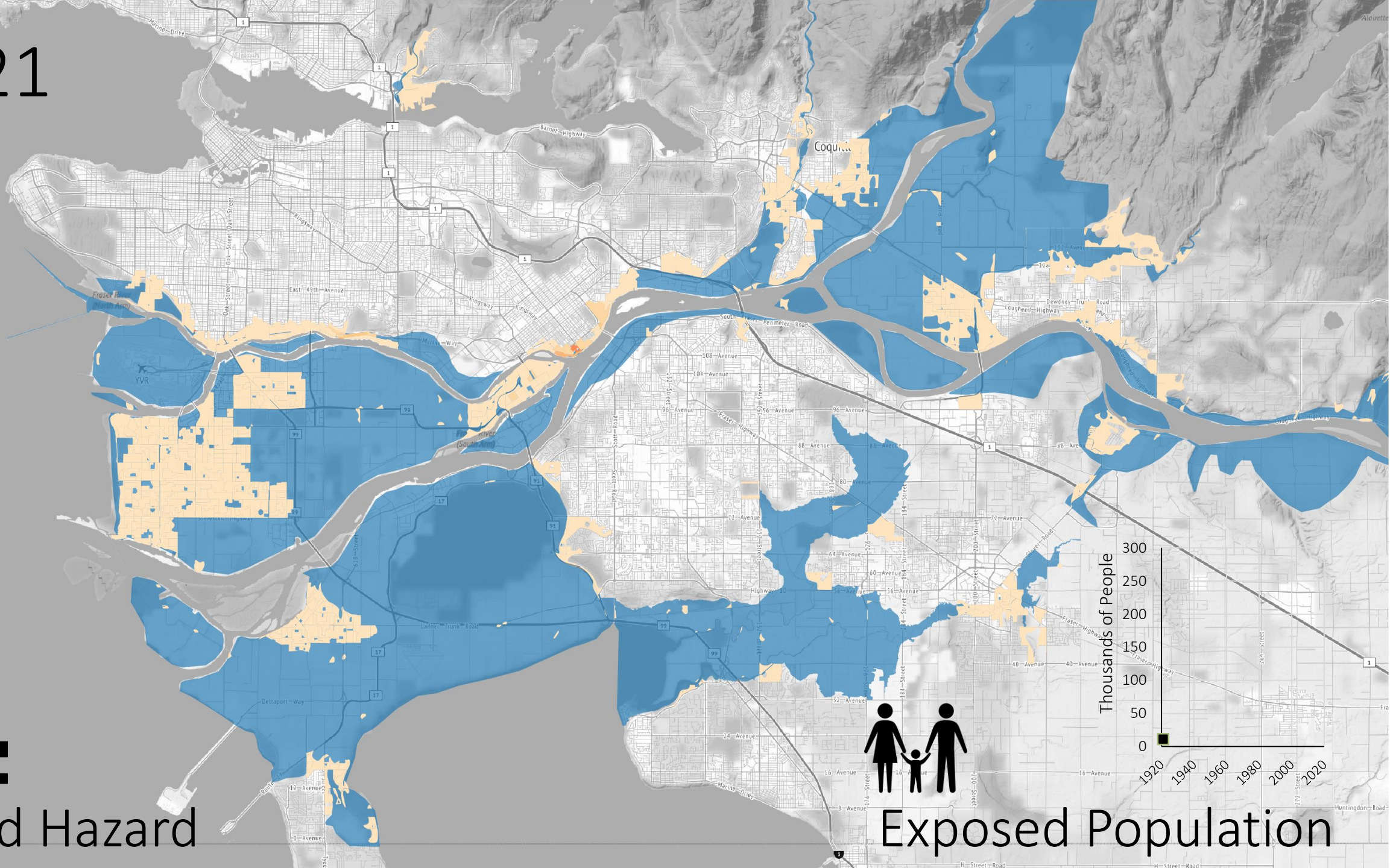




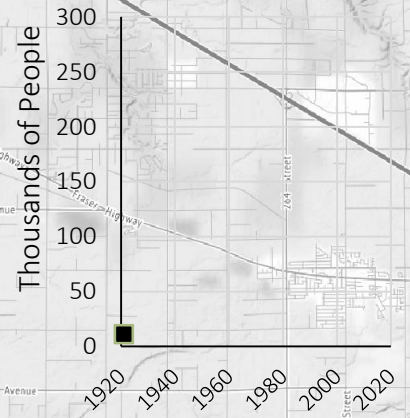
1921



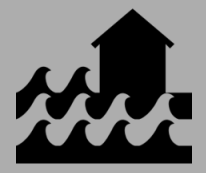
Flood Hazard



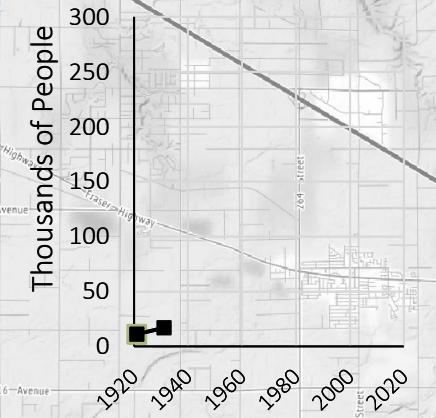
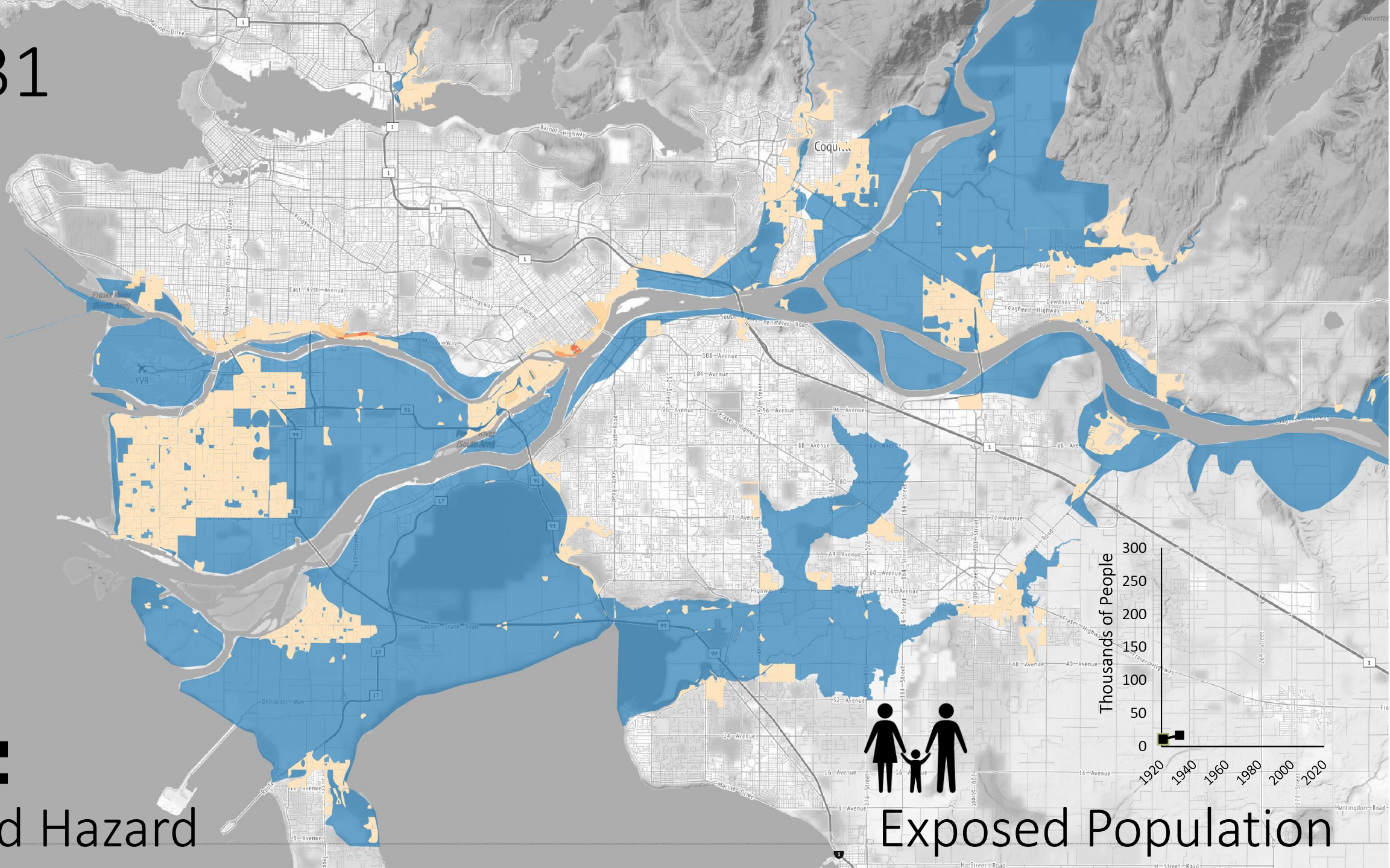
Exposed Population



1931

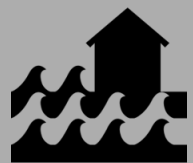


Flood Hazard

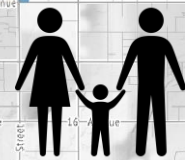


Exposed Population

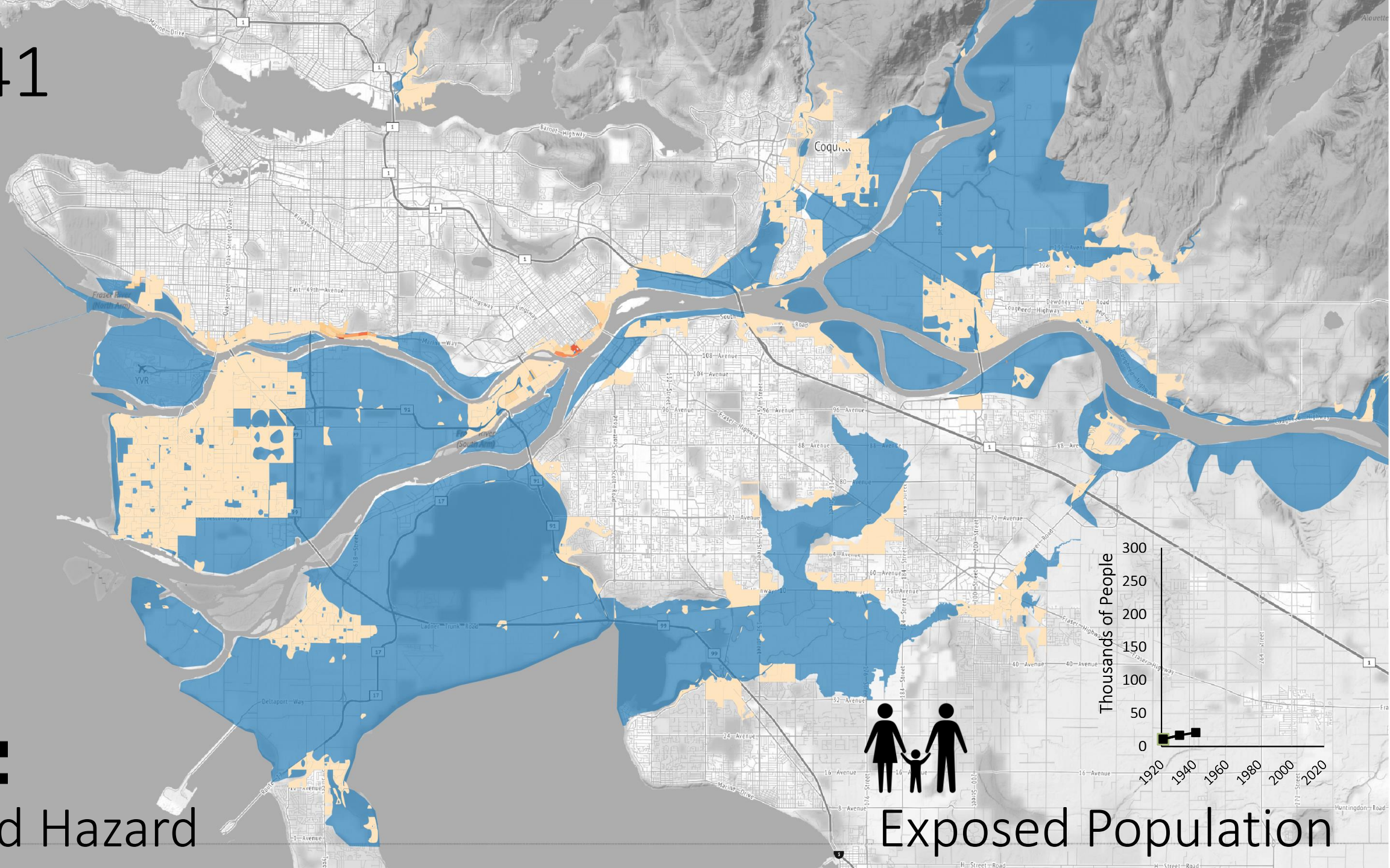
1941



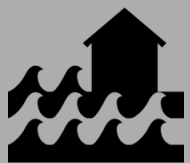
Flood Hazard



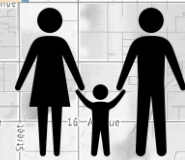
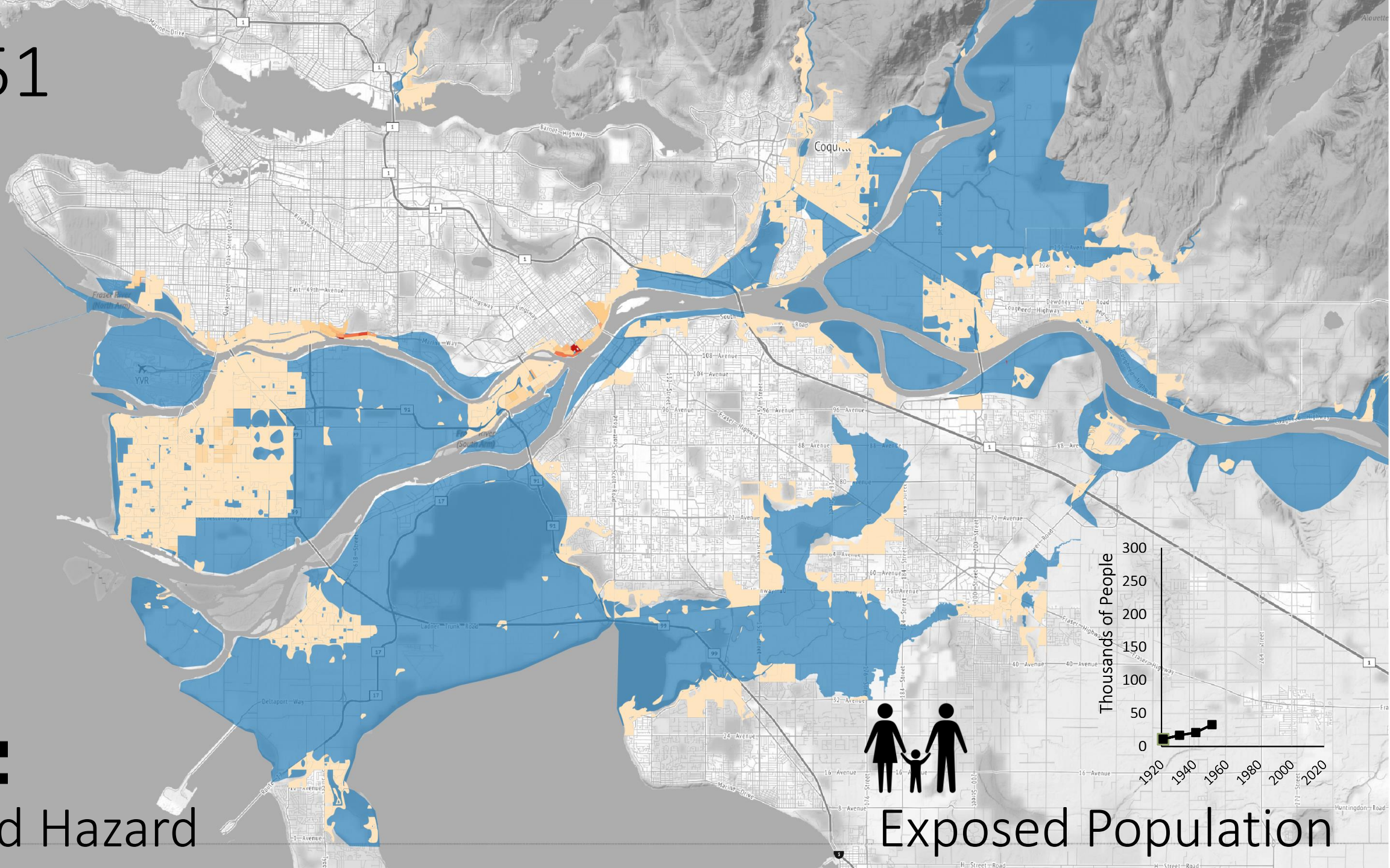
Exposed Population



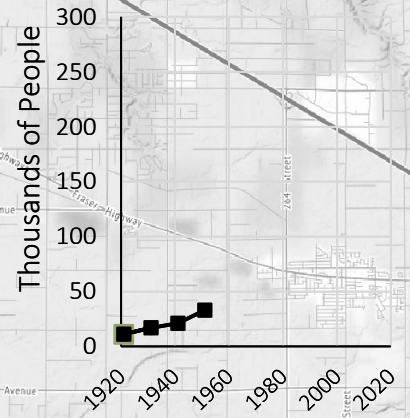
1951



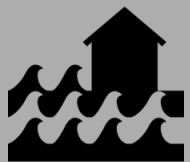
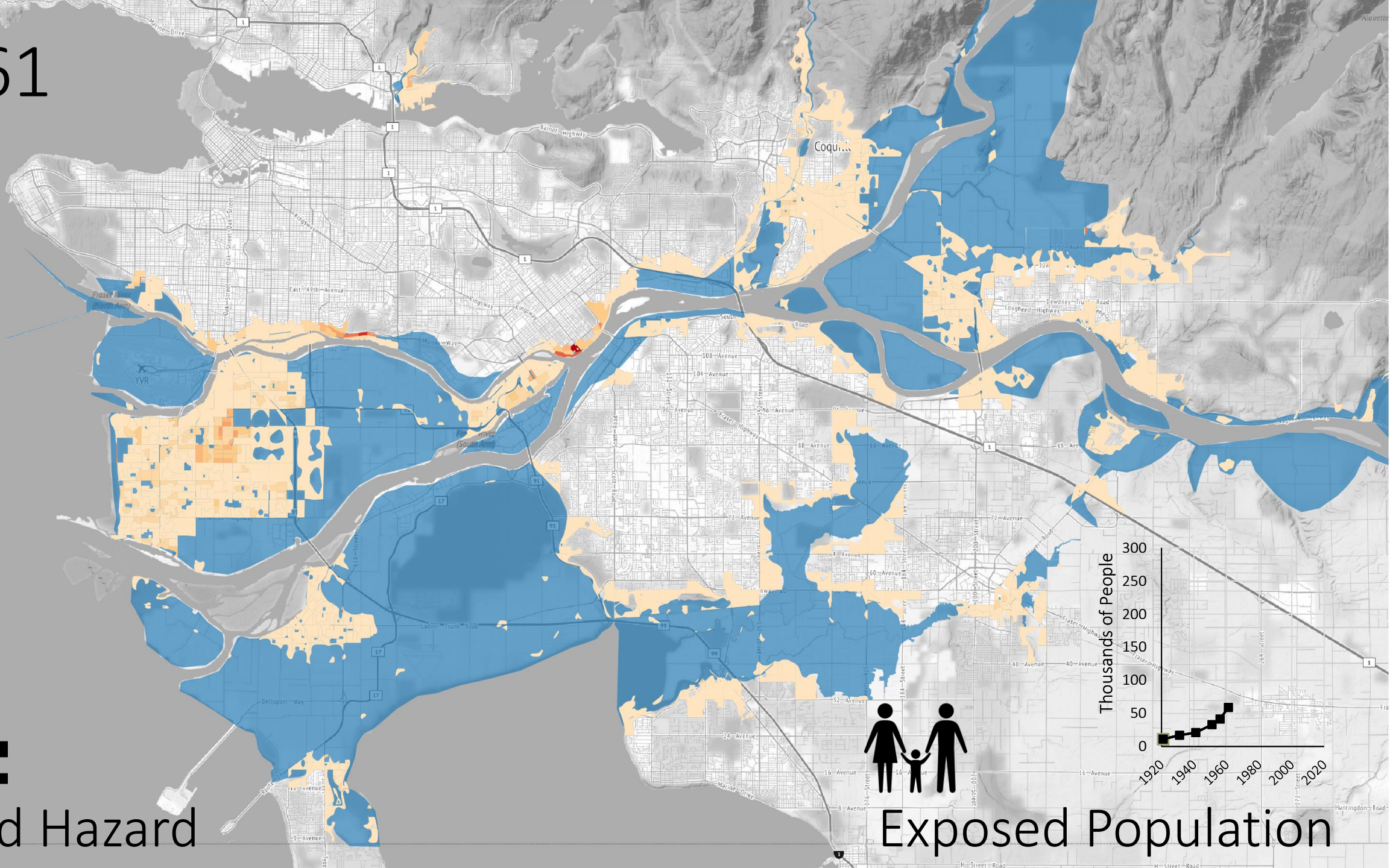
Flood Hazard



Exposed Population



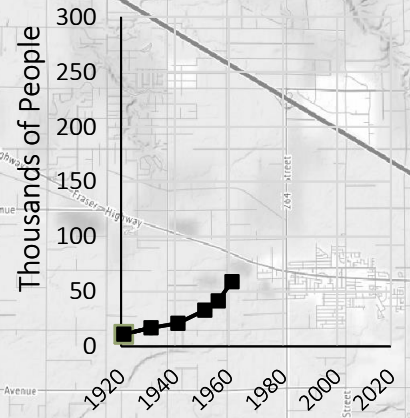
1961



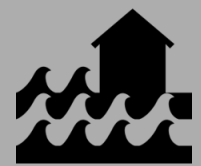
Flood Hazard



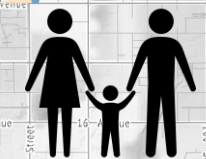
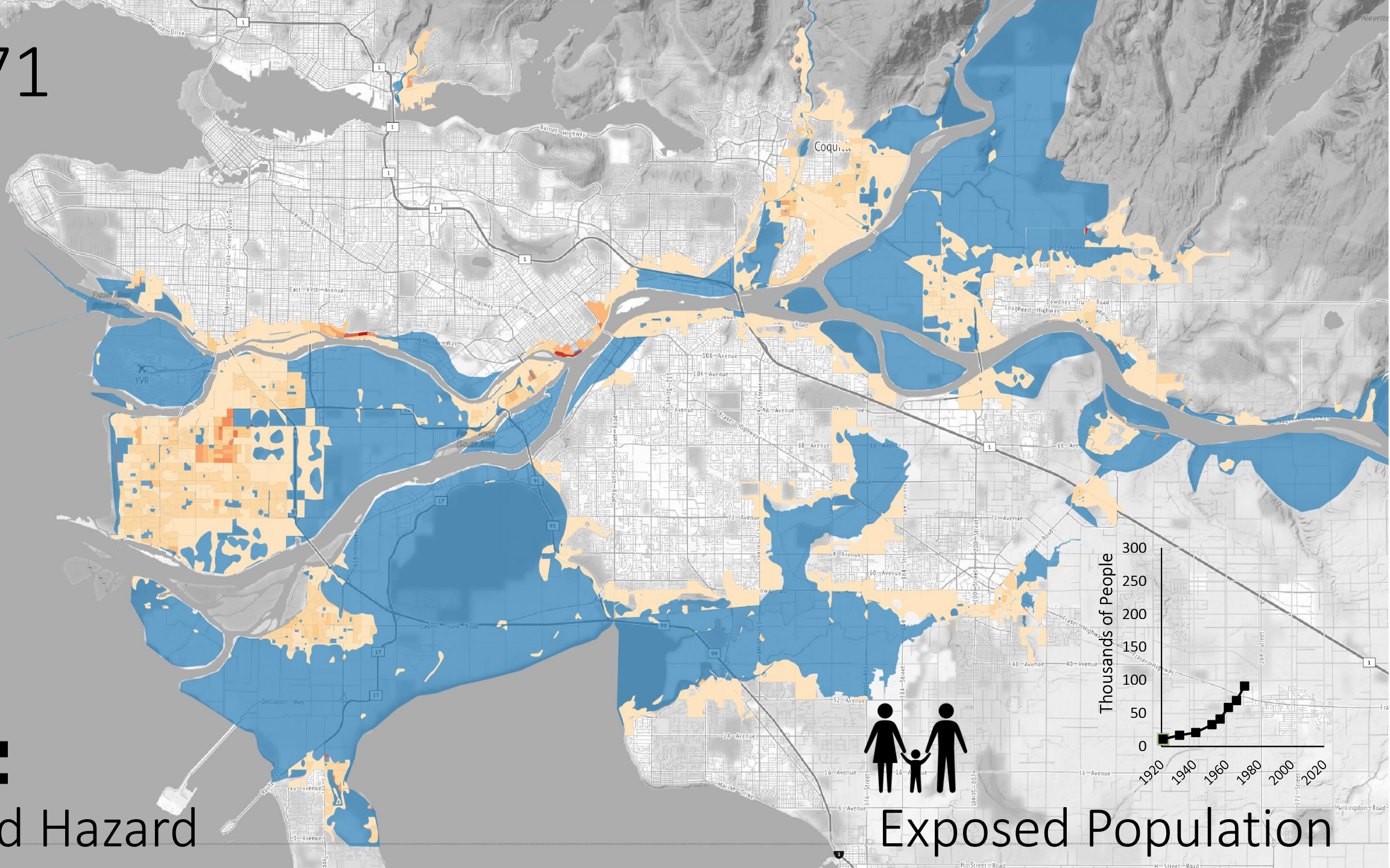
Exposed Population



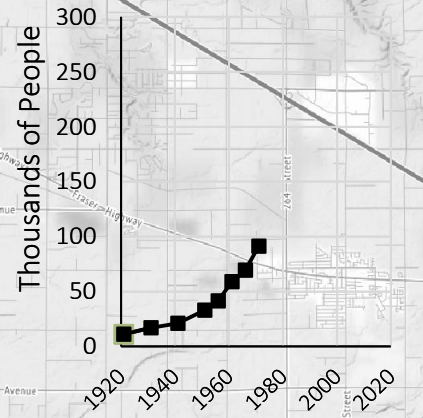
1971



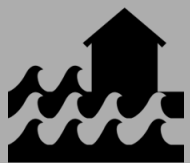
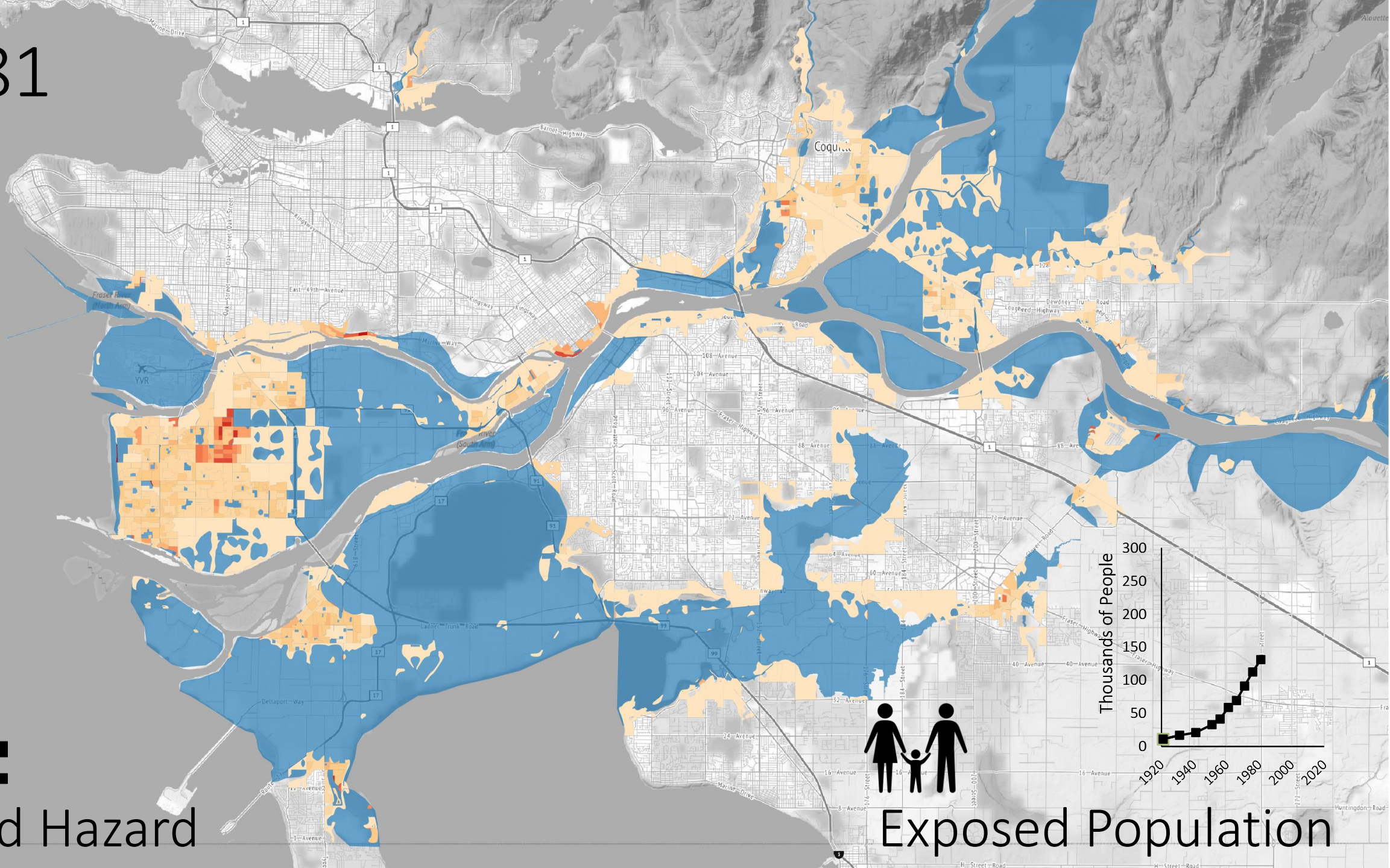
Flood Hazard



Exposed Population



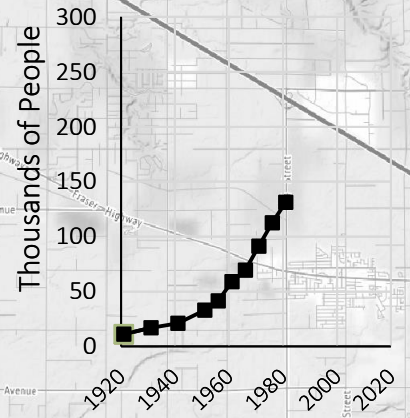
1981



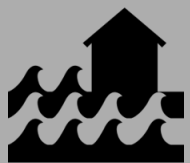
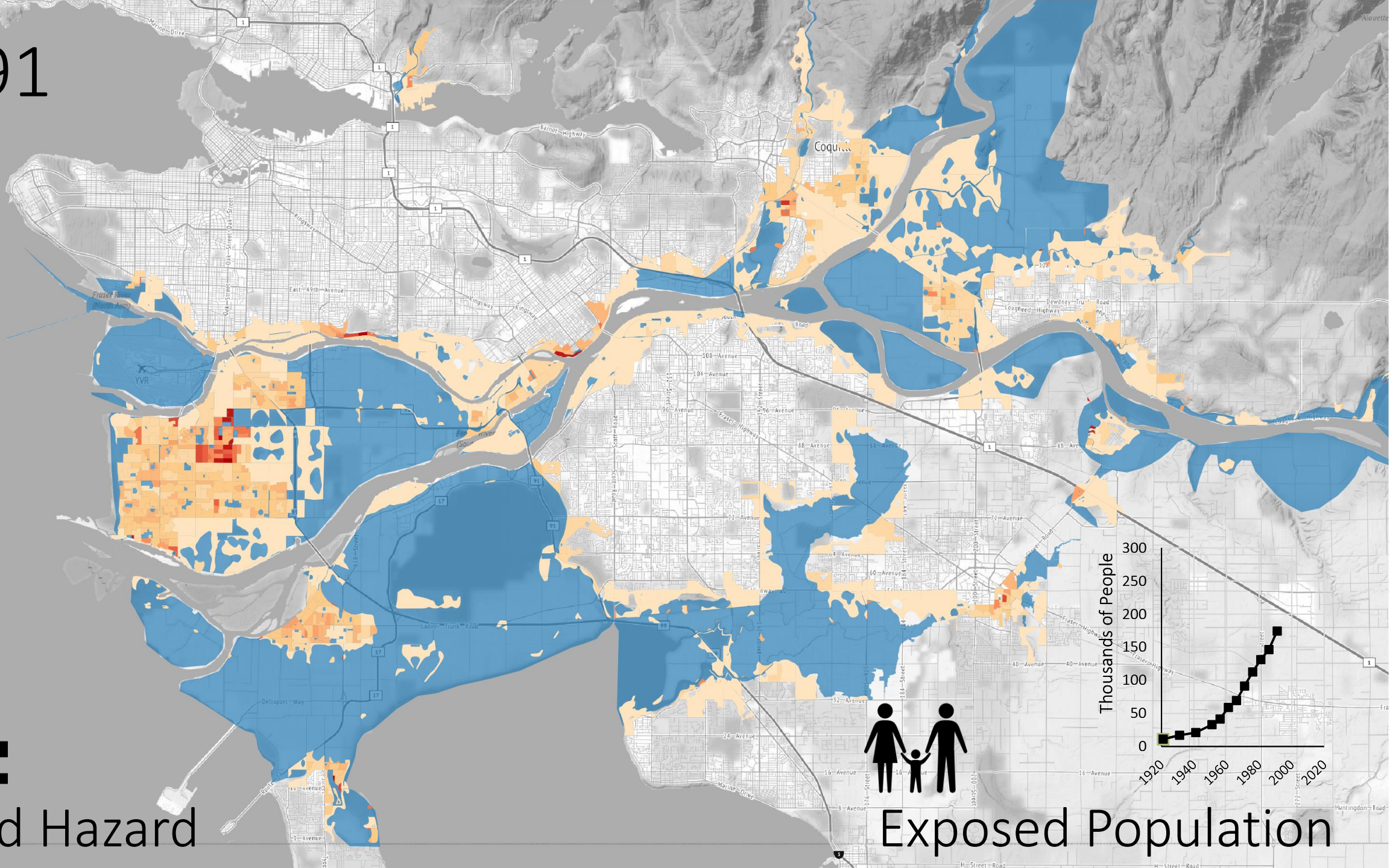
Flood Hazard



Exposed Population



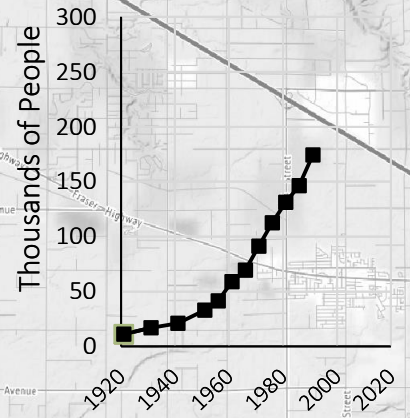
1991



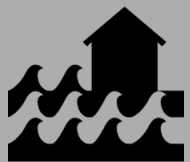
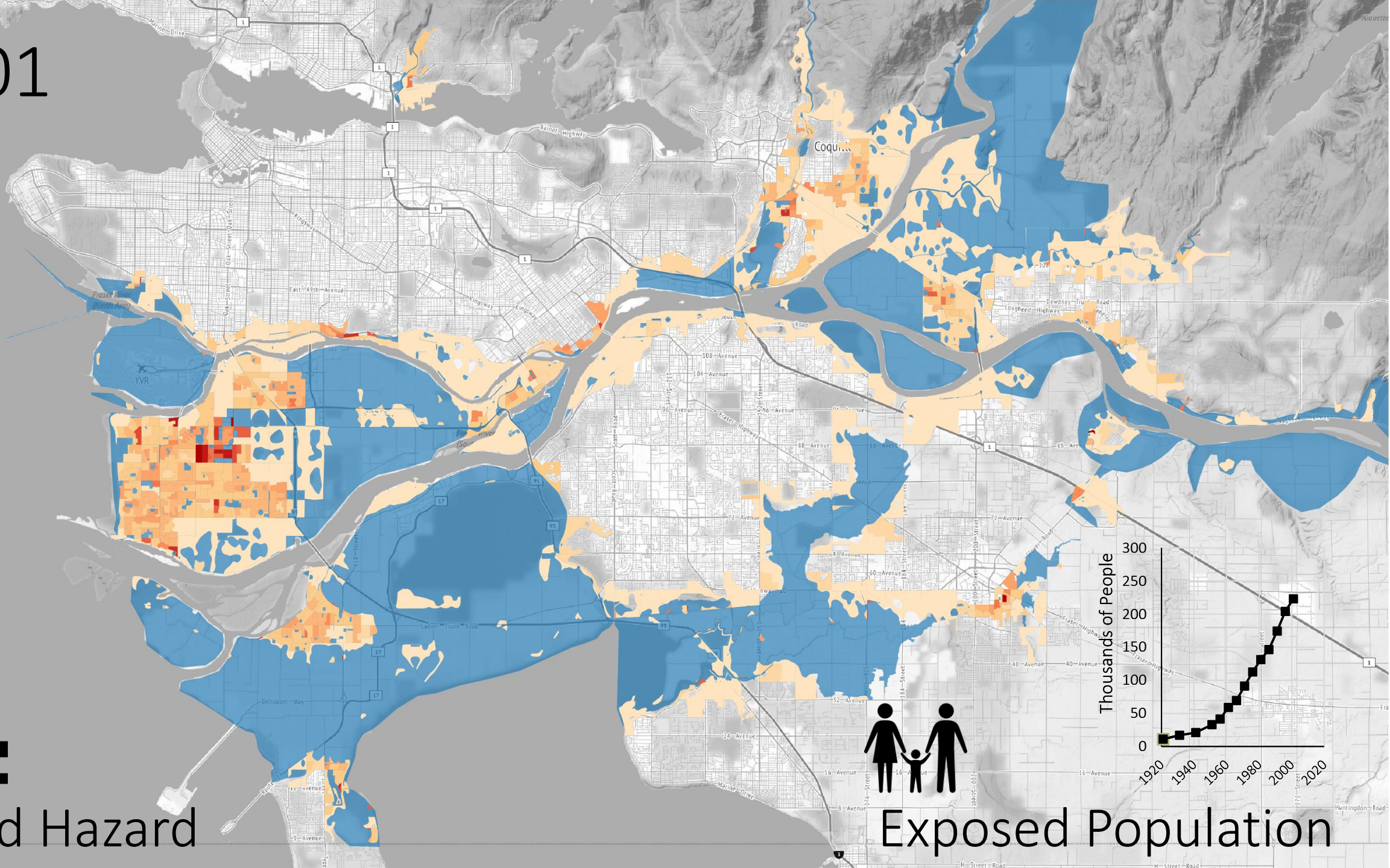
Flood Hazard



Exposed Population



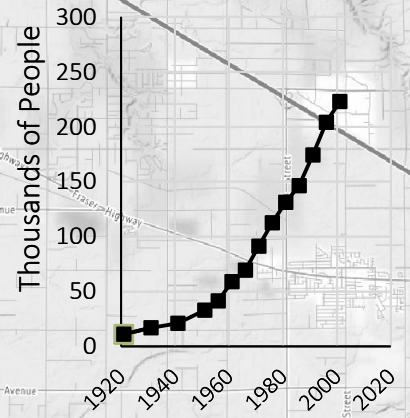
2001



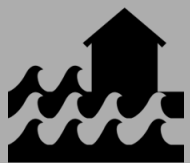
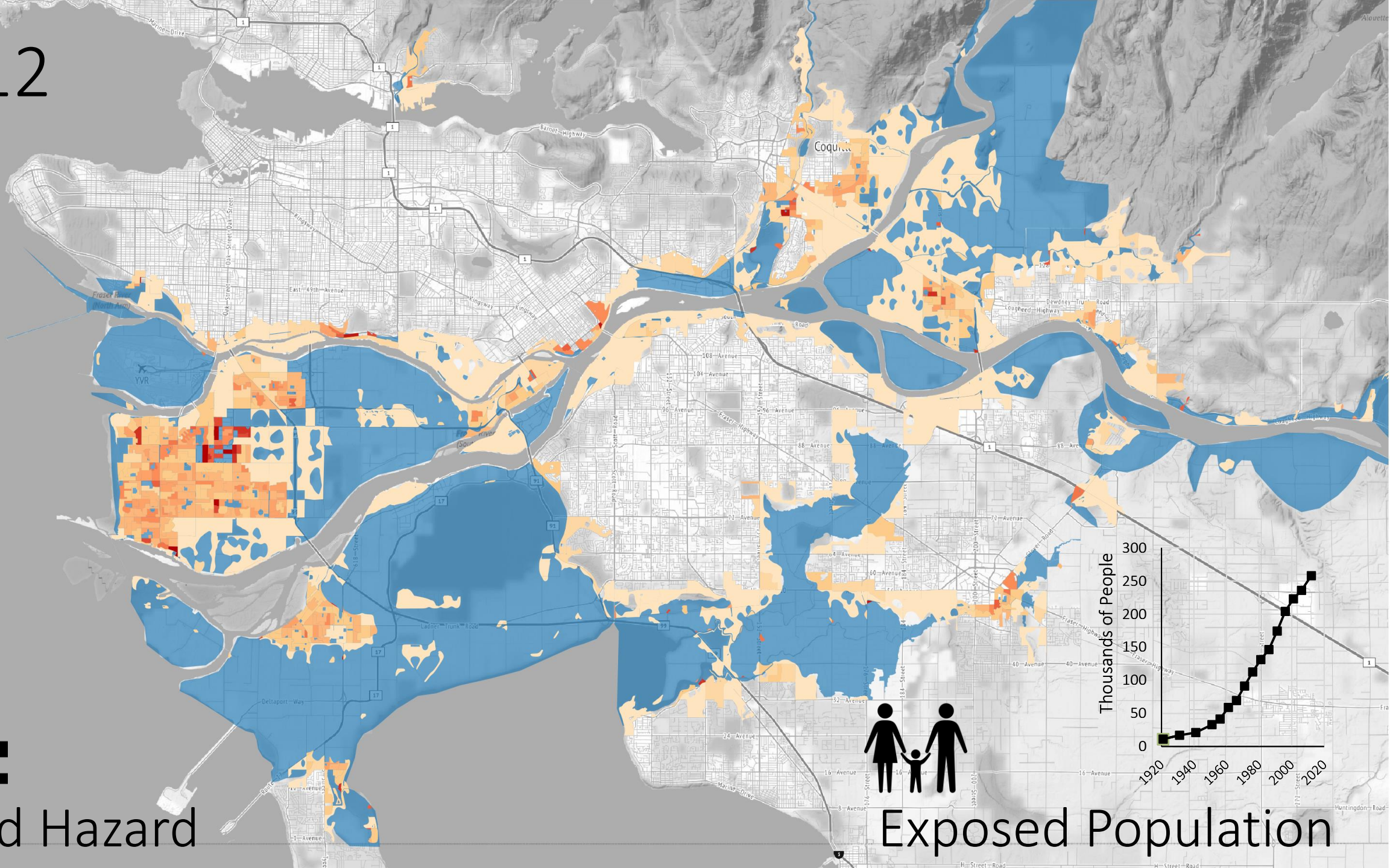
Flood Hazard



Exposed Population



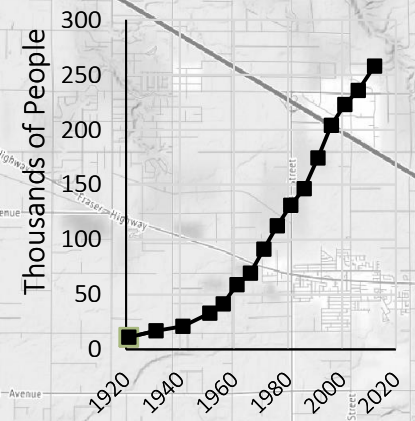
2012



Flood Hazard



Exposed Population





To show this poll

1

Install the app from
pollev.com/app

2

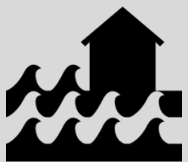
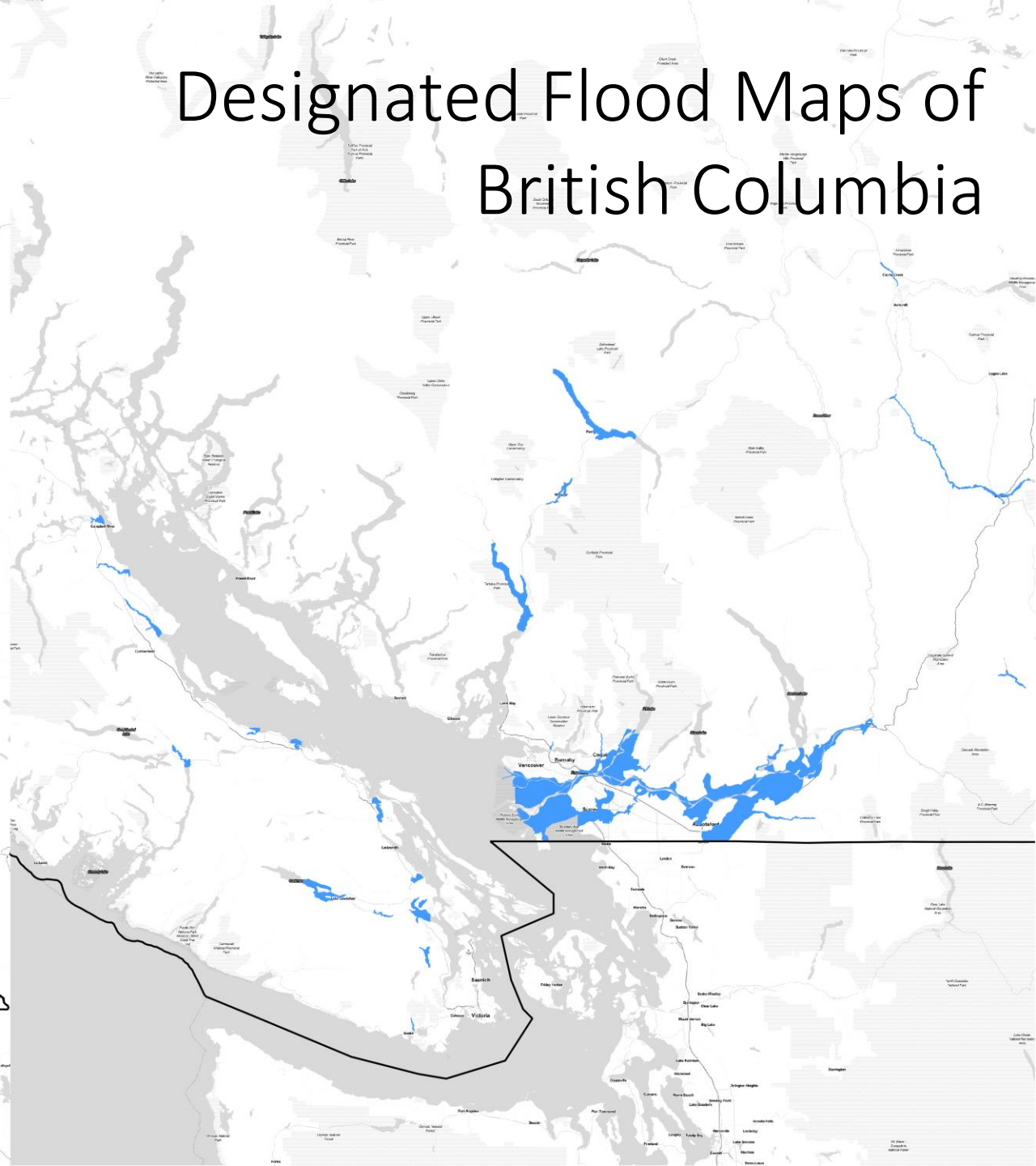
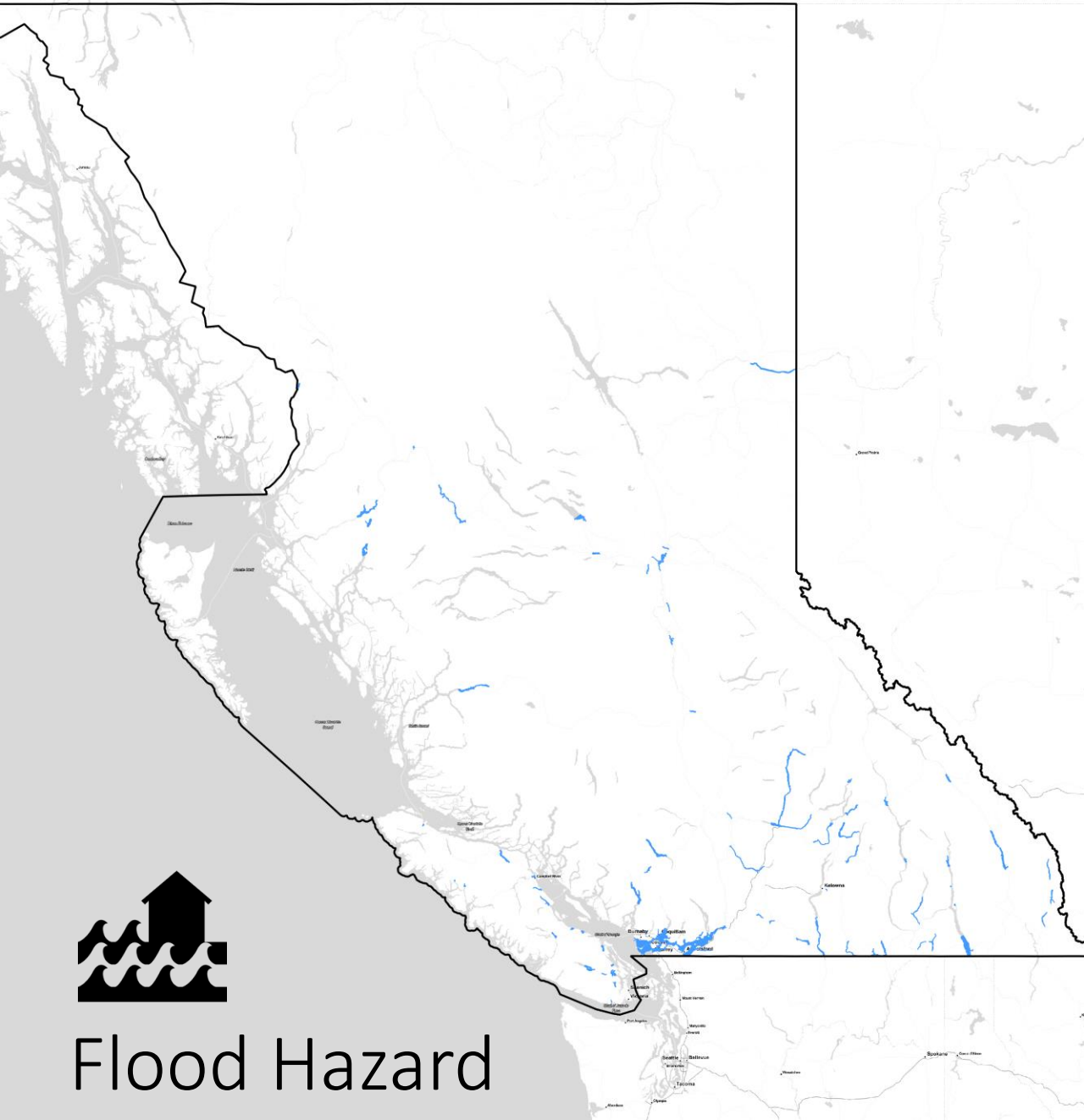
Start the presentation

Still not working? Get help at pollev.com/app/help
or

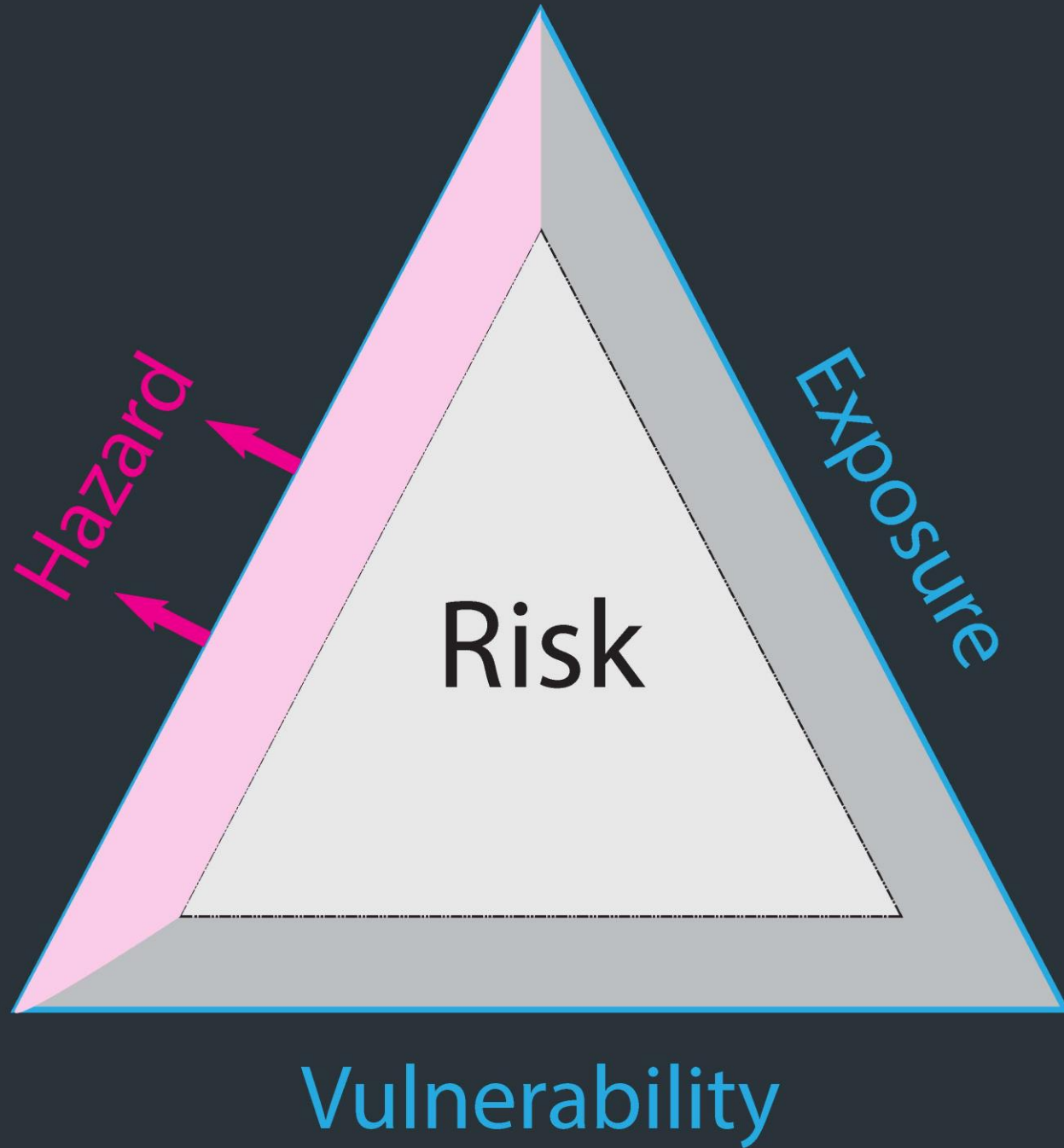
[Open poll in your web browser](#)



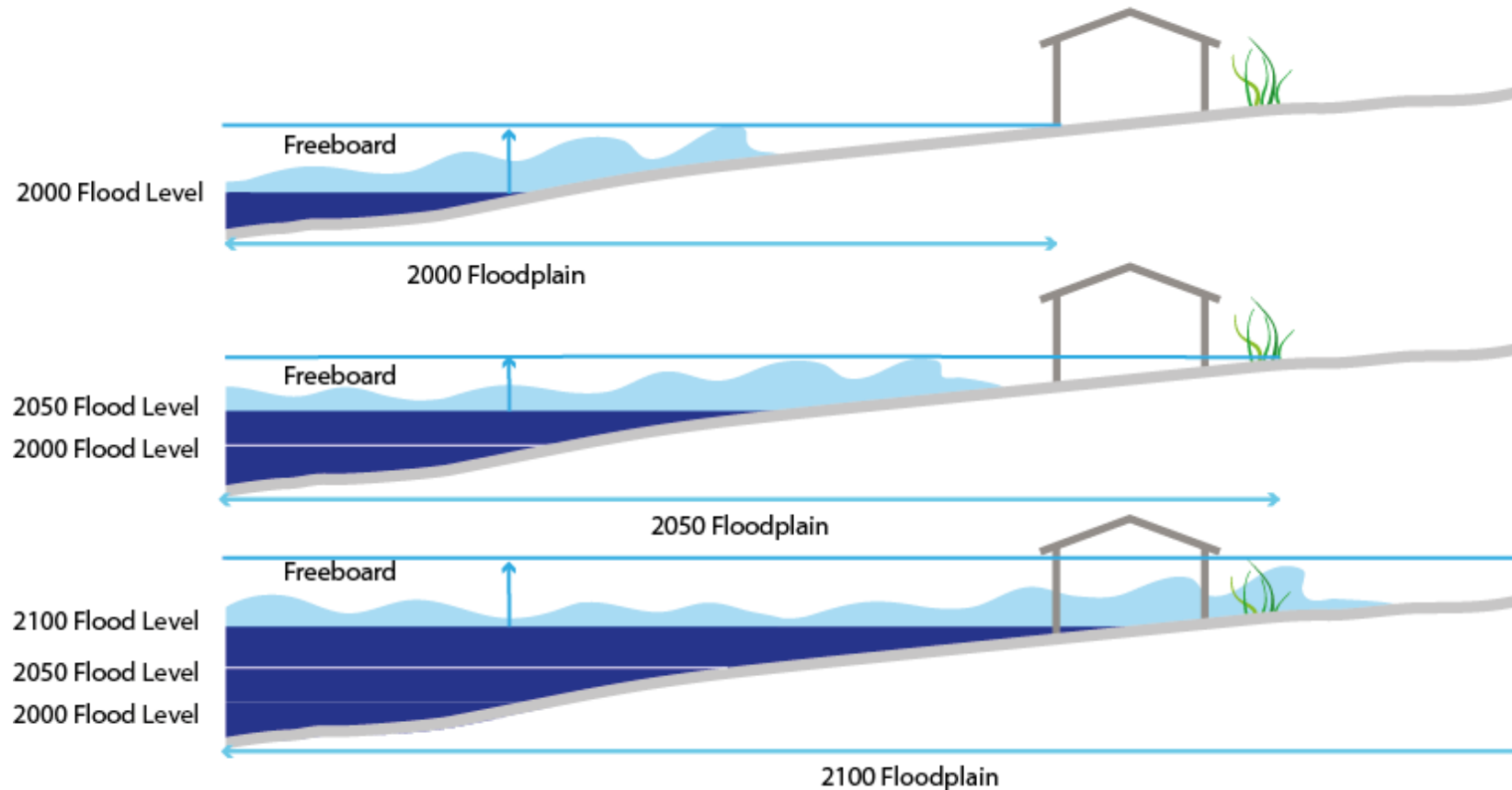
Designated Flood Maps of British Columbia



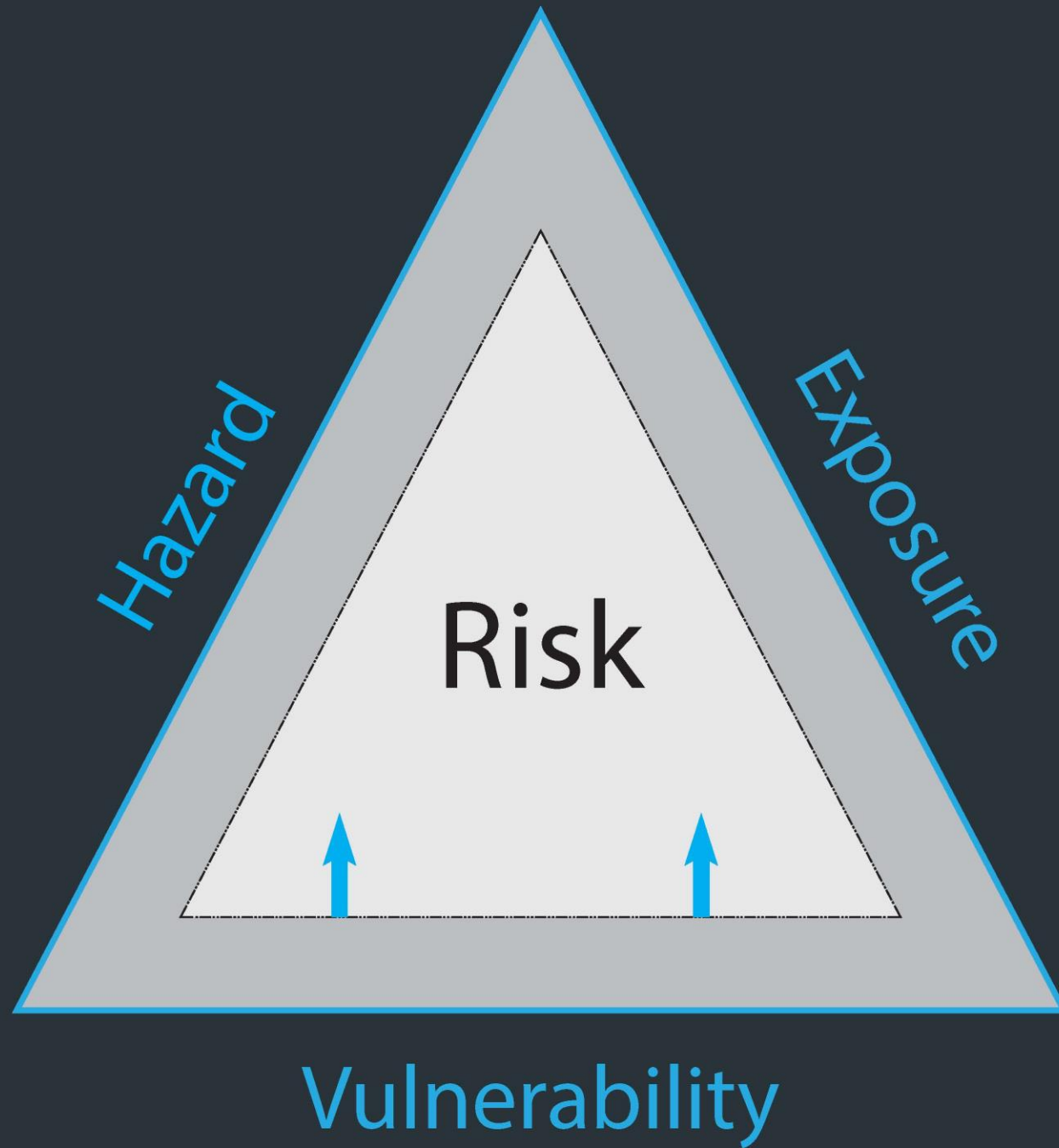
Flood Hazard



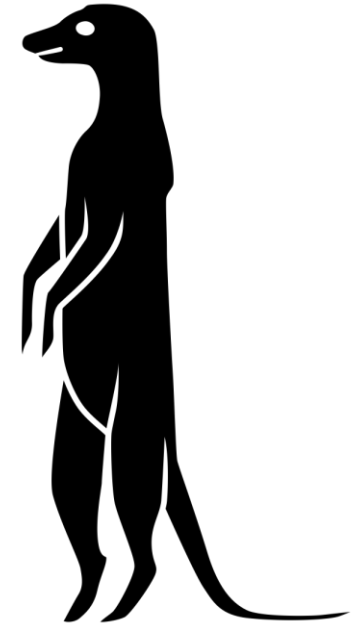
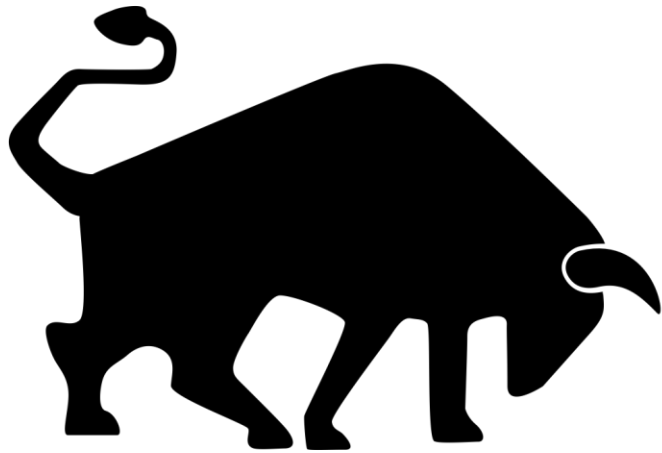
Our Hazard is Increasing with Climate Change



In the US, a 45% increase in spatial extent of the 100-Year floodplains is projected by the year 2100 (NFIP 2014).



We need to reframe the problem



Are you a Bull, Ostrich or a Meerkat?


Let's Broaden Our Response



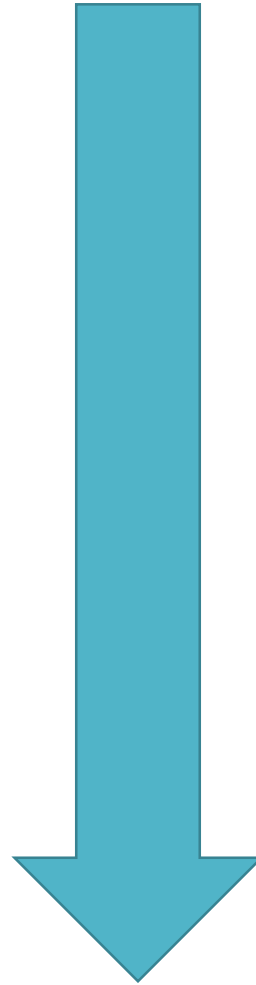
Reduce the Hazard
Block the water



Reduce Exposure
Stop things/people you care about getting wet



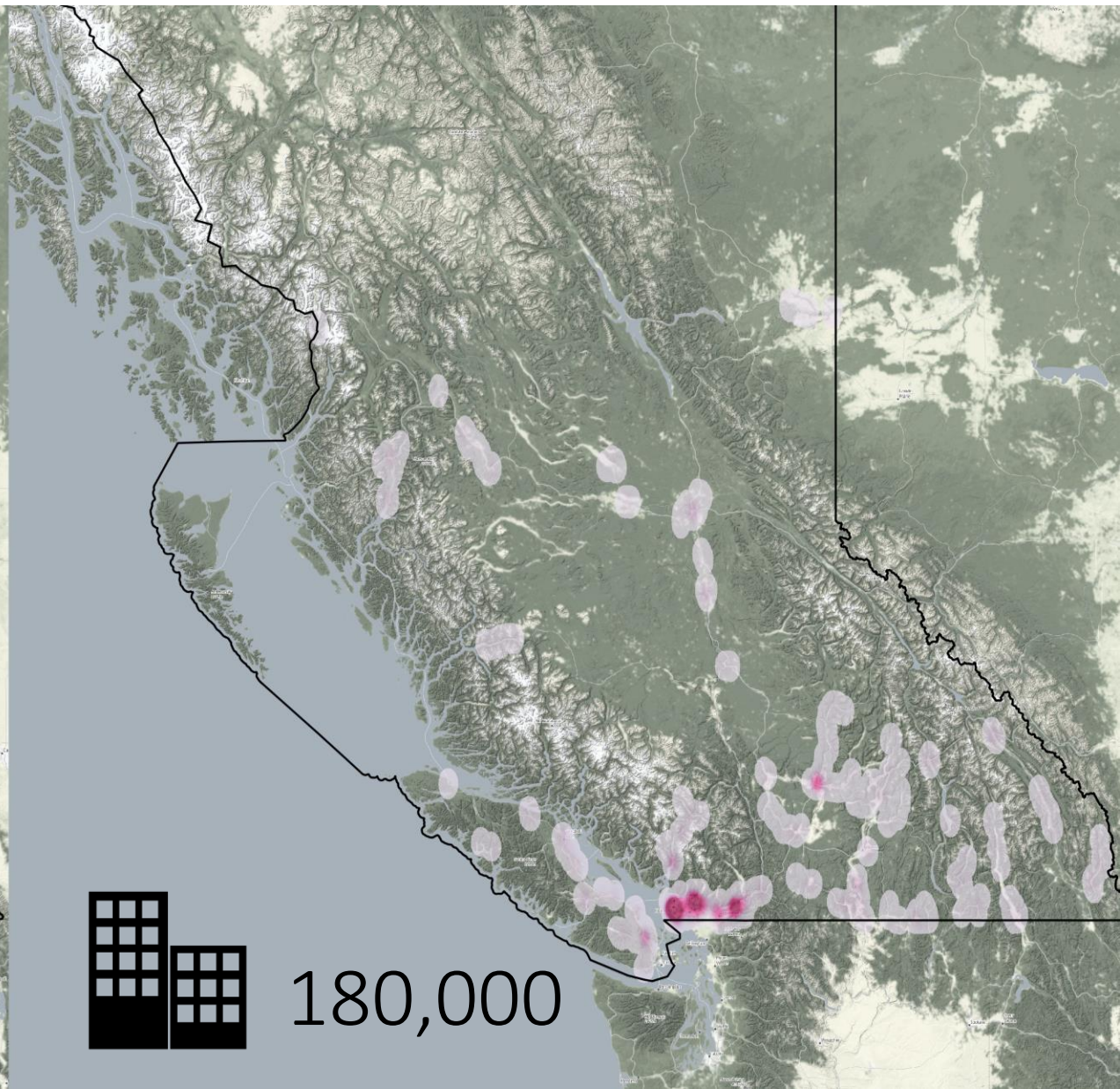
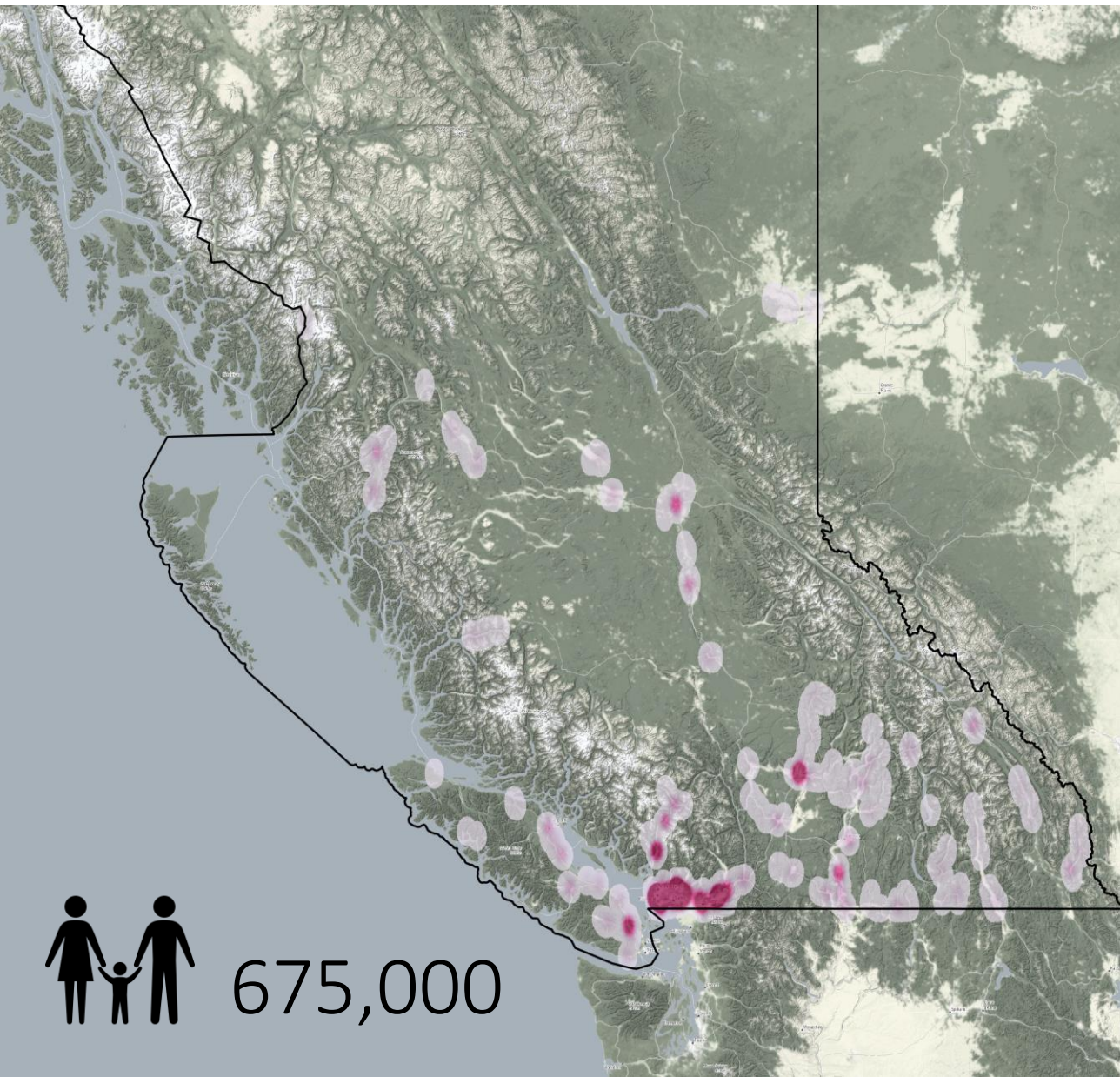
Reduce Sensitivity
Reduce impact of getting wet



- We can't fight nature
- We can't sterilise our floodplains

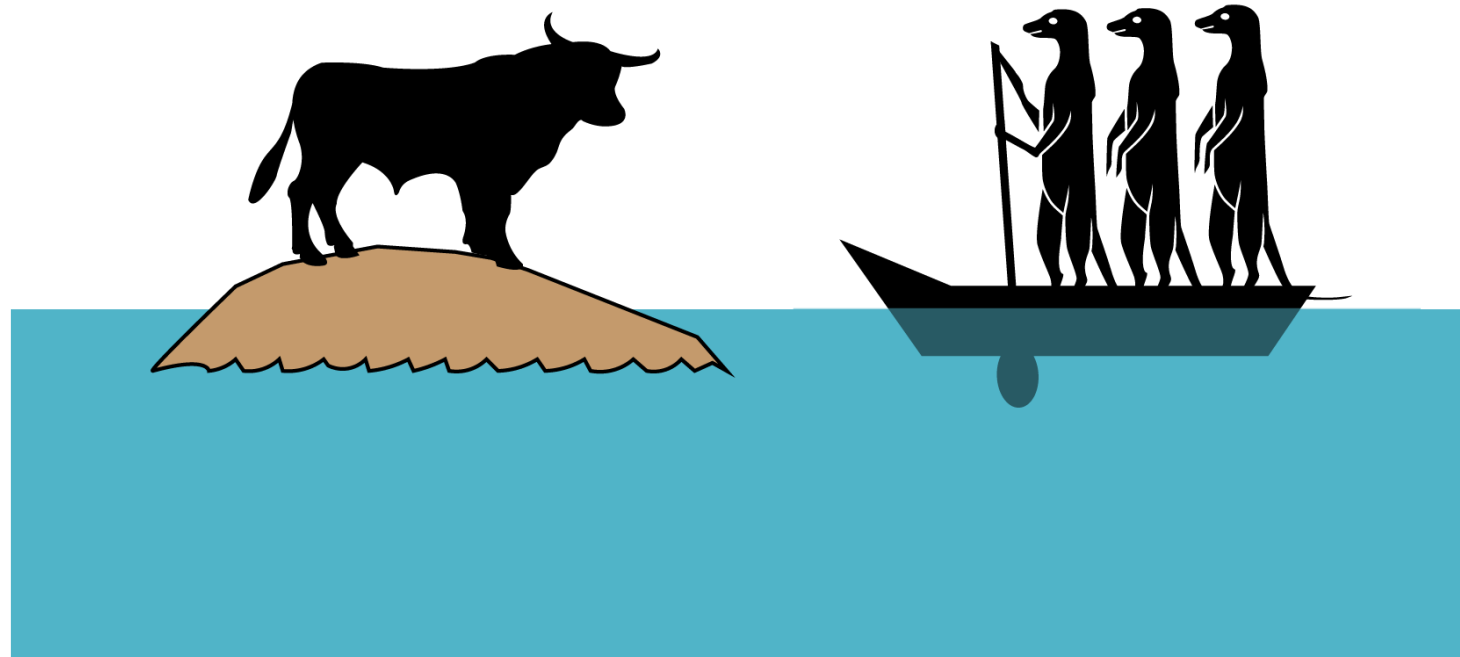
- We can reduce sensitivity to our built environment
- We can speed up our recovery

Exposure = Opportunity for Risk Reduction



Let's embrace the challenge

Meerkats Unite!
Bulls Be Gone! (Ostriches Too)



Acknowledgements



Natural Resources
Canada

Ressources naturelles
Canada

Canada

Contact

Tamsin Lyle | tamsin@ebbwater.ca |  [@ebbwater](https://twitter.com/ebbwater)

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