



A HYDROGEOLOGIST'S PERSPECTIVE

Alberta Watershed Planning and Advisory Councils
2022 World Water Day Discussion

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MY FIRST ENCOUNTER WITH GROUNDWATER

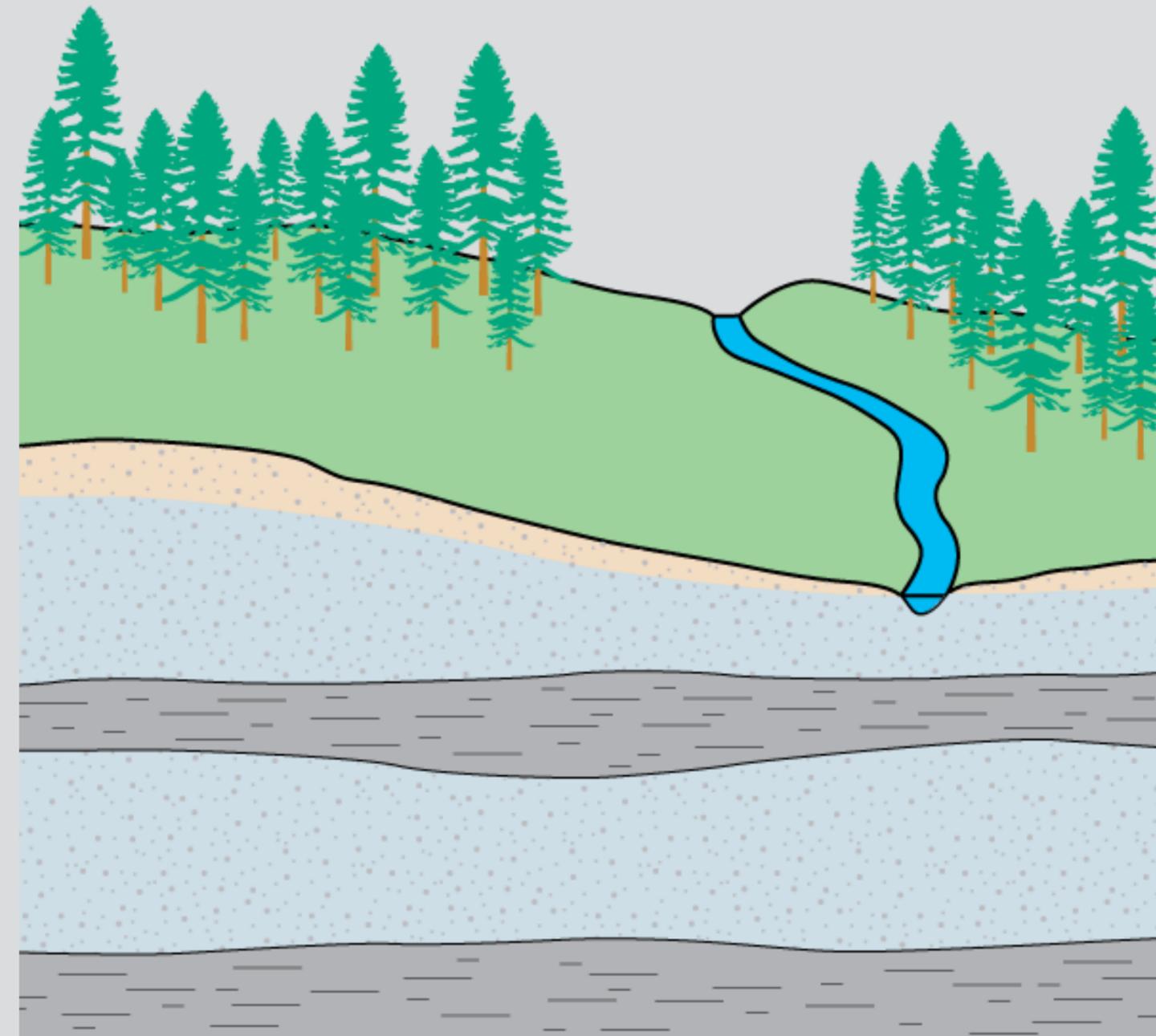
Entirely academic!

Studying a proposed hazardous water landfill in high school geography class

The idea of groundwater protection was mentioned

Wait...there's water in the ground?

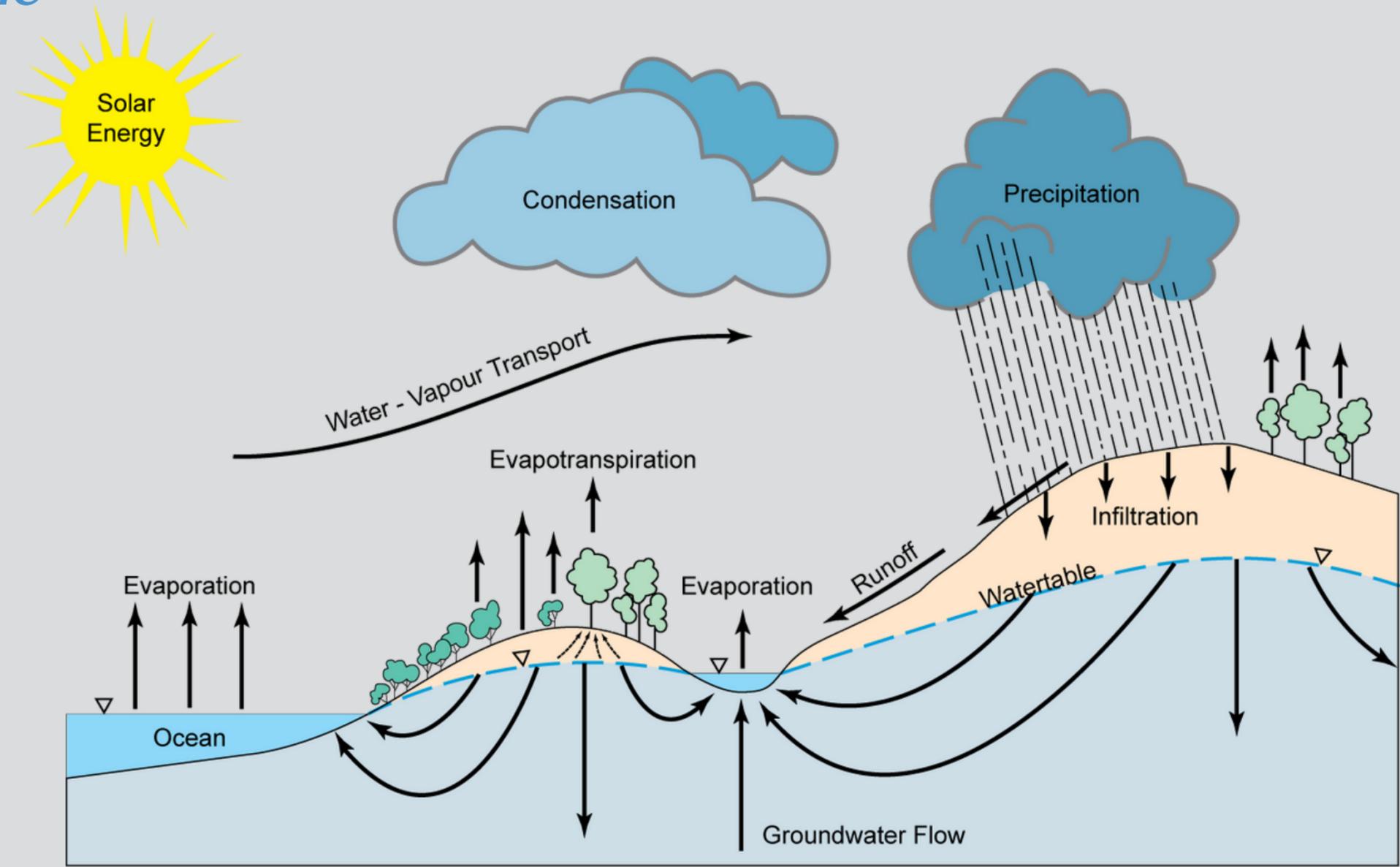
*There's a water table?
(what's that?)*



HOW DOES THE CONCEPT OF 'MAKING THE INVISIBLE, VISIBLE' RESONATE WITH YOU?

Somehow, groundwater is simultaneously *mystical* yet *tangible*

Groundwater is everywhere and an *important* part of the water cycle

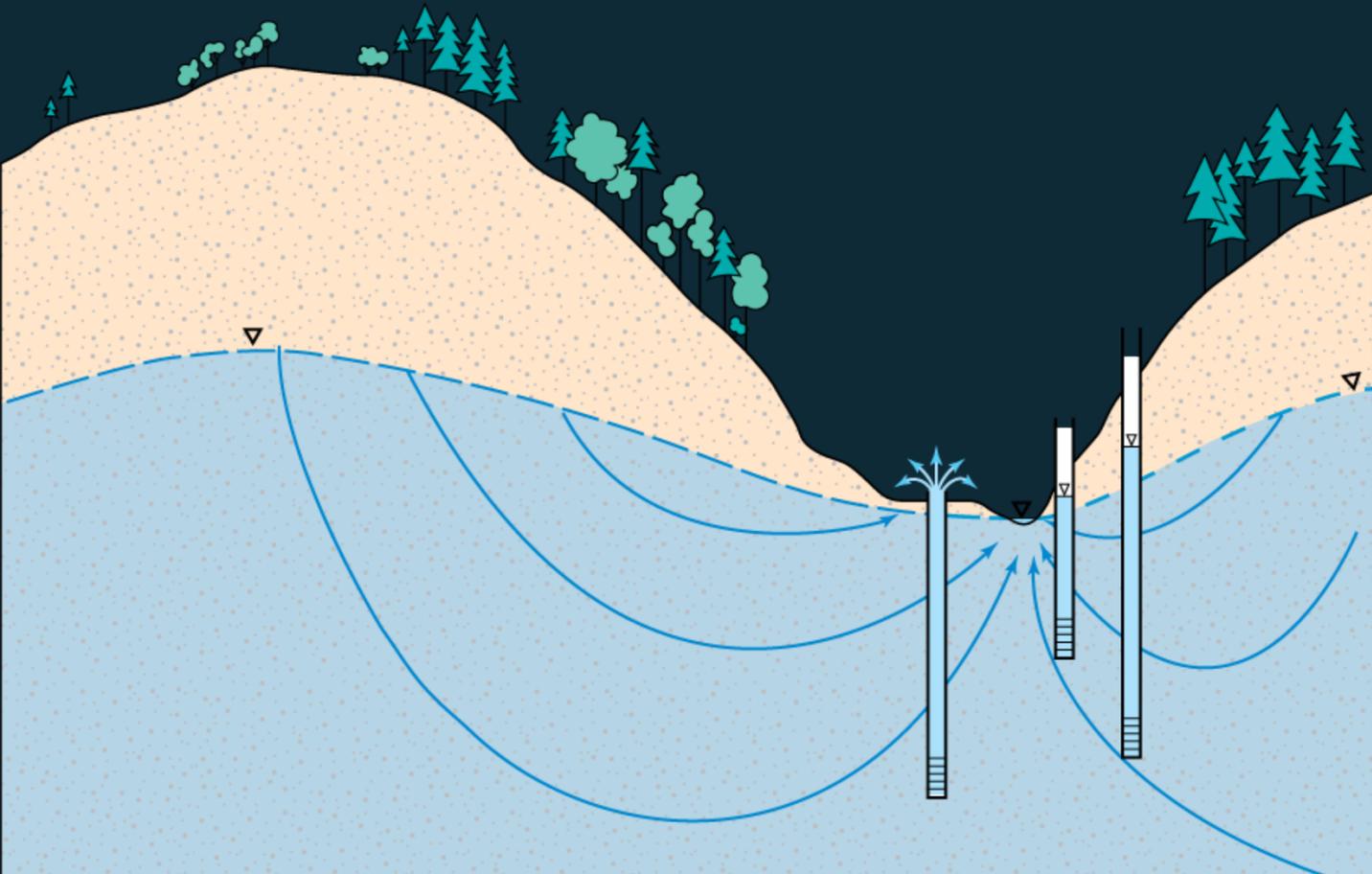


HOW DOES THE CONCEPT OF 'MAKING THE INVISIBLE, VISIBLE' RESONATE WITH YOU?



For many people, groundwater is a '*hidden resource*'

There is a challenge to perceive it and understand risks in our developing world (e.g., depletion, pollution)



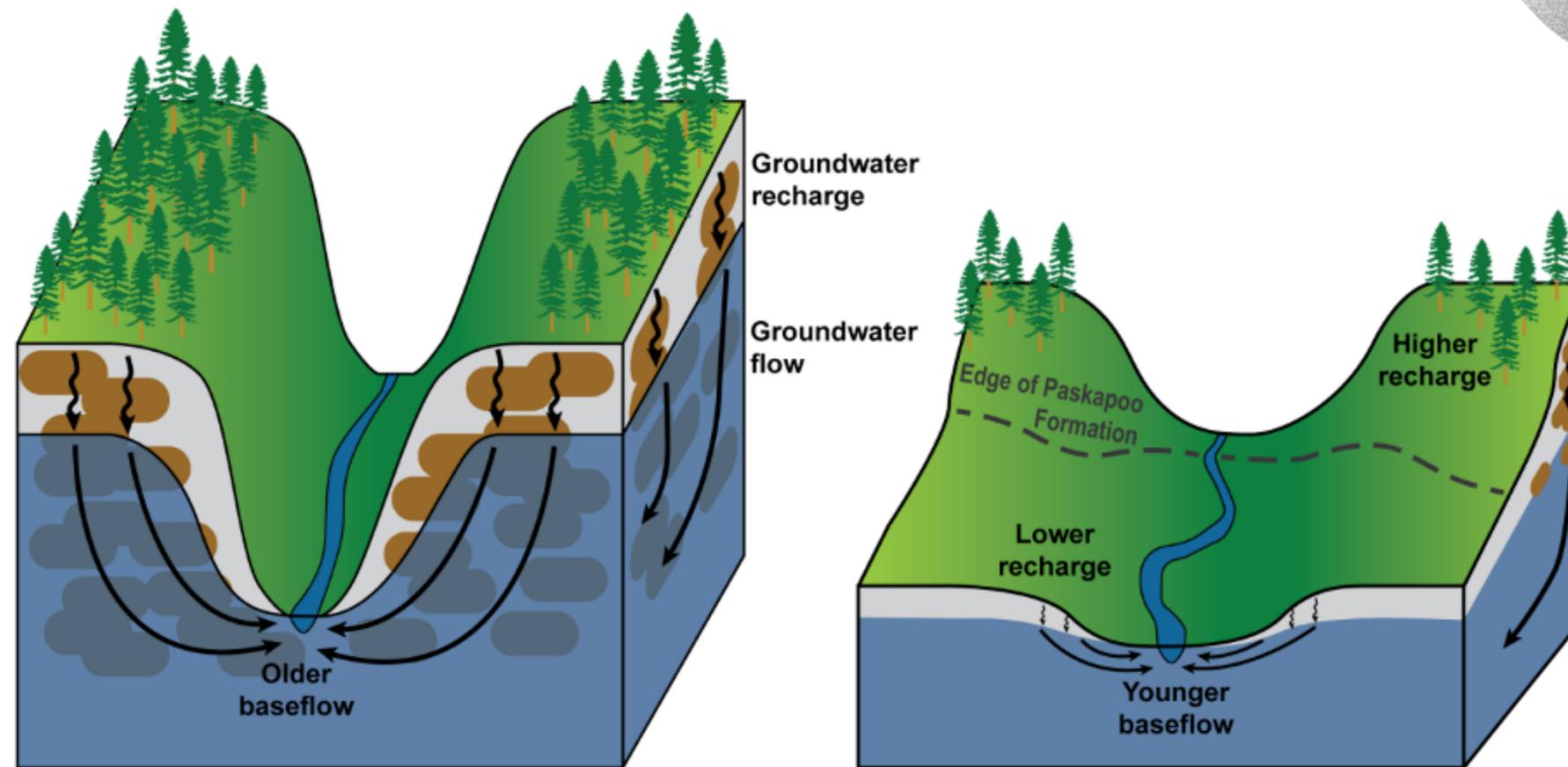
By working with others, there's an opportunity to *reveal the importance of groundwater*

We can pull back the curtain, shine a light – make it visible for everyone

WHAT IMPACT IS YOUR WORK HAVING ON OUR RELATIONSHIP TO GROUNDWATER?

Initially, *knowledge generation*

Most interested in the timeframe of circulation and interaction with rivers, lakes (where we get to see it!)



Useful, incremental contributions to science

WHAT IMPACT IS YOUR WORK HAVING ON OUR RELATIONSHIP TO GROUNDWATER?

More and more, *knowledge mobilization*

Working with groups to increase the awareness of groundwater

Aligning research with the appropriate scale for change

Helping others integrate groundwater into *their own story*



GRIMSHAW GRAVELS AQUIFER

Enrich the understanding of an important water source in the Peace Watershed

Identified characteristics of the aquifer that explain spatial trends in groundwater quality and availability



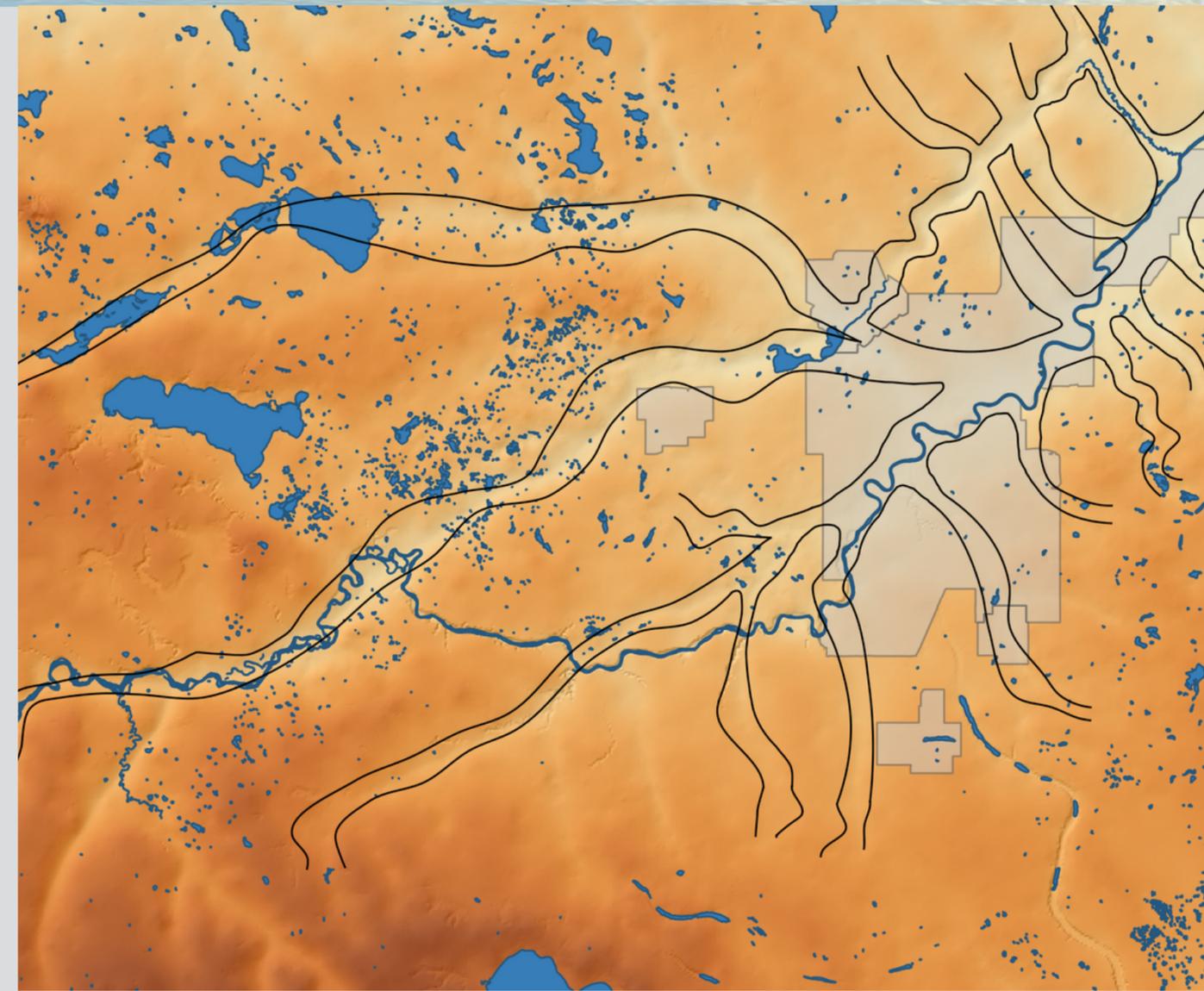


EDMONTON REGION

Determine the fraction of North Saskatchewan River that is derived from groundwater

Investigate the role of buried preglacial channels as aquifers

Study groundwater connection with lakes in Parkland County



7 WAYS TO MAKE GROUNDWATER MORE VISIBLE

Jenny Grönwall's list (Stockholm International Water Institute)

Demystify

It's water in pores
and fractures

Make better
visualizations to
help

Understand Complexity

Groundwater is
the resource

The aquifer is
the host

Both need
protection!

Quantify Use

We can't
manage what
we don't
measure

Climate Change

Predicting the
impact depends
on subtleties of
a future climate

*Keep working
on it!*

Highlight Biodiversity

Connect with
dependent
ecosystems

*These can be
seen!*

Unlock Potential

Harvest rain
water, enhance
aquifer recharge

Join hands and work together

The background is a solid teal color. On the left side, there are several overlapping circles of varying shades of teal. One of these circles contains a white grid pattern. The text is positioned on the right side of the slide.

FINAL THOUGHTS

Groundwater must continue to be explored, analyzed and monitored

Embrace that the scale for impact is often localized – watershed scale

THANK YOU!

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