



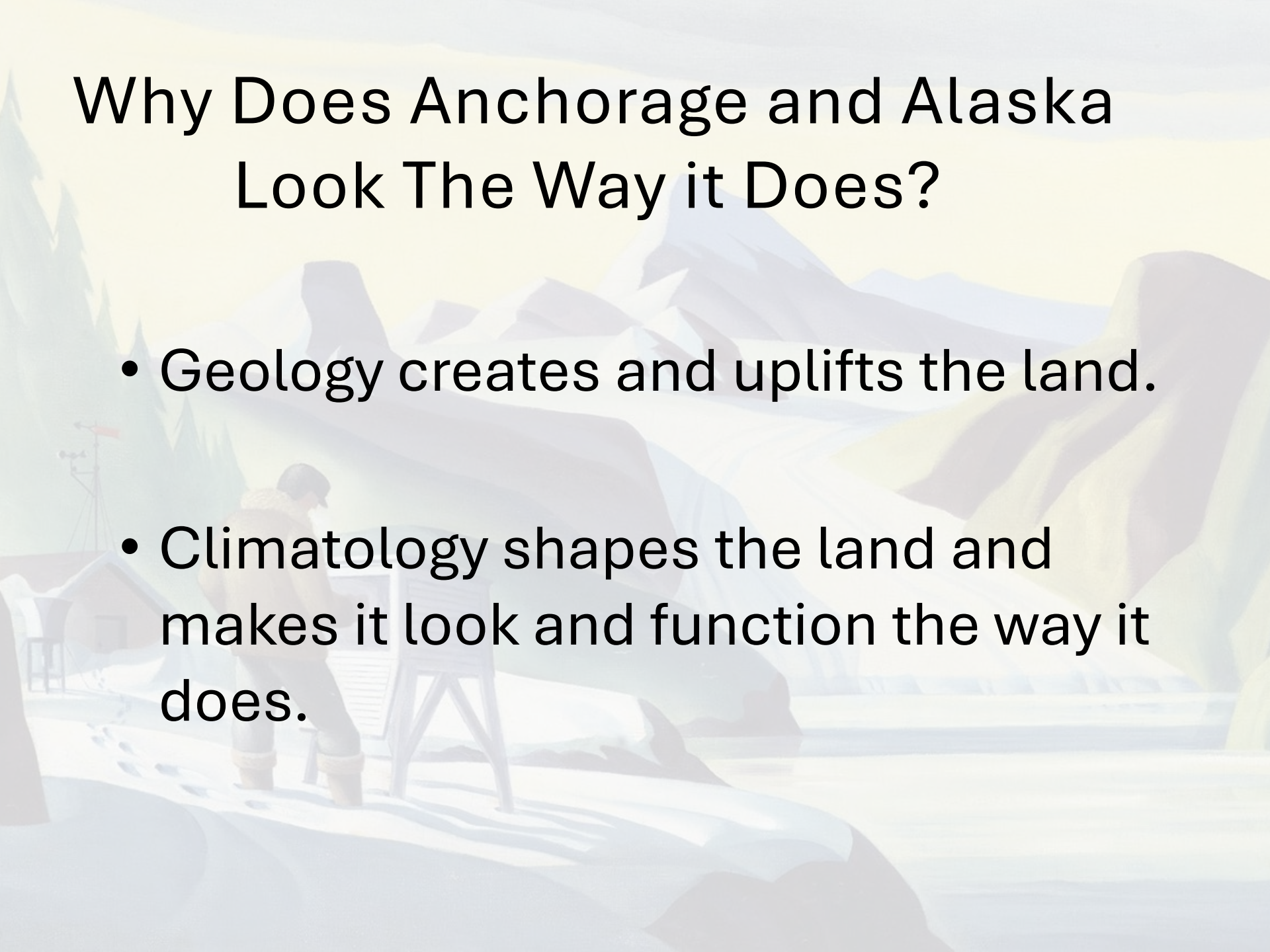
# Anchorage, The Water Cycle, and Climatology

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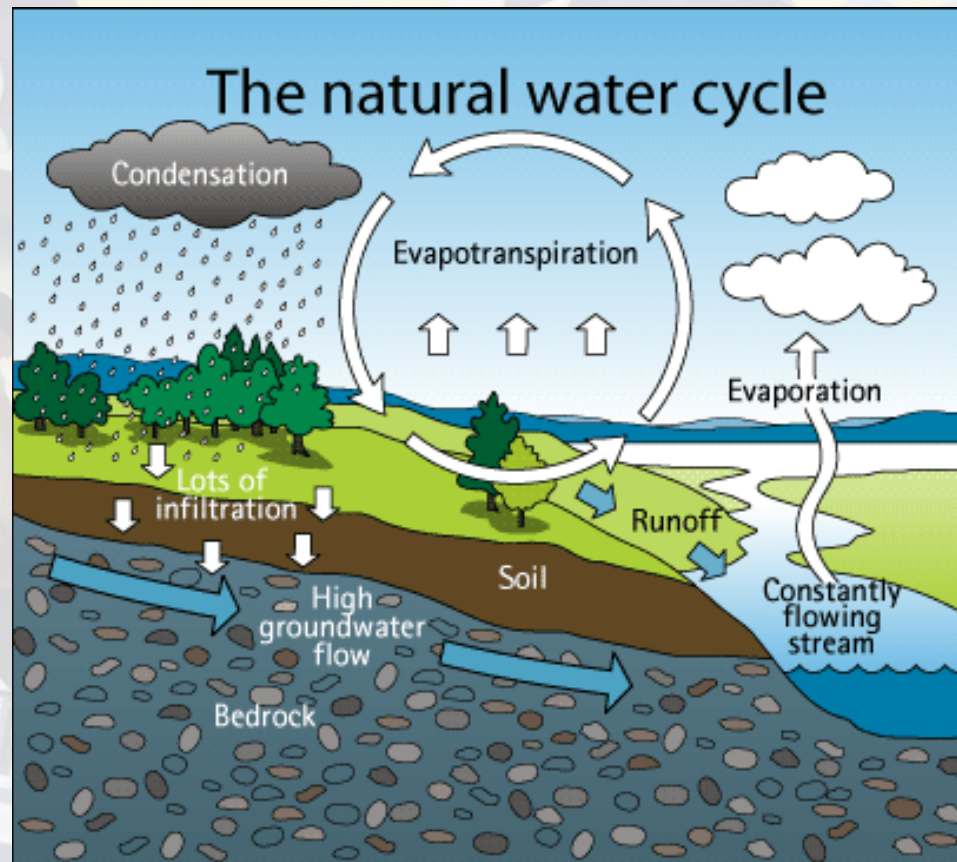
August 29, 2024

# Why Does Anchorage and Alaska Look The Way it Does?

- Geology creates and uplifts the land.
- Climatology shapes the land and makes it look and function the way it does.

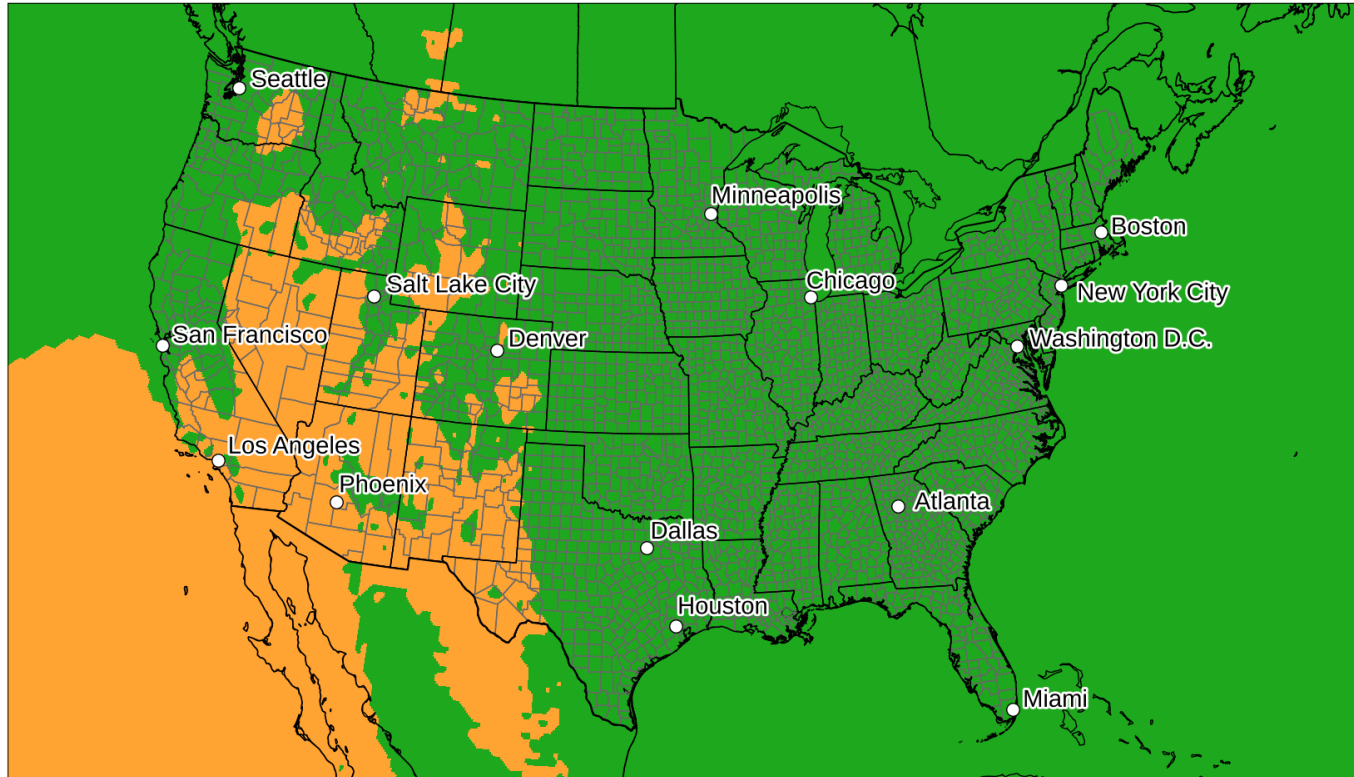


# The Water Cycle Conceptual Diagram



# Anchorage Averages 16.4" Precipitation Per Year

## Precipitation for Jan-Dec Above\Below 16.4 in. (Normal)



Source: ERA5 Reanalysis

Map by: Brian Brettschneider

**Below 16.4 in.**

**Above 16.4 in.**

Uses 1991-2020 normals period.

# Guess Who Else Has Nearly The Same Precipitation?



Honolulu, HI



Clayton, NM



Monterey, CA

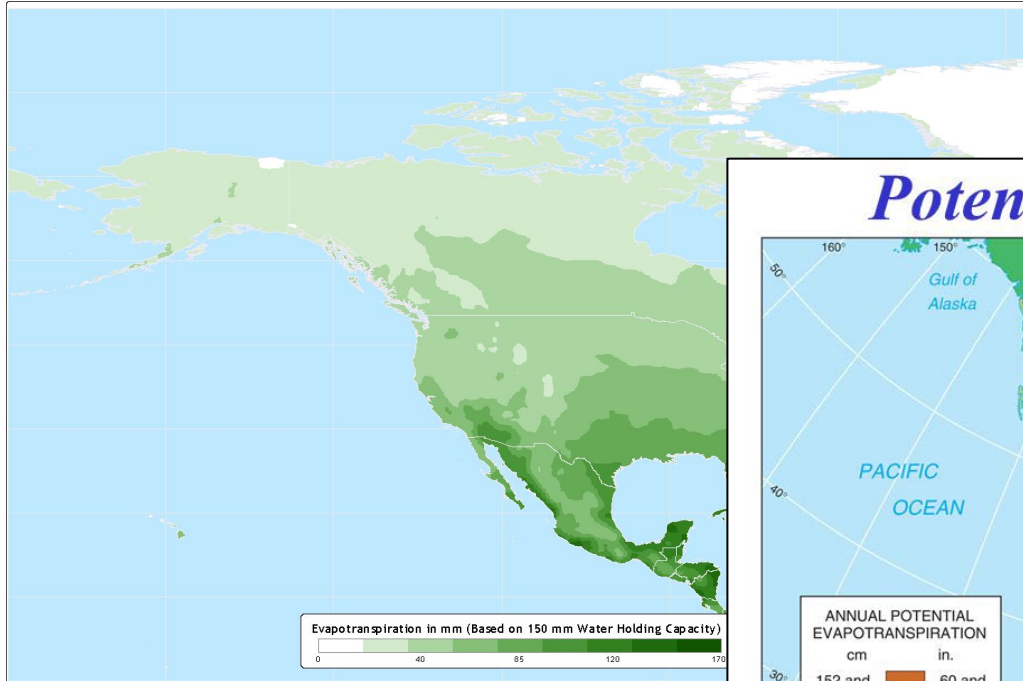


Colorado Springs, CO

# The Water Equation = Precipitation – Potential Evapotranspiration

## Potential Evapotranspiration

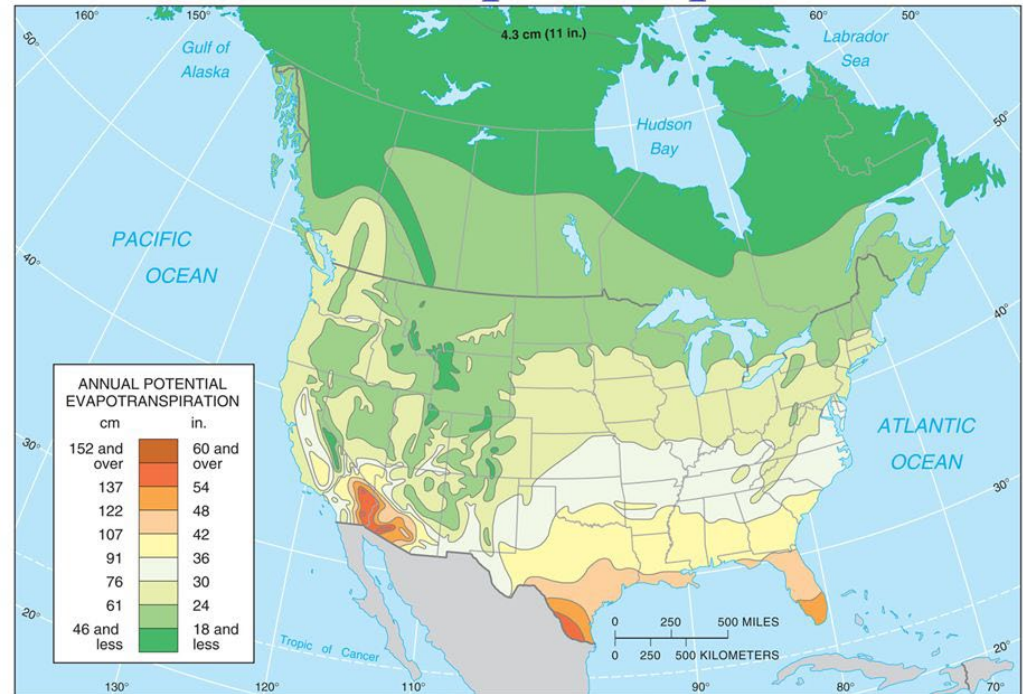
North America



Data taken from: Willmott and Matsuura (2001)

Atlas  
Center for

## Potential Evapotranspiration



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Figure 9.6

# As Temps Rise in the Future, Evaporation Will Increase More Than Precipitation

That means, .... Anchorage will “feel” and “function” drier. It will be less forested, more shrubby. It will look more like Idaho and less like Alaska.

Interior Alaska has more evaporation than precipitation. This about how the ecology of the interior is different than coastal areas.

# As Temps Rise in the Future, Evaporation Will Increase More Than Precipitation

That means, .... Anchorage will “feel” and “function” drier. It will be less forested, more shrubby.

Think about our neighbors to the north. Interior Alaska has more evaporation than precipitation. Think about how the ecology of the interior is different than coastal areas.