

# Tracing Water Flow in the Libby Creek Watershed Using Isotopes

A Research Project by Wil Chapple

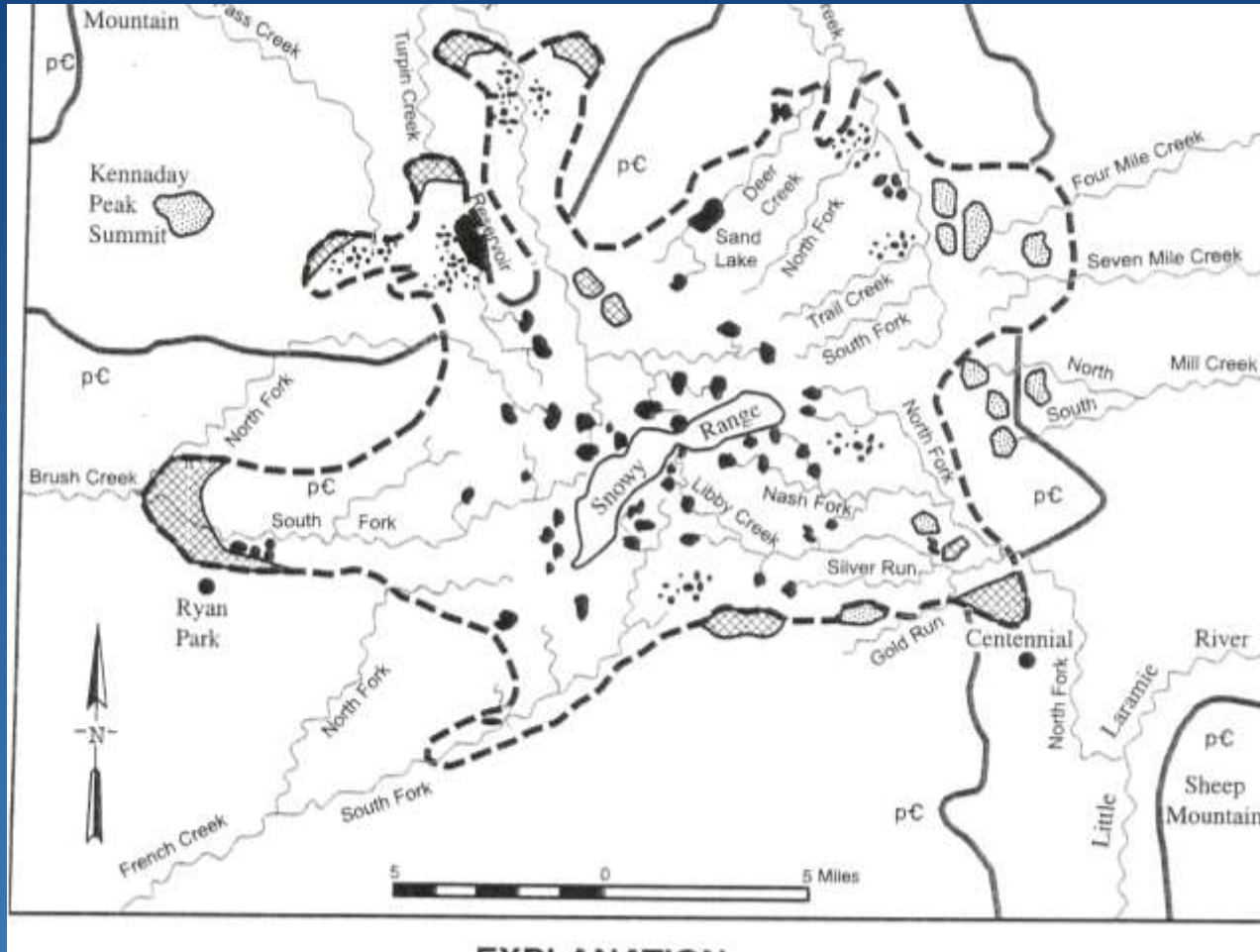


# Overview

- Glacial History of the Snowy Range
- Important Questions in Ecohydrology
- Isotope Tracing Methods
- My Research in the Libby Creek Watershed



# The Snowy Range Story



- Pre-Bull Lake Glaciation
- Bull Lake Glaciation
- Pinedale (Wisconsin) Glaciation

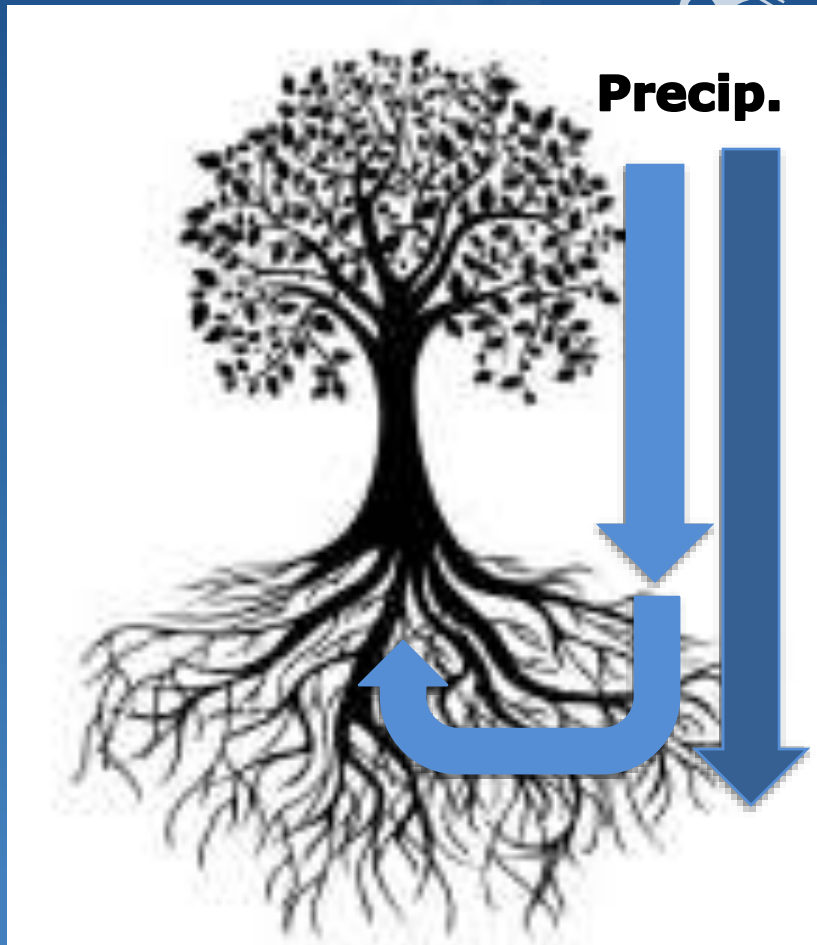
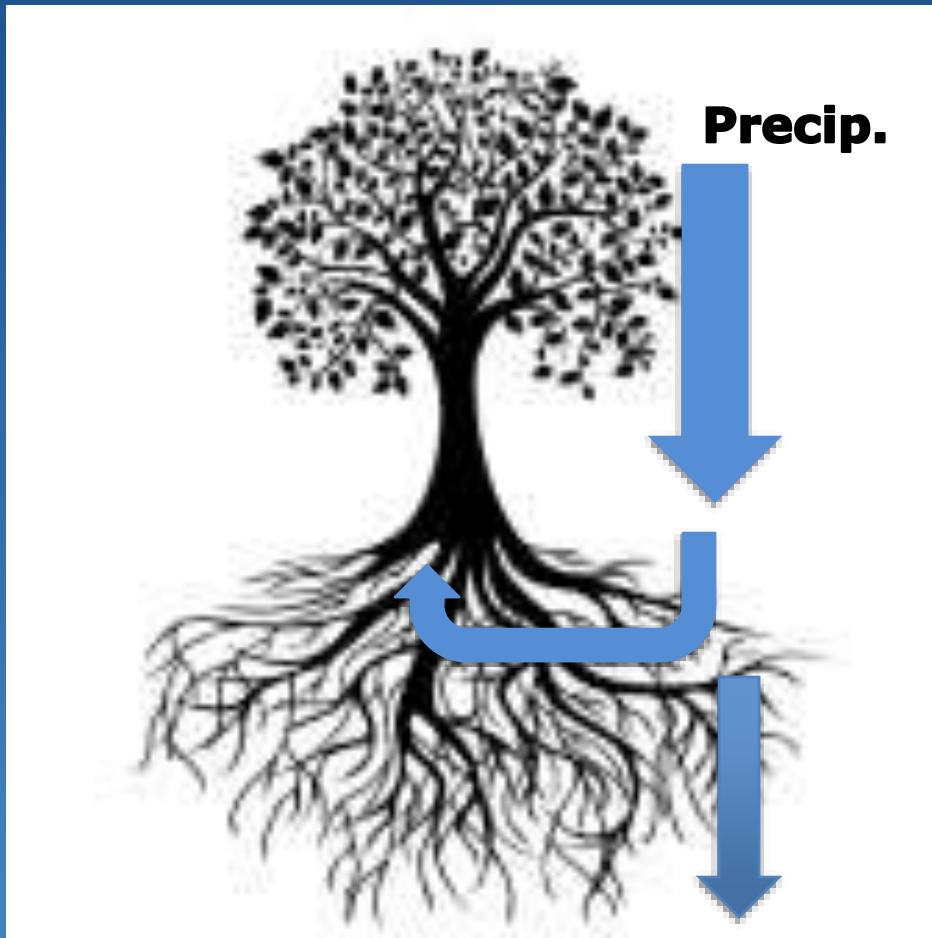
Mears 2001

# Important Questions About Ecohydrology

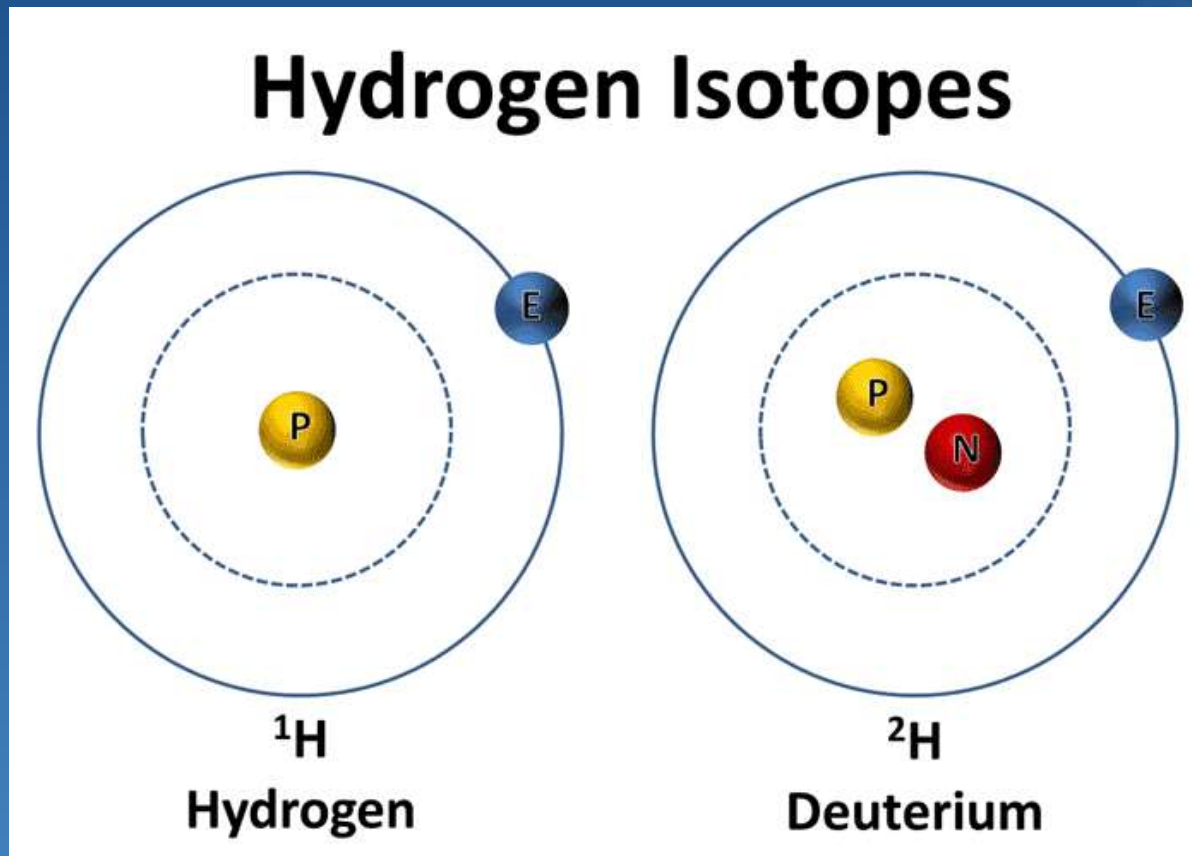
- Are trees consuming the same water found in stream flow?
- Or is there a separation of water in stream flow from plant uptake?
- Does the soil clay content influence this potential separation?



# Plant-Water Separation



# What is an Isotope and What Can Isotopes Reveal About Plant-Water Use?



# Field Work

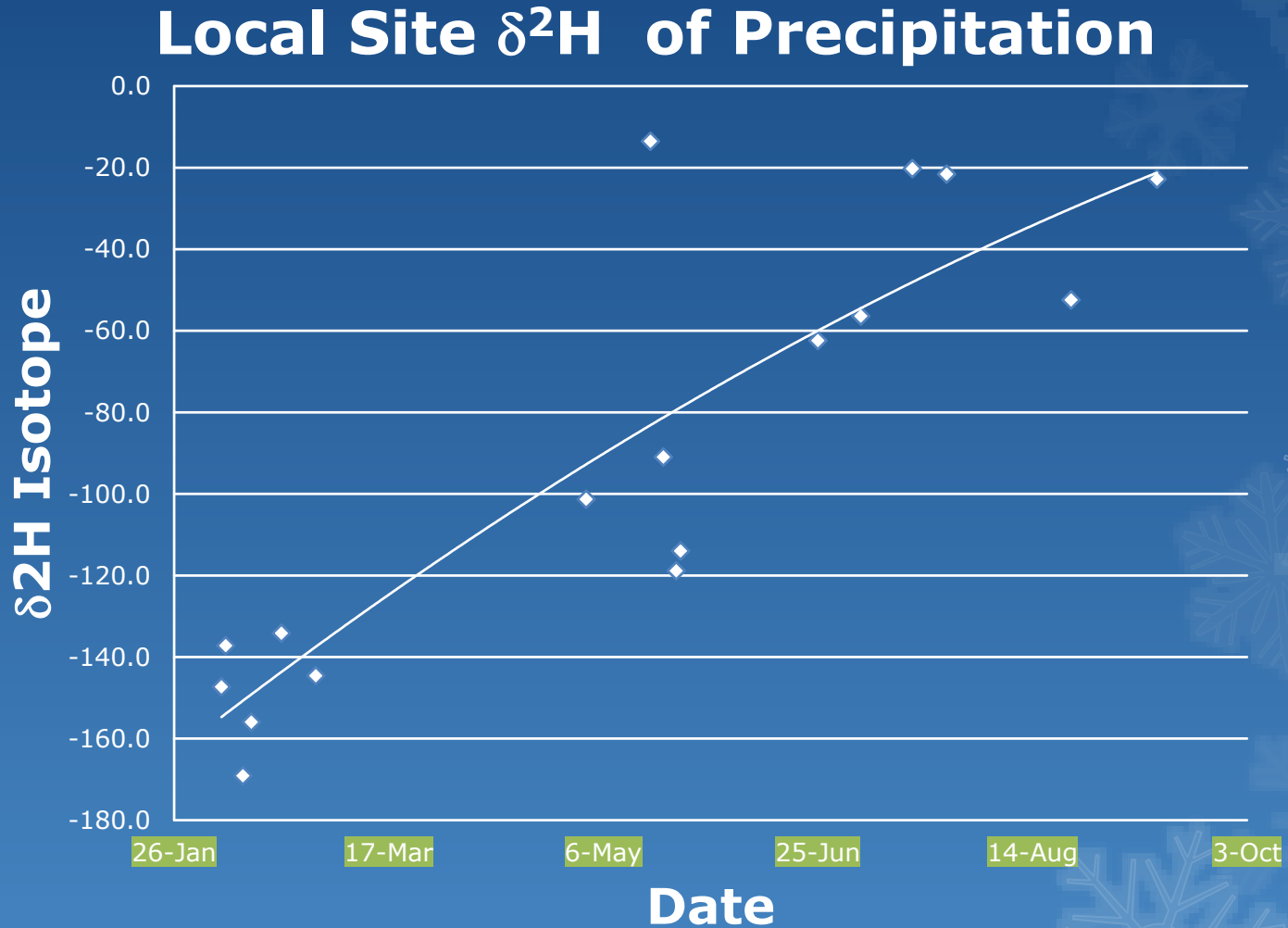


# Lab Work

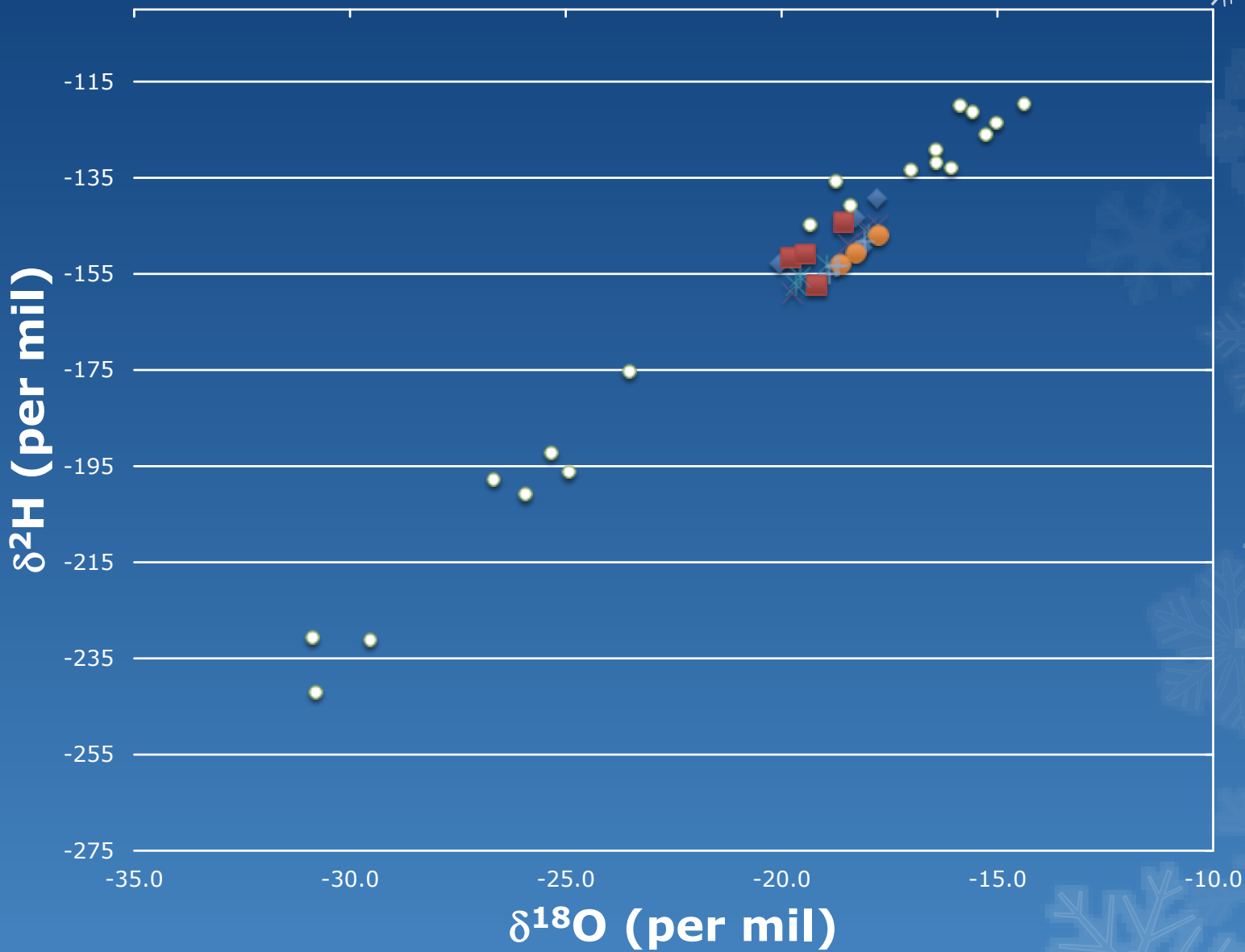




# Results (Thus Far)



# Stable Isotope Ratio of Snow



# Summer Research

Collect and analyze:  
Tree Water  
Soil Water  
Stream Water



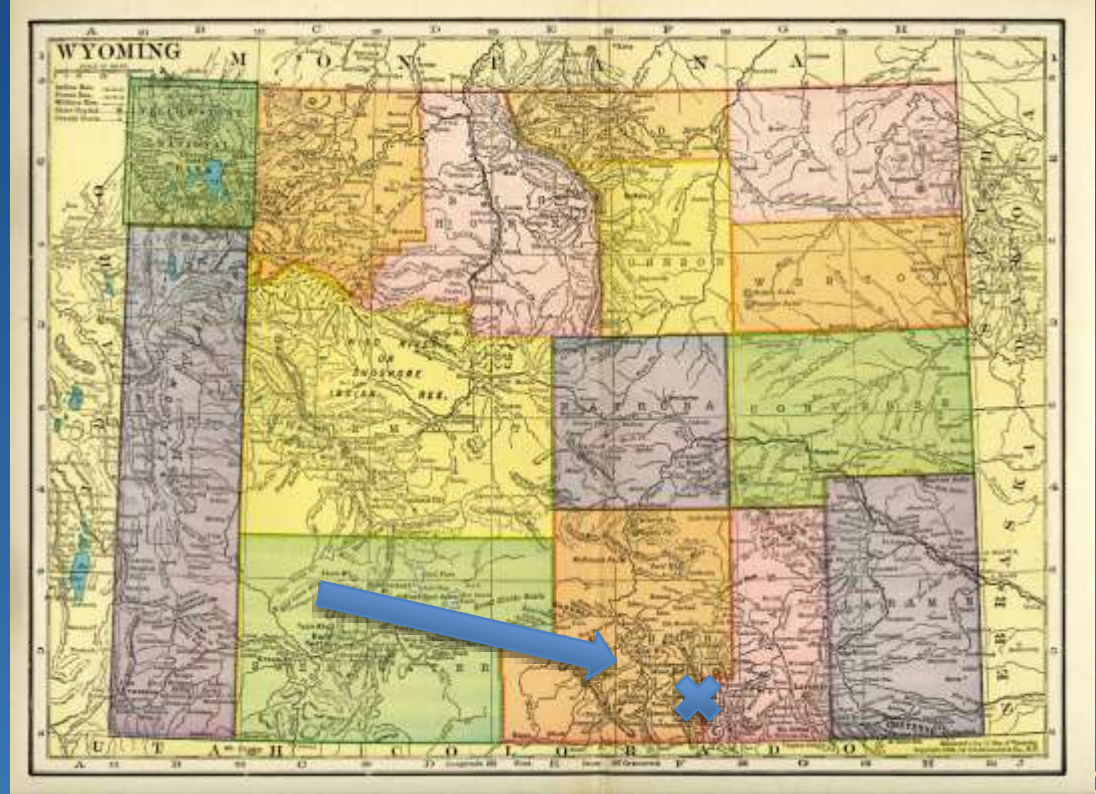


Pre-Bull



Bull Lake

Pinedale



Pre-Bull

