



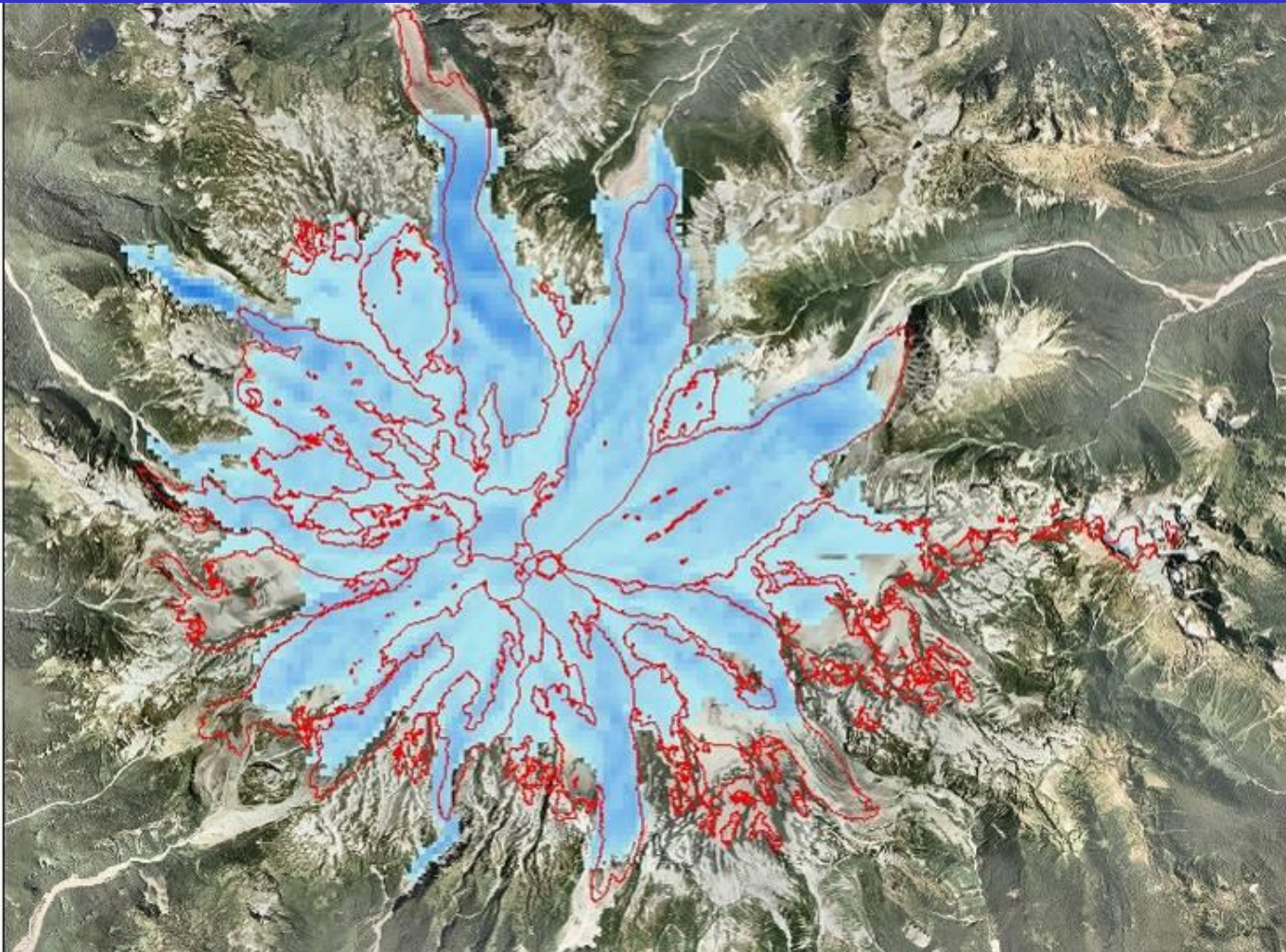
M. Hekkers' 12,000 Glacial Model Glacier – Climate Model 2



Mount Rainier's Glaciers During The Last 12,000 Years

- Reconstructed glaciers are shown in blue and are years B.P. (before present)
- Mapped moraines are shown in red
- Minimum/maximum glacial extents are shown during the last 12,000 years

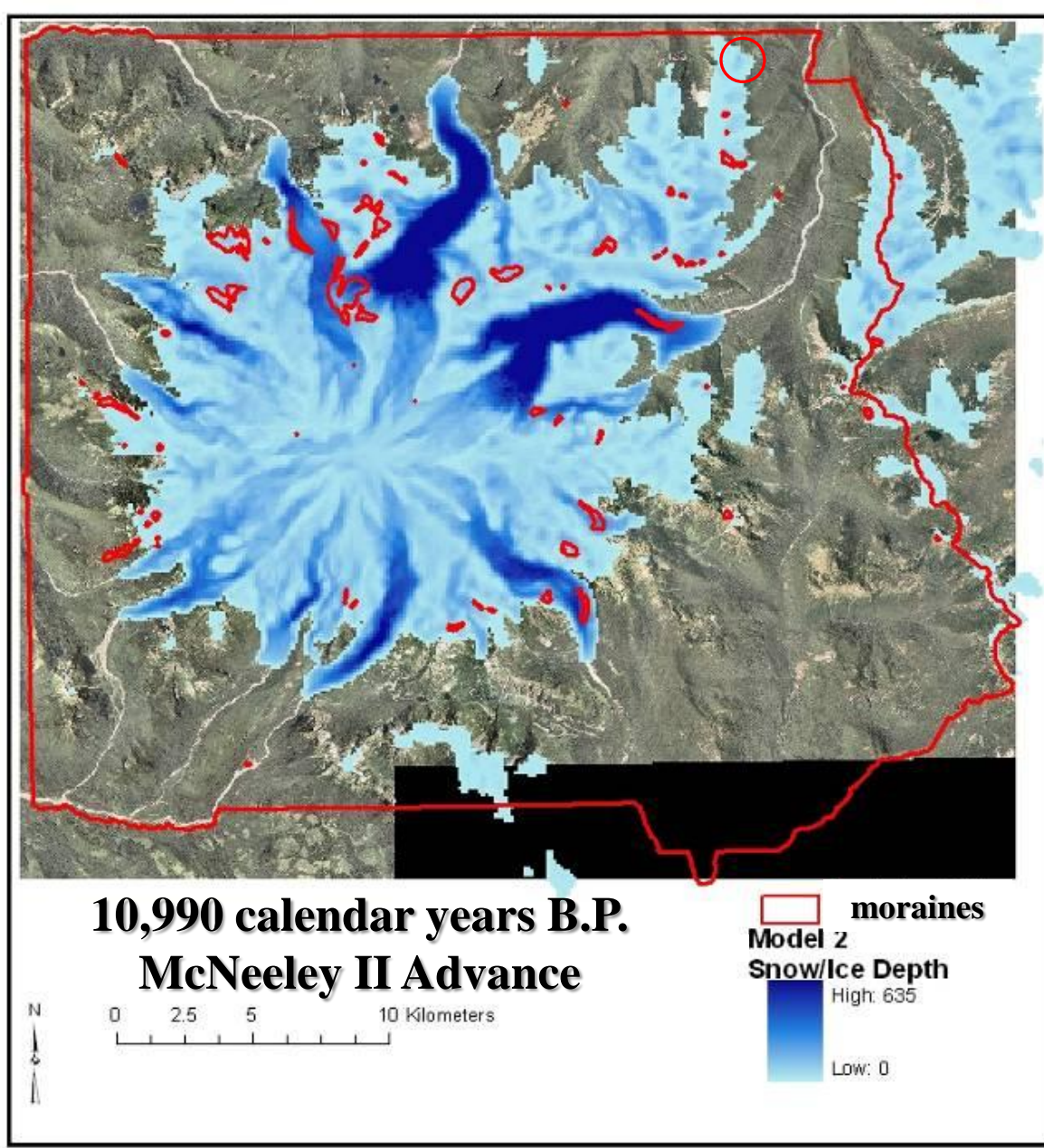


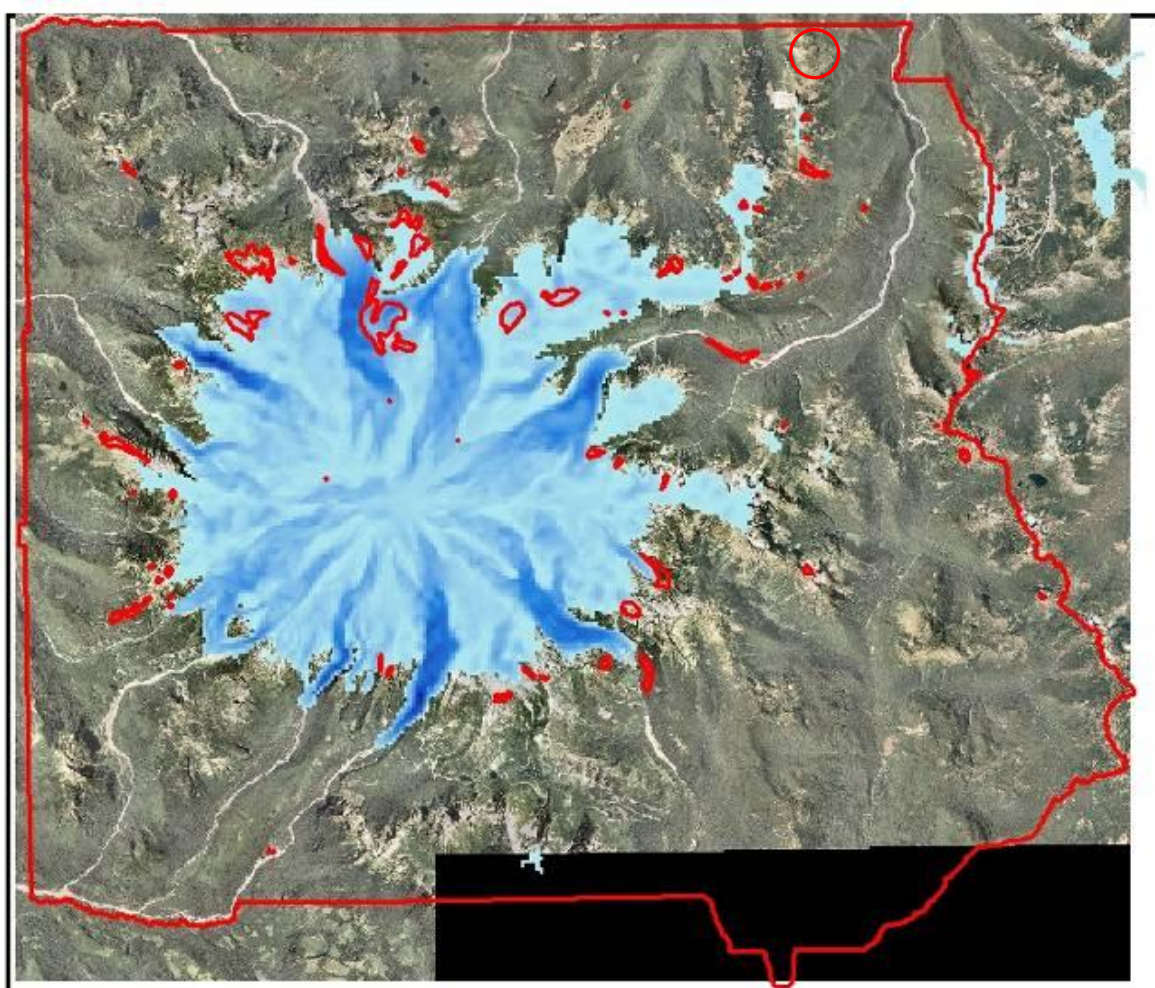


0 1.25 2.5 5 Kilometers

 1994 mapped extents

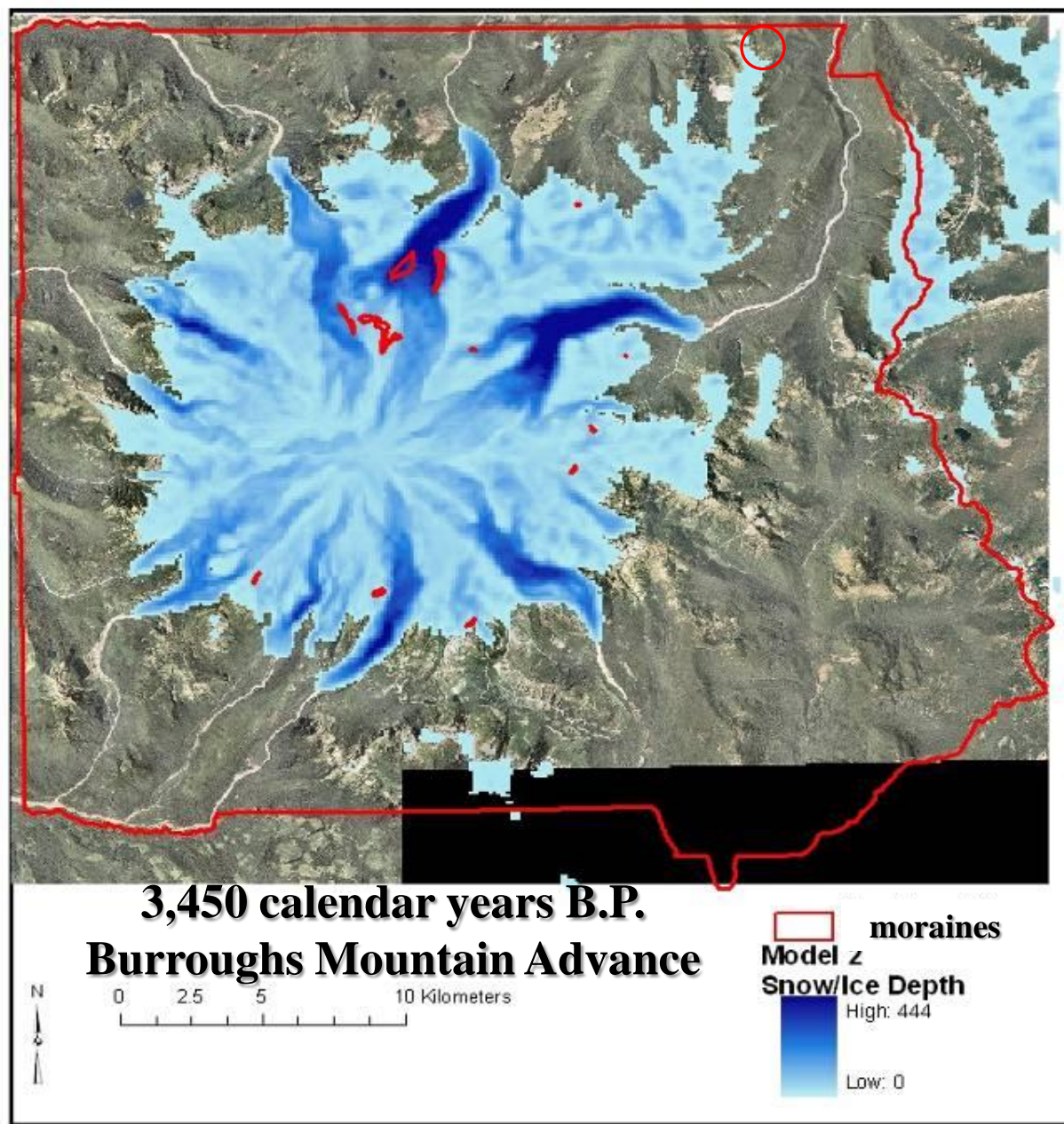
Current Modeled Glaciers

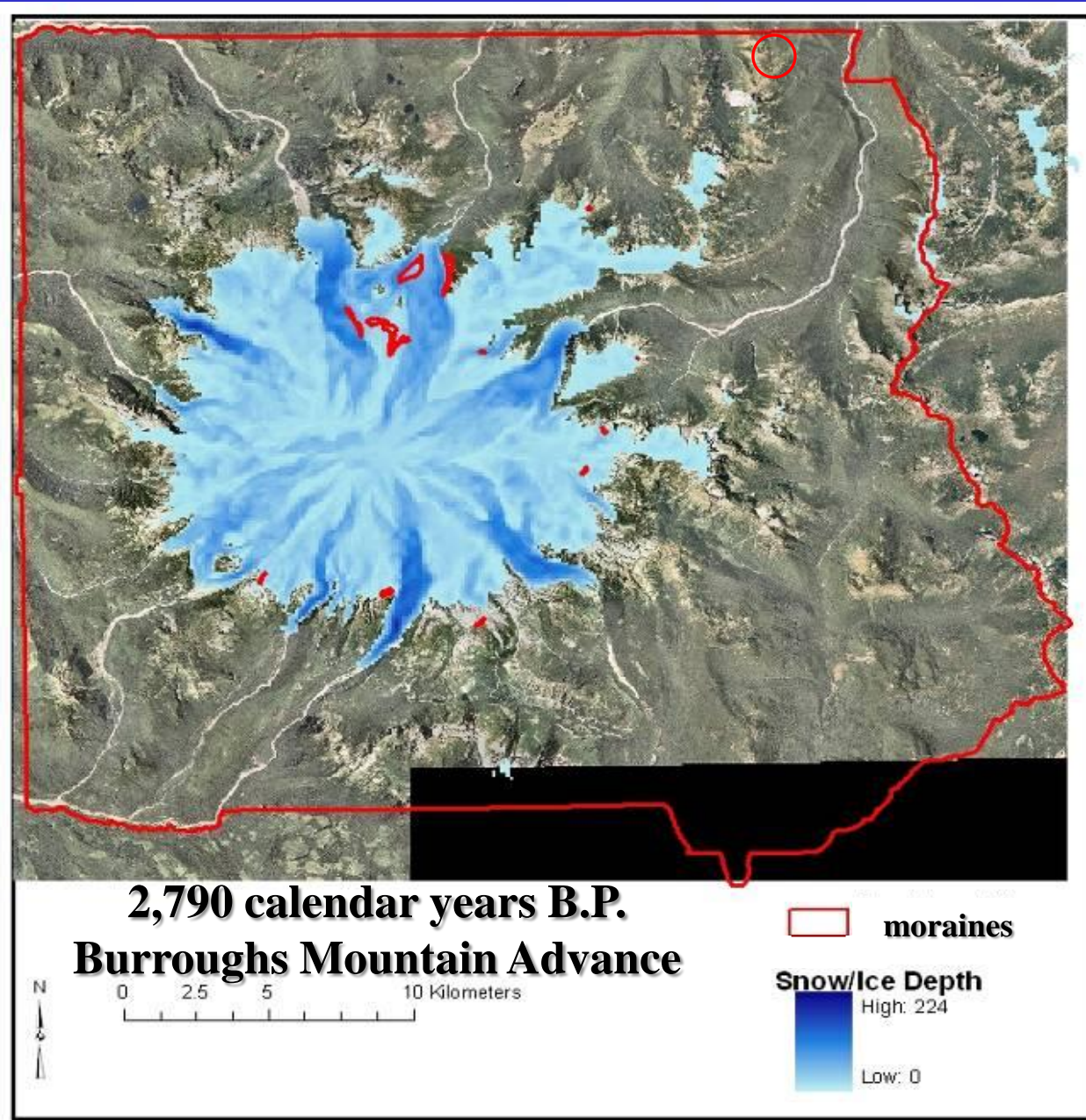


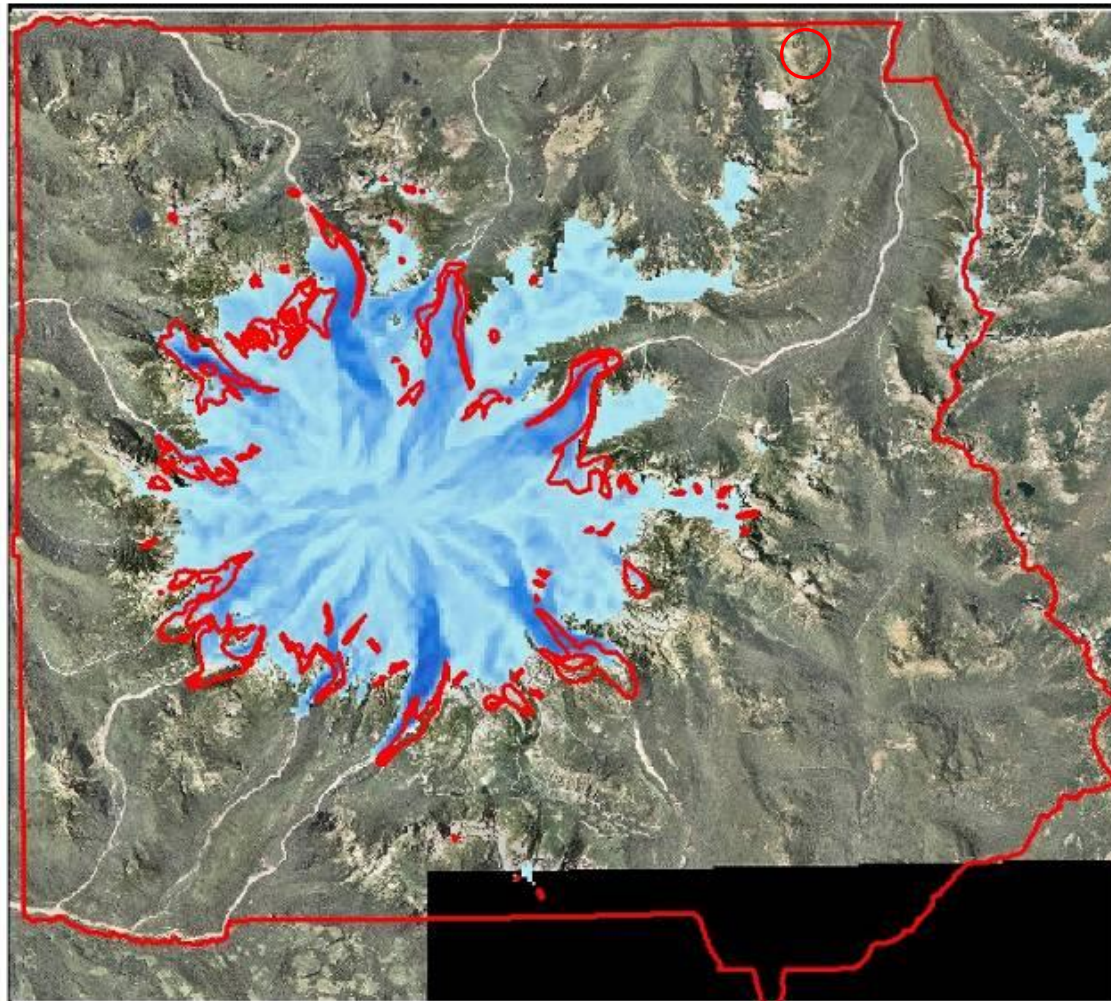


**10,170 calendar year B.P.
McNeeley II Advance**







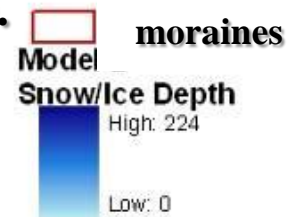


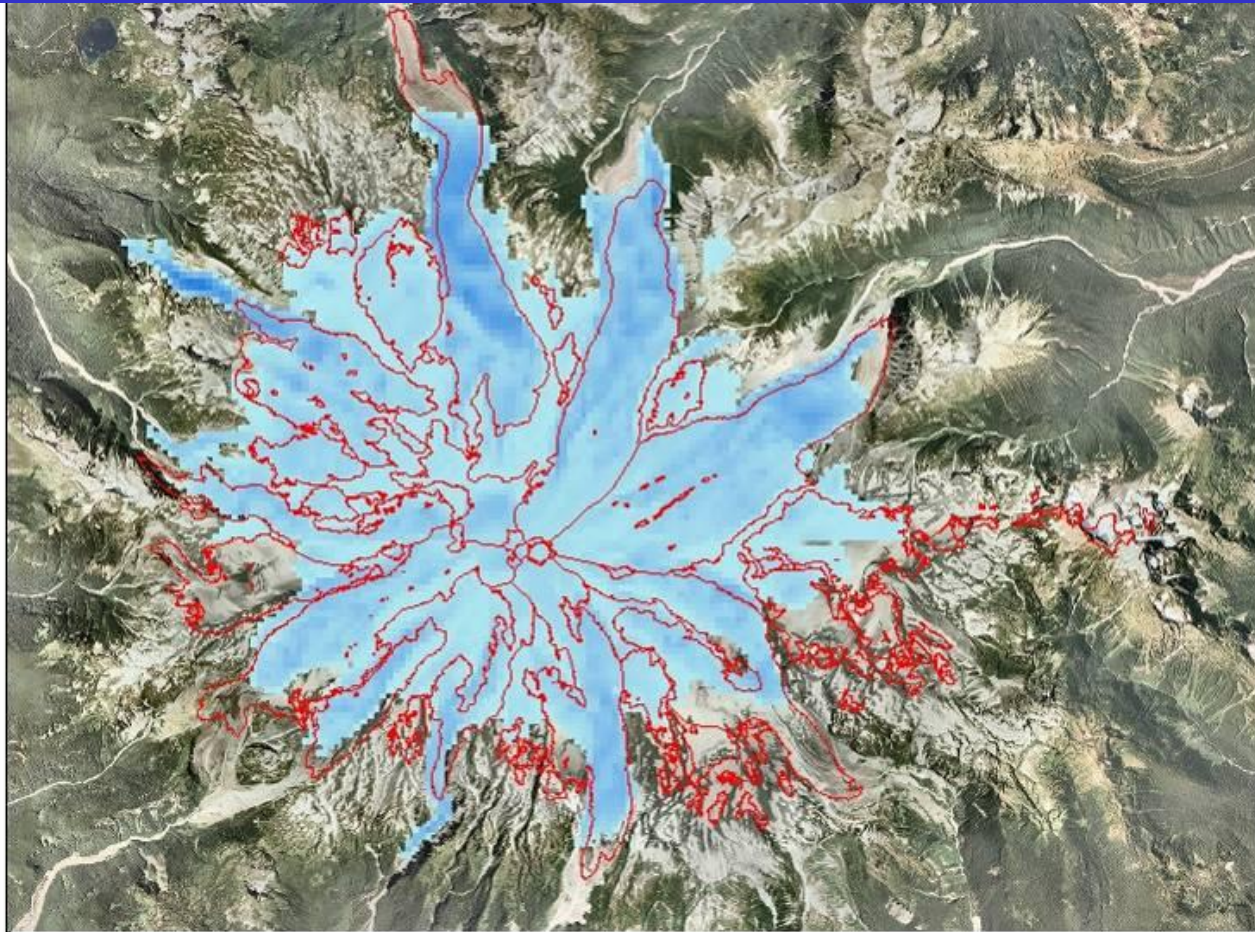
Little Ice Age ~1400 to late 1890s A.D.

Garda Advance



0 2.5 5 10 Kilometers

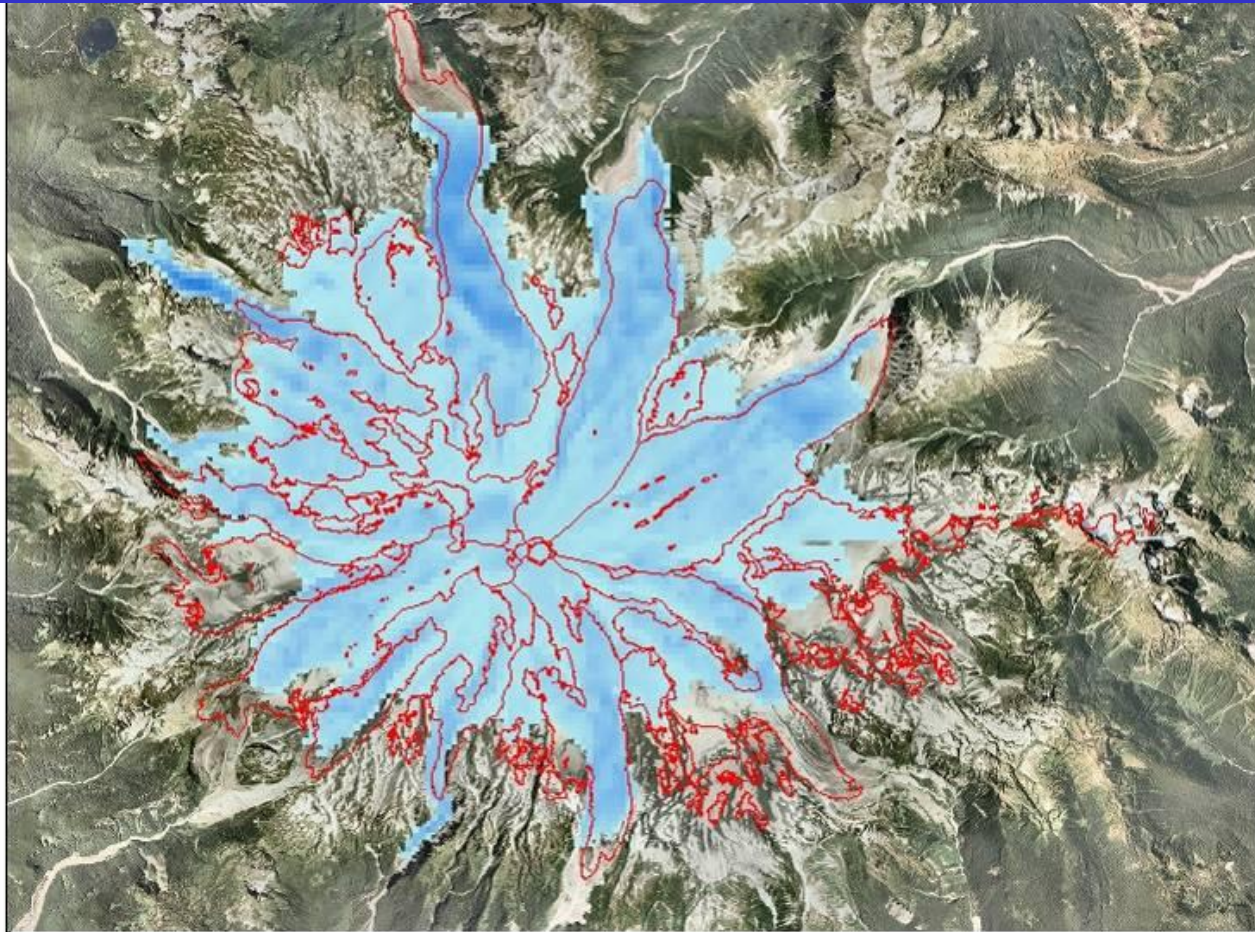




N
0 1.25 2.5 5 Kilometers

 1994 mapped extents

Current Modeled Glaciers



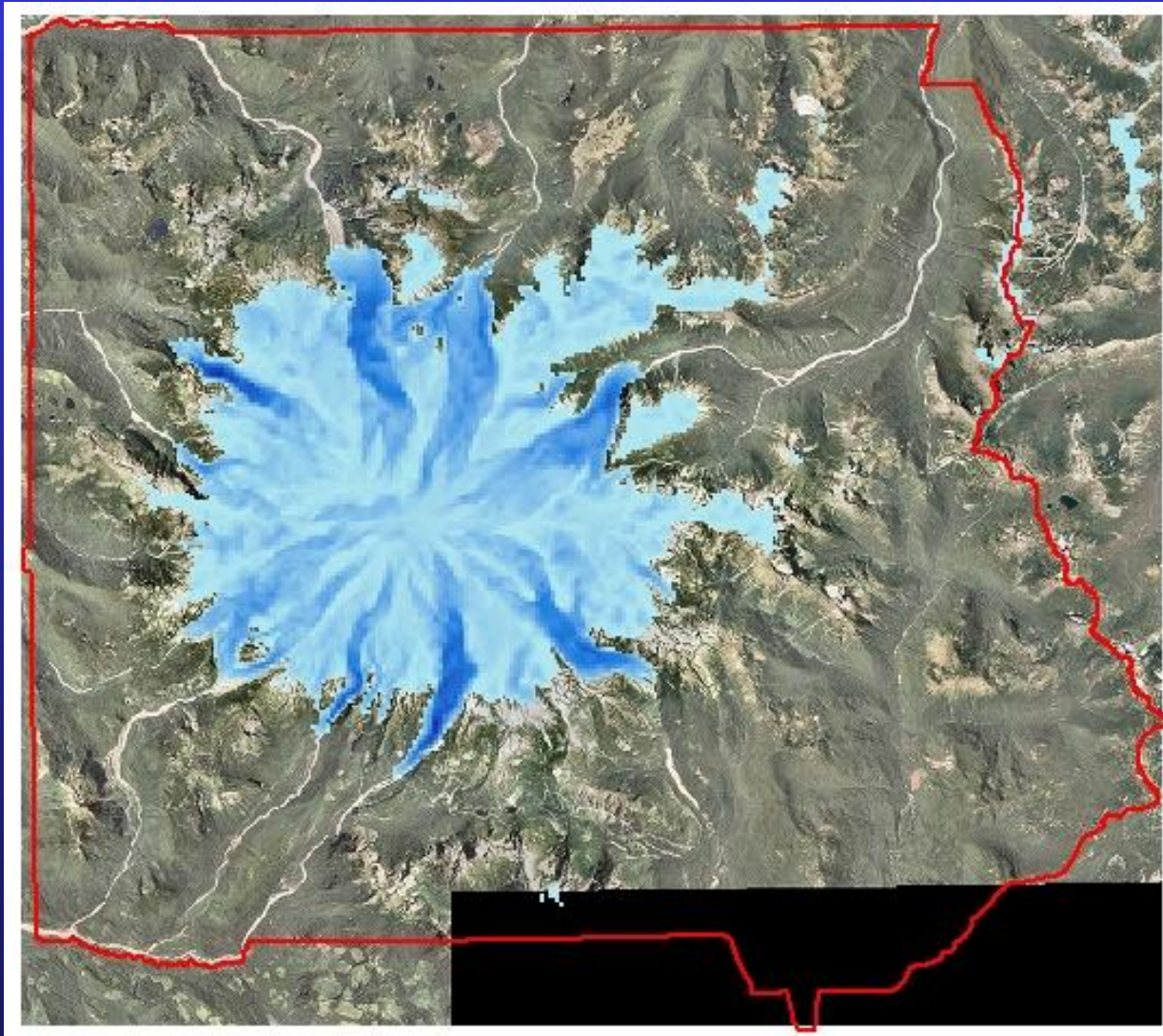
N
0 1.25 2.5 5 Kilometers

 1994 mapped extents

Current Modeled Glaciers

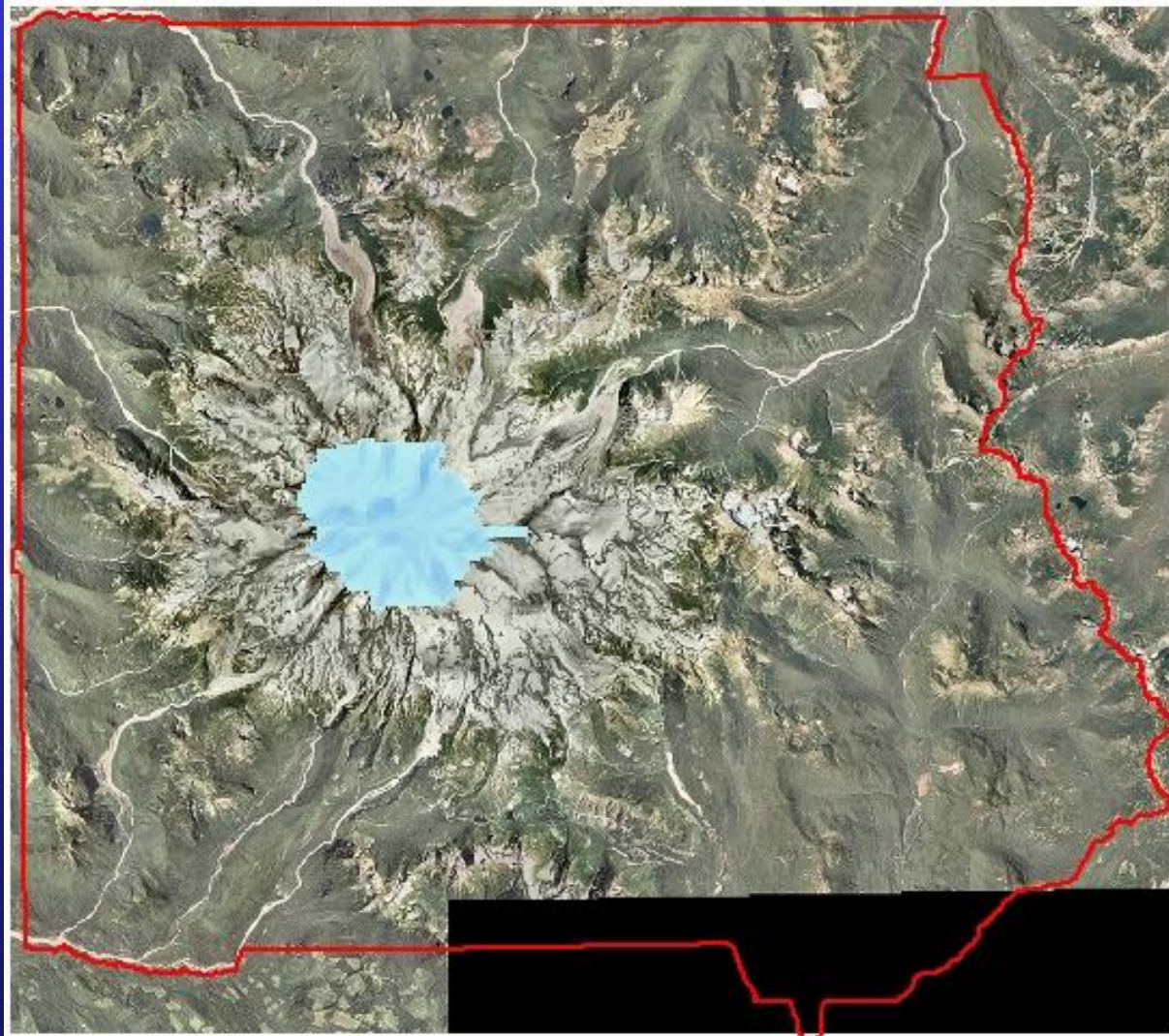


11,490 calendar years B.P.



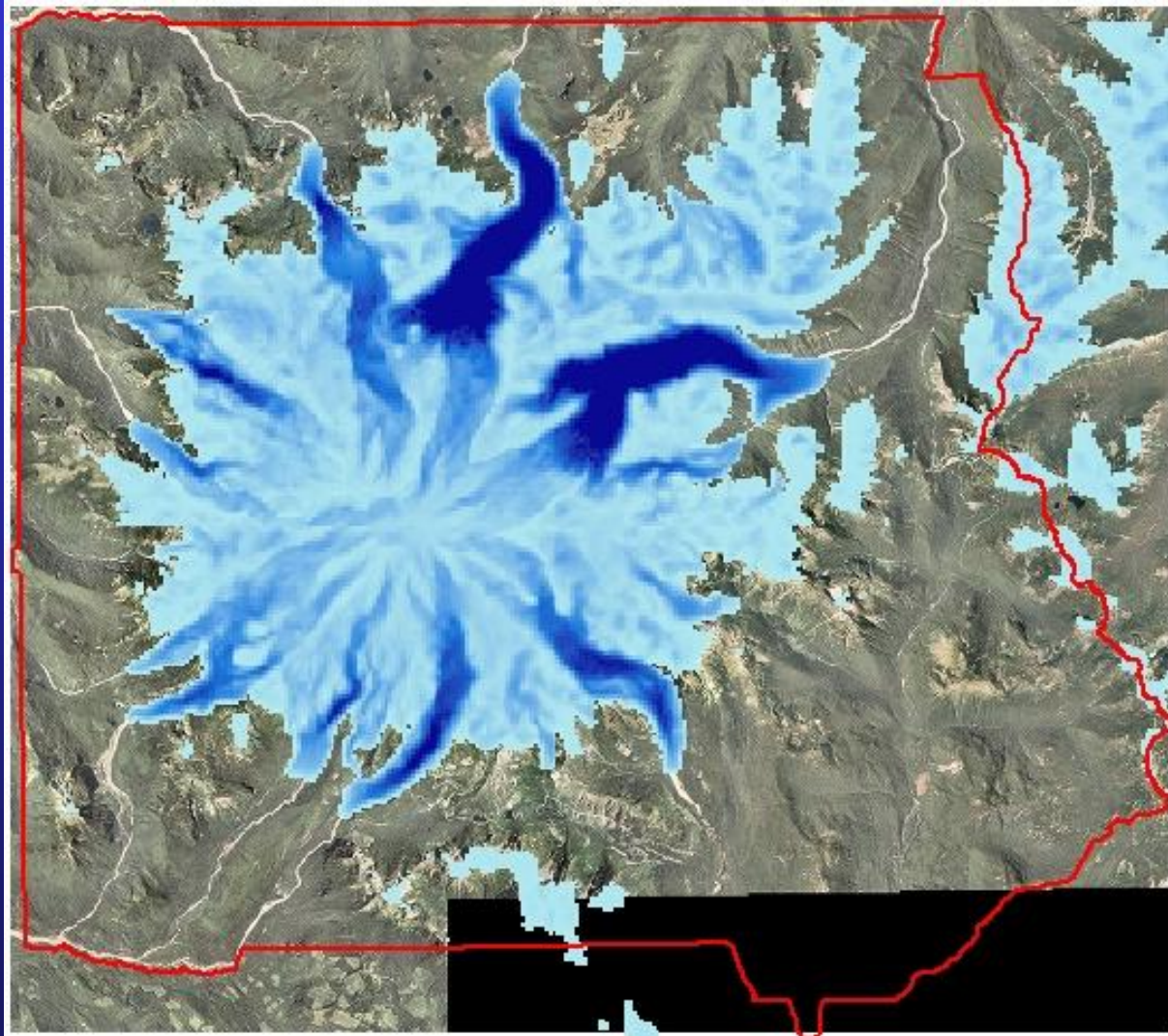


11,150 calendar years B.P.



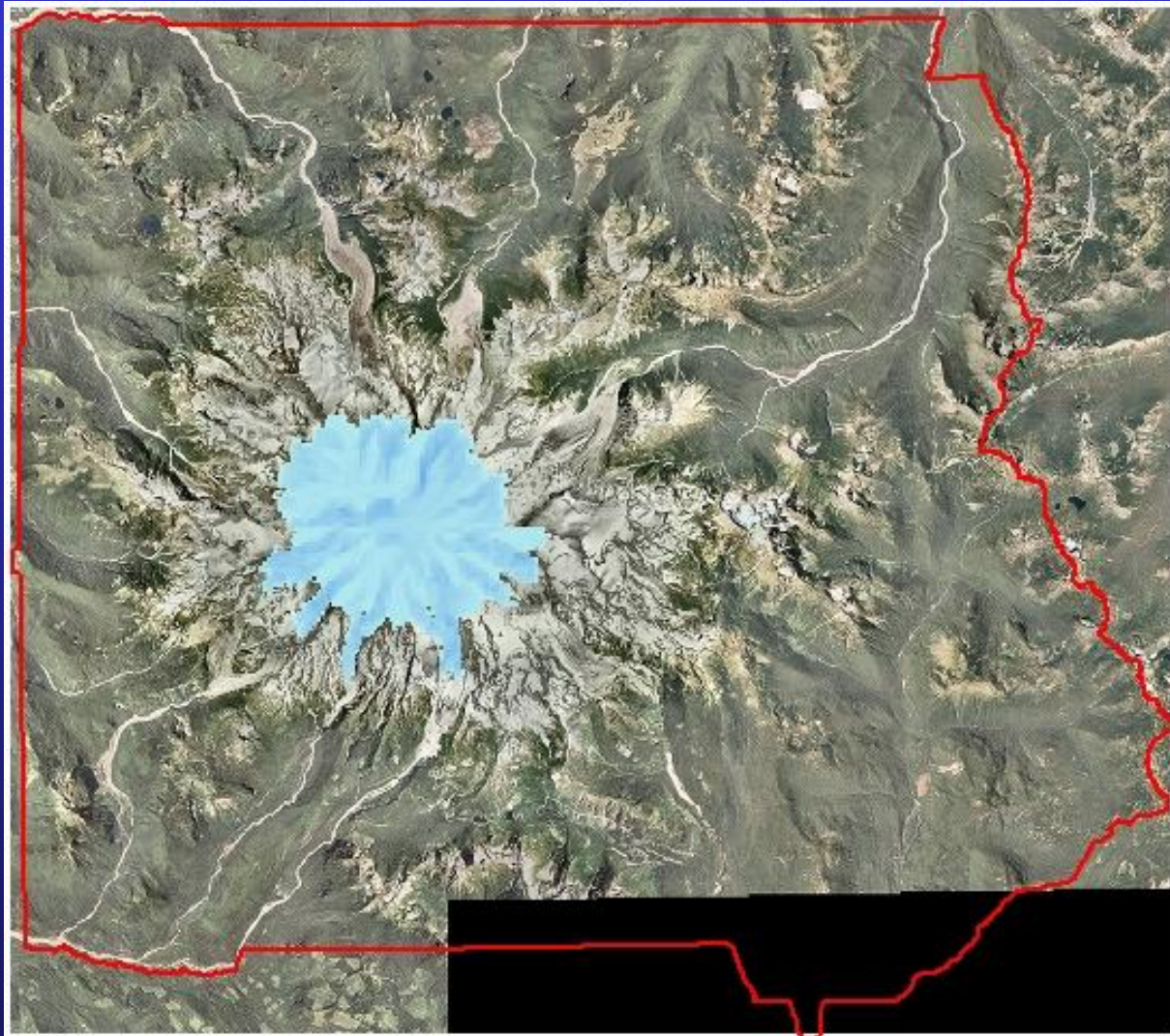


10,990 calendar years B.P.



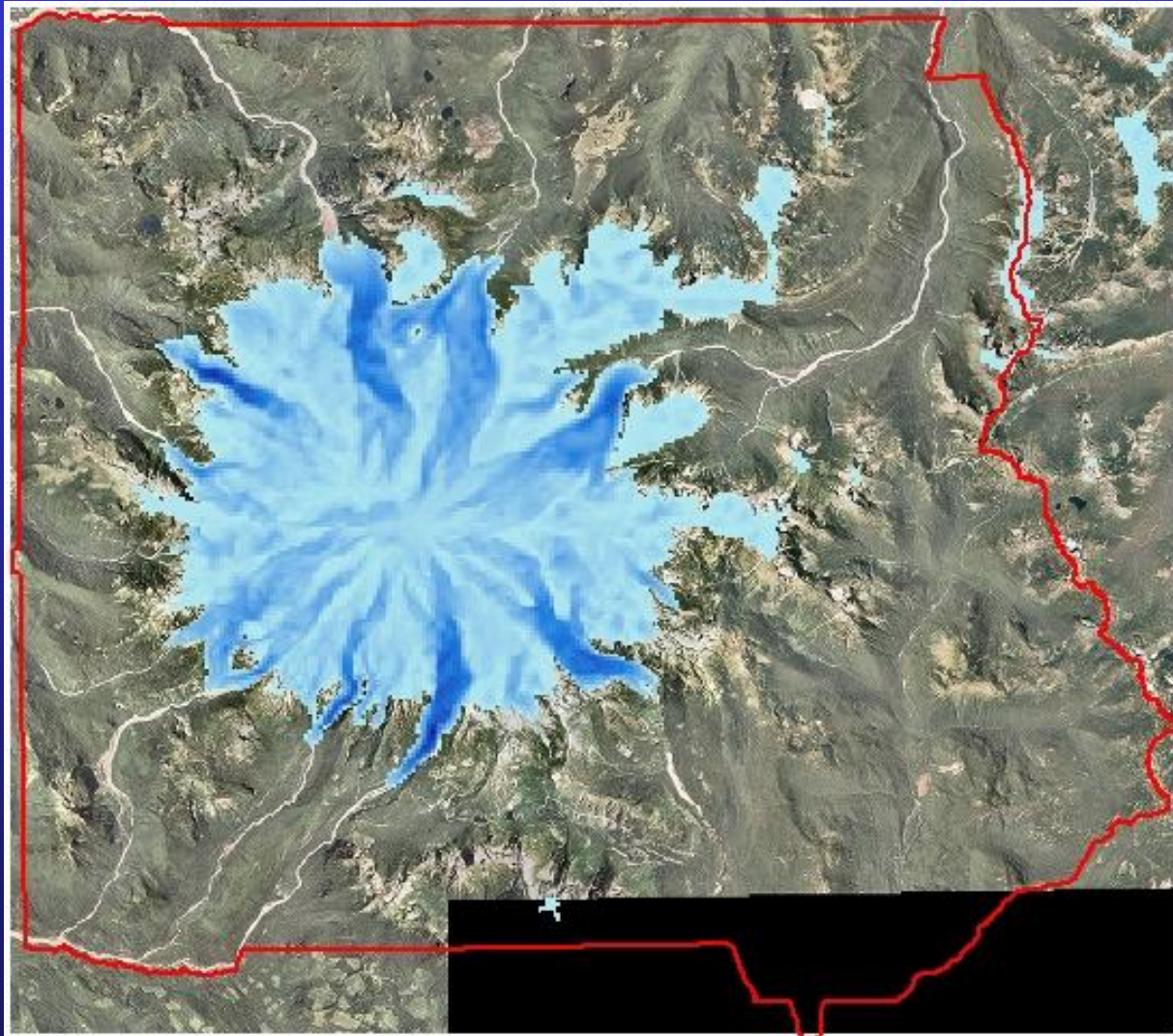


10,400 calendar years B.P.



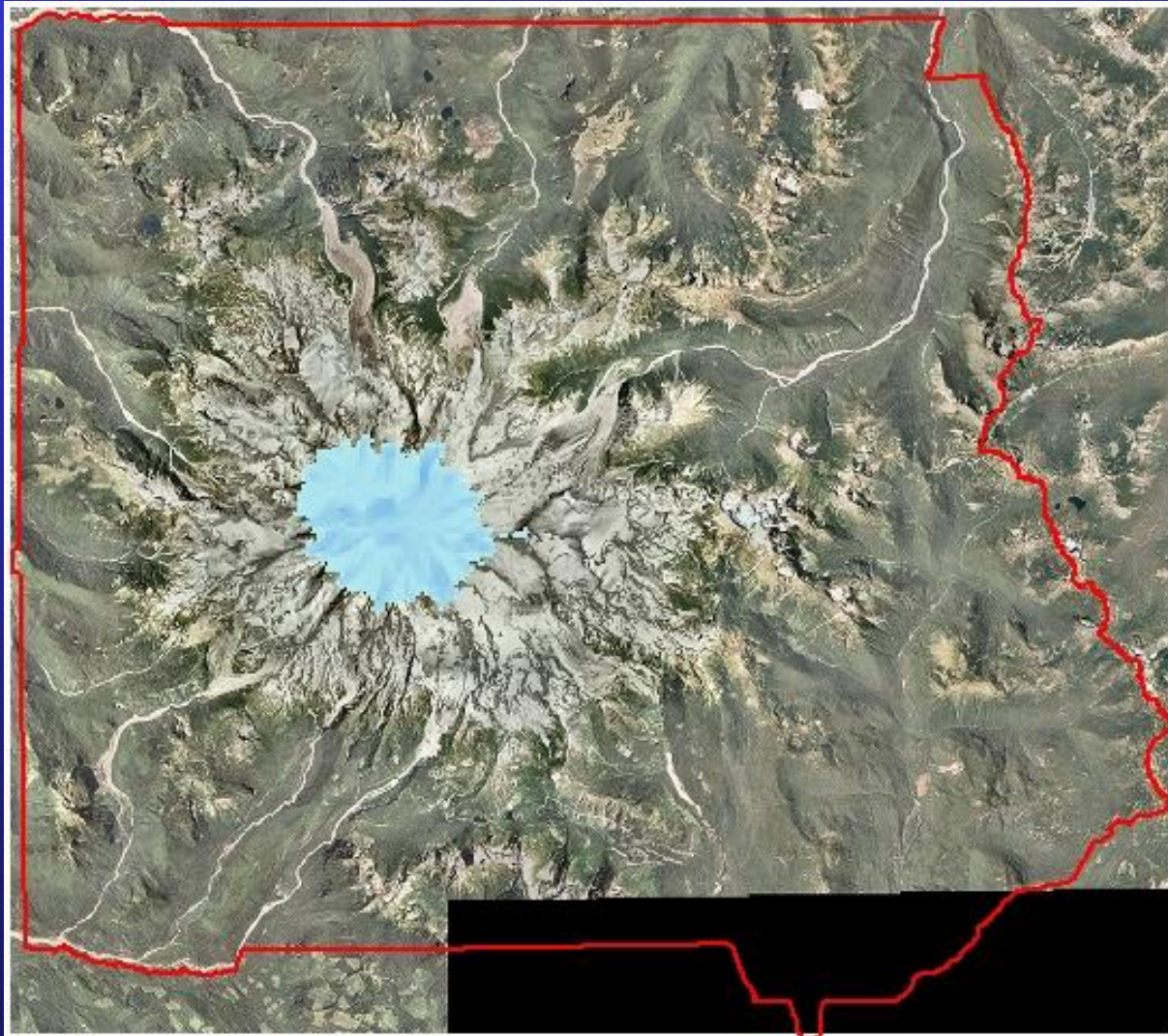


10,170 calendar years B.P.



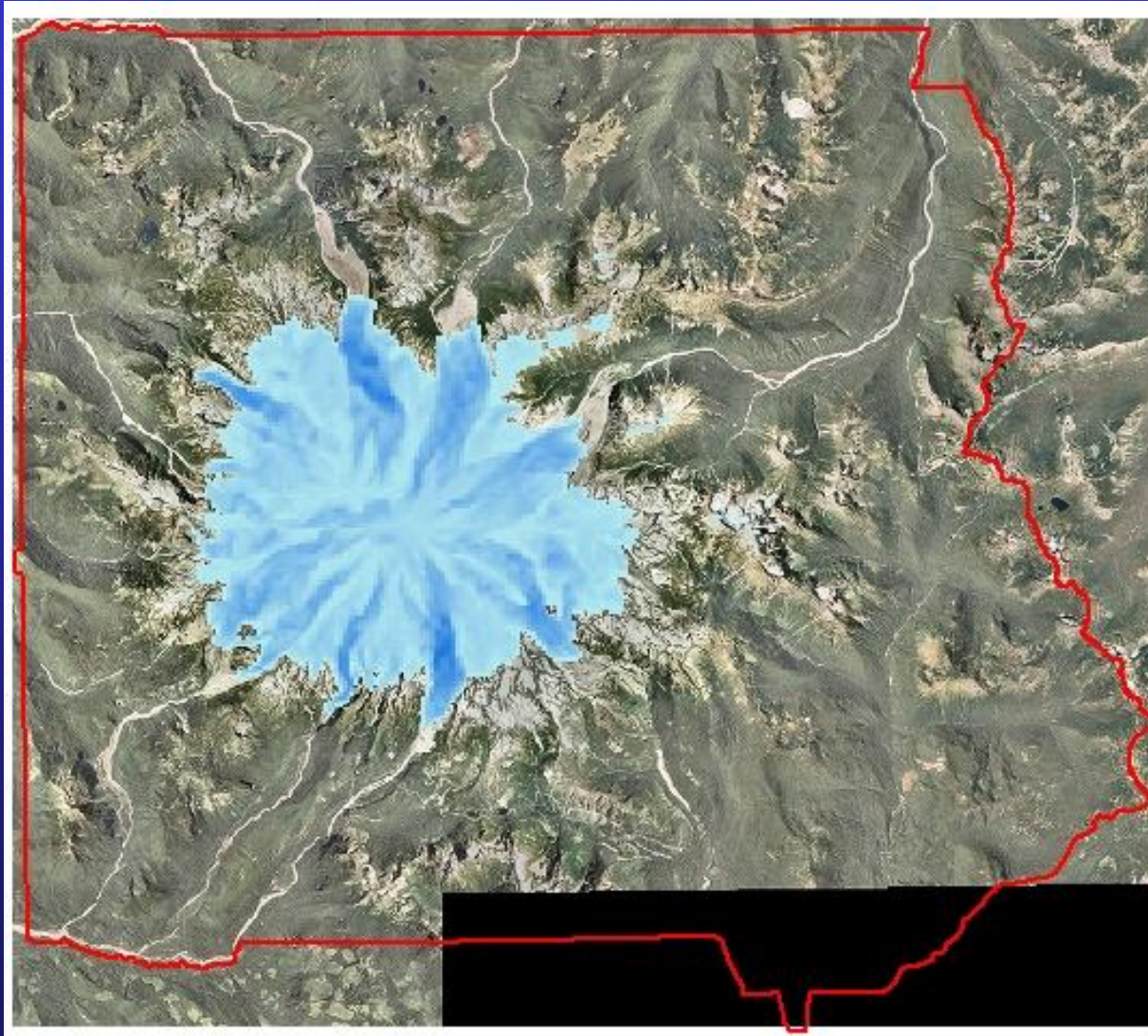


10,050 calendar years B.P.



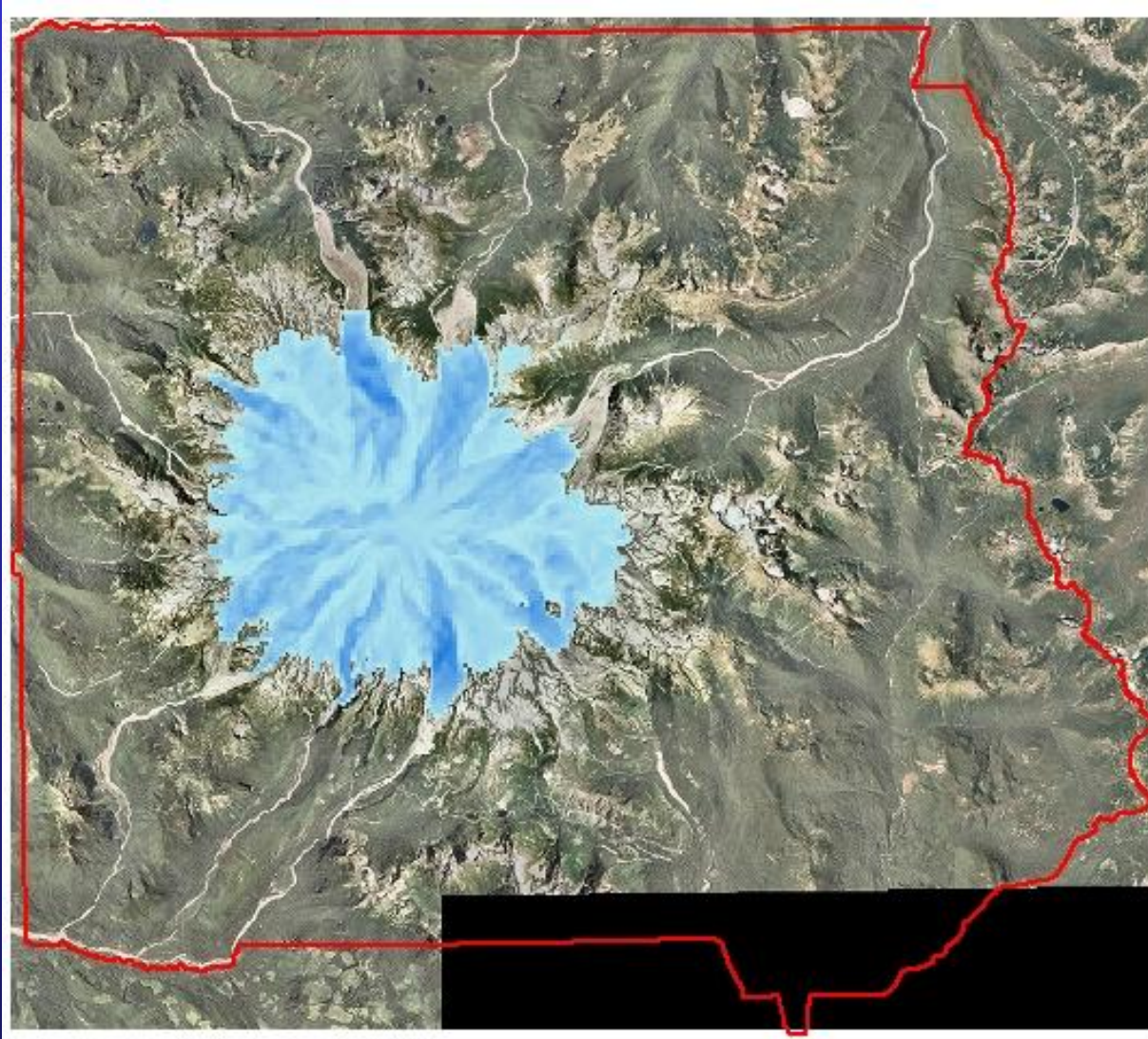


9,260 calendar years B.P.



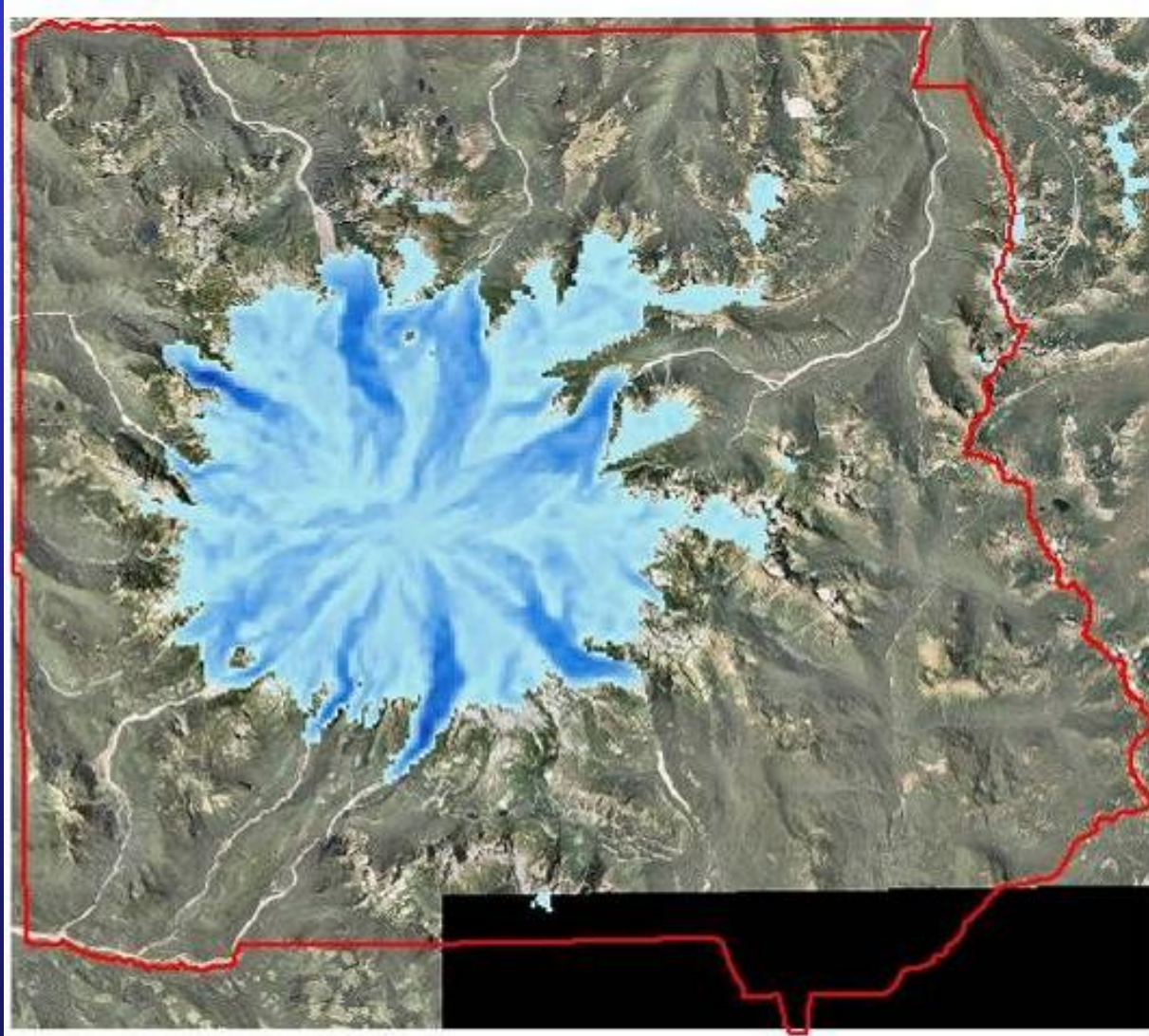


8,600 calendar years B.P.



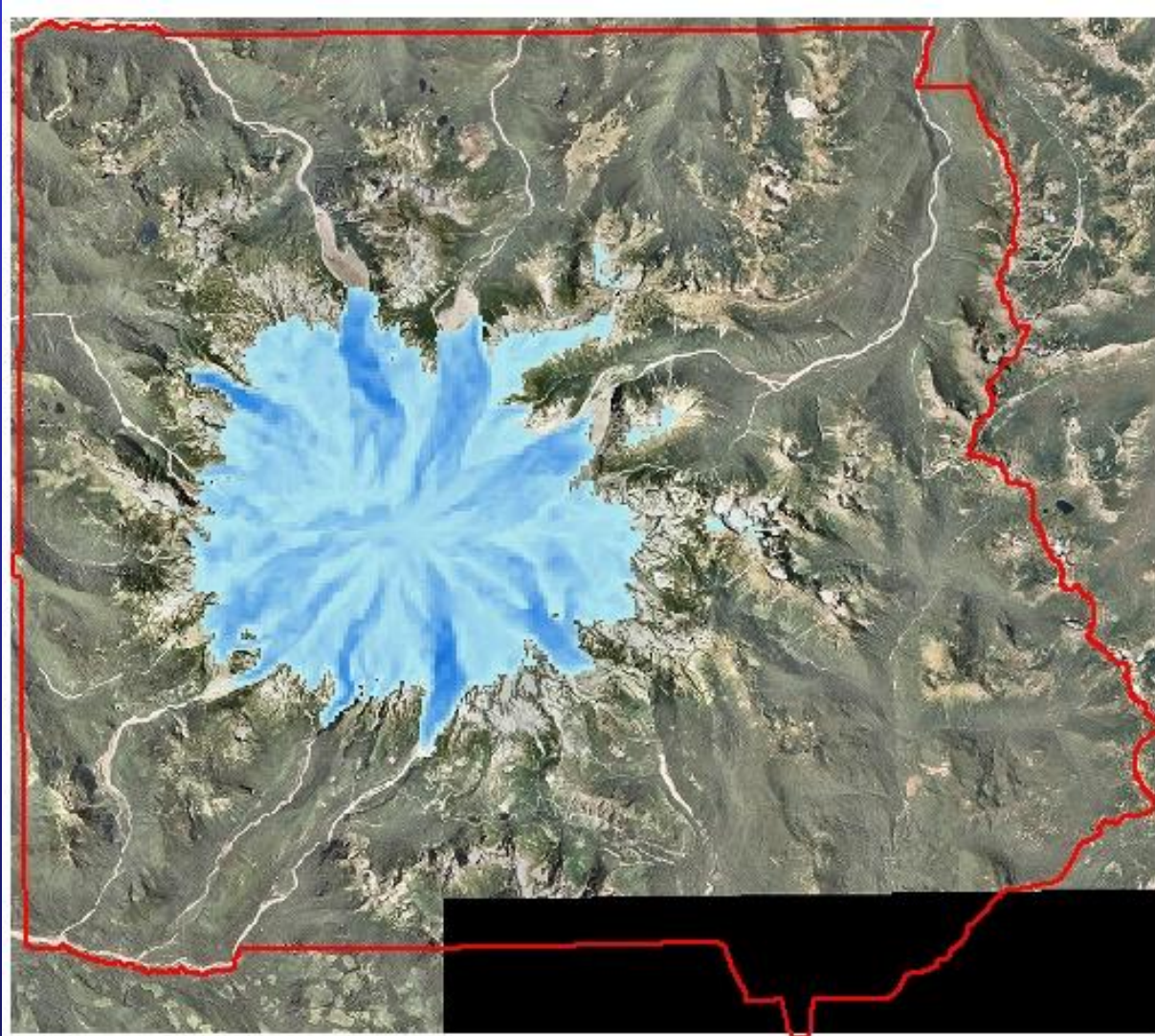


8,200 calendar years B.P.



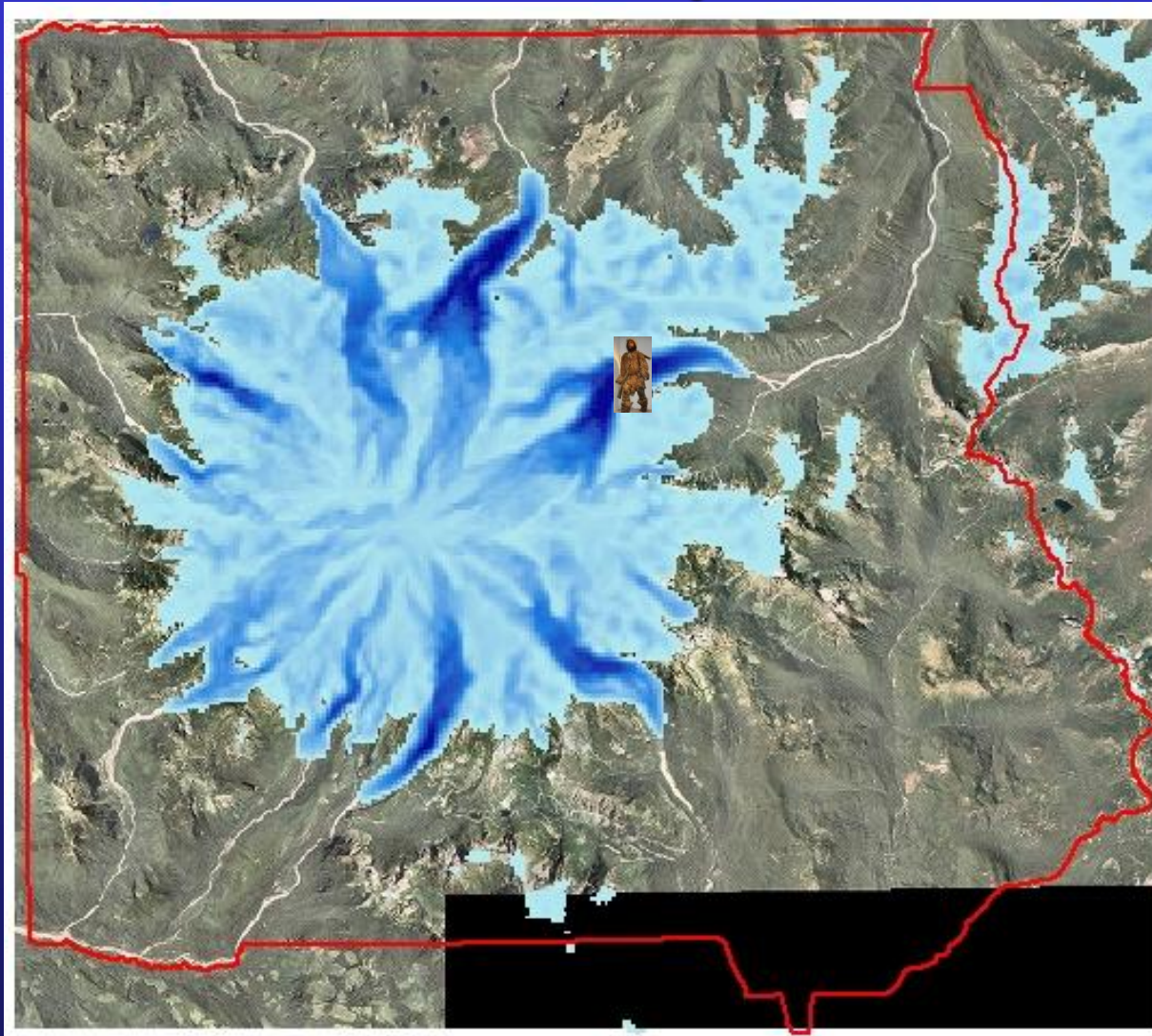


7,940 calendar years B.P.



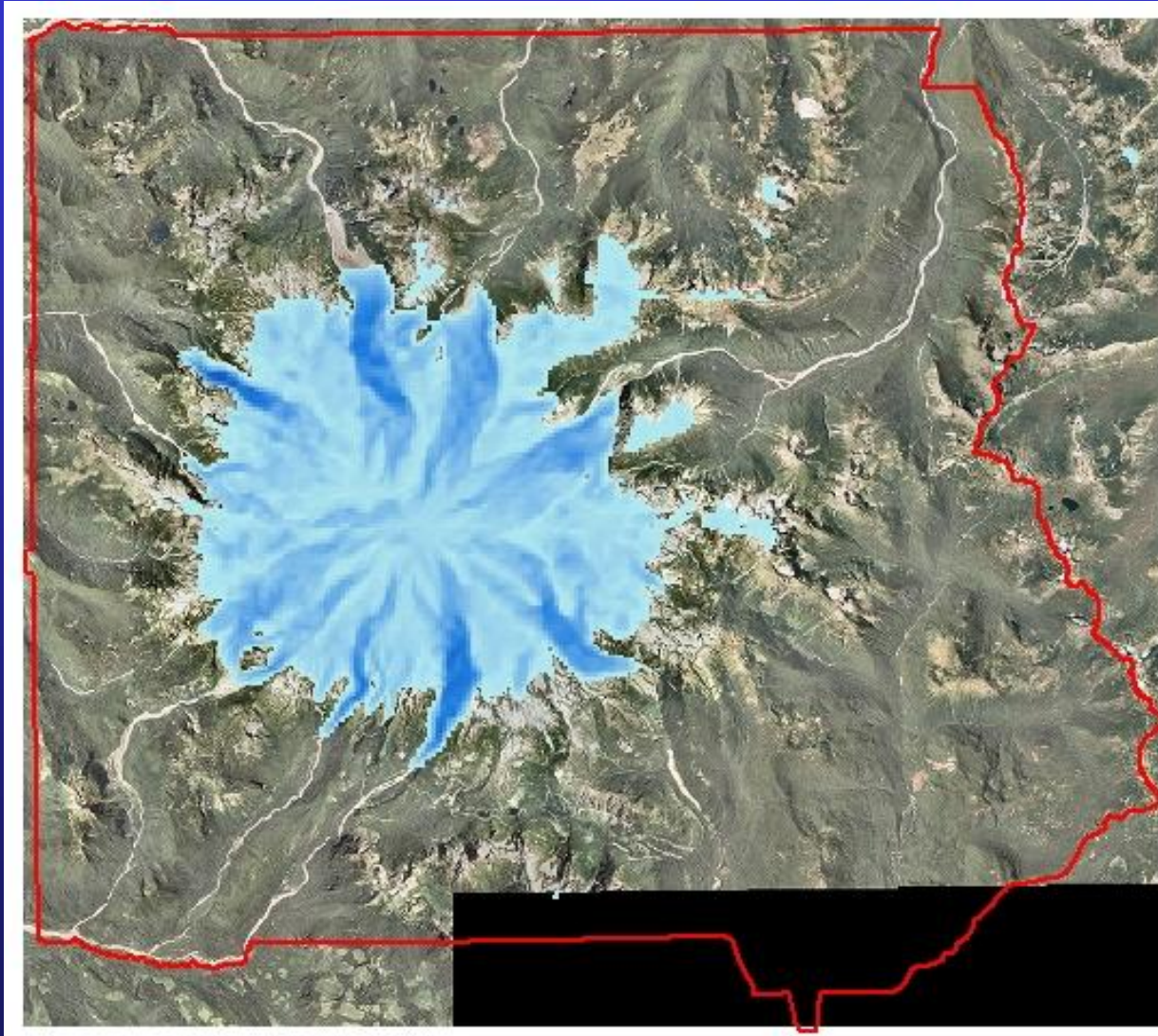


6,490 calendar years B.P.



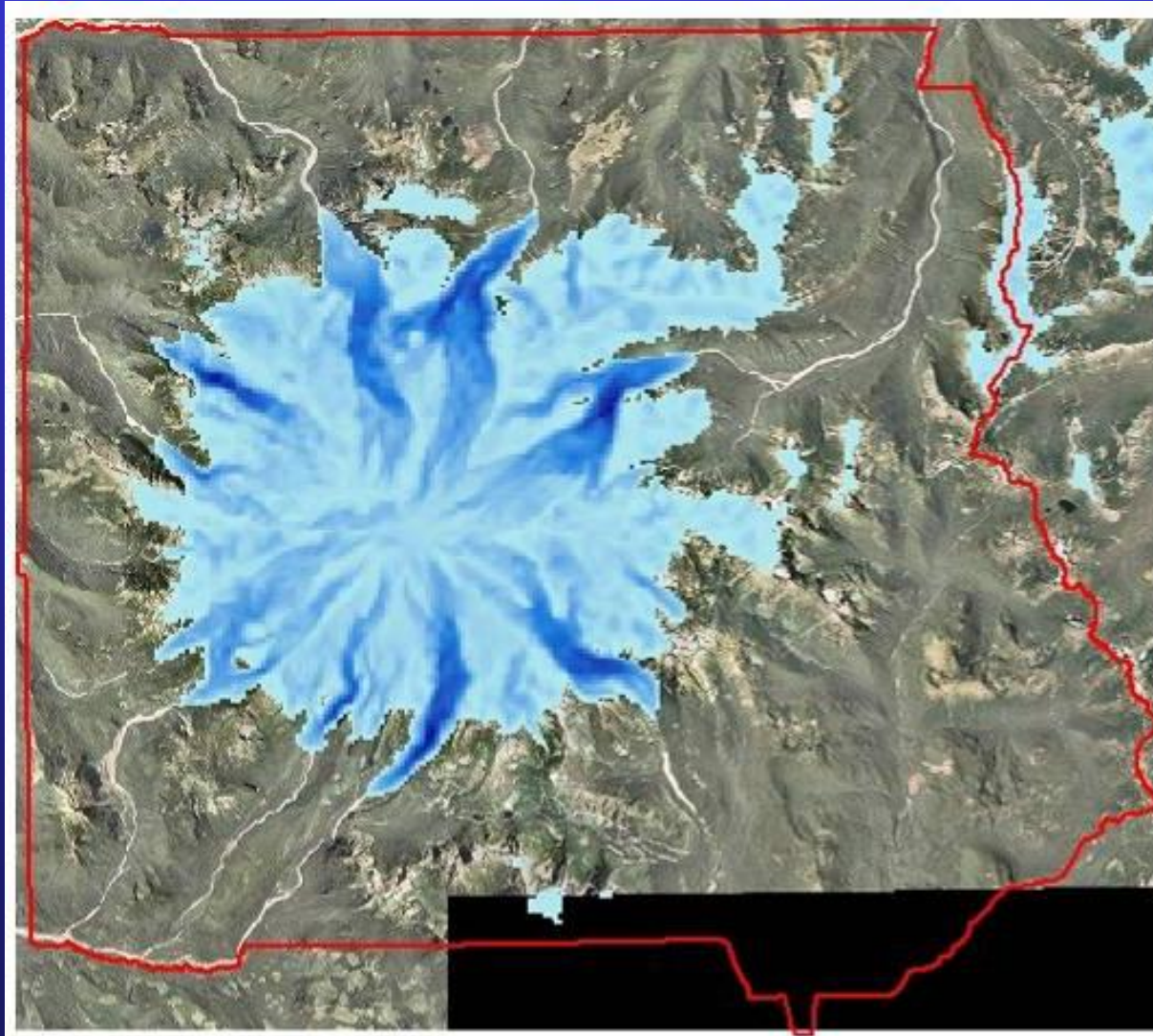


5,520 calendar years B.P.



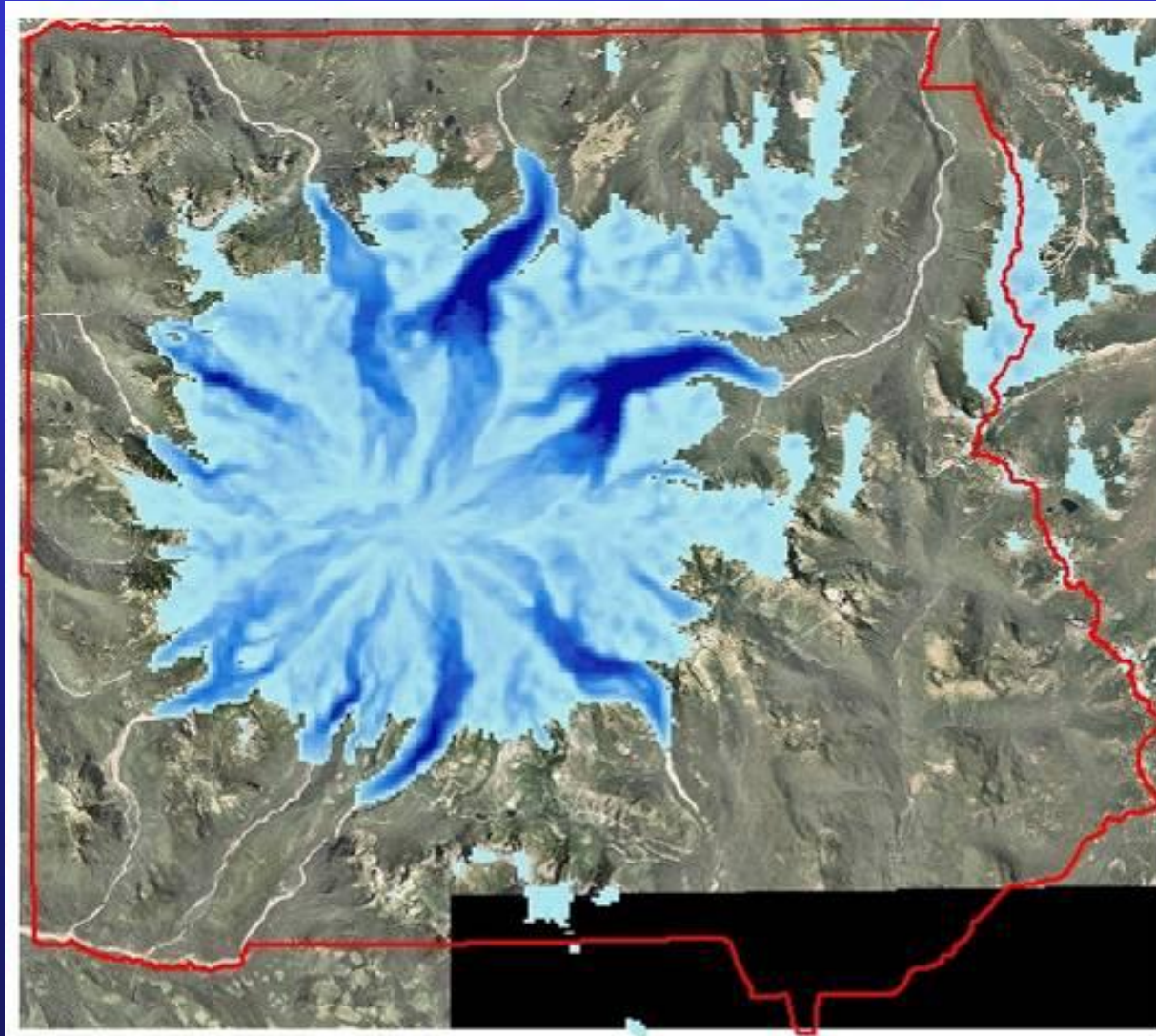


4,890 calendar years B.P.



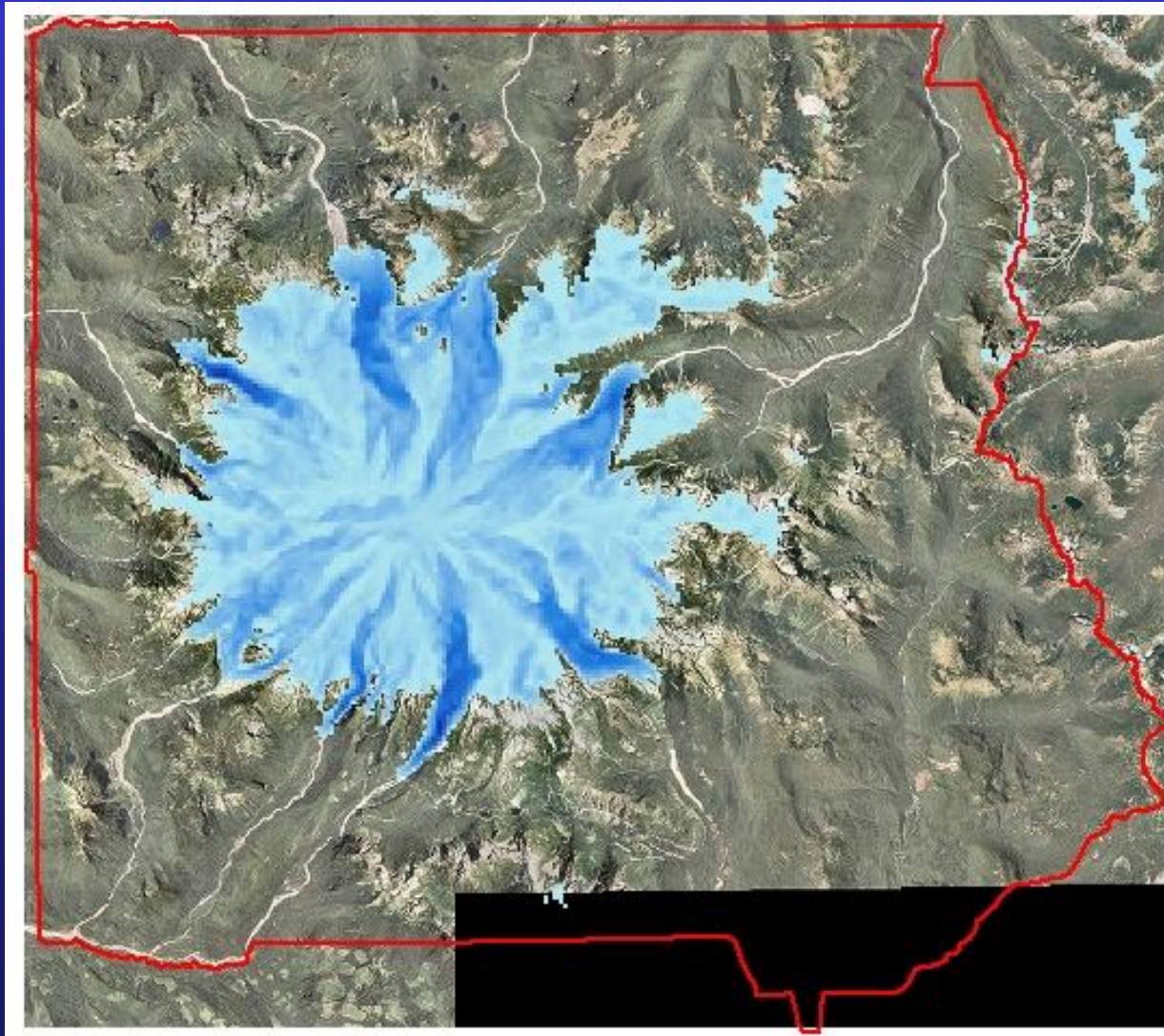


3,450 calendar years B.P.



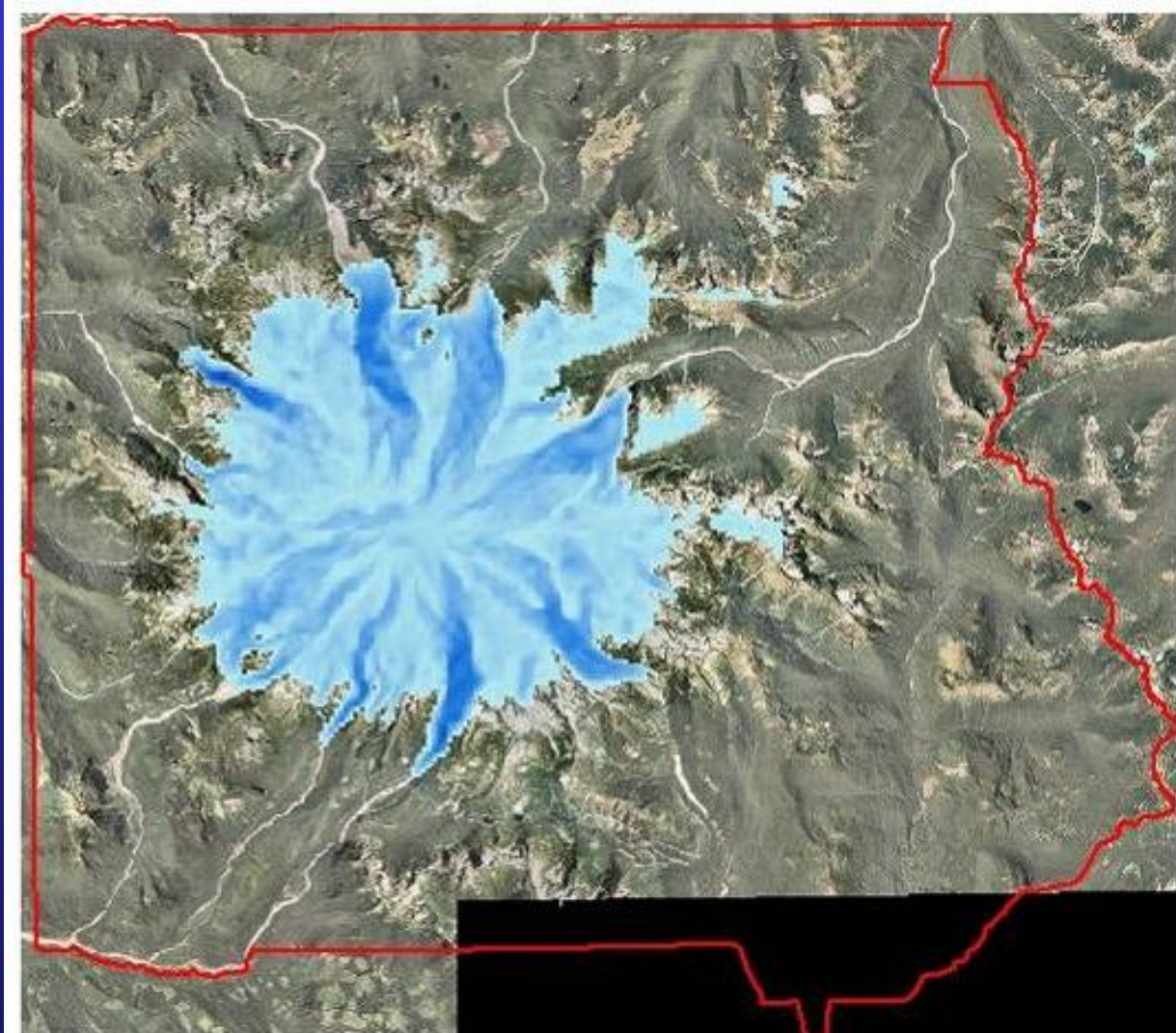


2,790 calendar years B.P.



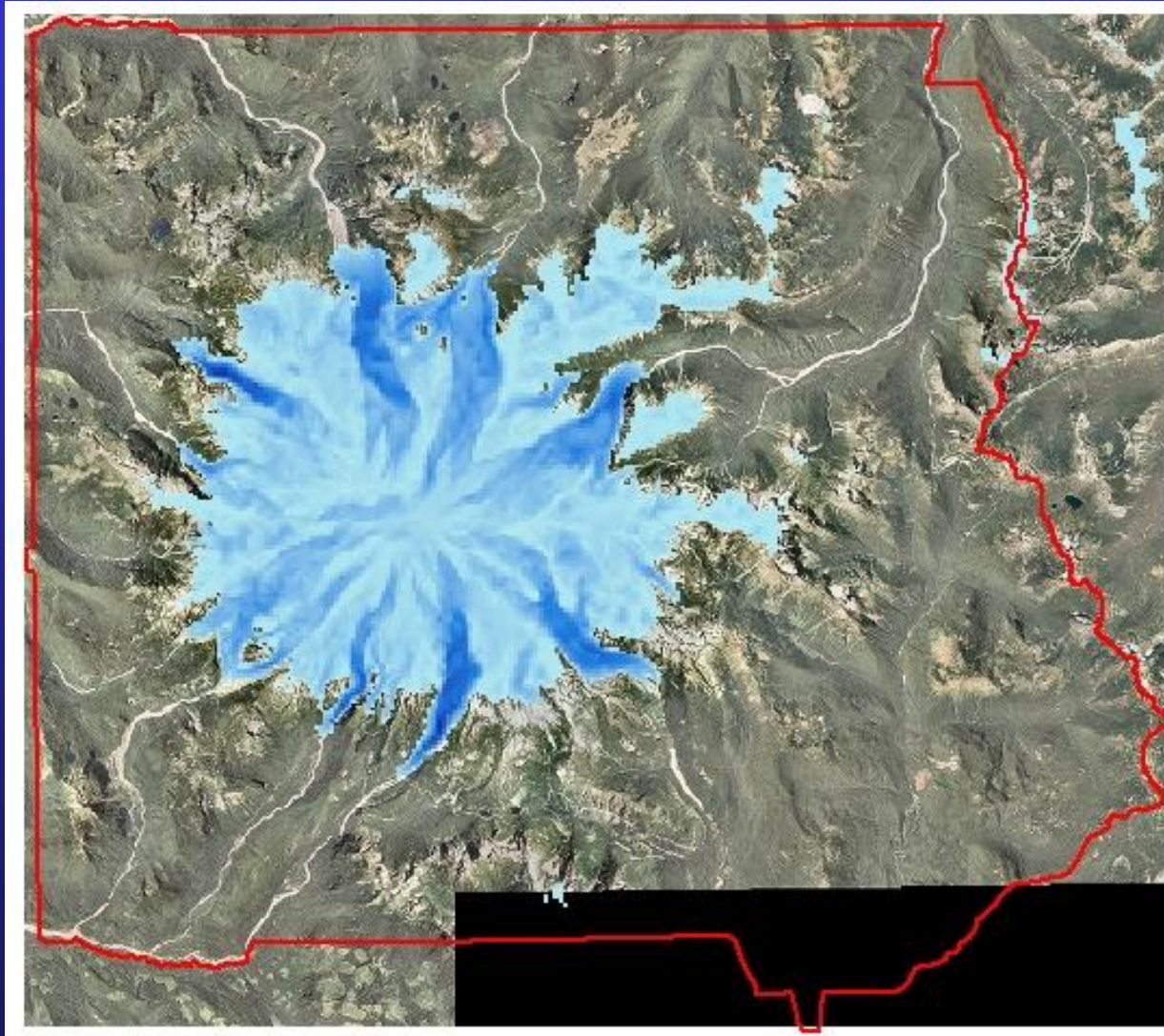


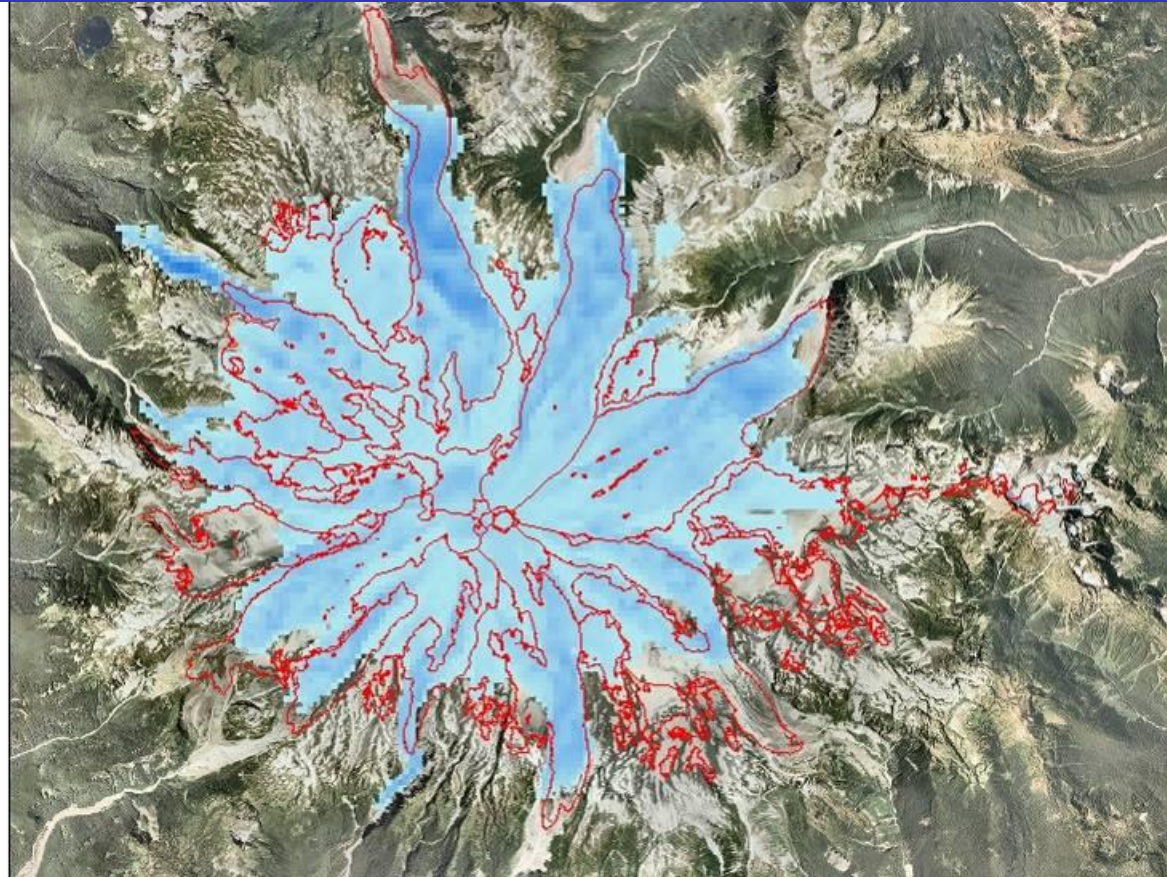
2,130 calendar years B.P.





Little Ice Age, ~1400 to late 1800's AD





 1994 mapped extents

Current Modeled Glaciers



Climatic Shifts & the Archaeological Record

Two Issues:

Direct Physical Effects to the Record

Damage to Archaeological Properties

Enhanced Opportunities for Discovery

Archaeological Record's Capacity to Inform



References for this Presentation

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- Burtchard, G. C. 1998. Environment, Prehistory & Archaeology of Mount Rainier National Park, Washington. Report for the National Park Service, Seattle, WA. International Archaeological Research Institute, Inc., Honolulu, Hawai'i.
- Burtchard, G. C. 2007. Holocene subsistence and settlement patterns: Mount Rainier and the montane pacific northwest. *Archaeology in Washington* 13: 3-44.
- Hekkers, M. L. 2009. Climatic and spatial variations of Mount Rainier's glaciers for the last 12,000 years. M.S. Thesis, Portland State University, Portland, OR.