

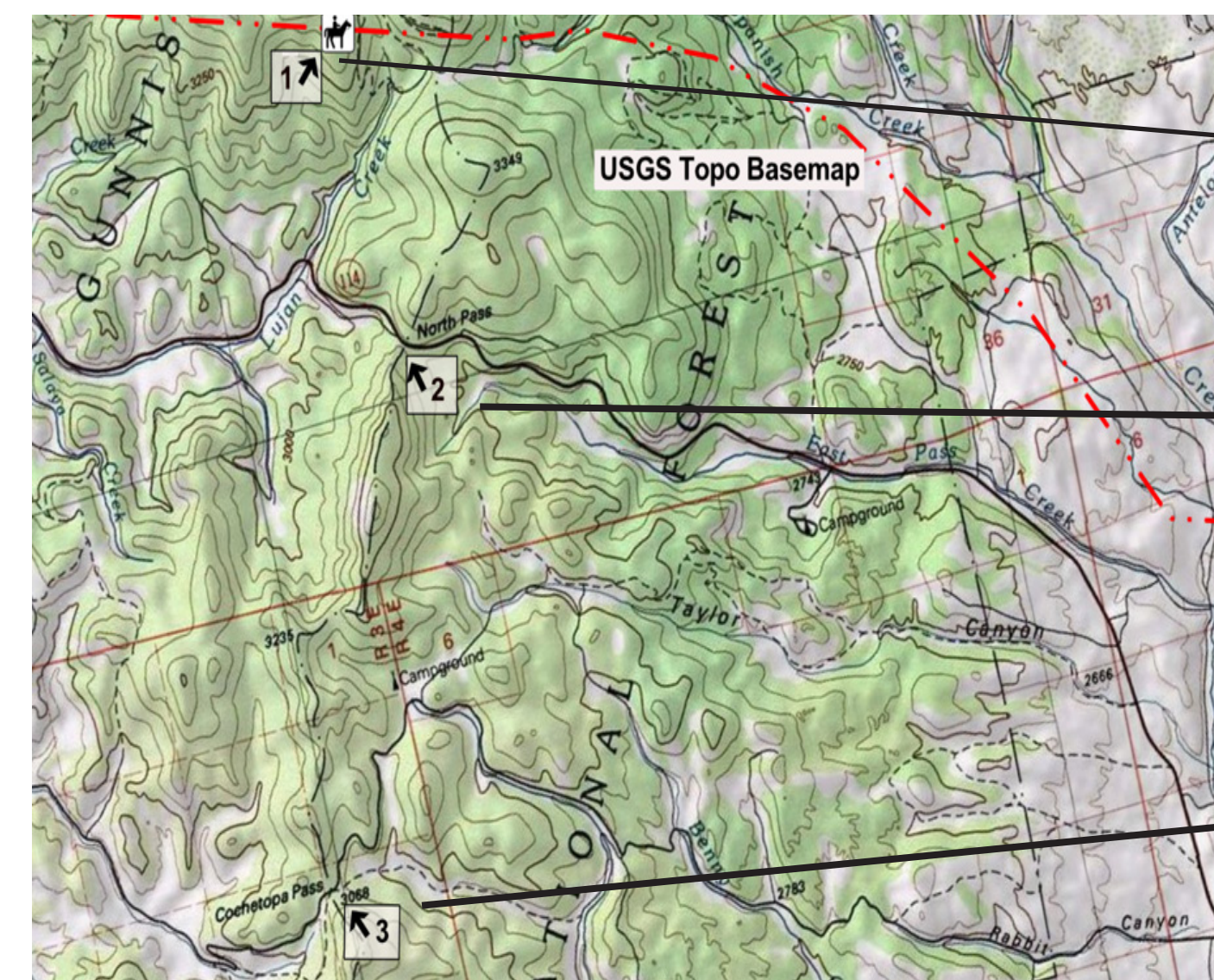
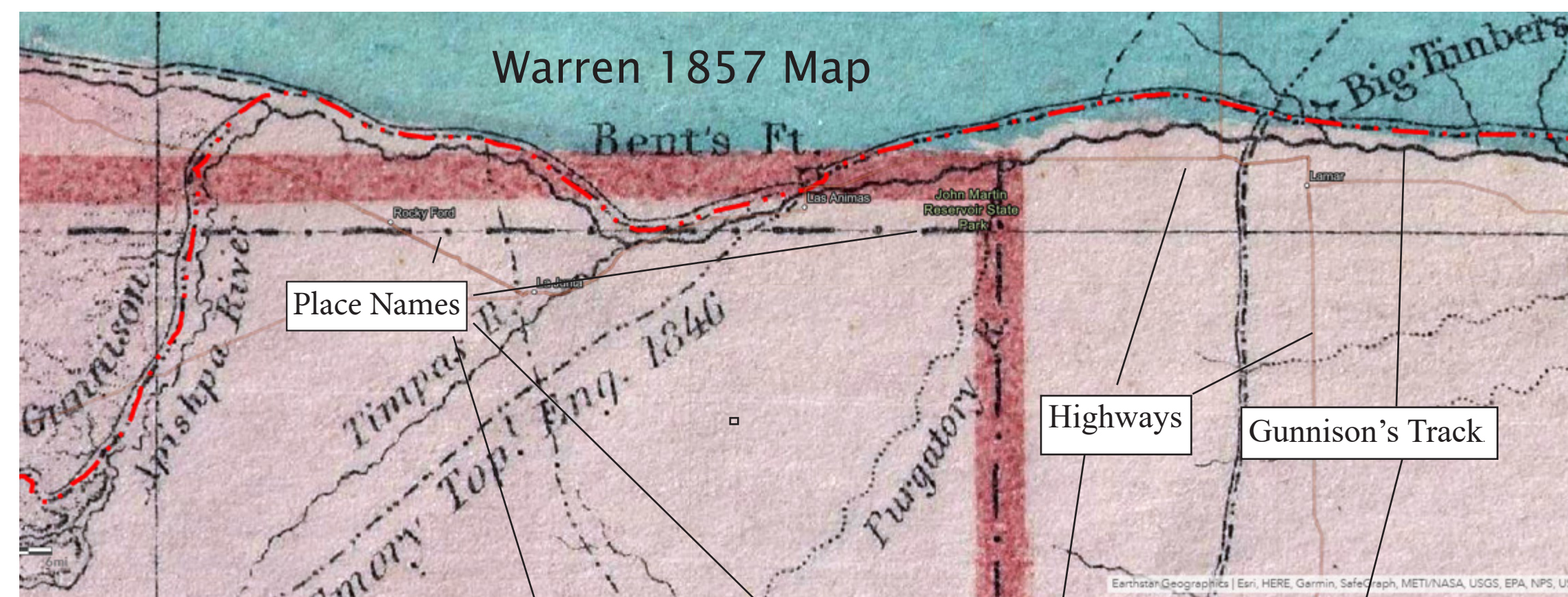
CROSSING COCHETOPA: TIME TRAVEL, EXPLORATION & DISCOVERY ACROSS THE CONTINENTAL DIVIDE

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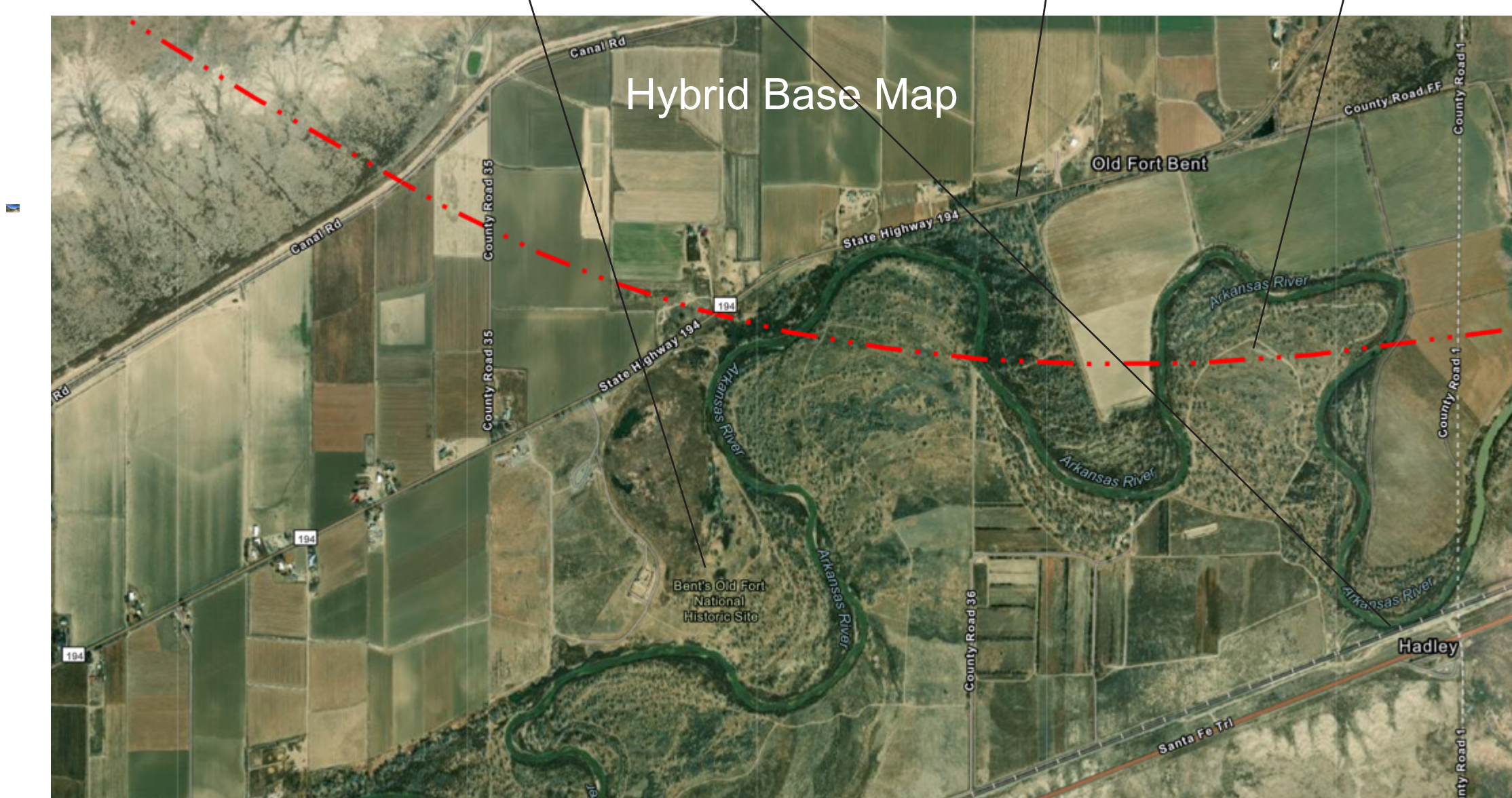
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TIME TRAVEL

Using georeferenced historical maps from the expedition, I traced Gunnison's route and compared identifiable map elements with different base maps to gauge the original maps' accuracy and evaluate changes in the natural and built topography over the intervening 165+ years. Gunnison's track (dashed red line) is projected onto base maps, not perfectly aligned. Place names and roads appear on both original and base maps.



1. Gunnison's path through Cochetopa from 1857 map
2. Actual location of pass crossed by Gunnison, ~ 2 mi. south of pass per original map
3. Carnero Pass renamed Cochetopa



CONCLUSIONS & OBSERVATIONS

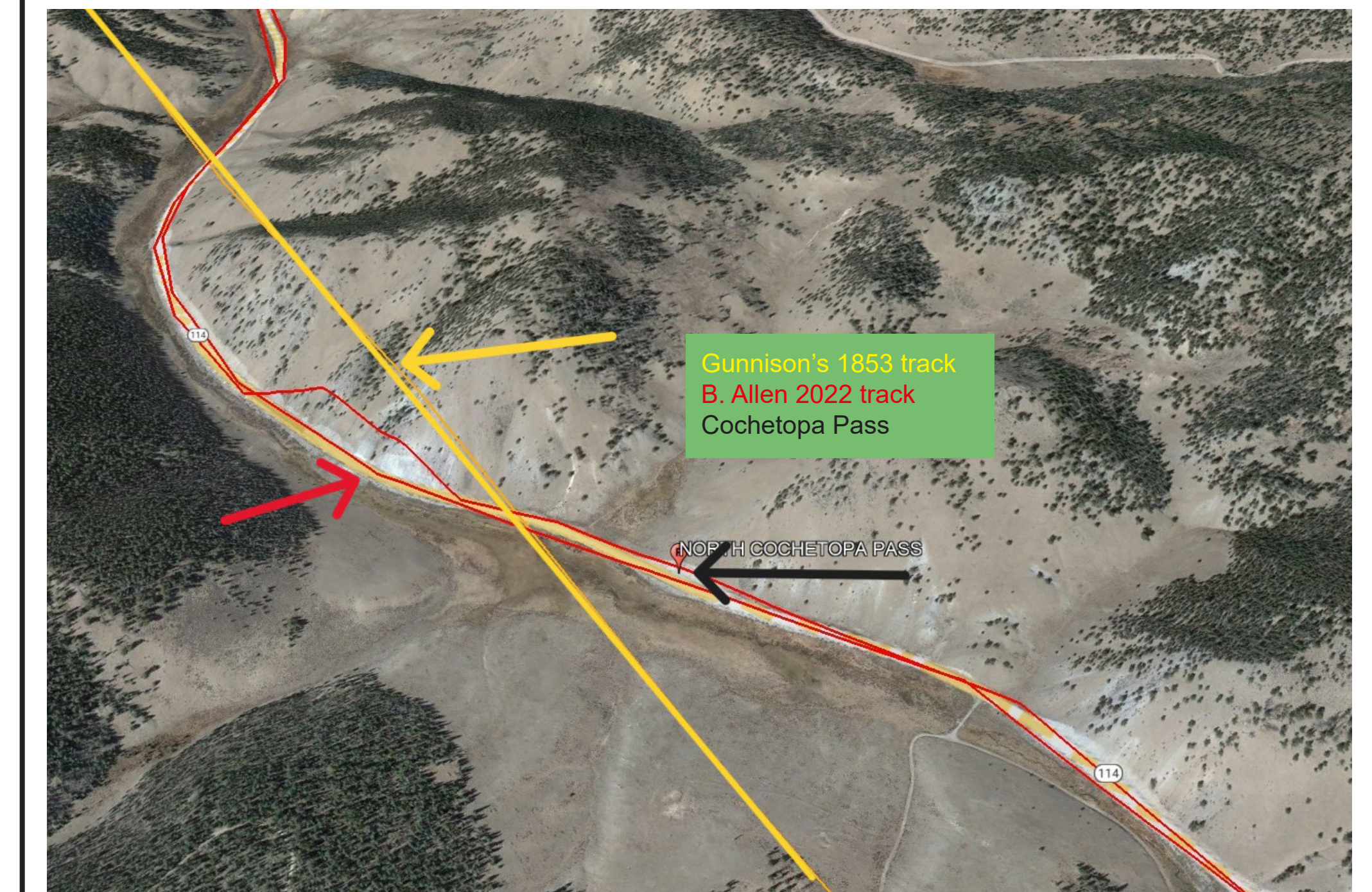
Locational variability ranged from nil to > 20 miles and was greatest at the map edges.

Sources of variability include errors in historic map/base map; scale (1: 3 million); vintage (pre-Clarke Ellipsoid and NAD27); purpose (illustration and argument vs. road building); investigator's GIS experience and skill.

Comparisons of historic and base maps illustrates how human settlement has transformed the region.

EXPLORATION

In Google Earth, I created an immersive virtual trek through the region retracing Gunnison's route and my own and examining alignment of our separate tracks. I also created visual fly-overs and ground-level tours and explored significant and prominent geographic features described in Gunnison's journals and reports.



CONCLUSIONS & OBSERVATIONS

Visualizations in Google Earth complemented cartographic evaluation of the original Warren Map providing an informative and engaging topographical tour of significant locations.

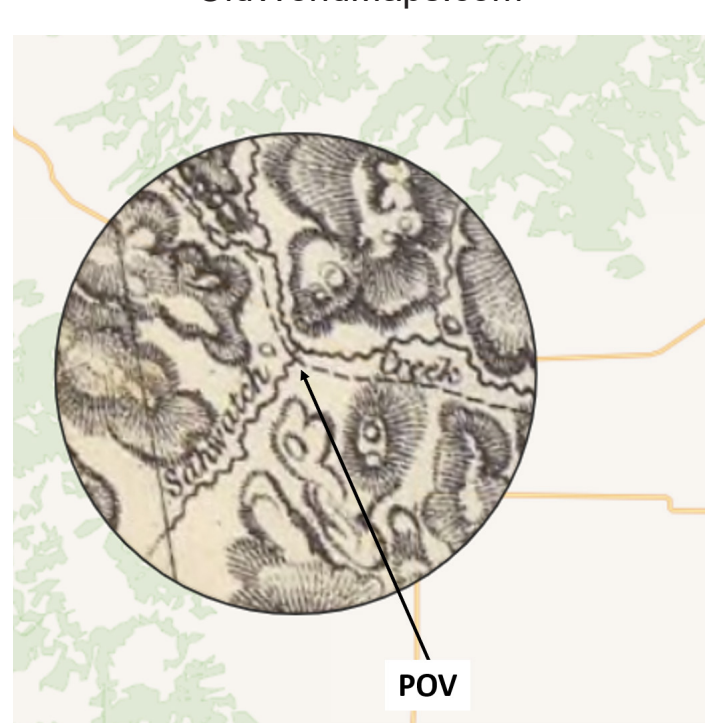
DISCOVERY

Using the historical sources in combination with GIS tools, modern topographic maps and local informants, I identified points-of-view for several landscapes depicted in Gunnison's report. I examined persistence and change in topographic features and evaluated the techniques and purposes of mid-19th Century western landscape illustrations.



"Coo-che-to-pa Pass, View Looking up Sahwache Creek"
Lithograph from Richard Kern Sketch
PRRS Report Vol 2; Lib. of Congress

Kern's POV located on georeferenced map inset
Davide Rumsey Map Collection
OldWorldMaps.com



CONCLUSIONS & OBSERVATIONS

Kern's visual and stylistic choices -- compressing horizontal and stretching vertical views -- depicted western landscapes with exaggerated grandeur.



Looking up Saguache Creek near Upper Crossing
Guard Station (Kern POV) Photo B. Allen 5/2022

Sources

- Shlaer, Robert, *Richard Kern's Far West Sketches*; (Salt Lake City, Boxelder Books, 2021) University of Utah Press
- Skopyk, Brad *Georeferencing Historical Map*; in ArcGIS Story Maps, March 8, 2021. <https://arcgis.com/storymaps>. Accessed March 1, 2023
- United States. War Dept., *Reports of Explorations and Surveys to Ascertain the Most Practicable and Economical Route for a Railroad from the Mississippi River to the Pacific Ocean*; Vol II, 33rd Cong., 2nd Sess., Senate Ex. Doc. 78 (Washington: A. O. P. Nicholson, 1855)
- Warren, G. K., Selmar Siebert, and United States War Department. *Map of the Territory of the United States from the Mississippi to the Pacific Ocean*; ordered by Jeff'n Davis, Secretary of War to accompany the reports of the explorations for a railroad route. [Washington, D.C., War Dept., 1857]

For full list of sources (and more about the Pacific Railroad Surveys) see the paper "Crossing Cochetopa" at www.bdallen.com or refer to handout.

Further Research

This research is part of a book-in-progress tentatively titled *Grand Reconnaissance, the Pacific Railroad Surveys and the Map that Changed America*.

I am evaluating changes in geopolitical designations of Native Americans in different Warren Map editions as well as georeferencing larger scale PRRS segment maps for cartographic evaluation.

Visualization tools continue to evolve, outpacing my ability to keep up. Nevertheless, they are an important tool for the study of historical maps as well as historical sites. For example, I've imposed time and date-based sunlight to great effect at the site of the dawn massacre of Capt. Gunnison, Richard Kern and six others along the Sevier River in Utah, on October 26, 1853.

Acknowledgments

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