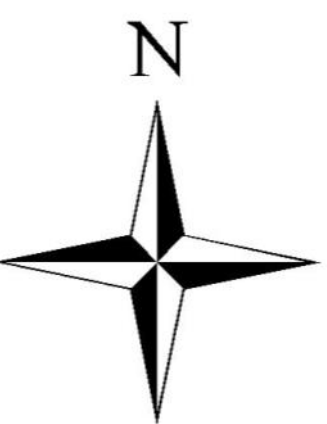
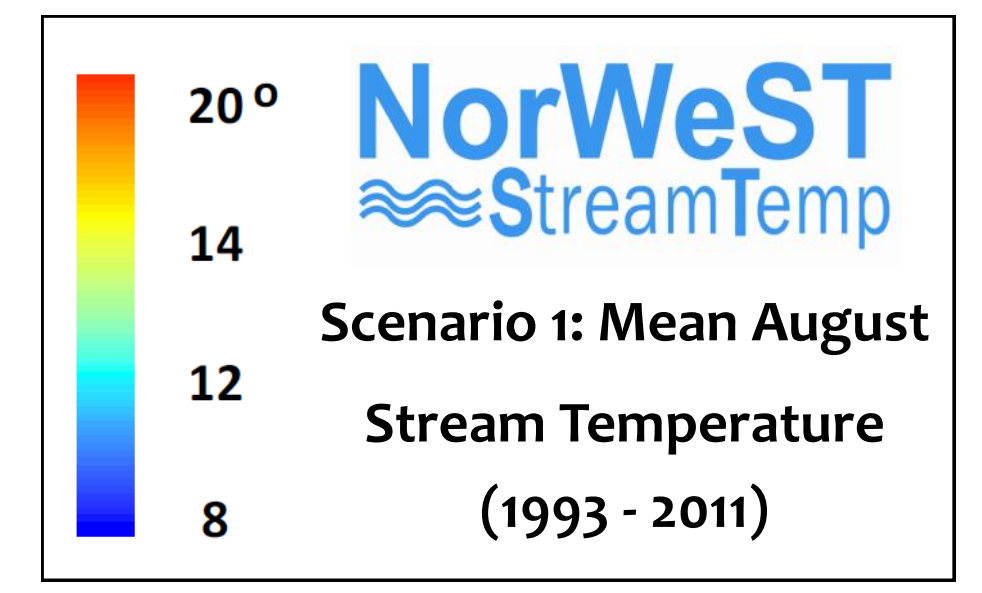
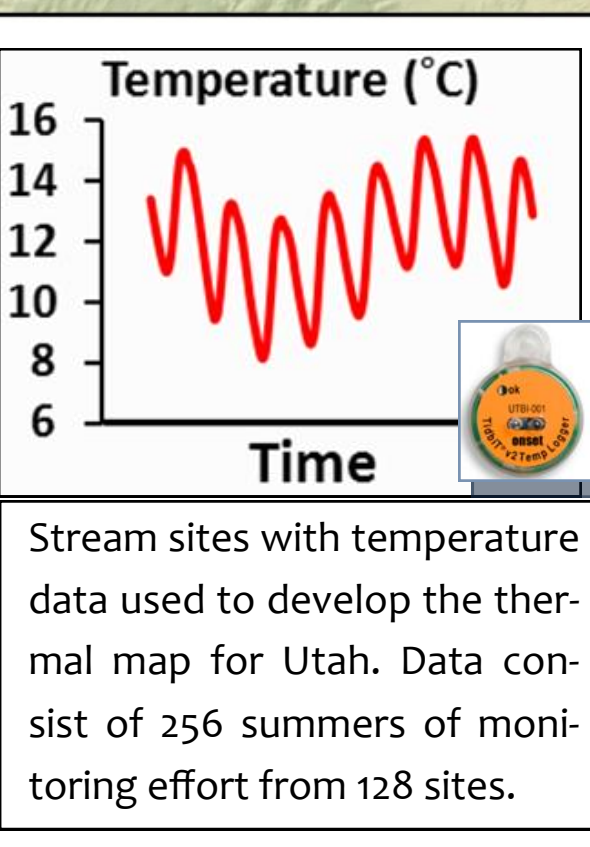
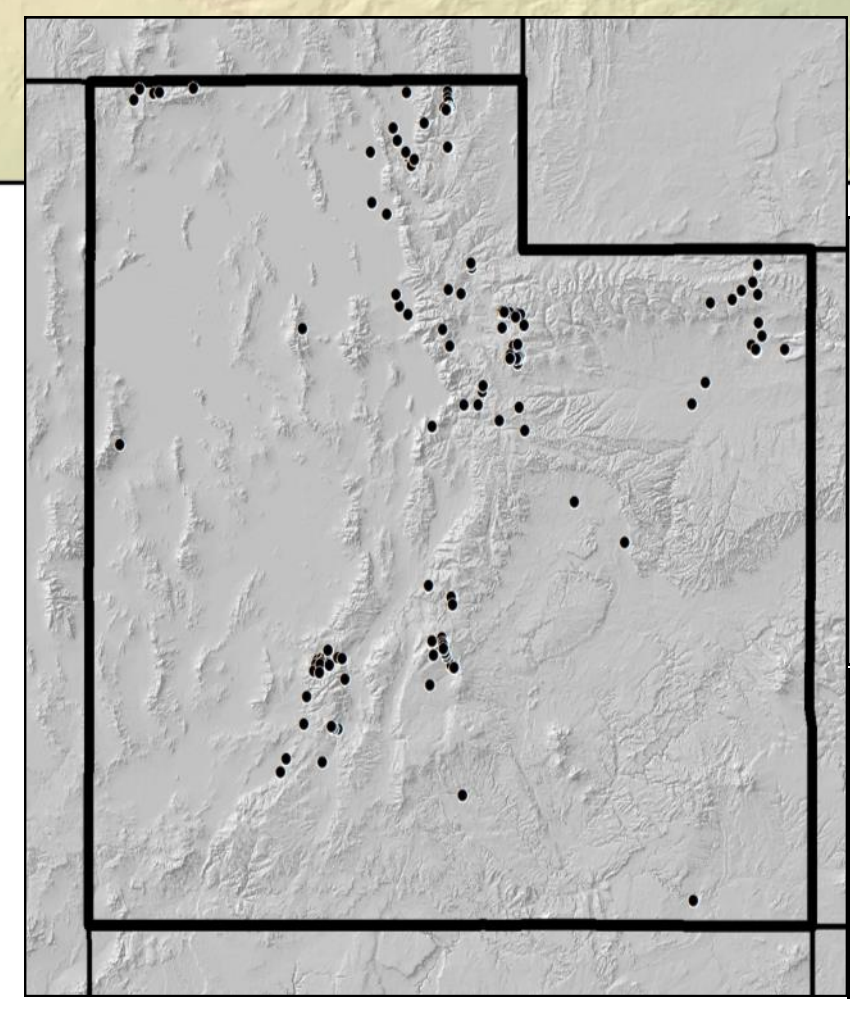
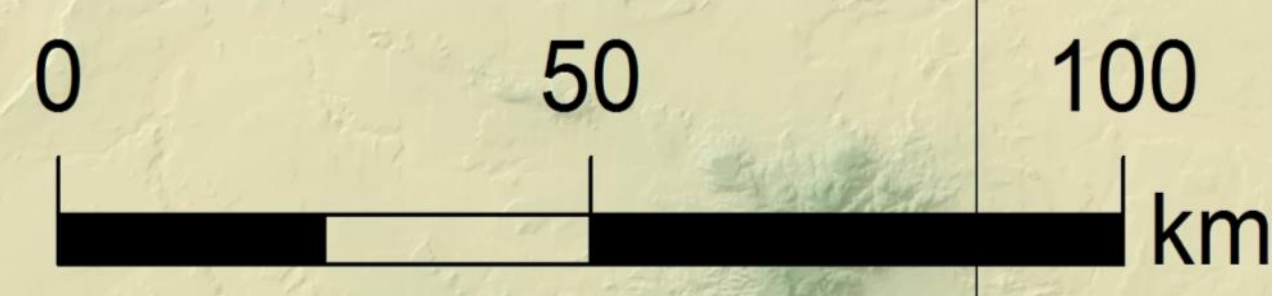
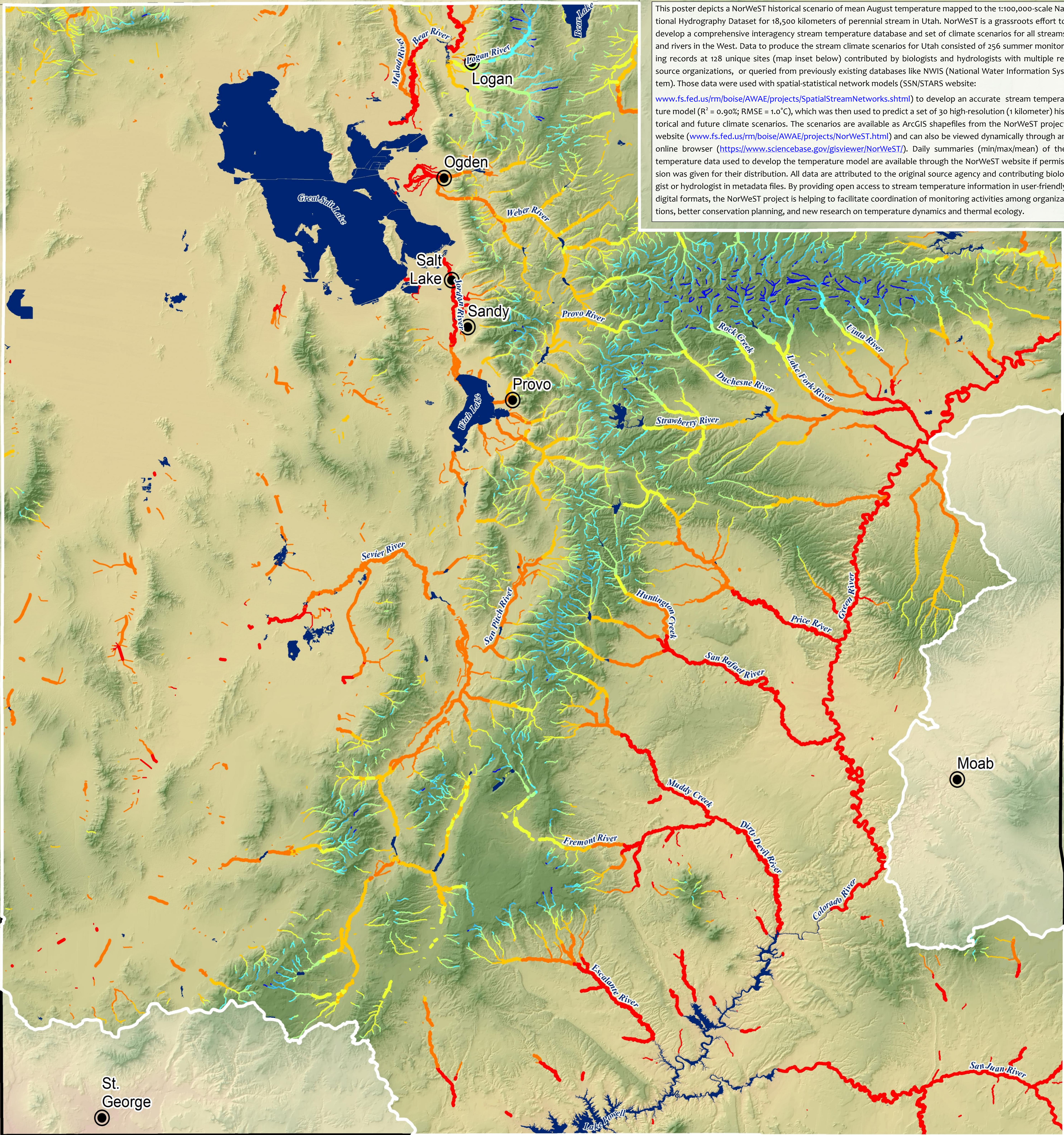


A Thermal Map for All Utah Streams

Funded by:



This poster depicts a NorWeST historical scenario of mean August temperature mapped to the 1:100,000-scale National Hydrography Dataset for 18,500 kilometers of perennial stream in Utah. NorWeST is a grassroots effort to develop a comprehensive interagency stream temperature database and set of climate scenarios for all streams and rivers in the West. Data to produce the stream climate scenarios for Utah consisted of 256 summer monitoring records at 128 unique sites (map inset below) contributed by biologists and hydrologists with multiple resource organizations, or queried from previously existing databases like NWIS (National Water Information System). Those data were used with spatial-statistical network models (SSN/STARS website: www.fs.fed.us/rm/boise/AWAE/projects/SpatialStreamNetworks.shtml) to develop an accurate stream temperature model ($R^2 = 0.90\%$; $RMSE = 1.0^\circ C$), which was then used to predict a set of 30 high-resolution (1 kilometer) historical and future climate scenarios. The scenarios are available as ArcGIS shapefiles from the NorWeST project website (www.fs.fed.us/rm/boise/AWAE/projects/NorWeST.html) and can also be viewed dynamically through an online browser (<https://www.sciencebase.gov/gisviewer/NorWeST/>). Daily summaries (min/max/mean) of the temperature data used to develop the temperature model are available through the NorWeST website if permission was given for their distribution. All data are attributed to the original source agency and contributing biologist or hydrologist in metadata files. By providing open access to stream temperature information in user-friendly digital formats, the NorWeST project is helping to facilitate coordination of monitoring activities among organizations, better conservation planning, and new research on temperature dynamics and thermal ecology.



NorWeST Team: Dan Isaak, David Nagel, Seth Wenger, Matt Groce, Erin Peterson, Jay Ver Hoef, Charlie Luce, Steve Hostetler, Jason Dunham, Jeff Kershner, Brett Roper, Dona Horan, Gwynne Chandler, Sherry Wollrab, Sharon Parkes, Colette Breshears, Neal Bernklau, Sam Chandler

