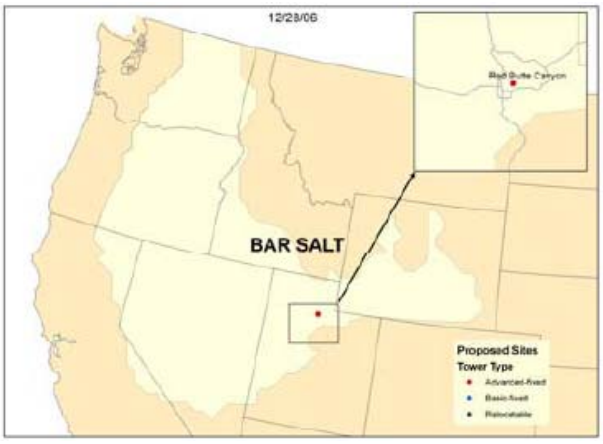
Red Butte Canyon, Great Basin (IRON, domain 15)

Location: **Red Butte Canyon**, Great Basin (IRON, domain 15), RBC_UT_IRON
Contact person: Jim Ehleringer, 801-581-7623, ehleringer@biology.utah.edu
Webpage: http:// neon-iron.org, http://redbuttecanyon.net

Location within domain:



Latitude: 40.80
Longitude: -111.78
Ownership: USFS
Access: protected, RNA

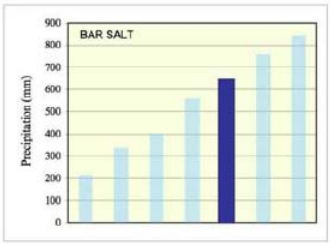
Aquatic features: stream and reservoir

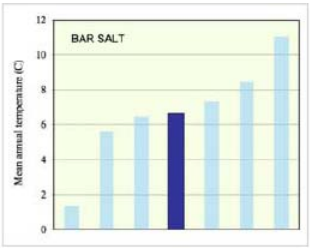
Contributions to national gradient: Snowmelt, drought, aquatic, stream, land cover, invasives, infectious disease

History: The 'range' of the IRON basin and range is Red Butte Canyon, a protected watershed with a history of ecological, aquatic, and climatic studies. This canyon is closed to the public and has never been grazed or settled. Red Butte Canyon contains both a stream and reservoir.

Key characteristics: Red Butte Canyon is a pristine watershed of 2,500+ ha immediately east of the University of Utah. It spans 1600-2300 m elevation, and is characteristic of Great Basin watersheds. The lower canyon is dominated by *Bromus tectorum* and some *Artemesia tridentata*. The canyon transitions into a shrub woodland dominated by *Quercus gambelii* and *Acer grandidentatum*; the canyon is dominated by *Populus tremuloides* and *Pseudotsuga menziesii*.

Climatic location of Red Butte Canyon within the BAR SALT gradient are shown in dark blue.





Contributions to national gradients: drought, land cover, invasives, infectious disease

Existing infrastructure: There is a network of 8 weather stations in the canyon with records going back to 1945; a USGS NAQWA stream monitoring site; and detailed maps of the geology, vegetation, and soils. A comprehensive biotic inventory has been updated continuously over the past 40 yrs. Utah State University, in conjunction with the Central Water Conservancy District maintain two permanent gauging stations in the stream/reservoir that monitor all chemical, physical and limnological characteristics of the aquatic system.

Facilities: There are laboratories and dormitories adjacent at the University of Utah, including a small laboratory and storage building at the mouth of the canyon. This lab facility includes 1 ha for experiments and two 60-m artificial stream systems where both stream water and nitrogen can mimic natural conditions.