

Utah State University

From the Selected Works of Susanne U. Janecke

2019

The Bear River's diversion and the cutting of Oneida Narrows at ~55 ka and relations to Lake Bonneville Record

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Available at: https://works.bepress.com/susanne_janecke/235/

The Bear River's diversion, the cutting of Oneida Narrows at 55-50 ka, and relations to the Lake Bonneville record

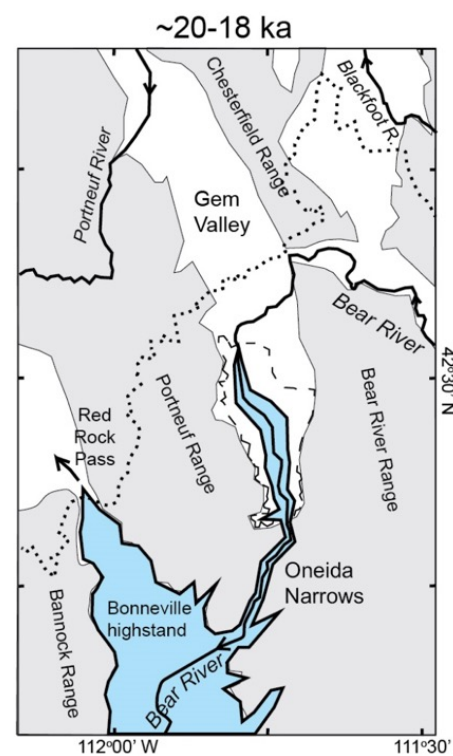
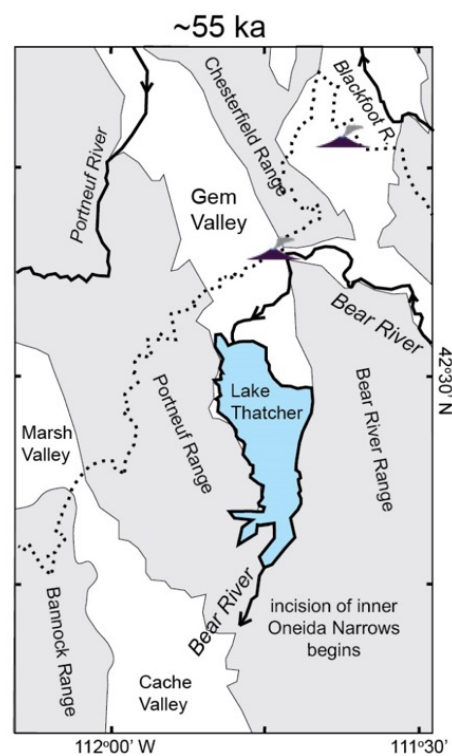
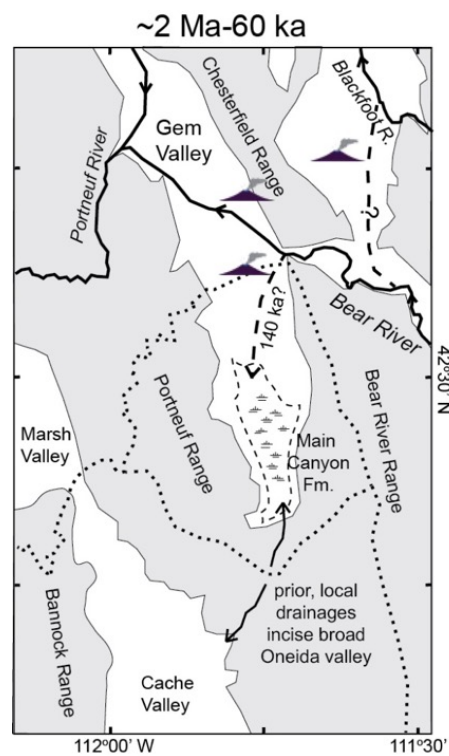
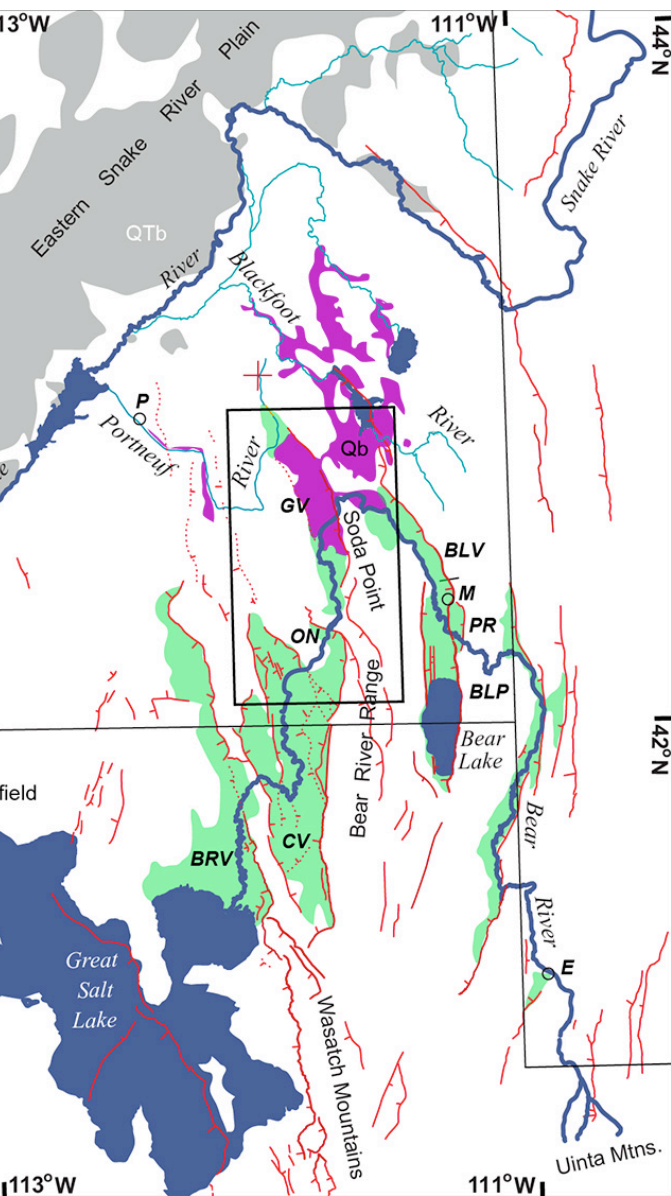
Joel Pederson, Tammy Rittenour, Susanne Jänecke, and Robert Oaks, Jr.





1. Review of knowledge about Bear River's history and diversion
2. Evidence for river integration at ~55 ka
3. Rapid cutting of Oneida Narrows in subsequent millennia
4. Relations to the Lake Bonneville record

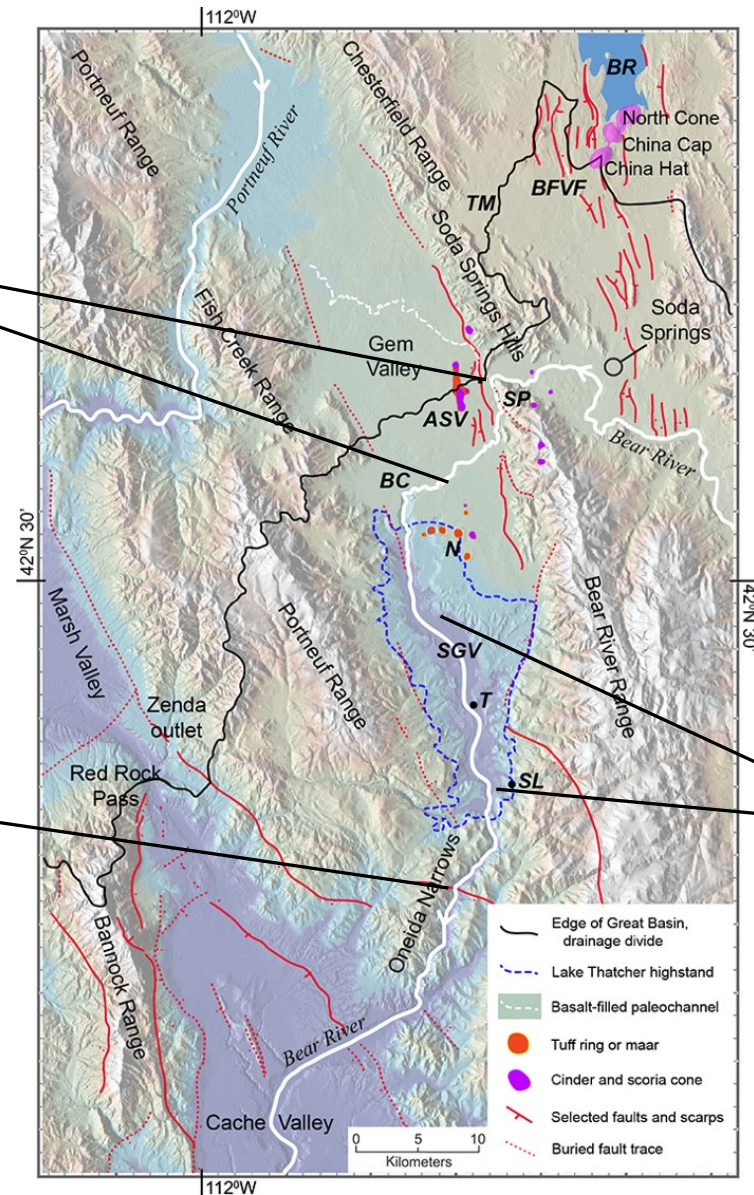
THIS TALK = virtual field trip



Soda Point
Black Canyon

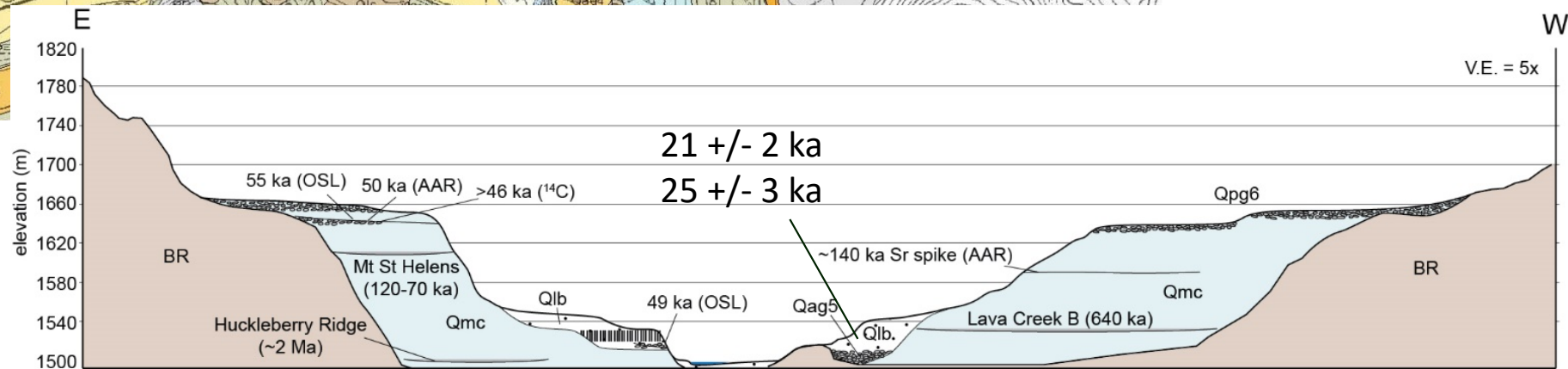
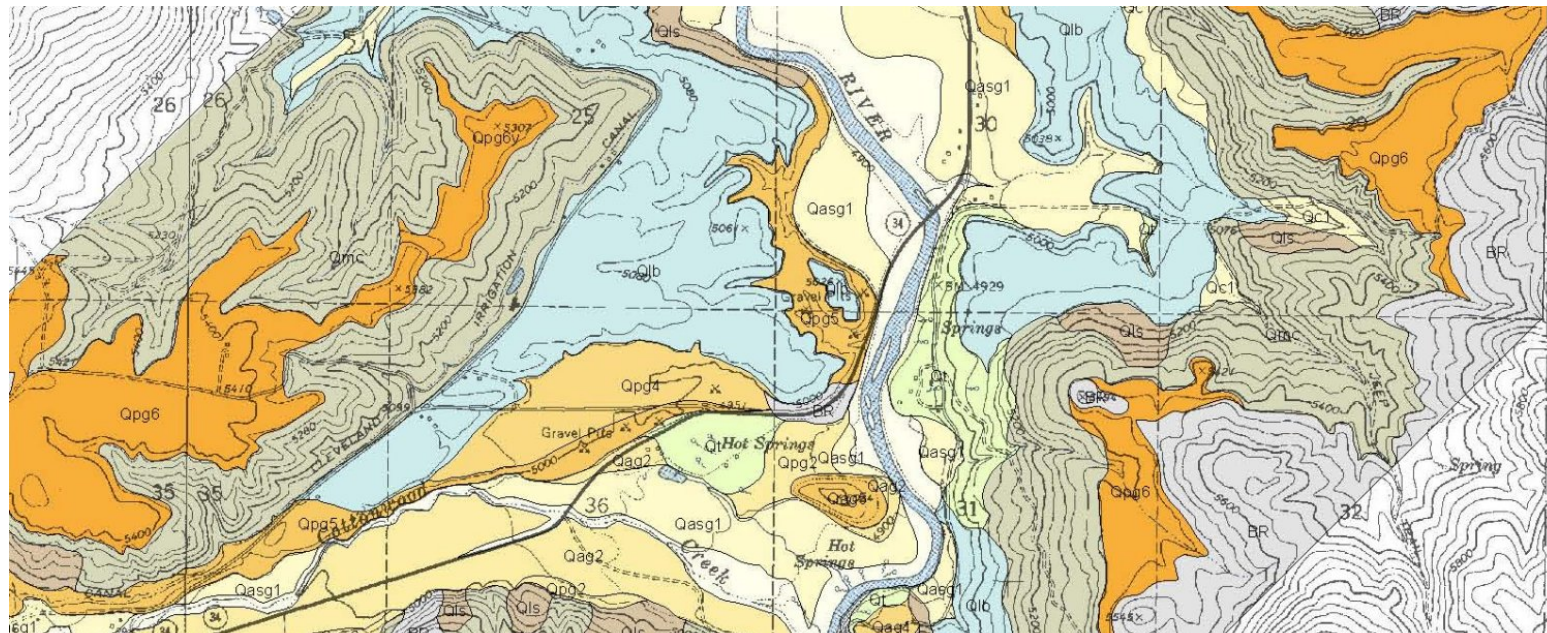
Oneida dam
paleodivide

X-section Main Canyon Fm.
Smith locality
Sant Road outcrop





1. Review of knowledge about Bear River's history and diversion



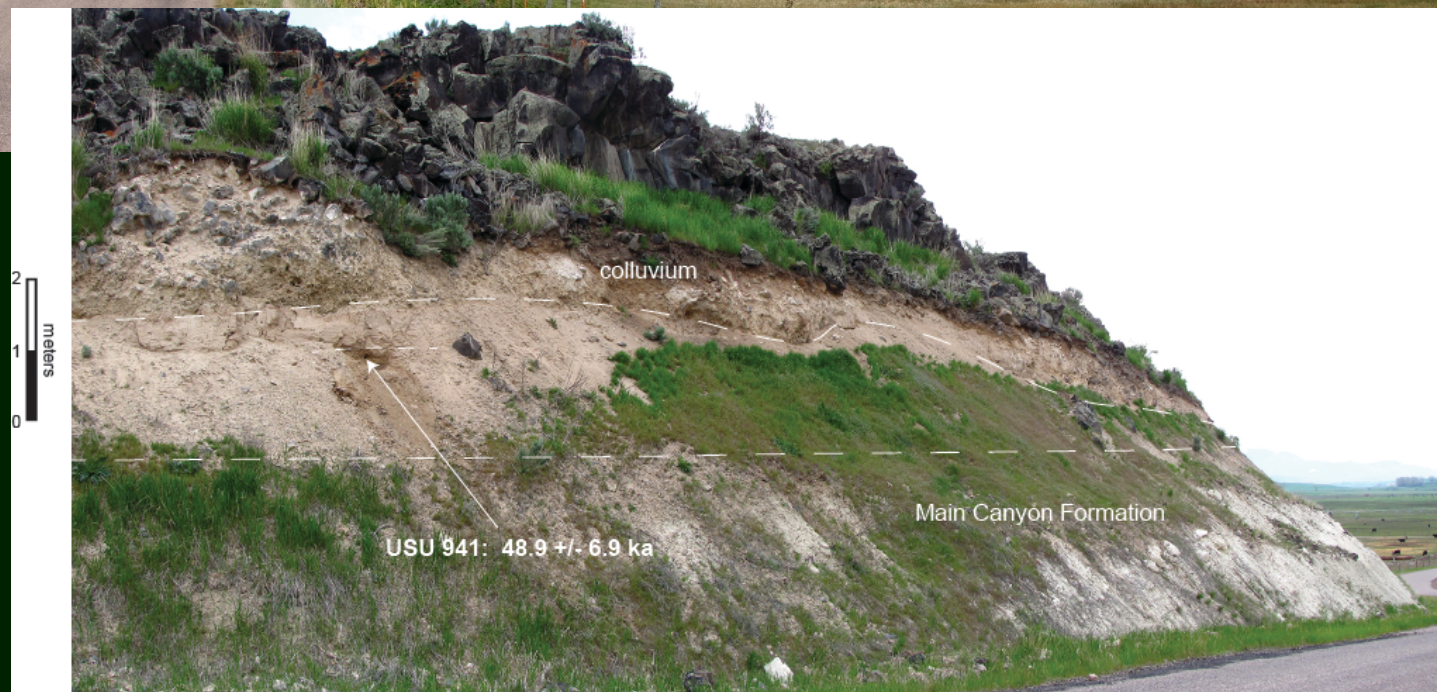
1. Review of knowledge about Bear River's history and diversion



2. Evidence for river integration at ~55 ka

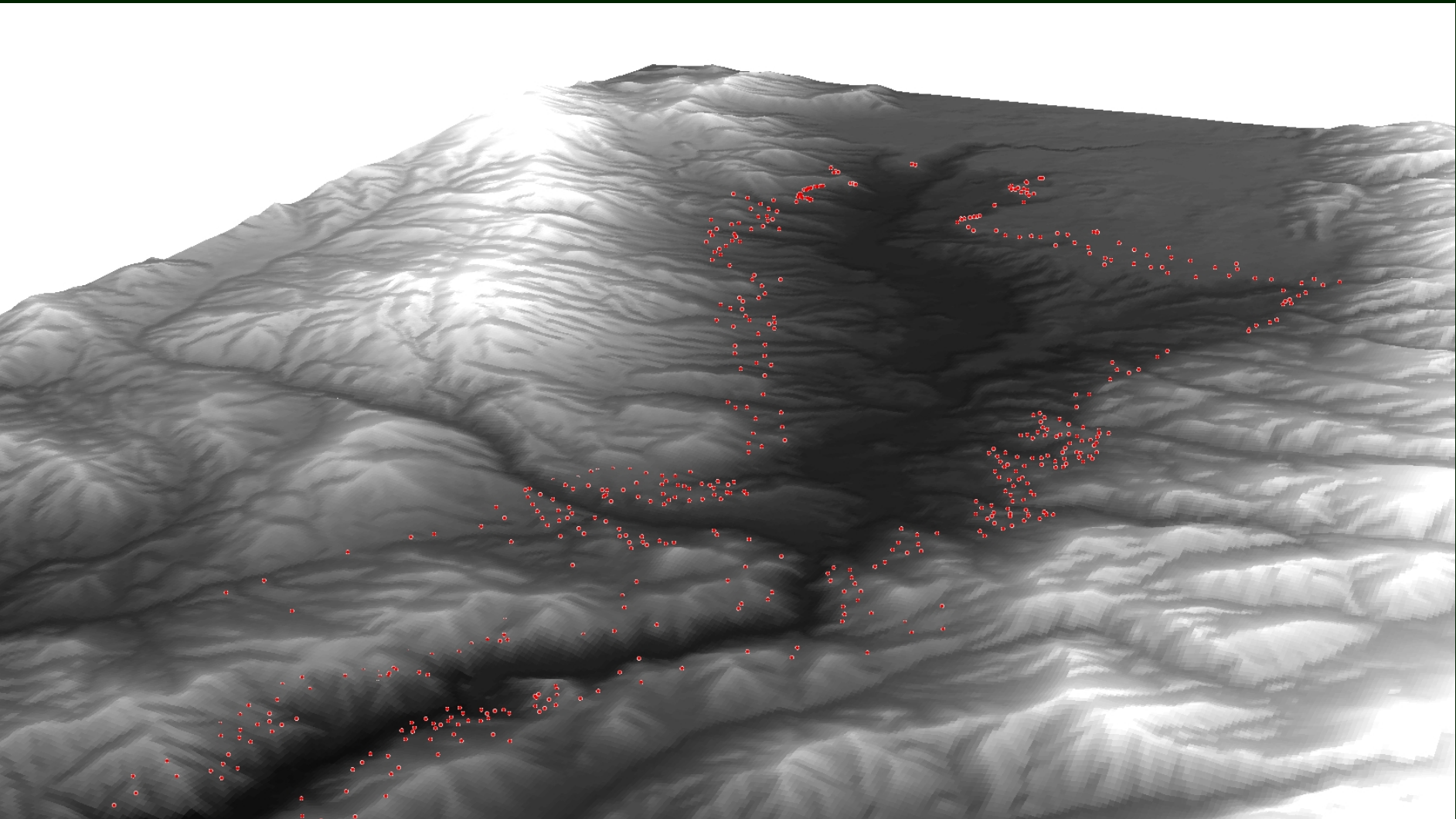


2. Evidence for river integration at ~55 ka

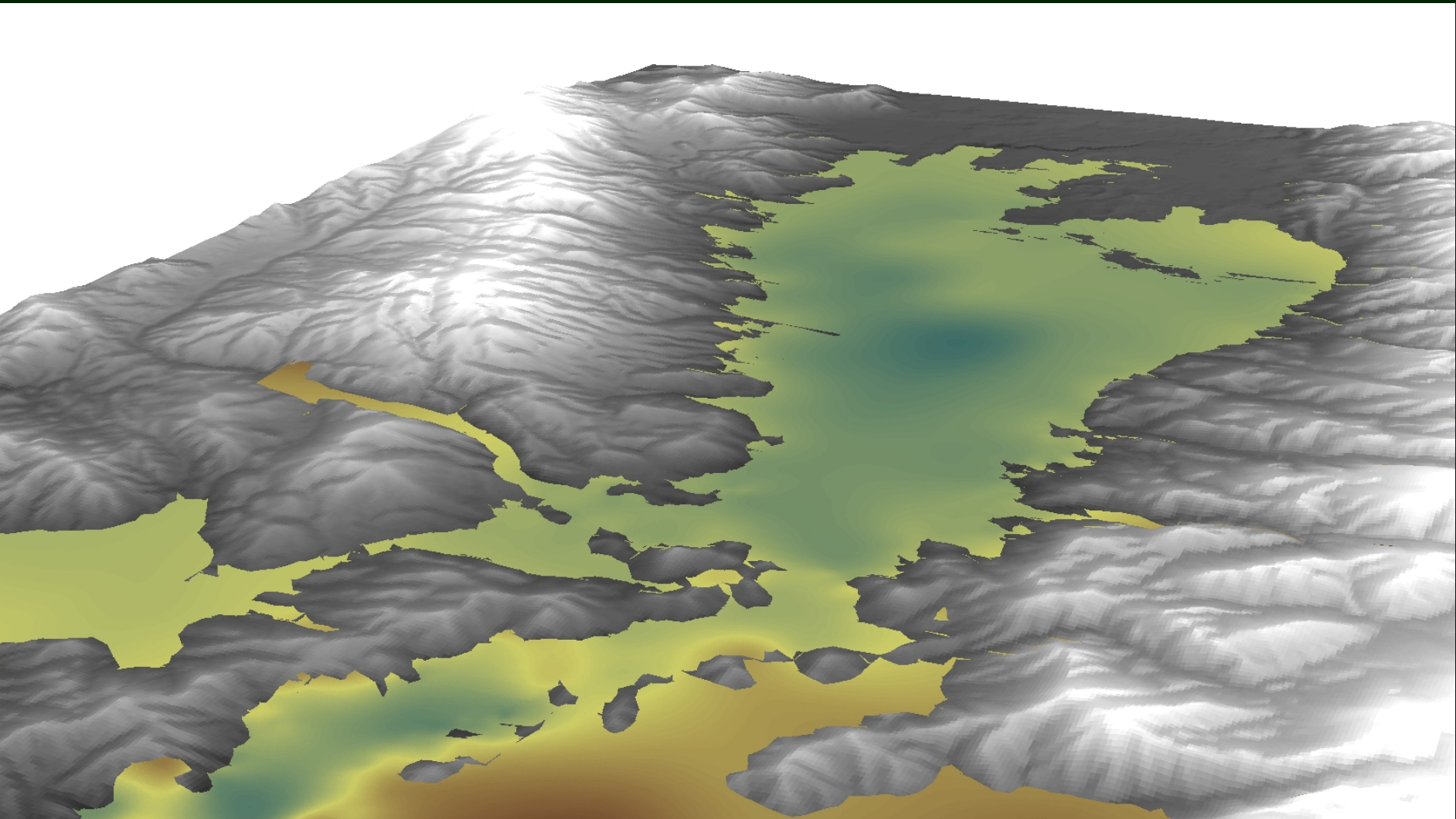


3. Rapid cutting of Oneida Narrows in subsequent millennia

Reconstruction of basin topography prior to diversion

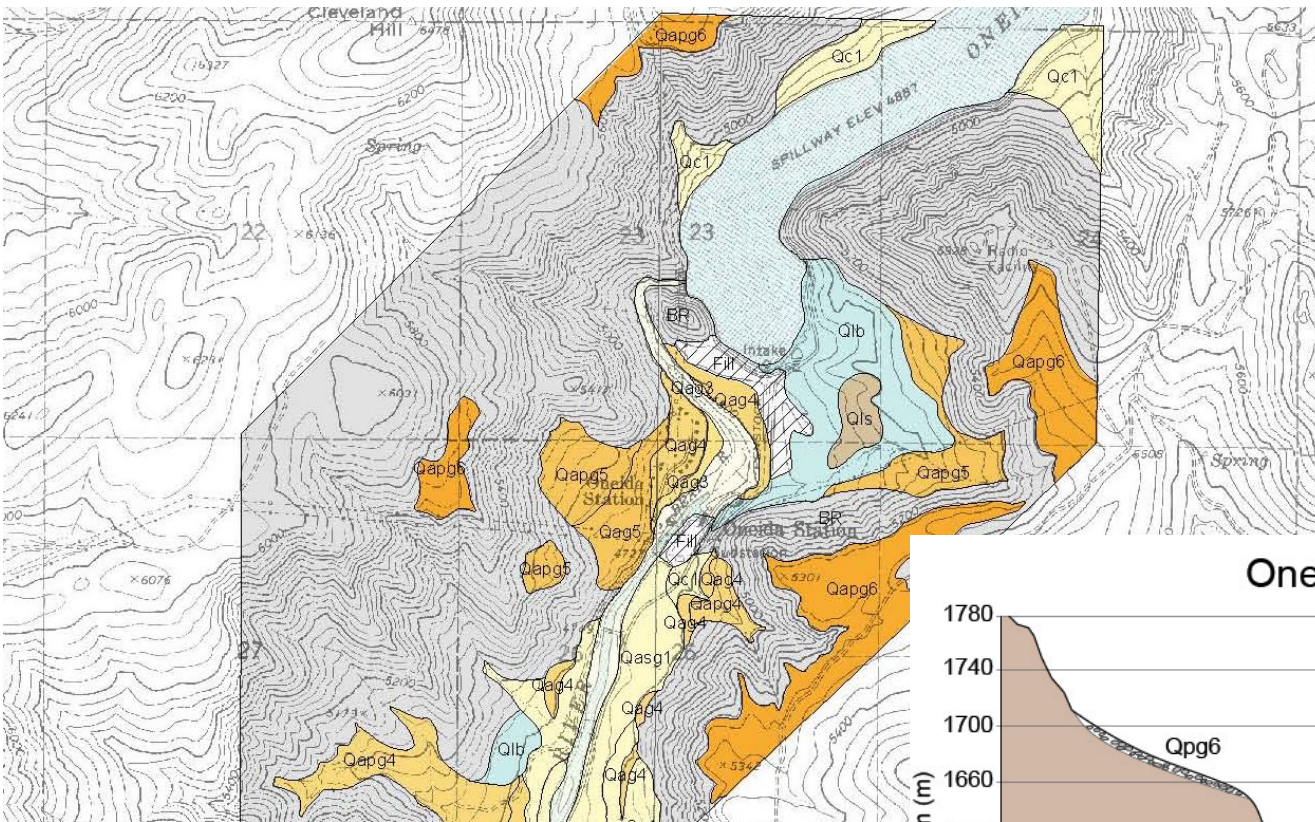


Reconstruction of basin topography prior to diversion

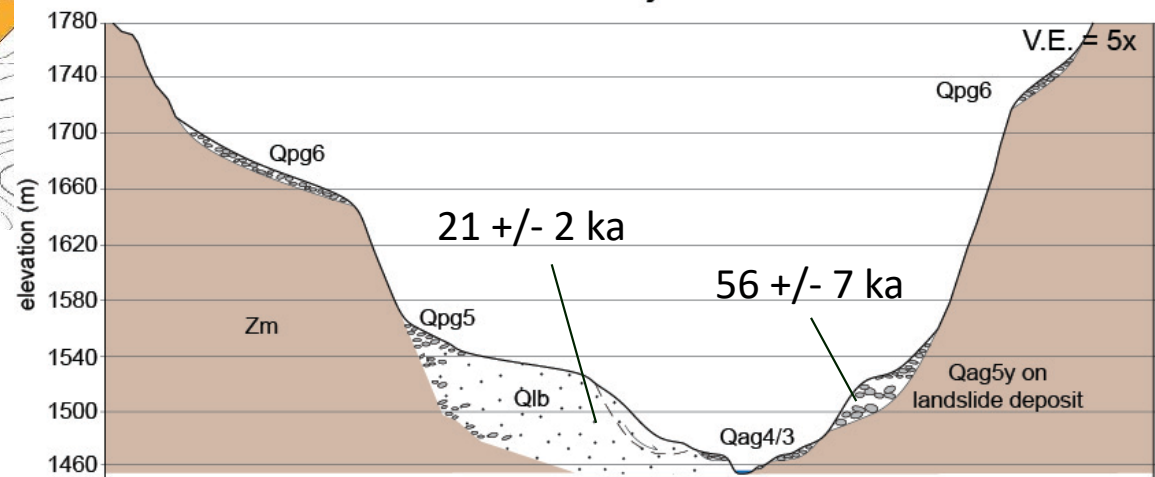




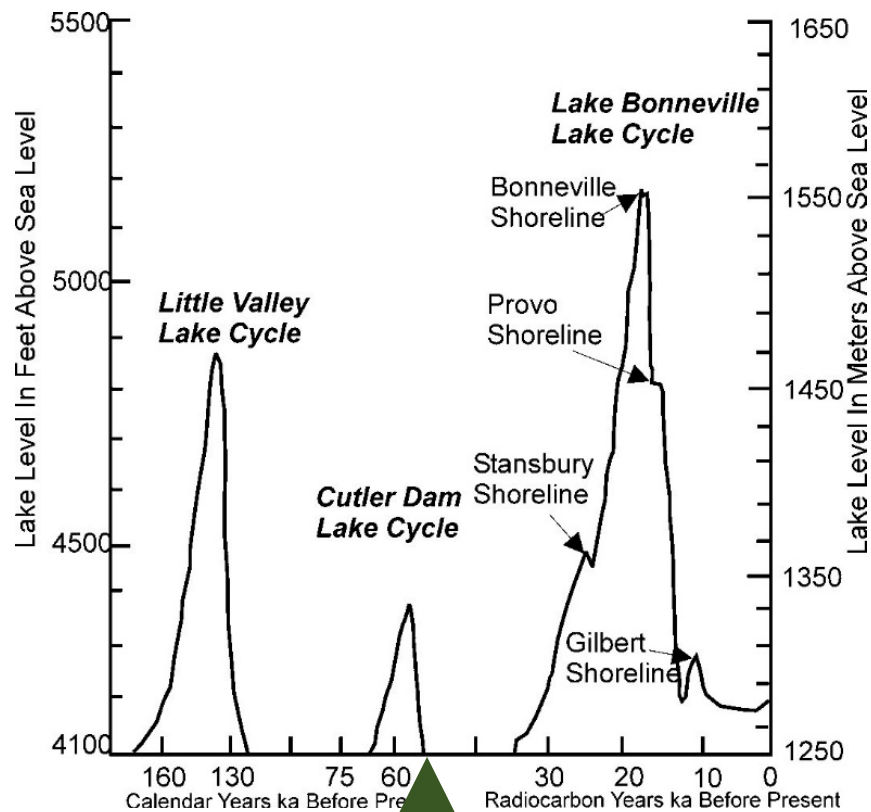
3. Rapid cutting of Oneida Narrows in subsequent millennia



Oneida Narrows just below dam



3. Rapid cutting of Oneida Narrows in subsequent millennia



Bear River integration (MIS 3c)

Hart et al. (2004) *GSAB*

“...carbonates from the Little Valley and Cutler Dam lake cycles returned $^{87}\text{Sr}/^{86}\text{Sr}$ ratios of 0.71166 and 0.71207, respectively, and are too low to be produced by a lake without the upper Bear River input.”

4. Relations to the Lake Bonneville record