

AGENDA
QUATERNARY FAULT PARAMETERS WORKING GROUP
Wednesday, February 5, 2014
Utah Department of Natural Resources Building, Room 2000 (2nd floor)
1594 West North Temple, Salt Lake City

- 8:00 Continental breakfast
- 8:20 Welcome, overview of meeting, and review of last year's activities
- 8:30 Technical presentations of work completed or in progress
- 8:30 – Update on Nephi segment paleoseismic studies; Chris DuRoss, UGS
 - 8:50 – Preliminary results from the Flat Canyon paleoseismic trench site, southern Provo segment, Wasatch fault—potential implications for Holocene fault segmentation along the Wasatch fault; Scott Bennett, USGS
 - 9:10 – Geomorphic and paleoseismic evidence for multiple surface ruptures along structures between the Salt Lake City and Provo segments of the Wasatch fault; Nathan Toke, UVU
 - 9:30 – Newly discovered Holocene-active basin floor fault in Goshen Valley, Utah County, Utah; Adam McKean, UGS
 - 9:50 – U.S. Bureau of Reclamation Joes Valley fault study; Jim McCalpin, GEO-HAZ Consulting
- 10:10 Break
- 10:40 Technical presentations of work completed or in progress
- 10:40 – New observations from the Bear River fault zone; Dave Schwartz, USGS
 - 11:00 – Clustered earthquakes during the Bonneville high stand—an update; Susanne Janecke, USU
 - 11:20 – Contemporary deformation of the Wasatch Front, Utah, and its implication for the interseismic loading of the Wasatch fault zone; Wu-Lung Chang, UUGG
 - 11:40 – New high-resolution LiDAR data for the Wasatch fault zone, and Salt Lake and Utah Counties, and hazard mapping; Steve Bowman, UGS
- 12:00 Lunch
- 1:00 Technical presentations of work completed or in progress
- 1:00 – Working Group on Utah Earthquake Probabilities, an update; Ivan Wong, URS Corporation
 - 1:20 – Update on planned UGS & USGS trenching on the Salt Lake City and Provo segments of the Wasatch fault; Chris DuRoss, UGS and Scott Bennett, USGS
 - 1:40 – Basin and Range Province Seismic Hazard Summit III; Bill Lund, UGS
- 2:00 UQFPWG 2014 fault study priorities (see table 1 for UQFPWG list of faults requiring additional study; see table 2 for UQFPWG 2013 fault priority list)
- 3:30 Adjourn

Table 1. List of Quaternary faults/fault segments identified by the UQFPWG as requiring additional study to adequately characterize Utah's earthquake hazard to a minimally acceptable level.

Fault/Fault Segment	Original UQFPWG Priority (2005)
Nephi segment WFZ	1
West Valley fault zone	2
Weber segment WFZ – most recent event	3
Weber segment WFZ – multiple events	4
Utah Lake faults and folds	5
Great Salt Lake fault zone	6
Collinston & Clarkston Mountain segments WFZ	7
Sevier/Toroweap fault	8
Washington fault	9
Cedar City-Parowan monocline/Paragonah fault	10
Enoch graben	11
East Cache fault zone	12
Clarkston fault	13
Wasatch Range back-valley faults	14
Hurricane fault	15
Levan segment WFZ	16
Gunnison fault	17
Scipio Valley faults	18
Faults beneath Bear Lake	19
Eastern Bear Lake fault	20
Bear River fault zone	2007
Brigham City segment WFZ – most recent event	2007
Carrington fault (Great Salt Lake)	2007
Provo segment WFZ – penultimate event	2007
Rozelle section – East Great Salt Lake Fault	2007
Salt Lake City segment WFZ – northern part	2009
Warm Springs fault/East Bench fault subsurface geometry and connection	2010
Brigham City segment WFZ rupture extent (north and south ends)	2011
Long-term earthquake record northern Provo segment WFZ	2011
West Valley fault zone – Taylorsville fault	2011
Hansel Valley fault	2011
Acquire new paleoseismic information in data gaps along the five central segments of the WFZ	2012

Table 2. UQFPWG 2013 list of highest priority Quaternary faults/fault segments requiring additional study to adequately characterize Utah’s earthquake hazard to a minimally acceptable level, and status of current paleoseismic investigations for all currently identified Utah priority faults/fault segments.

2013 Highest Priority Faults/Fault Sections For Study			
Fault/Fault Section ¹	Investigation Status		Investigating Institution ²
Acquire new paleoseismic information for the five central segments of the Wasatch fault zone to address data gaps – e.g., (a) the rupture extent of earthquakes on the Brigham City and Salt Lake City segments, (b) long-term earthquake records for the northern Provo, southern Weber, and Salt Lake City segments, and (c) the subsurface geometry and connection of the Warm Springs and East Bench faults on the Salt Lake City segment	UGS/USGS trenching (see below) BYU Utah Lake sediment study		UGS/USGS BYU
Acquire long-term earthquake record for the West Valley fault zone – Taylorsville fault	Consultant’s trench of opportunity		UGS
Improve the long-term earthquake record for Cache Valley (East and West Cache fault zones)	No activity		
Other Priority Faults/Fault Sections Requiring Further Study			
Fault/Fault Section	Original UQFPWG Priority	Investigation Status	Investigating Institution ²
Cedar City-Parowan monocline/Paragonah fault ³	10	No activity	
Enoch graben	11	No activity	
Clarkston fault ³ (West Cache fault zone)	13	Black and others (2000)	
Gunnison fault	17	No activity	
Scipio Valley faults	18	No activity	
Faults beneath Bear Lake	19	No activity	
Eastern Bear Lake fault	20	No activity	
Carrington fault (Great Salt Lake)	2007	No activity	
Rozelle section, Great Salt Lake fault ⁴	2007	No activity	
Faults/Fault Sections Studies Complete or Ongoing			
Fault/Fault Section	Original UQFPWG Priority	Investigation Status	Investigating Institution ²
Nephi segment WFZ	1	UGS Special Study 124 USGS Map 2966	UGS/USGS
West Valley fault zone (Granger fault)	2	Contract deliverable FTR ⁵	UGS/USGS
Weber segment WFZ – most recent event	3	UGS Special Study 130	UGS/USGS
Weber segment WFZ – multiple events	4	UGS Special Study 130	UGS/USGS
Utah Lake faults and folds	5	Ongoing	UUGG/BYU
Great Salt Lake fault zone	6	Ongoing	UUGG
Collinston & Clarkston Mountain segments WFZ	7	UGS Special Study 121	UGS
Sevier/Toroweap fault	8	UGS Special Study 122	UGS
Washington fault zone	9	Contract deliverable FTR ⁵	UGS
East Cache fault zone	12	UGS Miscellaneous Publication 13-3	USU
Wasatch Range back-valley fault (Main Canyon fault)	14	UGS Miscellaneous Publication 10-5	USBR
Hurricane fault	15	UGS Special Study 119	UGS
Levan segment WFZ	16	UGS Map 229	UGS
Brigham City segment WFZ – most recent event	2007	UGS Special Study 142	UGS/USGS
Bear River fault zone	2007	Ongoing	USGS
Salt Lake City segment WFZ – north part	2009	Contract deliverable FTR ⁵	UGS/USGS
Hansel Valley fault ³	2011	McCalpin, (1985), Robinson (1986), McCalpin and others (1992), UUGG ongoing	UUGG
Long-term earthquake record Nephi segment WFZ	2012	Contract deliverable FTR ⁵	UGS/USGS
Provo segment – Holocene fault segmentation	2012	Contract deliverable FTR ⁵	USGS/UGS

¹Not in priority order; ²UGS (Utah Geological Survey), USU (Utah State University), USGS (U.S. Geological Survey), UUGG (University of Utah Department of Geology & Geophysics), USBR (U.S. Bureau of Reclamation), BYU (Brigham Young University); ³Earthquake source on the USGS National Seismic Hazard Maps; ⁴Previous highest priority fault/fault segment; ⁵FTR (Final Technical Report).