

AGENDA

QUATERNARY FAULT PARAMETERS WORKING GROUP

Tuesday, February 10, 2009

Utah Department of Natural Resources Building, Room 1010

1594 West North Temple, Salt Lake City

- 7:30 Continental breakfast
- 8:00 Introduction, overview of meeting, review of last year's activities
- 8:20 Technical presentations of work completed or in progress
8:20 – Nephi segment, Spring Lake trenching update; Danny Horns, UVSC
8:40 – Weber segment, Rice Creek trenching update; Chris DuRoss, UGS
9:00 – Brigham City segment, trenching update; Tony Crone, USGS
9:20 – East Cache fault zone trenching update; Stephanie Davi, USU
9:40 – Geologic evidence of high-stress-drop earthquakes in the Rocky Mountains; Suzanne Hecker, USGS
- 10:00 Break
- 10:20 Technical presentations of work completed or in progress (continued)
10:20 – Proposed USBR Joes Valley fault study; Lucy Piety, USBR
10:40 – New Lidar data for the southern Wasatch fault; Ron Bruhn, U of U
11:00 – Update on contemporary deformation and stress field of the Wasatch Front; Robert Smith, U of U
- 11:20 Technical discussion items
11:20 – Issues regarding the NSHM generalization of the Salt Lake City segment (Wasatch fault) surface trace; Jim Pechmann, U of U
11:40 – Discussion
- 12:00 Lunch
- 12:30 Technical discussion items - West Valley Fault Zone, Part 1
12:30 – The "WVFZ problem" and why it is a NSHM issue; Bill Lund, UGS
12:50 – Geologic and paleoseismic review of the WVFZ, geometry and paleoseismic history of the two fault strands, data quality, and evidence for coseismic rupture with the Wasatch fault; Mike Hylland, UGS
1:10 – WVFZ rupture models (simultaneous, clustered, independent, others?); issues encountered in modeling the WVFZ/WFZ interaction, details of the model selected for this version of the NSHMs; Steve Harmsen, USGS
1:30 – How URS treats the WVFZ in their PSHAs; Ivan Wong, URS Corp

- 1:50 – Final WVFZ model, implications for hazard calculations, recommendations for future research to improve the model; Mark Petersen, USGS
- 2:10 – Discussion regarding new data required to improve the WVFZ model
- 2:30 Break
- 2:50 Technical discussion items - West Valley Fault Zone, Part 2
- 2:50 – Other active, graben-producing fault pairs in Utah/Basin and Range Province and issues they raise regarding the NSHMs; Kathy Haller, USGS
- 3:10 – The East and West Cache Valley fault pair as an example, what do we know about the geometry and earthquake history of these two faults, do they potentially intersect above seismogenic depths, is coseismic rupture a possibility, how are they the same/different from the WVFZ; Chris Du Ross, UGS
- 3:30 – Discussion of how to handle active fault pairs on the NSHMs in Utah
- 3:50 Break
- 4:00 UQFPWG 2010 fault study priorities (see table 1 for 2009 priority list; see table 2 for original UQFPWG fault priority list)
- 5:00 Adjourn

Table 1. UQFPWG 2009 priority list of Quaternary faults/fault segments requiring additional study to

2009 Highest Priority Faults/Fault Sections For Study			
Fault/Fault Section	Priority¹	Investigation Status	Investigating Institution
Provo segment – penultimate event	1	No activity	
West Valley fault zone	1	Initial reconnaissance	UGS
Washington fault	3	Reconnaissance study	UGS
Carrington fault (Great Salt Lake)	4	No activity	
Rozelle section, Great Salt Lake fault	5	No activity	
Other Priority Faults/Fault Sections Requiring Further Study			
Fault/Fault Section	Original UQFPWG Priority	Investigation Status	Investigating Institution
Cedar City-Parowan monocline/ Paragonah fault	10	No activity	
Enoch graben	11	No activity	
Clarkston fault	13	No activity	
Wasatch Range back-valley faults	14	No activity	
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	
Bear River fault zone	Added 2007	Scarp reconnaissance study	USGS
Faults/Fault Sections Studies Complete or Ongoing			
Fault/Fault Section	Original UQFPWG Priority	Investigation Status	Investigating Institution
Nephi segment WFZ	1	UGS Special Study 124/USGS Map 2966/UVSC study ongoing	UGS/USGS/UVSC
Weber segment WFZ - most recent event	3	Ongoing/2009 completion	UGS/USGS
Weber segment WFZ – multiple events	4	Ongoing	UGS/USGS
Utah Lake faults and folds	5	Ongoing	UUGG
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
East Cache fault zone	12	Ongoing	USU
Hurricane fault	15	UGS Special Study 119	UGS
Levan	16	UGS Map 229	UGS
Brigham City section - most recent event	Added 2007	Ongoing	UGS/USGS

adequately characterize Utah’s earthquake hazard to a minimally acceptable level and status of current paleoseismic investigations.

Table 2. Priority 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	16
Gunnison fault	17
Scipio Valley faults	18
Faults beneath Bear Lake	19
Eastern Bear Lake fault	20
Bear River fault zone	Added 2007
Brigham City segment WFZ – most recent event	Added 2007
Carrington fault (Great Salt Lake)	Added 2007
Provo segment – penultimate event	Added 2007
Rozelle section – Great Salt lake Fault	Added 2007