Appendix B: Recurrence Interval and Event Age Data for Type A Faults

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USGS Open File Report 2007-1437B
CGS Special Report 203B
SCEC Contribution #1138B
Version 1.0

2008

U.S. Department of the Interior
U.S. Geological Survey

California Department of Conservation
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Suggested citation:
Dawson, T.E., Weldon, R.J., II, and Biasi, G.P. 2008, Recurrence interval and event age data for Type A faults, *Appendix B in* The Uniform California Earthquake Rupture Forecast, version 2 (UCERF 2): U.S. Geological Survey Open-File Report 2007-1437B and California Geological Survey Special Report 203B, 48 p. [http://pubs.usgs.gov/of/2007/1437/b/].

Appendix B[1]

Recurrence Interval and Event Age Data for Type A Faults

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This appendix summarizes available recurrence interval, event age, and timing of most recent event data for Type A faults considered in the Earthquake Rate Model 2 (ERM 2) and used in the ERM 2 Appendix C analysis as well as Appendix N (time-dependent probabilities). These data have been compiled into an Excel workbook named *Appendix B A-fault event ages_recurrence_V5.0* (herein referred to as the Appendix B workbook). For convenience, the Appendix B workbook is attached to the end of this document as a series of tables. The tables within the Appendix B workbook include site locations, event ages, and recurrence data, and in some cases, the interval of time between earthquakes is also reported. The Appendix B workbook is organized as individual worksheets, with each worksheet named by fault and paleoseismic site. Each worksheet contains the site location in latitude and longitude, as well as information on event ages, and a summary of recurrence data. Because the data has been compiled from different sources with different presentation styles, descriptions of the contents of each worksheet within the Appendix B spreadsheet are summarized below:

Southern San Andreas Fault: Paleoseismic data for the southern San Andreas fault were compiled by Glenn Biasi and Ray Weldon from key paleoseismic sites for their analysis of southern San Andreas fault rupture models (Figure 1). Much of this information is summarized in Appendix E, which is an overview of the southern San Andreas fault rupture models, as well as in an unpublished manuscript by Biasi and Weldon describing their methodology. Their compilation includes paleoseismic data from the Carrizo Plain (Akciz and others, 2006a and 2006b, Grant and Sieh, 1994; Liu and others, 2004 and 2006; Sims, 1994), Pallett Creek (Sieh, 1978, 1984, 1989), Wrightwood (Fumal and others, 2002a), Pitman Canyon (Sietz, 1997, 1999), Plunge Creek (McGill and others, 2002), Burro Flats (Yule and Sieh, 2001), Thousand Palms (Fumal and others, 2002b), and Indio (Sieh, 1986) sites. The worksheets for these sites are organized as follows: Event dates in calendar years are listed with the mean year, standard deviation in years and median calendar year from the event age probability density functions (PDFs). The event age PDFs are generated from different sources, the details of which are listed on each worksheet along with other supporting comments.

Also, at the bottom of each worksheet is a summary of recurrence data derived from the paleoseismic record using three different recurrence models: the average interval method, Poisson, and Lognormal. These are calculated by Biasi and Weldon and included here (Note: these are not included in Appendix E). The *average interval* method is the

[1] *in:* Earthquake Rate Model 2 of the Working Group on California Earthquake Probabilities.

recurrence calculated by dividing the total time of the paleoseismic record by the number of intervals in the paleoseismic record. This is what typically is reported in the literature and makes no assumptions about the underlying physical system or statistical distribution. Note that the values included in the tables may differ slightly from what is reported in the published literature. These differences are usually small, and are largely the result of using updated or revised data as well as recalibrating the radiocarbon ages using more recent calibration curves. The Poisson and lognormal recurrence intervals are the result of imposing an underlying statistical model (and thus should not be confused with data). For a discussion of how the Poisson and Lognormal recurrence parameters were calculated, see Biasi and others (2002). Another way to think of this is that the average interval is a best estimate of what has happened in the past and can be regarded as data. To say what will or could happen in the future requires a conceptual model that is either statistically or physically based. For the southern San Andreas fault, this is done using a Poisson or lognormal distribution. Appendix C uses the paleoseismic data from this appendix to forward model recurrence using a Brownian Passage Time (BPT) model as well as a Poisson model.

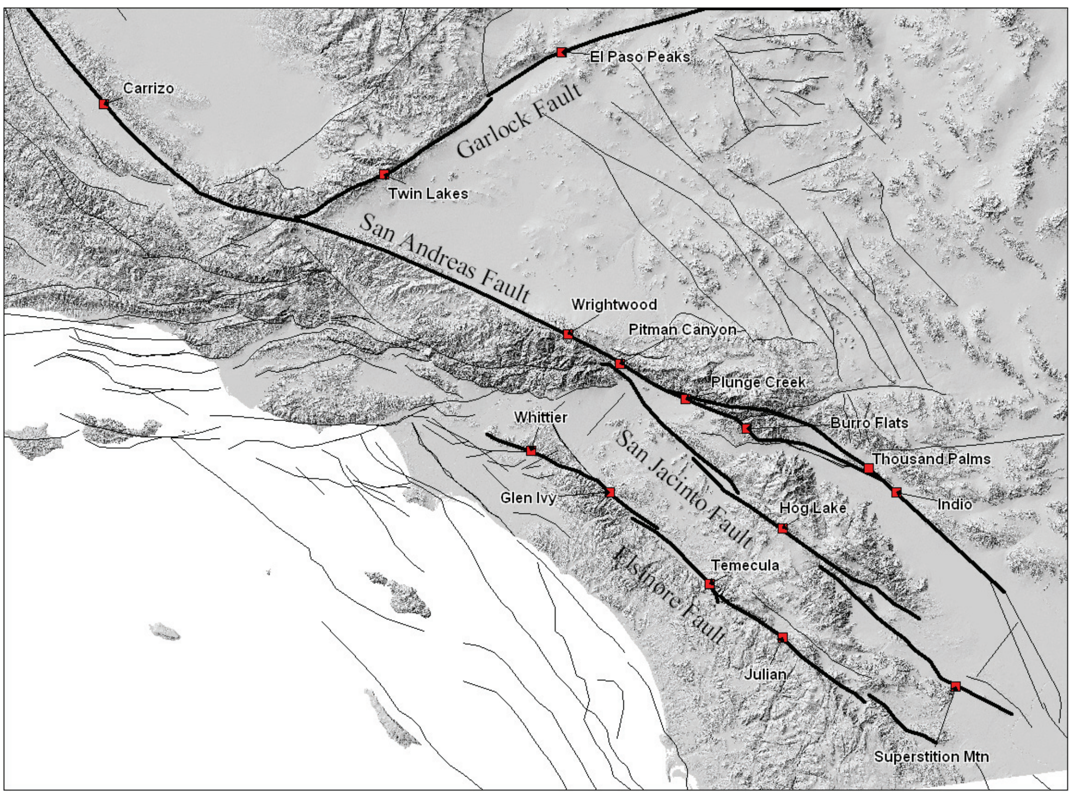

Figure 1. *Paleoseismic sites in southern California with event timing data used in this compilation.*

The abbreviations in the worksheets are as follows:

Nev is number of events in the historical and paleoseismic record.

Interval is the span of the time series in calendar years constrained by paleoseismic dating, including open intervals.

Average Interval is the interval calculated by dividing the total time of the paleoseismic record by the number of intervals in the paleoseismic record.

Poisson (Mu) Low, High is the range of Poisson recurrence in years. Calculated by Glenn Biasi and Ray Weldon for this compilation. See Biasi and others (2002) for methodology.

Lognormal (T-hat) mean, high, low is the earthquake recurrence calculated using a log-normal distribution, with the mean and 2-sigma range (high and low) reported in years. Calculated by Glenn Biasi and Ray Weldon for this compilation. See Biasi and others (2002) for methodology.

COV (Sigma-hat), high, low is the coefficient of variation calculated from the log-normal recurrence distributions. Calculated by Glenn Biasi and Ray Weldon for this compilation. See Biasi and others (2002) for methodology.

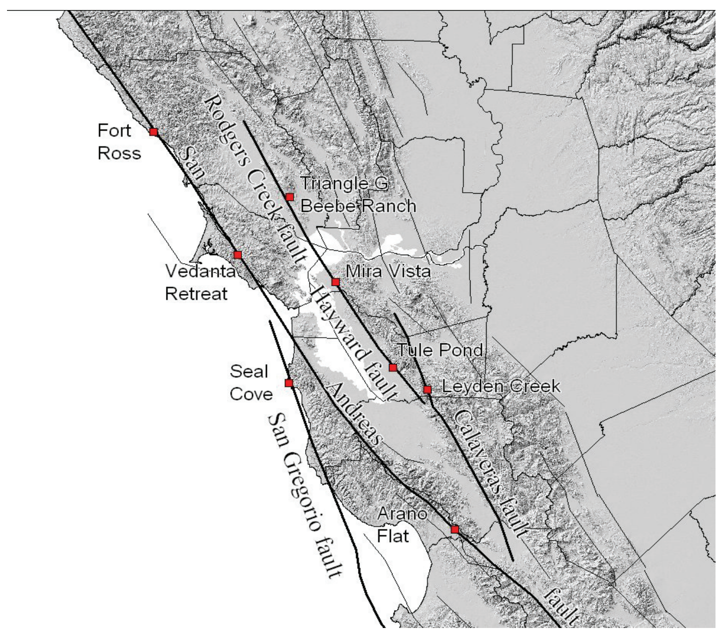

Figure 2. *Paleoseismic sites in northern California with event timing data used in this compilation.*

Other A-faults: Other A-faults with dated paleoseismic events were compiled and are included in the Appendix B workbook (Figures 1 and 2). For a general summary of the available paleoseismic data and site descriptions, the reader is referred to Appendix F of this report for sites in southern California. For sites in northern California, the data were taken from published sources except where noted. The worksheets for these paleoseismic sites generally follow the same format as those for the southern San Andreas fault, except that the event ages are reported as calendar ages where *old* is the start of the age range and *young* is the end of the event age range. *Open* refers to the open interval since the most recent event. The range of the interval between events is also reported, with the minimum interval as the time between the oldest constraining age of the youngest event and the youngest constraining age of the oldest event. Where the event ages overlap, this is reported as zero years. The maximum interval is reported as the time between the youngest age of the younger event and the oldest age of the older event. *Mid* is simply the middle of the reported interval range and is commonly referred to in the literature as the *preferred* interval time. It should be noted that, because the earthquakes that define the intervals could have occurred at anytime during their reported age range, this *preferred* interval may be a meaningless number. While Bayesian analysis programs such as OxCal are able to generate actual PDFs of event ages and intervals, we did not always have direct access to the radiocarbon dates that are necessary to construct the OxCal models that would provide the PDFs. Thus, the *Mid* should not be considered a statistically determined mean for the range of the interval. However, in the absence of an OxCal generated PDF, the *Mid* can be used if one decides to assign a Gaussian-shaped PDF to the range. Examples of this exist in the Biasi and Weldon manuscript in Appendix E. For example, at the Indio paleoseismic site, they only had the reported age ranges of Sieh (1986) to use and so generated event PDFs using a Gaussian shaped distribution. We therefore include the *Mid* values for convenience if someone wishes to generate similar PDFs for the other A-faults.

Recurrence data are summarized using the *average interval* method (total time of paleoseismic record divide by the number of observed intervals). *Time max* and *Time min* are reported in years and are taken from the dates that constrain the paleoseismic record. *AI max* and *AI min* represent the range of recurrence calculated from the constraining ages. *AI preferred* is the middle of the range reported for recurrence (with the same caveats as *Mid*).

The recurrence data from the A-faults in this compilation are compiled from numerous sources. While we acknowledge that using OxCal generated PDFs and intervals would be preferable, it is not possible to do this with all of the sites until each site can be evaluated in terms of its stratigraphy and dating. Therefore, we present the paleoseismic event ages and intervals in a way that tries to honor the values in the published data (as well as what has been provided to us). In cases where we have had to calculate a value, we have strived to do so in a way that is as consistent as possible between the sites. In the near future, the intention is to eventually generate OxCal event age PDFs for all of the sites and migrate these data to the WGCEP-SCEC Paleosites database for others to use. The source of these data, as well as additional comments are described below:

San Andreas fault, Santa Cruz Mts – Arano Flat/Mill Canyon: Event ages were provided by Tom Fumal (written communication) from his OxCal model. These data are unpublished, although recurrence and earlier iterations of the event ages are reported in Fumal and others (1999, 2003).

Northern San Andreas fault, North Coast segment – Vedanta site: Event ages taken from Zhang and others (2006) (abstract).

Northern San Andreas fault, North Coast segment – Fort Ross site: Event ages are taken from Kelson and others (2006). This paleoseismic record is a composite record constructed from the Orchard site of Kelson and others (2006) and the nearby Archae site of Simpson and others (1996). See Kelson and others (2006) for details of the construction of the composite record.

Northern San Andreas fault, North Coast/Offshore segment – Noyo Canyon: This turbidite-based record is taken from Goldfinger and others (2007).

Elsinore fault – Whittier: Event chronology is based on Patterson and Rockwell (1993) and further clarified by discussions with Tom Rockwell (personal communication).

Elsinore fault – Glen Ivy: This site is described in Rockwell and others (1986). Since this publication additional samples have been dated and the event ages are based on the results of an OxCal model provided by Tom Rockwell (written communication).

Elsinore fault – Temecula: Event ages are reported by Vaughan and others (1999).

Elsinore fault – Julian: Event ages are reported by Thorup (1997).

San Jacinto fault – Hog Lake: Recurrence for this site is reported by Rockwell and others (2006). The event ages reported in the Appendix B spreadsheet are compiled from an OxCal model developed for the Hog Lake site by Tom Rockwell, Gordon Seitz, and Tim Dawson. These data are unpublished. Additional radiocarbon dates for this site are pending and may shift the event ages slightly, but this is unlikely to be significantly different than what has been compiled.

San Jacinto fault – Superstition Mountains: Event ages were compiled from Gurrola and Rockwell (1996).

Hayward fault, south – Tule Pond: Event ages compiled from an OxCal model generated by Lienkaemper and Williams (submitted to BSSA). The model has been modified slightly to not calculate the intervals between events E8 and E11 due to a lack of constraining dates. Additional dates were submitted by Lienkaemper, but were not available at the time this spreadsheet was finalized for Appendix C.

Hayward fault, north – Mira Vista: Event ages are calculated from an OxCal model by Dawson using data from the Hayward Fault Paleoearthquake Group (1999). The paleoseismic record at this site is most likely incomplete and is not used in the ERM 2 analysis.

San Gregorio fault – Seal Cove: Event ages compiled from Simpson and others (1997).

Rodgers Creek fault: More recent event age from Hecker and others (2005). Geologic recurrence from Budding and others (1991).

Calaveras fault – Welch/Leyden Creek: Composite record constructed from the Leyden Creek site (Kelson and others, 1996) and Welch Creek (Simpson and others, 1999).

Garlock fault – Central: Event ages compiled from Dawson and others (2003).

Garlock fault – Western: Event ages compiled from an OxCal model provided by Chris Madden (written communication). These data are unpublished.

Timing and Estimates of Slip During the Most Recent Event (MRE): Table 2 summarizes the timing of the MRE and estimates of slip during the MRE for A-faults (where available). For historical earthquakes, the year of the earthquake is reported. Unless noted otherwise, these values are adopted from the UCERF 1.0 input file for the timing of the MRE on A-faults. For faults where only paleoseismic data provides constraints on the timing of the MRE, a best estimate age of the earthquake is provided. In most cases, the best estimate age is the mean calendar year of the earthquake taken from the probability density function (PDF) of the event age using the 2-sigma calendar corrected radiocarbon dating. This was either generated by Biasi and Weldon for the southern San Andreas fault or taken from an OxCal model of the event chronology constructed for this compilation. Where event age puffs are not available, the method used to assign a best estimate calendar age is described in the comments section of Table 2. We also report the event age range for the events taken from the paleoseismic catalog, much of this data also appears in Table 1.

One significant change we have made to the inputs for time-dependant probabilities is a revision in the timing of the most recent event (MRE) along the San Bernardino Valley (SBV) section of the San Jacinto fault. WGCEP 88 and WGCEP 95 assigned a calendar year of 1890 as the MRE along this part of the fault, assuming that the 9 February 1890 earthquake, although poorly located (Toppozada and others, 1981), was a possibility. Bakun (2006) relocated this earthquake to the Mojave region and there appears to be reasonable consensus that this is likely. In addition, Bakun (2006) shows a railroad across the fault trace in 1890 and there is no record of the tracks being disrupted, which would be expected for a ground rupturing event. Other historical candidate earthquakes are unlikely to be located on the SBV section of the fault. For example, the **M** 6.5-6.6 22 July 1899 is too small to be a segment-rupturing earthquake and other earthquakes in 1899 and 1918 attributed to the San Jacinto fault are located too far south to be located on the SBV section (Bakun, 2006). The 22 November 1800 earthquake is another possibility. However, the damage reports at Missions San Juan Capistrano and San Diego are more consistent with the paleoseismic observations of slip, radiocarbon-constrained timing, and estimated magnitude of the most recent event along the Anza section of the San Jacinto fault (Middleton, 2006). Also, the lack of reported damage at Mission San Gabriel in Los Angeles makes it unlikely that this earthquake ruptured the SBV section (Tom Rockwell, personal communication, 2007). The only other candidate earthquake in the historical catalog is a series of earthquakes reported by the Anza expedition while they were camped at various locations in the Los Angeles Basin in July and August 1769 (Toppozada and others, 1981). Although the location of these earthquakes is essentially unknown, we can not preclude that these earthquakes were located on the San Jacinto fault.

Although there are no published paleoseismic constraints on the timing of the last event, preliminary paleoseismic data suggests that two immediately prehistoric or historic ground rupturing earthquakes have occurred on the SBV section (T. Fumal and K.

Kendrick, written communication, 2007). Stratigraphic and structural relationships indicate that both of these earthquakes post-date an age of 170±35 radiocarbon years. Calibrated to calendar years, this is a date between A.D. 1656-1954 (2-sigma). Given that the historical record is considered complete for an event large enough to fill this segment back to 1769 (Toppozada and others, 1981), we infer that the most likely date for the most recent of these two events is either historic or immediately prehistoric and assign, for modeling purposes, a calendar year of 1769 for the date of the MRE, which is the oldest available reported earthquake in the historical catalog.

Table 2 also reports estimates of slip during the MRE for the various A-faults. Where possible, this value represents average slip at the surface for the fault section. For some faults, very few measurements of slip during the MRE are available and we have had to rely on measurements of slip at a point. These are noted in the comments section. Due to the limited number of observations associated with the 1906 San Andreas fault earthquake, we have used the geodetic model of Thatcher and others (1997) to estimate slip for each fault section that ruptured in 1906. These data were not used in the UCERF2 analysis, but are included here for potential use in future use.

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Table 1 A-fault Event Ages and Recurrence

SAF - Coachella Section, Indio paleoseismic site										
Lat	**Lon**									
33.7414	-116.187									
Event name	**Mean (calendar yr)**	**Sqrt(var)**	**ŹMedian (calendar yr)**							
Indio1	1680	23	1675							
Indio2	1480	58	1475							
Indio3	1300	45	1295							
Indio4	1020	10	1015							
ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ										
Recurrence Interval: Time/Intervals, Poisson, Lognormal										
Nev	**Interval**	**Average interval (yrs)**	**Poisson (Mu), Low (yrs)**	**Poisson (Mu), High (yrs)**	**Lognormal (T-hat), Mean (yrs)**	**Lognormal (T-hat), High (yrs)**	**Lognormal (T-hat), Low (yrs)**	**COV (Sigma-hat)**	**COV (Sigma), high**	**COV (Sigma), low**
4	A.D. 2006-1020	246	96	904	206	343	133	0.42	2.66	0.22
Notes:										
1. PDF's shaped as Gaussians on date ranges reported by Sieh (1986).ŹŹŹŹŹŹ										
2. Mean = sum(yr*pyr) where yr is a date bin and pyr is the probability of the event being in that bin.										
3. Sqrt(var) = sqrt(sum(pyr*(yr-mean)^2)) ; actual PDF weights are used.ŹŹŹŹ										
4. Median:Ź Date where 50% of the PDF weight is on either side.ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ										
5. Differences between mean and median reflect asymetry in the underlying PDF.Ź										
6. Recurrence intervals (Average interval, Poisson, Lognormal) and COV calculated by Glenn Biasi and Ray Weldon for their compilation										
of Southern San Andreas fault paleoseismology (not reported in Appendix E).										
7. Nev is number of events in paleoseismic record.										
8. Interval is span of the paleoseismic record in calendar years.										

SAF - Coachella Section, Thousand Palms paleoseismic site

Lat	Lon
33.84	-116.31

Event name	Mean (calendar yr)	Sqrt(var)	ŹMedian (calendar yr)
TP-1	1683	34	1674
TP-2	1503	25	1494
TP-3	1230	29	1223
TP-4	982	79	978
TP-5	824	29	830

Recurrence Interval: Average interval, Poisson, Lognormal

Nev	Interval	Average interval (yrs)	Poisson (Mu), Low (yrs)	Poisson (Mu), High (yrs)	Lognormal (T-hat), Mean (yrs)	Lognormal (T-hat), High (yrs)	Lognormal (T-hat), Low (yrs)	COV (Sigma-hat)	COV (Sigma), high	COV (Sigma), low
5	A.D. 2006-824	236	102	728	178	113	86	0.75	2.81	0.46

Notes:

1. PDF's shaped from OxCal; Fumal and others (2002b).ŹŹŹŹŹŹ
2. Mean = sum(yr*pyr) where yr is a date bin and pyr is the probability of the event being in that bin.
3. Sqrt(var) = sqrt(sum(pyr*(yr-mean)^2)) ; actual PDF weights are used.ŹŹŹŹ
4. Median:ŹDate where 50% of the PDF weight is on either side.ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ
5. Differences between mean and median reflect asymetry in the underlying PDF.Ź
6. Recurrence intervals (Average interval, Poisson, Lognormal) and COV calculated by Glenn Biasi and Ray Weldon for their compilation of Southern San Andreas fault paleoseismology (not reported in Appendix E).
7. Nev is number of events in paleoseismic record.
8. Interval is span of the paleoseismic record in calendar years.

SAF - San Gorgonio section, Burro Flats paleoseismic site.

Lat	Lon
34.00	-116.86

Event name	Mean (calendar yr)	Sqrt(var)	ŹMedian (calendar yr)
1812	1812	ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ	
Burro Flats 2	1684	37	1673
Burro Flats 3	1500	23	1495
Burro Flats 4	1475	78	1478
Burro Flats 5	1347	21	1347
Burro Flats 6	1107	37	1098
Burro Flats 7	774	48	774

Recurrence Interval: Average interval, Poisson, Lognormal

Nev	Interval	Average interval (yrs)	Poisson (Mu), Low (yrs)	Poisson (Mu), High (yrs)	Lognormal (T-hat), Mean (yrs)	Lognormal (T-hat), High (yrs)	Lognormal (T-hat), Low (yrs)	COV (Sigma-hat)	COV (Sigma), high	COV (Sigma), low
7	A.D. 2006-774	176	85	559	144	263	80	0.73	1.8	0.46

Notes:

1. PDF's shaped as Gaussians on date ranges provided by Yule (written communication), youngest event is 1812 historical earthquake (Yule and others, 2006).ŹŹŹ
2. Mean = sum(yr*pyr) where yr is a date bin and pyr is the probability of the event being in that bin.
3. Sqrt(var) = sqrt(sum(pyr*(yr-mean)^2)) ; actual PDF weights are used.ŹŹŹŹ
4. Median:ŹDate where 50% of the PDF weight is on either side.ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ
5. Differences between mean and median reflect asymetry in the underlying PDF.Ź
6. Recurrence intervals (Average interval, Poisson, Lognormal) and COV calculated by Glenn Biasi and Ray Weldon for their compilation of Southern San Andreas fault paleoseismology (not reported in Appendix E).
7. Nev is number of events in paleoseismic record.
8. Interval is span of the paleoseismic record in calendar years.

SAF - San Bernardino Section, Plunge Creek paleoseismic site										
Lat	**Lon**									
34.12	-117.14									
Event name	**Mean (calendar yr)**	**Sqrt(var)**	**ŹMedian (calendar yr)**							
Historical	1812	ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ								
W	1619	48	1619							
R	1499	114	1499							
Recurrence Interval: Average interval, Poisson, Lognormal										
Nev	**Interval**	**Average interval (yrs)**	**Poisson (Mu), Low (yrs)**	**Poisson (Mu), High (yrs)**	**Lognormal (T-hat), Mean (yrs)**	**Lognormal (T-hat), High (yrs)**	**Lognormal (T-hat), Low (yrs)**	**COV (Sigma-hat)**	**COV (Sigma), high**	**COV (Sigma), low**
3	A.D. 2006-1499	169	58	820	Not calculated for 3 event (2 interval) series					

Notes:

1. PDF's synthesized from data in McGill et al. 2002; Biasi and Weldon inferŹthat the 1812 passed this site based on solid evidence to the north and south.
2. Mean = sum(yr*pyr) where yr is a date bin and pyr is the probability of the event being in that bin.
3. Sqrt(var) = sqrt(sum(pyr*(yr-mean)^2)) ; actual PDF weights are used.ŹŹŹŹ
4. Median:ŹDate where 50% of the PDF weight is on either side.ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ
5. Differences between mean and median reflect asymetry in the underlying PDF.Ź
6. Recurrence intervals (Average interval, Poisson, Lognormal) and COV calculated by Glenn Biasi and Ray Weldon for their compilation of Southern San Andreas fault paleoseismology (not reported in Appendix E).
7. Nev is number of events in paleoseismic record.
8. Interval is span of the paleoseismic record in calendar years.

SAF - San Bernardino Section, Pitman Canyon paleoseismic site

Lat	Lon
34.25	-117.43

Event name	Mean (calendar yr)	Sqrt(var)	ŹMedian (calendar yr)
Historical	1812	ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ	
PC Ev-2	1704	50	1706
PC Ev-3	1559	78	1567
PC Ev-4	1437	70	1419
PC Ev-5	1313	52	1305
PC Ev-6	1173	81	1180
PC Ev-7	931	91	942

ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ

Recurrence Interval: Average interval, Poisson, Lognormal

Nev	Interval	Average interval (yrs)	Poisson (Mu), Low (yrs)	Poisson (Mu), High (yrs)	Lognormal (T-hat), Mean (yrs)	Lognormal (T-hat), High (yrs)	Lognormal (T-hat), Low (yrs)	COV (Sigma-hat)	COV (Sigma), high	COV (Sigma), low
7	A.D. 2006-931	154	75	382	121	213	70	0.69	1.7	0.43

Notes:

1. PDF's synthesized from Seitz et al. 1997 and Seitz 1999 in Oxcal by Weldon and Fumal.
2. Mean = sum(yr*pyr) where yr is a date bin and pyr is the probability of the event being in that bin.
3. Sqrt(var) = sqrt(sum(pyr*(yr-mean)^2)) ; actual PDF weights are used.ŹŹŹŹ
4. Median:ŹDate where 50% of the PDF weight is on either side.ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ
5. Differences between mean and median reflect asymetry in the underlying PDF.Ź
6. Recurrence intervals (Average interval, Poisson, Lognormal) and COV calculated by Glenn Biasi and Ray Weldon for their compilation of Southern San Andreas fault paleoseismology (not reported in Appendix E).
7. Nev is number of events in paleoseismic record.
8. Interval is span of the paleoseismic record in calendar years.

SAF - Mojave Section, Wrightwood paleoseismic site

Lat	Lon
34.37	-117.67

Event name	Mean (calendar yr)	Sqrt(var)	ŹMedian (calendar yr)
Historical	1857	ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ	
Historical	1812	ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ	
W3	1685	18	1681
W4	1536	13	1531
W5	1487	18	1478
W5T	1360	7	1361
W6	1264	29	1257
W7	1116	37	1111
W8	1016	27	1007
W9	850	20	852
W10	781	18	782
W11	722	11	722
W12	697	16	688
W13	634	31	628
W14	533	69	527

Recurrence Interval: Average interval, Poisson, Lognormal

Nev	Interval	Average interval (yrs)	Poisson (Mu), Low (yrs)	Poisson (Mu), High (yrs)	Lognormal (T-hat), Mean (yrs)	Lognormal (T-hat), High (yrs)	Lognormal (T-hat), Low (yrs)	COV (Sigma-hat)	COV (Sigma), high	COV (Sigma), low
15ŹŹŹŹŹŹ	A.D. 2006-533	98	60	175	80	113	57	0.65	1.04	0.47

Notes:

1. PDF's are from Biasi et al. 2002. Event W5T is the age of event T from Pallet Creek, inferred to have also ruptured the fault at Wrightwood.
2. Mean = sum(yr*pyr) where yr is a date bin and pyr is the probability of the event being in that bin.
3. Sqrt(var) = sqrt(sum(pyr*(yr-mean)^2)) ; actual PDF weights are used.ŹŹŹŹ
4. Median:ŹDate where 50% of the PDF weight is on either side.ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ
5. Differences between mean and median reflect asymetry in the underlying PDF.Ź
6. Recurrence intervals (Average interval, Poisson, Lognormal) and COV calculated by Glenn Biasi and Ray Weldon for their compilation of Southern San Andreas fault paleoseismology (not reported in Appendix E).
7. Nev is number of events in paleoseismic record.
8. Interval is span of the paleoseismic record in calendar years.

SAF - Carrizo Section, Composite record of Bidart, Wallace Creek, and Phelan fan sites.										
Lat	**Lon**									
35.24	-119.79									
Event name	**Mean (calendar yr)**	**Sqrt(var)**	**ŹMedian (calendar yr)**							
Historical	1857	ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ								
Carrizo 2	1571	116	1596							
Carrizo 3	1384	77	1373							
Carrizo 4	1277	103	1318							
Carrizo 5	1078	82	1050							
Carrizo 6	599	85	608							
Recurrence Interval: Average interval, Poisson, Lognormal										
Nev	**Interval**	**Average interval (yrs)**	**Poisson (Mu), Low (yrs)**	**Poisson (Mu), High (yrs)**	**Lognormal (T-hat), Mean (yrs)**	**Lognormal (T-hat), High (yrs)**	**Lognormal (T-hat), Low (yrs)**	**COV (Sigma-hat)**	**COV (Sigma), high**	**COV (Sigma), low**
6	2006-598	235 (2)Ź	108	640	195	415	97	0.84	2.46	0.51
Notes:										

1. Combined record from Grant and Sieh (1994), Liu and others (2004), and Sims (1994) investigations; constructed in Oxcal by Weldon. Newer results are recognized but not available in time to include.

2. Due to gap btw events 5 and 6, we also calculate RI values without Carrizo 6. 186 yrs (80-572) if a gap is inferred in the hiatus between Carrizo 5 and Carrizo 6.

3. Mean = sum(yr*pyr) where yr is a date bin and pyr is the probability of the event being in that bin.

4. Sqrt(var) = sqrt(sum(pyr*(yr-mean)^2)) ; actual PDF weights are used.ŹŹŹŹ

5. Median:ŹDate where 50% of the PDF weight is on either side.ŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹŹ

6. Differences between mean and median reflect asymetry in the underlying PDF.Ź

7. Recurrence intervals (Average interval, Poisson, Lognormal) and COV calculated by Glenn Biasi and Ray Weldon for their compilation of Southern San Andreas fault paleoseismology (not reported in Appendix E).

8. Nev is number of events in paleoseismic record.

9. Interval is span of the paleoseismic record in calendar years.

SAF - Southern Santa Cruz Mts section (Arano Flat/Mill Canyon)						
Lat	Lon					
36.9415	-121.6729	(Location is the Arano Flat site; Mill Canyon is approximately 1 km northwest)				
Event	**Calendar Age (Calibrated 2-sigma)1**	**AD unless noted otherwise**	**Interval ID**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**
	Old	Young				
			OPEN (2007)	101	100	101
E1	1906	1906				
			I1	116	186	151
E2	1720	1790				
			I2	40	190	115
E3	1600	1680				
			I3	0	160	80
E4	1520	1620				
			I4	10	190	100
E5	1430	1510				
			I5	0	110	55
E6	1400	1470				
			I6	0	160	80
E7	1310	1400				
			I7	50	260	155
E8	1140	1260				
			I8	30	250	140
E9	1010	1110				
RI (time/intervals method)						
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**	
896	796	8	112	100	106	
*Dates taken from OxCal generated model provided by T. Fumal, see Fumal and others (1999, 2003) for radiocarbon ages.						

N. San Andreas - North Coast section, Vedanta site						
Lat	**Lon**					
38.032	-122.789					
Event	**Calendar Age (Calibrated 2-sigma)**	**AD unless noted otherwise**	**Interval ID**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**
	Old	Young				
			OPEN (2007)	101	100	101
E1	1906	1906				
			I1	166	236	201
E2	1670	1740				
			I2	230	390	310
E3	1350	1440				
			I3	0	150	75
E4	1290	1380				
			I4	60	240	150
E5	1140	1230				
			I5	0	130	65
E6	1100	1165				
			I6	215	345	280
E7	820	885				
			I7	110	235	172.5
E8	650	710				
			I8	430	780	605
E9	70	220				
E9: Older part of range is BC			**I9**	50	570	310
E10 (BC)	350	120				
			I10	0	510	255
E11 (BC)	630	240				
			I11	30	750	390
E12 (BC)	990	660				
RI (time/intervals method)						
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**	
2896	2566	11	263	233	248	
*Event ages taken from Zhang and others (2006)						

N. San Andreas - North Coast section, Fort Ross(Composite: Orchard/Archae)						
Lat	**Lon**					
38.032	-122.789					
Event	**Calendar Age (Calibrated 2-sigma)**	**AD unless noted otherwise**	**Interval ID**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**
	Old	Young				
			OPEN (2007)	101	100	101
E1	1906	1906				
			I1	94	246	170
E2	1660	1812				
			I2	280	592	436
E3	1220	1380				
			I3	0	340	170
E4	1040	1190				
			I4	90	635	362.5
E5	555	950				
RI (time/intervals method)						
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**	
1351	956	4	338	239	288	
*Event ages taken from Kelson and others (2006)						

N. San Andreas - North Coast/Offshore (Noyo Canyon turbidites)							
Lat	**Lon**						
No point location - site is down Noyo Canyon from SAO							
Event	**Calendar Age (Calibrated 2-sigma)**		**Interval ID**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Preferred**	
			OPEN (2007)	101	100	101	
T1	1906						
			I1	137	246	137	
T2	1660	1769					
			I2	0	259	132	
T3/4	1510	1670					
			I3	0	320	155	
T5	1350	1520					
			I4	90	450	254	
T6	1070	1260					
			I5	50	430	248	
T7A	830	1020					
			I6	0	320	69	
T7	700	910					
			I7	0	430	235	
T8	480	700					
			I8	10	460	252	
T9	240	470					
			I9	0	470	232	
T10	0	250					
			I10	20	530	220	
T11	-280	-20					
Negative numbers are B.C.			**I11**	0	360	129	
T12A	-380	-180					
			I12	0	350	119	
T12	-530	-320					
			I13	0	420	176	
T13	-740	-520					
			I14	0	420	187	
T14	-940	-740					
RI (time/intervals method)							
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**		
2890	2690	14	206	192	199		
*From Goldfinger and others (2006)							
Notes:							
Events are named using Goldfinger and others (2007) convention. The names referred to turbidites ("T") seen in cores.							
Event ages and intervals are from Goldfinger and others (2006). They do not report uncertainties on the intervals. We have tried to use							
their OxCal model to create these ages, but differences between OxCal version has made this difficult at this time and will be resolved in							
the future. Because of this, interval uncertainties reported above are derived from the event ages and not from OxCal generated intervals.							

Elsinore - Whittier Event Ages and Recurrence							
Lat	**Lon**						
33.9303	-117.8437						
Event	**Age in yrs BP (Calibrated 2-sigma)**			**Interval**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**
	Young	**Old**					
				OPEN	1400	2200	1800
E1	1400	2200					
				I1	800	2000	1400
E2	3000	3400					
RI (time/intervals method)							
Time max (yrs)	**Time min (yrs)**	**Intervals**		**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**	
Not calculated, only one interval							
Notes:							
Event ages from Patterson and Rockwell, 1993 and Rockwell (written communication).							

Elsinore - Glen Ivy Event Ages and Recurrence						
Lat	**Lon**					
33.7701	-117.4909					
Event	**Calendar Age range (Calibrated 2-sigma)**	**AD, unless noted otherwise**	**Interval**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**
	Old	**Young**				
			OPEN (2007)	**97**	**96**	**96**
E1	1910	1910				
			I1	53	283	168
E2	1627	1857				
			I2	39	417	228
E3	1440	1588				
			I3	21	305	163
E4	1283	1419				
			I4	0	189	95
E5	1230	1290				
			I5	114	327	221
E6	963	1116				
RI (time/intervals method)						
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**	
947	794	5	189	159	174	
Notes:						
Rockwell and others (1986).						
Some of the event chronology is from newer radiocarbon dates. OxCal model and results provided by Tom Rockwell.						

Elsinore - Temecula Event Ages and Recurrence							
Lat	**Lon**						
33.41	-117.04						
Event	**Age in Calendar Years for MRE (Calibrated 2-sigma)**		**Interval**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**	
X	1655	1810	**OPEN (2007)**	197	351	274	
Incomplete record until Event T							
	In years B.P. below						
	Young	**Old**					
Event T	2700	3300					
			I1	0	800	400	
Event P	3000	3500					
			I2	0	1500	750	
Event L	3500	4500					
			I3	500	Unconstrained	Unconstrained	
Event H	4500	>4500					
RI (time/intervals method)							
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**		
1800	1200	3	600	400	500		
Notes:							
Event H reported as shortly before 4500 yrs. Can use this as a minimum recurrence interval between L and H.							
Event ages as reported by Vaughan and others (1999).							

Elsinore Fault - Julian						
Lat	**Lon**					
33.2071	-116.7273					
Event	**Age yrs bp**		**Interval**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**
			OPEN	1500	2000	1750
MRE	1500	2000				
			I1	1000	2000	1500
PEN	3000	3500				
RI (time/intervals method)						
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**	
Not calculated, only one interval						
Notes:						
From Thorup (1997).						

Elsinore - Coyote Mountians									
Lat	**Lon**								
32.9975	-115.9436								
Event	**Calendar Age range (Calibrated 2-sigma)**	**AD unless noted otherwise**	**Interval**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**			
	Old	**Young**							
			OPEN (2007)	**115**	**357**	**236**			
E1	1650	1892							
Notes:									
MRE is constrained by radiocarbon dating to be post AD 1650. The 1892 Laugna Salada earthquake provides the upper historical bound on the MRE range. It is possible, but unlikely, based on reported damage, that the fault ruptured during the 1892 earthquake (T. Rockwell, written communication).									
Events 2 and 3 are identified and dated by TL on fissure infills at 1000 +/-400 and 2000 +/-400 years BP. Original data has been lost and are not included on this table (Tom Rockwell, written communication).									
3 events in 2000 years (Tom Rockwell, writen communication).									

San Jacinto - Hog Lake Event Ages and Recurrence						
Lat	**Lon**					
33.6153	-116.7091					
Event	**Calendar Age range (Calibrated 2-sigma)**	**AD, unless noted otherwise**	**Interval**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**
	Old	**Young**				
			OPEN (2007)	**202**	**231**	**217**
E1	1775	1805				
			I1	145	275	210
E2	1530	1630				
			I2	130	325	228
E3	1305	1400				
			I3	0	115	58
E4	1285	1380				
			I4	0	120	60
E5	1260	1325				
			I5	55	250	153
E6	1075	1205				
			I6	0	210	105
E7	995	1100				
			I7	440	725	583
E8	375	555				
			I8	70	395	233
E9	160	305				
			I9	0	280	140
E10	25	160				
			I10	115	505	310
E11 (yrs B.C.)	345	90				
			I11	0	430	215
E12 (yrs B.C.)	520	245				
			I12	125	620	373
E13 (yrs B.C.)	865	645				
			I13	545	865	705
E14 (yrs B.C.)	1510	1410				
			I14	0	220	110
E15 (yrs B.C.)	1630	1475				
			I15	30	435	233
E16 (yrs B.C.)	1910	1660				
RI (time/intervals method)						
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**	
3715	3435	15	248	229	238	
Notes:						
Event ages (rounded to nearest 5 years) are from OxCal model provided by Tom Rockwell.						

San Jacinto - Superstition Mt Event Ages and Recurrence								
Lat	**Lon**							
32.9975	-115.9436							
Event	**Calendar Age range (Calibrated 2-sigma)**	**AD unless noted otherwise**	**Interval**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**		
	Old	**Young**						
			OPEN (2007)	**367**	**566**	**467**		
E1	1440	1640						
			I1	0	360	180		
E2	1280	1640						
			I2	0	820	410		
E3	820	1280						
			I3	0	Paleoseismic record likely incomplete prior to E3			
E4	4670 BC	964						
RI (time/intervals method)								
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**			
820	480	2	410	240	325			
Notes:								
Event ages and recurrence from Gurrola and Rockwell, 1996								
Recurrence calculated using 3 event (2 interval) record.								

Hayward fault - South (Tule Pond)						
Lat	**Lon**					
37.5563	-121.9739					
Event	**Calendar Age (Calibrated 2-sigma)**	**AD unless noted otherwise**	**Interval ID**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mean**
	Old	Young				
			OPEN (2007)	139	139	139
E1	1868	1868				
			I1	82	212	143
E2	1658	1786				
			I2	8	191	96
E3	1537	1737				
			I3	37	272	153
E4	1386	1583				
			I4	36	278	158
E5	1239	1408				
			I5	25	337	184
E6	1005	1270				
			I6	36	317	176
E7	913	998				
			I7	53	214	136
E8	756	901				
			I8	106	285	192
E9	578	671				
			I9	18	376	196
E10	251	609				
			I10	81	446	266
E11	136	208				
RI (time/intervals method)						
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**	**95% S.E.M**
1732	1660	10	173	166	170	29
Notes: Event ages and intervals caclulated from Lienkaemper and Williams (accepted for publication BSSA).						

Hayward fault - North (Mira Vista)						
Lat	**Lon**					
37.9306	-122.2977					
Event	**Calendar Age (Calibrated 2-sigma)**	**AD unless noted otherwise**	**Interval ID**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**
	Old	Young				
			OPEN (2007)	231	356	294
E1	1650	1776				
			I1	220	706	463
E2	1070	1430				
			I2	120	610	365
E3	820	950				
			I3	30	420	225
E4	530	790				
			I4	0	690	345
E5	100	650				
			I5	0	700	350
E6	-50	500				
			I6	0	750	375
E7	-250	-40				
			I7	0	350	175
E8	-390	-180				
RI (time/intervals method)						
Time max (yrs)	**Time min (yrs)**	**Intervals**	**Intervals Max**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**
2166	1830	4	**7**	542	261	401
Oldest constraining date: 410 BC - 240 BC						
Record is probably incomplete. Data taken from Hayward Fault Paleoearthquake Group (1999). OxCal model by Dawson, this study.						

Rodgers Creek (Triangle G/Beebe Ranch)						
Lat	**Lon**					
38.2725	-122.546	Triangle G				
Event	**Calendar Age (Calibrated 2-sigma)**	**AD unless noted otherwise**	**Interval ID**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**
	Old	Young				
			OPEN (2007)	231	366	299
E1	1640	1776				
RI (time/intervals method)						
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**	
783	447	2	390	220	305	
Notes:						
Recurrence from Budding and others, 1991. Individual events were not dated, but they were able to identify three events within 447-783 years.						
MRE event age from Hecker and others, 2005.						

Calaveras fault - North (Welch/Leyden Creeks)						
Lat	**Lon**					
37.51039	-121.8346					
Event	**Calendar Age (Calibrated 2-sigma)**	**AD unless noted otherwise**	**Interval ID**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**
	Old	Young				
			OPEN (2007)	146	336	241
Z?	1670	1861				
			I1	245	701	473
Y	1160	1425				
			I2	0	1015	508
X	410	1280				
			I3	0	1150	575
W	130	640				
			I4	0	1160	580
V (old is BC)	520	380				
			I5	0	unconstrained	
U	unconstrained	0				
RI (time/intervals method)						
Time max (yrs)	**Time min (yrs)**	**Intervals**	**Intervals Max**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**
2381	1670	4	5	595	334	465
Notes:						
Published RI 250-800 yrs (Kelson used different method)						
Other event ages from Leyden Creek site (Kelson and others, 1996)						
MRE a combo of published data. Low bound from Kelson and others, 1996; upper constraint from Simpson and others, 1999. This was used in WG02						

Garlock - Central (El Paso Peaks site)						
Lat	**Lon**					
35.4441	-117.6815					
Event	**Calendar Age (Calibrated 2-sigma)**	**AD unless noted otherwise**	**Interval ID**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**
	Old	Young				
			OPEN (2007)	367	556	462
E1	1450	1640				
			I1	500	965	730
E2	675	950				
			I2	200	700	435
E3	250	475				
			I3	0	450	215
E4	25	275				
			I4	2955	3615	3300
E5 (yrs in BC)	3340	2930				
			I5	1330	2070	1700
E6 (yrs in BC)	5000	4670				
RI (time/intervals method)						
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**	
6640	6120	5	1328	1224	1276	
Notes:						
Event ages and intervals from Dawson and others (2003)						

Garlock - Western (Twin Lakes)							
Lat	**Lon**						
34.9868	-118.508						
Event	**Calendar Age (Calibrated 2-sigma)**	**AD unless noted otherwise**	**Interval ID**	**Min Interval (yrs)**	**Max Interval (yrs)**	**Mid (aka "preferred")**	
	Old	**Young**					
			OPEN (2007)	157	486	322	
Event 1	1520	1850					
			I1	0	1250	625	
Event C	600	1550					
			I2	0	1390	695	
Event E	160	620					
			I3	2260	3920	3090	
Event I (yrs in BC)	3300	2100					
			I4	0	1400	700	
Event K (yrs in BC)	3500	2400					
RI (time/intervals method)							
Time max (yrs)	**Time min (yrs)**	**Intervals**	**RI Max (yrs)**	**RI Min (yrs)**	**RI Preferred (yrs)**		
5350	3920	4	1338	980	1159		
Notes:							
Madden and others (2005). Event ages reported are from a OxCal model provided by Chris Madden (written communication, 2006).							

Table 2: A-fault Most Recent Event (MRE) and Slip-Per-Event Estimates

Fault	Section	Last Event (Calendar yr, A.D.)	Dated event range	Elapsed Time from 2007 (yrs)	Slip in MRE (m)
San Andreas	Offshore	1906	Historical	101	7 ± 2
San Andreas	North Coast	1906	Historical	101	5.3 ± 0.3
San Andreas	Peninsula	1906	Historical	101	3.3 ± 0.3
San Andreas	Santa Cruz Mts	1906	Historical	101	2.5 ± 1.2
San Andreas	Creeping	-	-	-	-
San Andreas	Parkfield	2004	Historical	3	-
San Andreas	Cholame	1857	Historical	150	4.75 ± 2
San Andreas	Carrizo	1857	Historical	150	7 ± 4
San Andreas	Big Bend	1857	Historical	150	6 ± 2
San Andreas	Mojave (north)	1857	Historical	150	6 ± 2
San Andreas	Mojave (south)	1857	Historical	150	6 ± 2
San Andreas	San Bernardino (north)	1812	Historical	195	4
San Andreas	San Bernardino (south)	1812	Historical	195	-
San Andreas	San Gorgonio Pass	1680	-	327	-
San Andreas	Coachella	1680	A.D. 1450-1555	327	-
Imperial		1979	Historical	28	0.18
San Jacinto	San Bernardino Valley	1769	Historical	238	-
San Jacinto	San Jacinto Valley	1918	Historical	89	-
San Jacinto	Anza+Clark	1795	A.D. 1775-1805	212	3.5 ± 0.5
San Jacinto	Coyote Creek	1892	Historical	115	2.5
San Jacinto	Borrego Mountain	1968	Historical	39	0.18
San Jacinto	Supersition Mountain	1540	A.D. 1440-1640	467	2.2 (+0.4, -0.15)

San Jacinto	Superstition Hills	1987	Historical	20	0.54
Whittier		207	1400-2200 yrs BP	1800	1.9 ± 0.1
Elsinore	Glen Ivy	1910	Historical	97	0.25
Elsinore	Temecula	1732	A.D. 1655-1810	275	-
Elsinore	Julian	807	700-1700 yrs BP	1200	-
Elsinore	Coyote Mountains	1892	Historical?	115	1.5 ± 0.5
Hayward	North	1715	A.D. 1650-1776	292	n.d.
Hayward	South	1868	Historical	139	1.9
Rodgers Creek		1758	A.D. 1715-1776	249	2.0 (+0.3, -0.2)
Calaveras	Northern	1765	A.D. 1670-1830	242	-
Calaveras	Central	1982	Historical	25	-
Calaveras	Southern	1899	-	108	-
Garlock	East	1000	A.D. 1850-150	1007	3 ± 1
Garlock	Central	1540	A.D. 1440-1640	467	4 ± 1
Garlock	West	1695	A.D. 1520-1850	312	-

Table 2 (continued): A-fault Most Recent Event (MRE) and Slip-Per-Event Estimates		
Fault	**Section**	**Comments**
San Andreas	Offshore	Geodetic slip from Thatcher et al. (1997), average for section. Uncertainties expanded to account for large section of unresolved slip an to include geologic estimates.
San Andreas	North Coast	Geodetic slip from Thatcher et al. (1997), average for section.
San Andreas	Peninsula	Geodetic slip from Thatcher et al. (1997), average for section.
San Andreas	Santa Cruz Mts	Geodetic slip from Thatcher et al. (1997), average for section.
San Andreas	Creeping	
San Andreas	Parkfield	Slip value not reported due to combination of coseismic and afterslip.
San Andreas	Cholame	Slip is WGCEP 95 value which reflects a compromise between values of Sieh (1978) and Lienkaemper et al. (2001).
San Andreas	Carrizo	Slip is WGCEP value, alternative is 9.5 ± 2.0.
San Andreas	Big Bend	Slip is estimated from Sieh (1978).
San Andreas	Mojave (north)	Slip is estimated from Sieh (1978).
San Andreas	Mojave (south)	Slip is estimated from Sieh (1978).
San Andreas	San Bernardino (north)	Point measurement. Little slip per event data available for this section.
San Andreas	San Bernardino (south)	No well-constrained slip per event data available for this section.
San Andreas	San Gorgonio Pass	MRE assumed to be the same as the Coachella section
San Andreas	Coachella	Mean age from Biasi and Weldon, reported in Appendix B. No slip per event data reported due to post-MRE creep.
Imperial		Average slip from Wells and Coppersmith (1994).
San Jacinto	San Bernardino Valley	MRE date from WGCEP 95.
San Jacinto	San Jacinto Valley	Not clearly associated with surface rupture on the San Jacinto fault
San Jacinto	Anza+Clark	Event age from Rockwell, 2007 (SCEC report). MRE slip is average for th section from Hog Lake and south (Middleton and Rockwell, in prep).
San Jacinto	Coyote Creek	MRE date adopted from UCERF 1 and WGCEP 95. Historical constraint, n date on MRE available. Slip is estimated from unpublished data by Rockwell (written communication).
San Jacinto	Borrego Mountain	Slip is average, taken from Wells and Coppersmith (1994).
San Jacinto	Supersition Mountain	MRE mean age recalibrated in OxCal. MRE slip is estimated from paleoseismic offset (point measurement), and is consistent with geomorphic offsets to the south.
San Jacinto	Superstition Hills	Slip is average, taken from Wells and Coppersmith (1994).
Whittier		Slip measurement is at a point and is a minimum value for the zone.
Elsinore	Glen Ivy	Slip is a point measurement.
Elsinore	Temecula	See Table 1 for reference.
Elsinore	Julian	See Table 1 for reference.
Elsinore	Coyote Mountains	May have ruptured with Laguna Salada fault. Slip is estimated from Rockwell (1990).
Hayward	North	See Table 1 for reference.
Hayward	South	Displacement is average geodetic from Yu and Segall (1998).
Rodgers Creek		Mean age from Hecker et al. preferred OxCal model. Displacement is at a point, consistent with other estimates, we used best constrained offset.
Calaveras	Northern	Event age is middle of range reported by Kelson et al. (1996).
Calaveras	Central	Highest weighted value from UCERF 1.0
Calaveras	Southern	MRE date adopted from UCERF 1.0
Garlock	East	MRE average slip estimated from McGill and Sieh (1991) which is betwee 2-4 meters. MRE event age poorly constrained.
Garlock	Central	Preferred value is difficult to assign. Offsets along eastern part of the central Garlock are ~3.5 m. Along western part of the central Garlock, geomorphic offsets cluster around 7 m. Average slip calculated from slip distribution constructed using slip measurements from McGill and Sieh (1991).
Garlock	West	See Table 1 for reference.