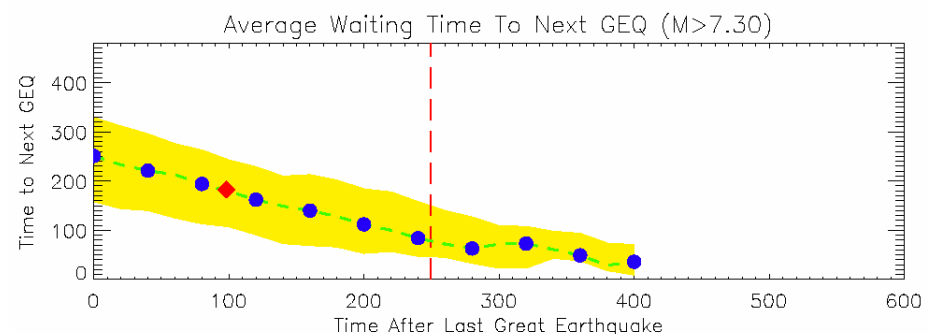
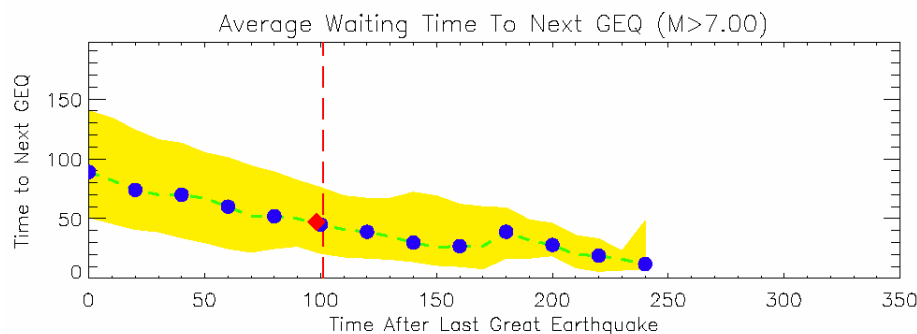
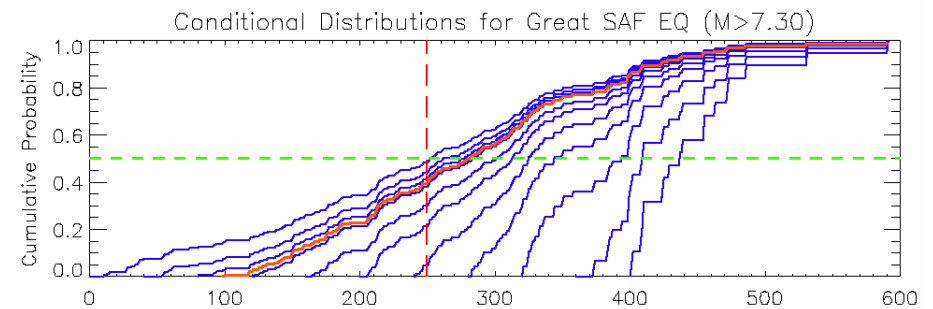
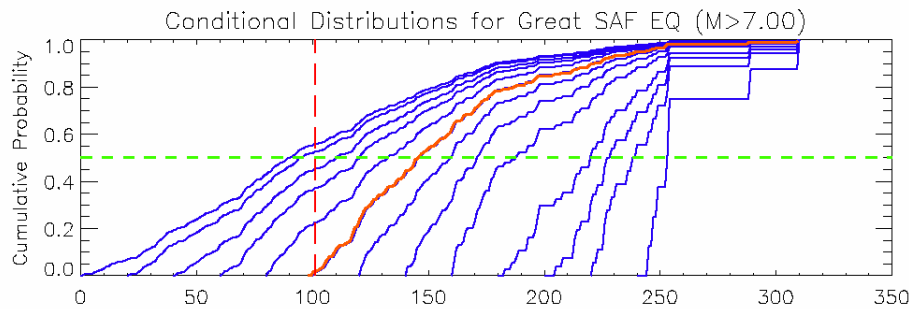
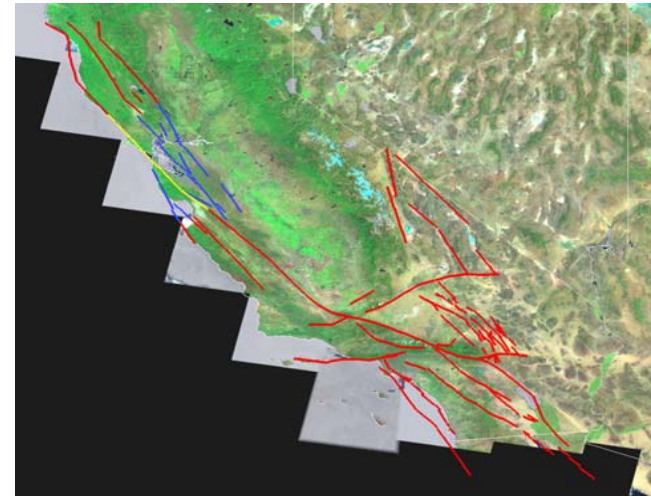


Forecasting the Next Great San Francisco Earthquake on the Northern San Andreas Fault

We compute (measure) $P_m(t < T)$, which is the probability that an event with magnitude $M > m$ will occur prior to a time T from the present time. The San Francisco segment of the northern San Andreas fault is the yellow fault line in the image at right.



To use the lowest plots for forecasting we locate the time on the horizontal axis since the last $M > 7$ (left) or $M > 7.3$ (right) earthquake, then read across to the vertical axis to find the time until the next such earthquake. The green line and blue dots represent a probability of 50% (odds of 1 in 2). The lower edge of the yellow band represents a probability of 25% (odds of 1 in 4). The upper edge of the yellow band represents a probability of 75% (odds of 3 in 4). The red diamond represents the current time since the last such great earthquake, 98.5 years after the last such event, the great 1906 San Francisco earthquake.