

Interactive comment on “A Quaternary Fault Database for Central Asia” by S. Mohadjer et al.

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Dear Dr. Schurr,

Thank you very much for your helpful feedback. Below, we address your comments. Q stands for question and R stands for reply.

Q: P. 5601 L. 17: ... can serve as the basis for developing earthquake forecasts ... How? I would avoid the term "forecast". Even if recurrence history, slip rate, fault locking parameters are available (which is not true for any of the Central Asian faults) - earthquake forecasts are not possible.

R: We agree that this was worded vaguely and the text has been modified to reflect what exactly we mean. The sentence now states: "This information can serve as the basis for understanding faulting and earthquake behavior in the region."

Q: L. 24: I would suggest to add here the reference: Feld, Christian, et al. "Seismotectonic study of the Fergana Region (Southern Kyrgyzstan): distribution and kinematics of local seismicity." *Earth, Planets and Space* 67.1 (2015): 1-13. Data from this study could also be included in the database.

R: Good idea. We have added this reference. We have also added relevant information taken from this manuscript to the Talas Fergana page in the database. The seismic data from this local network will be added to the earthquake layer of the online database in the near future.

Q: P. 5606 L. 27: faults with slow slip motions - change to creeping segments.

R: We have changed this.

Q: P.5607 Seismicity - Is there a particular reason, why to use the ANSS catalogue? The NEIC-PDE or ISC catalogues may be more established global sources.

R: We agree that our selection of the ANSS catalog was not described well. We have modified the text in section 2.4 to explain our rationale. We selected the ANSS catalog because it is particularly useful for areas with no local network. The catalog is a composite of many different seismic network catalogs and is often used in studies concerning active tectonics and seismicity in the India-Asia collision zone. In the near future, we will include more seismic data from regional/local networks such as TIPAGE to better constrain earthquake locations and depths.

Q: P.5608 L.18: "Events with magnitudes between 1 and 3 are captured by the TIPAGE regional network whereas events with magnitudes above 5 are captured mostly by the ANSS global catalog." Of course the TIPAGE network also captures any larger events, but it operated only for two years. The fact that the global catalogue contains more larger event stems only from the fact that it covered a longer time period. Rephrase.

R: We agree with this and have rephrased the text to show that we are not comparing the datasets since they cover different time periods. The sentence now states: "Events

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with magnitudes between 1 and 3 are captured by the TIPAGE regional network and events with magnitudes above 5 are captured mostly by the ANSS global catalog.” As a side note, we would like to note that we have included both datasets (global and regional) to provide an improved catalog of past events in our study area.

Q: P.5608 L.20: Most events in both catalogs show depths of 50km below surface (Fig. 3b) with deeper events (> 250 km) represented by the ANSS global catalog only.” Which might be due to larger depth uncertainties.

R: Yes, this is possible. We have changed the sentence to reflect this. The sentence now states: “Most events in both catalogs show depths of up to 50 km below the surface (Figure 3b) with deeper events (>250 km) represented by the ANSS global catalog only which might be due to larger uncertainties in the calculated depth for events from the ANSS catalog.”

Q: Caption Figure 5: Change "Sipple" to "Sippl".

R: We have corrected this typo.

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