

Introducing standardized field methods for fracture-focused surface processes research

Response to reviewers.

Reviewer comments in plain text. **Author Responses in bold.**

Associate Editor Comments:

I feel bad to recommend major revisions at such a late stage of the review process but:

1- The extent and scope of the modifications to the manuscript (with new co-author) now require a renewed expert scrutiny

2- The direction of the new editions are not as required by the reviewer and myself. Additionally these editions led to the incorporation of conjectures that counter/blur standardization.

We are very sorry that we misunderstood the intent of the last round of reviews. After a conversation with the AE, we believe that we have addressed concerns.

In this revised version, we have reorganized the manuscript to further separate more clearly what is state-of-the-art in existing literature, versus what are methods or assumptions that have been developed, but less tested, to specifically apply to surface processes applications and scales of observation.

In addition, we renamed Introduction Section 1.2 to “Existing fracture measurement approaches across disciplines” to more clearly reflect this distinction.

We also moved the paragraph of information about remotely sensed data collection to section 1.2 where best practices from different disciplines are discussed.

Again, we acknowledge the non-conventional nature of this manuscript, but continue to believe it will serve the community well as a useful starting place for all fracture focused research. We therefore thank the reviewers and editors for their continued review of the work. We sincerely hope that we have addressed the concerns and critiques of the reviewers and editors at this junction.

I will send the manuscript to one reviewer.

Meanwhile I recommend the authors to start revising the manuscript as such:

1- Move all the content regarding the description of fracture evolution, modeling, statistics

to the introduction and describe the start of the art in those fields. The focus of the paper is on fracture mapping in the field and the standardization of the procedure.

As suggested, we have moved all of the review of modeling/statistics in Section 6 to a new section (1.3 Existing fracture modeling and statistics methods) in the introduction. We have also added wording there to explain that this past work provides a motivation for the collection of sufficient data to fully examine fracture populations of varying scales.

2- Move all the conjectures and statements to a discussion section in which you can provide context and limitations to your approach.

After consultation with all co-authors, we believe that to separate these statements from the methods to which they apply would greatly negatively impact the readability and usability of the paper. Nevertheless, we acknowledge the concern that in this version, the origins (i.e. from our own experience versus from citable literature) of some suggestions have not been clear. This is indeed an important distinction to make.

Unfortunately, we believe that some of this wording and distinction was removed when we addressed a prior reviewer comment in earlier versions that suggested to limit the use of “we” in the document. We have now added some of that first-person wording back, but only in the context of these ‘homegrown’ methods.

We have also now gone through the entire manuscript and added more references where before they may have been missing as justification for the proposed method. We have also tried our best to separate out all statements that are more ‘discussion’ material derived from our own inferences. To do so, we now employ throughout the document wording like ‘in our experience’, ‘we suggest’ or some other type of indicator that clearly delineates the statement as our interpretation or assertion.

I am not too sure if verbiage is the term I would choose to describe such important information as state of the art on automatic fault mapping, modelling and statistics.

The word verbiage as used in our prior Response to Reviewers was employed using the word’s meaning: “manner or style of expressing something in words; wording” (dictionary.com), not its meaning that implies a negative connotation to the words themselves. We apologize if we were misunderstood.