

Peer Review Report

Review Report on Geochemical pathways defined by predictive regolith–landform models using TanDEM–X data in the Tanami Region, Australia

Original Research, Earth Sci. Syst. Soc.

Reviewer: Colin Pain

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Article DOI: 10.3389/esss.2024.10111

EVALUATION

Q 1 Please summarize the main findings of the study.

The paper presents a method for compiling a regolith landform map of the Tanami geological province in Australia. This is an area of very low relief that has problems for producing a regolith map. The author uses TanDEM–X data combined with other data to good effect.

Q 2 Please highlight the limitations and strengths.

Limitations. The figures need some work. All should have scales and legends where appropriate. Those with multiple images should have each image identified (A, B, etc.) to match the captions.

Strengths. I am impressed by the multifaceted approach. The author clearly recognises that several approaches are needed in such a flat area. The images included show that it is possible to produce useful products from the digital elevation models.

I attach a file with some suggested minor edits and some comments.

Q 3 Please comment on the methods, results and data interpretation. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

Methods, results and data interpretation are all fine.

Q 4 Check List

Is the English language of sufficient quality?

Yes.

Is the quality of the figures and tables satisfactory?

No.

Does the reference list cover the relevant literature adequately and in an unbiased manner?

Yes.

Are the statistical methods valid and correctly applied? (e.g. sample size, choice of test)

Yes.

If relevant, are the methods sufficiently documented to allow replication studies?

Yes.

Are the data underlying the study available in either the article, supplement, or deposited in a repository? (Sequence/expression data, protein/molecule characterizations, annotations, and taxonomy data are required to be deposited in public repositories prior to publication)

Not Applicable.

Does the study adhere to ethical standards including ethics committee approval and consent procedure?

Not Applicable.

If relevant, have standard biosecurity and institutional safety procedures been adhered to?

Not Applicable.

Q 5 Please provide your detailed review report to the editor and authors (including any comments on the Q4 Check List):

See the attached file

QUALITY ASSESSMENT

Q 6 Originality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q 7 Rigor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q 8 Significance to the field	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q 9 Interest to a general audience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q 10 Quality of the writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q 11 Overall quality of the study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>