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Paper: **"Landsat 8 oli Satellite Imagery Mapping and Analysis of Bedrock Fracture Networks in the Departments of Yamoussoukro and Toumodi (Central Cote d'Ivoire)"**

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Peer review:

Reviewer 1: Fernando Espinoza Lopez
Hofstra University, USA

Reviewer 2: Blinded

Reviewer A:
Recommendation: Resubmit for Review

The TITLE is clear and it is adequate to the content of the article.

The title is clear and adequate to the content.

The ABSTRACT clearly presents objects, methods, and results.

Yes, it does

There are a few grammatical errors and spelling mistakes in this article.

Not really noticeable; the article seems well written.

The study METHODS are explained clearly.

They are explained clearly.

The body of the paper is clear and does not contain errors.

That is correct; I did not see any obvious errors.

The CONCLUSION or summary is accurate and supported by the content.

The conclusion is where I have the most difficulty with the manuscript; the stated objective does not seem to have been clearly achieved. The conclusion that the area studied is heavily fractured does not help to link the study findings' significance to groundwater exploration. The authors do mention the controversial nature of the use of their technique, but there ought to be a section including limitations of the study. For instance, there needs to be a clear acknowledgment of the criticism by Gillispie et al., that the fracture density technique does not seem to provide useful results, due to its inability to discriminate between different fracture patterns. This appears to seriously undermine the significance of the reliance on the technique to link fracture lineaments to the presence of groundwater in the aquifers of the region.

The list of REFERENCES is comprehensive and appropriate.

The list is indeed comprehensive and appropriate.

Please rate the TITLE of this paper.

[Poor] **1-5** [Excellent]

Please rate the ABSTRACT of this paper.

[Poor] **1-5** [Excellent]

4

Please rate the LANGUAGE of this paper.

[Poor] **1-5** [Excellent]

5

Please rate the METHODS of this paper.

[Poor] **1-5** [Excellent]

4

Please rate the BODY of this paper.

[Poor] **1-5** [Excellent]

4

Please rate the CONCLUSION of this paper.

[Poor] **1-5** [Excellent]

3

Please rate the REFERENCES of this paper.

[Poor] **1-5** [Excellent]

5

Overall Recommendation!!!

Return for major revision and resubmission

Comments and Suggestions to the Author(s):

I read the manuscript with interest and found it well written and engaging. As I pointed out before, the conclusion section is weak in establishing the stated objective, and therefore not convincing in the significance of the findings. A separate section of limitations must be included, acknowledging this issue, as well as other controversial aspects of the technique.

Reviewer G:
Recommendation: Accept Submission

The TITLE is clear and it is adequate to the content of the article.

Yes.

The ABSTRACT clearly presents objects, methods, and results.

Yes.

There are a few grammatical errors and spelling mistakes in this article.

No.

The study METHODS are explained clearly.

Fine in general but but few things should be revised including

1. adding work flowchart (of the study) in the paper
2. detailing more specific data of satellite imagery in use (e.g. spatial resolution/used bands/original image of the study area)
3. revising words "ACP1/ACP2" to be "PC1/PC2" if "ACP" means principal component (1/2/3/...) of the analyzed satellite images.

The body of the paper is clear and does not contain errors.

Yes.

The CONCLUSION or summary is accurate and supported by the content.

Yes. However, some suggestions to improve future study of this kind should also be given also, e.g.,

1. better quality of satellites images in use (especially in terms of spatial resolution)
2. different techniques/filters that might able to extract the preferred fractures better.

The list of REFERENCES is comprehensive and appropriate.

Yes.

Please rate the TITLE of this paper.

[Poor] **1-5** [Excellent]

4

Please rate the ABSTRACT of this paper.

[Poor] **1-5** [Excellent]

4

Please rate the LANGUAGE of this paper.

[Poor] **1-5** [Excellent]

4

Please rate the METHODS of this paper.

[Poor] **1-5** [Excellent]

4

Please rate the BODY of this paper.

[Poor] **1-5** [Excellent]

4

Please rate the CONCLUSION of this paper.

[Poor] **1-5** [Excellent]

4

Please rate the REFERENCES of this paper.

[Poor] **1-5** [Excellent]

4

Overall Recommendation!!!

Accepted, minor revision needed

Comments and Suggestions to the Author(s):

The merit of this paper seems fine in my opinion by revision should be considered in some parts as listed below:

1. adding work flowchart (of the study) in the paper
2. detailing more specific data of satellite imagery in use (e.g. spatial resolution/used bands/original image of the study area)
3. revising words "ACP1/ACP2" to be "PC1/PC2" if "ACP" means principal component (1/2/3/...) of the analyzed satellite images.
4. giving some suggestions on improving work of this kind in the future, e.g.,
4.1 better quality of satellites images in use (especially in terms of spatial resolution)
4.2 different techniques/filters that might able to extract the preferred fractures better.
