

Review Form 3

Journal Name:	Current Journal of Applied Science and Technology
Manuscript Number:	Ms_CJAST_126734
Title of the Manuscript:	Contribution of spatial techniques to the identification of discontinuous basement aquifers in semi-arid zones: the case of the Precambrian basement of Damagaram-Mounio (Centre-East-Niger)
Type of the Article	Open peer review of Journal of Applied Science and Technology

General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	<ul style="list-style-type: none"> An important contribution to the scientific community, especially in the fields of hydrogeology and groundwater management. It solves critical issues in discovering feasible water resources in dry locations by employing spatial approaches to identify discontinuous subterranean aquifers in Niger's semi-arid zones. An innovative method that can improve the success rate of drilling projects in comparable geological contexts is the mapping of fractures and lineaments using satellite imaging and aeromagnetic data. 	
Is the title of the article suitable? (If not please suggest an alternative title)	Yes	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract of the article gives a thorough understanding of the study's topic, methodology, and significant findings. Some suggestions like Emphasis on Satellite Imagery and Field Validation, Highlight Major Findings. Adding a clear purpose and somewhat expanding on the methodology and practical implications can improve the abstract's comprehensiveness and accessibility to a larger audience. Technical specifications and directional ranges could be condensed for better reading.	
Are subsections and structure of the manuscript appropriate?	The manuscript's organization and the provisions are well-organized and in line with academic norms for a study of this any kind. This format is appropriate for presenting a complex hydrogeological investigation and successfully supports its objective and findings.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	This manuscript appears to be scientifically and technically sound for a number of reasons. <ul style="list-style-type: none"> It employs well-established spatial and geophysical methods, such as satellite imaging and aeromagnetic data, to identify geological characteristics important for understanding groundwater supplies in semi-arid locations. As is common in hydrogeological research, the methodology is thoroughly documented, including explanations of the pre-processing procedures, lineament extraction methods, and data collection procedures. Furthermore, the results are confirmed by comparison with field data and earlier research, demonstrating that they are consistent with known geological features. 	

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	<ul style="list-style-type: none"> This validation and organized methodology contribute to the manuscript's scientific legitimacy and technical rigour. 	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	References are sufficient	
Minor REVISION comments Is the language/English quality of the article suitable for scholarly communications?	Spelling mistake in manuscripts like “ <u>Materiel</u> and methods” , “Geology and hydrogeology of <u>studiy</u> area”	
Optional/General comments	<p>The paper investigates the use of spatial approaches to detect fractured basement aquifers in semi-arid zones, with a case study on the Precambrian basement of Damagaram-Mounio, Niger. The paper describes the use of satellite imaging (Landsat and aeromagnetic) and field measurements to map fractures in the area, where the aquifer system is discontinuous and water is largely found in fractures inside crystalline rocks. The study emphasizes the need of combining remote sensing and geology approaches for groundwater exploration in difficult situations such as Precambrian basements in semi-arid areas.</p> <p>According to the paper, there are no competing interest issues in this work.</p>	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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