

African Journal of Climate Science and Vulnerability Assessment

Flood-Resilient Road Design Standards for the Sudd Wetland Region of South Sudan

Author-facing revision letter prepared from the review package

Manuscript	Flood-Resilient Road Design Standards for the Sudd Wetland Region of South Sudan
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Journal	African Journal of Climate Science and Vulnerability Assessment
Date	24 Mar 2026

Revision Summary

This document consolidates the responses expected for each reviewer concern before final publication.

Reviewer 1

Comment: Provide comprehensive methodological details for all analytical components, including data sources, processing steps, model parameters, and validation procedures

Response: Addressed in the revised manuscript.

Comment: Include sensitivity analysis for the benefit-cost calculations and compare results with similar infrastructure projects in comparable environments

Response: Addressed in the revised manuscript.

Comment: Expand the discussion section to address implementation challenges, maintenance requirements, and adaptation strategies for local constraints

Response: Addressed in the revised manuscript.

Comment: Clarify the study's limitations regarding data quality, model assumptions, and generalisability to other wetland regions

Response: Addressed in the revised manuscript.

Reviewer 2

Comment: Conduct and report field validation of proposed standards through pilot implementation

Response: Addressed in the revised manuscript.

Comment: Provide complete methodological details for benefit-cost analysis with sensitivity testing

Response: Addressed in the revised manuscript.

Comment: Extend hydrological analysis with longer-term data and ground verification

Response: Addressed in the revised manuscript.

Comment: Address construction and maintenance practicalities in conflict-affected environment

Response: Addressed in the revised manuscript.

Reviewer 3

Comment: Provide a detailed methodology section including remote-sensing data sources, processing steps, and validation metrics for the flood frequency analysis.

Response: Addressed in the revised manuscript.

Comment: Justify the 25% climate change surcharge with regional climate model projections or peer-reviewed literature, or replace it with a sensitivity analysis.

Response: Addressed in the revised manuscript.

Comment: Expand the discussion to address practical implementation challenges: local material sourcing, construction techniques, maintenance regimes, and training needs.

Response: Addressed in the revised manuscript.

Comment: Include a transparent breakdown of the benefit-cost analysis, specifying all cost inputs, benefit valuations, discount rates, and sensitivity tests.

Response: Addressed in the revised manuscript.