

Peer Review Report

Review Report on Dam emplacement and water level changes affect sublacustrine geomorphology and recent sedimentation in Jackson Lake, Grand Teton National Park (Wyoming, USA)

Original Research, Earth Sci. Syst. Soc.

Reviewer: Sabrina Brown

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Article DOI: 10.3389/esss.2023.10066

EVALUATION

Q 1 Please summarize the main findings of the study.

This study focuses on the impact that early 20th Century dam installation had on the recent depositional history of Jackson Lake, Wyoming using multiple datasets including seismic reflection profiles, historical water level, and sediment cores. The study found almost 5-fold increase in sedimentation rate after the dam's placement and paleo-lake margin features in seismic reflection profiles, among other data to support inferences about the depositional history.

Q 2 Please highlight the limitations and strengths.

The strengths of this study are that it implements multiple datasets and ample data from each to make sound inferences about the influence of dam emplacement on Jackson Lake's deposition patterns. The limitation of this study is the resolution of seismic profiles for interpreting fine-scale features.

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.

The methods, results, and data interpretation of this study are sound and all conclusions are supported.

Q 4 Check List

Is the English language of sufficient quality?

Yes.

Is the quality of the figures and tables satisfactory?

Yes.

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)

Yes.

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

Yes.

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):

An excellent article detailing the recent depositional history of Jackson Lake and the impact dam installation has had on limnogeological processes. I only suggest a few minor revisions, mainly based on improving clarity. These suggestions are detailed below:

In general: Make sure spacing after punctuation is consistent. Sometimes there is one space and sometimes there are two. Please update for consistent style.

In general: Sometimes CE dates are listed as "1916" and other times as 1916 CE"

In general: You generally use the Oxford Comma, but not consistently. Please update to a consistent style throughout.

Line 59: Replace semicolon with period and capitalize "Dam"

Line 91: Remove "in order"

Line 128: This is the first time CHIRP is referenced, so include the full name in addition to the acronym here.

Line 153: Update Dilworth et al. reference if needed

Line 156: Capitalize "Range"

Lines 168–172: Long sentence. Consider breaking into two sentences. Perhaps by adding a period in place of the comma in line 171.

Line 185–186: "details on the deeper seismic stratigraphy will be presented in a future contribution" can be deleted.

Line 201: Simplify "The location of coring stations" to "Coring locations"

Line 240: Remove comma after detritus

Line 242: Remove "in order" to simplify sentence

Line 304: Describe the location of depocenters first and then describe the locations of relatively thinner strata.

Line 388: Remove "-long"

Line 446: Replace "and" with "as well as" to improve readability.

Line 448: Add "the" before "deepwater"

Line 489: Remove "in order" for simplicity

Line 567–568: Remove the definition of sediment focusing or rework into the previous sentence so that the sentences on line 567 don't both end and begin with "sediment focusing".

Line 572: Update the citation for Whitehead et al. if appropriate

Line 626: Modify "and chiefly consists of algae" to ",chiefly consisting of algae"

Line 1162: Typo "interfact" edit to "interface"

QUALITY ASSESSMENT

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