

Response letter for EGUSPHERE-2024-1670

Responses to Editor

Editor: Along with some suggestions by the reviewers, this manuscript only needs several corrections. Some words are loosely used and deserve more attention. Below are the details:

Author: Thank you for your decision and detailed comments. We have thoroughly reviewed the issues raised and made the necessary revisions accordingly.

Editor: Line 27 (tracked version): Western Asia normally refers to Iran to Turkey. This location is a little confusing.

Author: We have changed Western Asia to Pamir orogens.

Editor: Line 39: Change "integrating...with..." to "including...and..."

Author: We have revised accordingly.

Editor: Line 45: Which basin? The abstract does not mention it.

Author: We have indicated the southwestern Tarim basin in this version.

Editor: Line 58-59: The Tethyan Orogenic Belt is an over 15,000 km trans-Eurasian orogenic system with a series of mountain chains and orogenic plateaus.

Author: We have revised accordingly.

Editor: Line 64: Closure.

Author: We have revised accordingly.

Editor: Line 69: Delete "the".

Author: We have revised accordingly.

Editor: Line 75: Delete "a protracted phase of".

Author: [We have revised accordingly.](#)

Editor: Line 79-80: The Mesozoic tectonic evolution of the Tethyan realm exhibits...

Author: [We have revised accordingly.](#)

Editor: Line 82: Diverse->different

Author: [We have revised accordingly.](#)

Editor: Line 83: What is the meaning of “a propagating continental rift system”?

Unclear. Reword it.

Author: [We have made an explanation as a northwestward-propagating continental rift system.](#)

Editor: Line 84: Central Iran Block

Author: [We have revised accordingly.](#)

Editor: Line 107: Critically represents? Records.

Author: [We have changed the expression.](#)

Editor: Line 128: This basin is mysterious.

Author: [We have detailed this as the ‘Jurassic Kyzyltau-Kandilik basin’.](#)

Editor: Line 131: and probes...

Author: [We have revised accordingly.](#)

Editor: Line 137: Delete “is a vast, east-west-extending mountain system that”.

Repeated.

Author: [We have revised accordingly.](#)

Editor: Line 177: Deflected? I can only imagine displaced mountains by the Altyn tagh Fault.

Author: [We have used displaced instead of deflected.](#)

Editor: Line 184: Delete “floor”.

Author: [We have revised accordingly.](#)

Editor: Line 188: Remove “much later”

Author: [We have revised accordingly.](#)

Editor: Line 191: Integration->amalgamation or accretion

Author: [We have revised as amalgamation.](#)

Editor: Line 196: Delete observed

Author: [We have revised accordingly.](#)

Editor: Line 195: Remove plutons or granitoids.

Author: [We have deleted plutons.](#)

Editor: Line 201-203: A Jurassic to Cretaceous polymetamorphic history is also displayed by monazite ages.

Author: [We have revised accordingly.](#)

Editor: Line 206: High-flux event? Not clear.

Author: [We have reworded the expression.](#)

Editor: Line 215: Using “thickest” should have a limit in area.

Author: [We have used thick.](#)

Editor: Line 239-244: Delete this sentence irrelevant to the geological setting.

Author: [We have removed these sentences.](#)

Editor: Line 249-250: A slate unit has unmetamorphosed sandstone and siltstone. This is nonsense.

Author: [We have rephrased this sentence.](#)

Editor: Line 268: Which are these oxides? There is no explanation for abbreviations in fig. 3m.

Author: [We have added the mineral abbreviation in the caption of Figure 3.](#)

Editor: Line 288: Which section?

Author: We have indicated this section as Kandilik section in line 280.

Editor: Line 350: Delete "of the zircons"

Author: We have revised accordingly.

Editor: Line 392: Delete age.

Author: We have revised accordingly.

Editor: Line 400: Delete revealed.

Author: We have deleted it.

Editor: Line 403: Delete regional detrital.

Author: We have deleted it.

Editor: Line 425: What is green sandstone? Delete "green" for sandstone here and elsewhere.

Author: The green-colored and reddish sandstones are the typical sediments of regional Devonian strata, which implicated the potential provenance.

Editor: Line 428: Delete variegated.

Author: We have deleted it.

Editor: Line 437: Delete green-colored.

Author: We have indicated that the green-colored sandstones are important marker for the source of Jurassic conglomerate.

Editor: Line 446: This section must follow the age of the basalts, not here.

Author: We have replaced this section below the section 4.1 (line 354).

Editor: Line 482: Delete identified.

Author: We have deleted it.

Editor: Line 490: Delete are.

Author: We have deleted it.

Editor: Line 494: Delete monotonous

Author: [We have deleted it.](#)

Editor: Line 497: What is lithological makeup? Reword it.

Author: [We have reworded it as composition.](#)

Editor: Line 503: Delete "of the youngest group of zircons separated"

Author: [We have deleted it.](#)

Editor: Line 518: Delete exposed.

Author: [We have deleted it.](#)

Editor: Line 523: Delete dominated.

Author: [We have deleted it.](#)

Editor: Line 524: If it is not exhumed, how could it become a provenance?

Author: [We have deleted exhumed.](#)

Editor: Line 526: Delete structural.

Author: [We have deleted it.](#)

Editor: Line 528-532: Why? Show some evidence of turbidite here.

Author: [We have rephrased this sentence.](#)

Editor: Line 490: Hereon?

Author: [We have deleted it.](#)

Editor: Line 535-538: Rephrase this sentence.

Author: [We have rephrased this sentence.](#)

Editor: Line 539-542: I do not understand this tectonic relationship. Try to make it clear.

Author: [We have rephrased this sentence.](#)

Editor: Line 542: These two units successfully extend into ... Awkward expressions.

Author: We have rephrased this sentence.

Editor: Line 545: Delete of the.

Author: We have deleted it.

Editor: Line 550: Tectonic setting of the Early Jurassic volcanism. Besides, this section repeats the geochemistry description of basalts, that should be removed.

Author: We have revised the title of this section. Additionally, we have removed the repeated geochemistry description in the first paragraph.

Editor: Line 568: Negligible crustal contamination. Delete “during their journey to the surface”

Author: We have revised this sentence accordingly.

Editor: Line 575: Is this volcanism 178 Ma?

Author: We have added the age information (178 Ma) in this sentence to make it more understandable.

Editor: Line 576: Delete regionally.

Author: We have deleted it.

Editor: Line 583: Extrusion? Or mixing?

Author: We have reworded this sentence.

Editor: Line 584-590: This part is unclear. Delete it.

Author: We have removed these sentences.

Editor: Line 593: Name the type of rocks instead unclear types (post/syn-orogenic).

Author: We have indicated the rock types.

Editor: Line 595-604: Determine basalt setting with details of elements, rather than simply saying “plots indicate…”

Author: We have revised the discussion of the tectonic setting for the basalt by adding more details of elemental information.

Editor: Line 615-619: Give some structural evidence in this region and then add this along-strike comparison to support the inference.

Author: We have added more structural evidence before the model proposed.

Editor: Line 628-635: Rewrite it to cope with the following paragraphs.

Author: We have rephrased the first paragraph.

Editor: Line 577: Along-strike.

Author: We have revised accordingly.

Editor: Line 651-659: The first sentence and fig. 9 better demonstrate the idea. The rest is less necessary.

Author: We have removed these useless sentences, and now it looks better.

Editor: Line 593: In contrast

Author: We have removed this part.

Editor: Line 702: Replace “creating an elevated topography, which in turn” with “and”.

Author: We have rephrased this sentence.

Editor: Line 705-706: A basin on an unconformity? Unclear description.

Author: We have rephrased this sentence.

Editor: Line 655: Seaways->oceans

Author: We have used oceans instead.

Editor: Line 702-723: Delete this sentence. Unnecessary.

Author: We have removed these sentences.

Editor: Line 725-728: This importance has been emphasized before.

Author: We have removed these repeated sentences.

Editor: Line 745: Delete there.

Author: We have deleted there.

Editor: Line 746: Delete "Available geochronological data indicate that"

Author: We have deleted.

Editor: Line 750: Delete "Geochemical studies reveal that"

Author: We have deleted it.

Editor: Line 766: Delete expressed

Author: We have deleted it.

Responses to reviewer

Editor: Most comments have been addressed, and there remains minor clarification before publication.

Author: Thank you for your careful review and for providing constructive feedback. In this updated version of the manuscript, we have significantly reduced the overlapping content in the regional background and discussion sections, in line with the editor's suggestions. This has improved the readability of the article. We believe this also addresses, to a large extent, your earlier suggestion to substantially shorten sections 6.1 and 6.2. Additionally, we have made smoother adjustments to the results section.