Response to referee #1 of the manuscript
"China Active Faults Database and its Web System"

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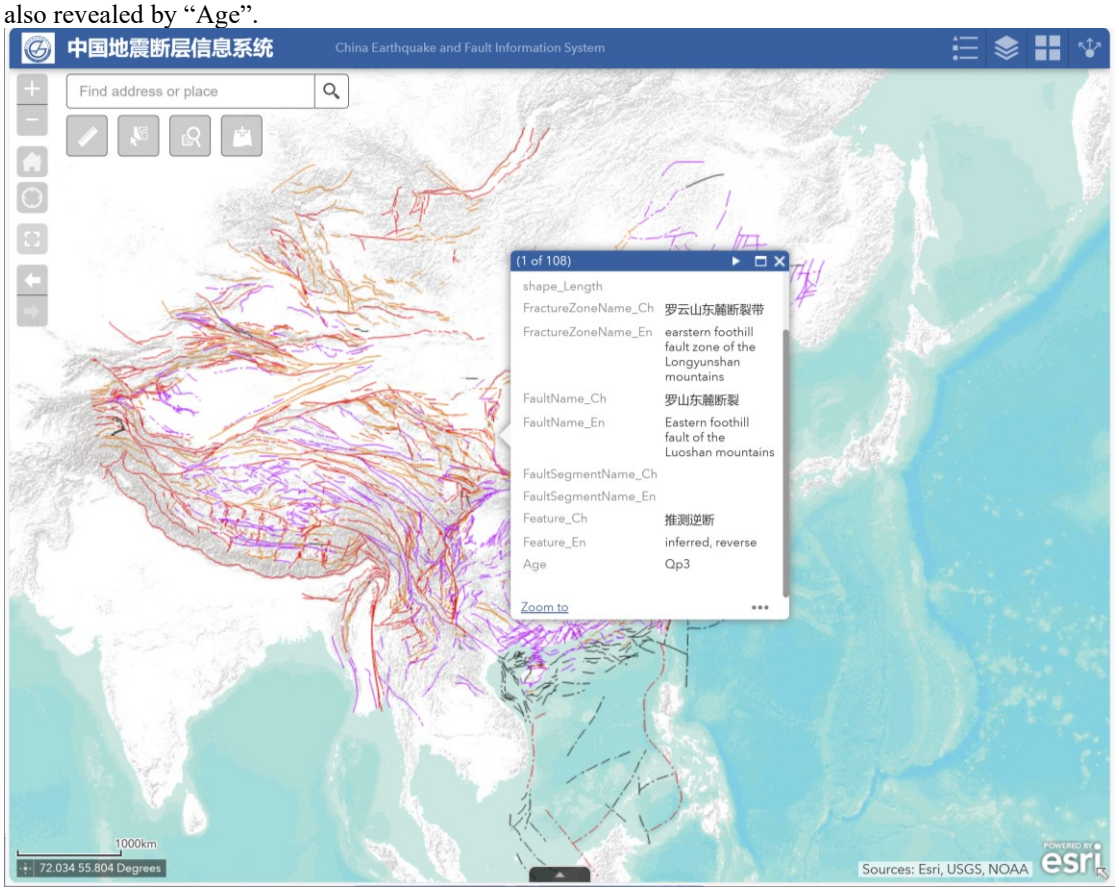
October 31, 2023

We are very grateful to referee #1 for his constructive comments that greatly improved the manuscript. Below is a point-by-point reply (RC: referee comment; AR: author reply)

RC: no specific lines
Please, provide some synthetic map of the database including (e.g.,)
- fault coded by kinematics
- faults coded by activity

AR: We appreciate your comment. The objective of the current system is to identify and display the distribution and location of faults, and provide information on the motion mode and age of the fault activity. The system with the public database was designed to highlight the location, motion mode, and ages of near-surface faults. The web system provides a synthetic map of activity. The information table can show the motion mode of the selected fault, which was shown by "Feature_CN or Feature_En". The line color denotes the fault activity, such as purple for the Pleistocene fault and red for the Holocene fault, which was also revealed by "Age".



RC: no specific lines
Please, provide some data and statistics on the number of faults from a previous national catalogue with no detailed studies associated vs faults with associated detailed studies.

AR: We appreciate your insights. We provided a list of updated faults in the uploaded attachment and

added Tables A1 and A2 in the resubmission.

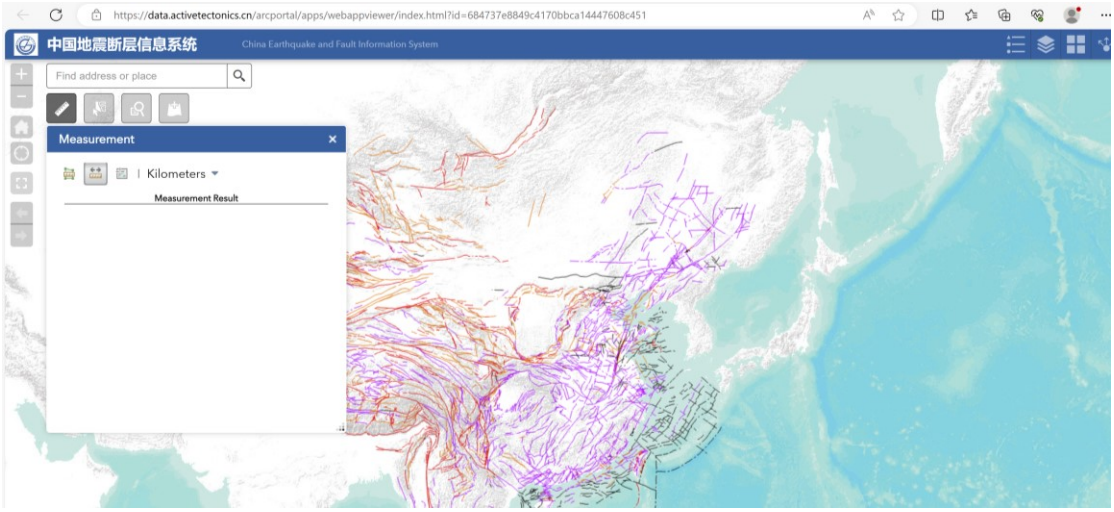
RC: no specific lines
The dataset is quite impressive but I need to point out a couple of points that could help in providing important additional data and quality assessment.
Is it possible to indicate the reference mapping scale or a quality index for mapping accuracy for each element?
AR: Thank you for this suggestion. The database was designed in the same reference mapping scale of 1:4,000,000. I have provided an attachment and added Tables A1 and A2 about the updated faults, which have improved accuracy.

RC: no specific lines
For each element is it possible to indicate if a slip rate is available and quantify it?
AR: The objective of the current system is to identify and display the distribution and location of faults, and provide information on the motion mode and age of the fault activity. The system with the public database was designed to highlight the location, motion mode, and ages of near-surface faults, without slip rate in current version.

RC: no specific lines
Would it be possible to provide values for the average dip of each fault?
AR: The objective of the current system is to identify and display the distribution and location of faults, and provide information on the motion mode and age of the fault activity. The system with the public database was designed to highlight the location, motion mode, and ages of near-surface faults, without average dip in current version.

RC: no specific lines
For each element is it possible to indicate a reliability index on the age of the latest re-activation? At the moment there is no way to ascertain if that value is coming out from regional generic considerations or site-specific case studies.
AR: We appreciate your pertinent comments. As introduced in lines 84-95(Section 2, paragraph 1), the nationwide fault map compilation started in the 1970s. The ages of the latest re-activation were collected from these nationwide maps and some publications or unpublic reports. The updated faults (reference mapping scale of 1:50000) in Table A2 were obtained from site-specific case studies. We have added the following sentence to the last paragraph of Section2: “The SMCAR collected the latest re-activation ages of faults from the previously introduced nationwide maps and some public or unpublic data.”

RC: no specific lines
Finally, please provide the length of the faults in km and not in degrees.
AR: We appreciate your suggestion. We did not design the length attribute for the database. The processed software automatically generated the attribute in degrees. You are correct in that it is not suitable to provide the length in degrees. We have deleted this information in the resubmission. Additionally, the web application provides a measurement tool for length and area which has been displayed in kilometers.



RC: Line 157-159 "However, the accuracies of nationwide and survey project databases differ from each other. The nationwide database (Xu et al., 2016) is based on previous studies."
This is somehow contradictory with the statements in lines 115-120 (all the project databases have the same approach etc.). Could you clarify?

AR: Thank you for this query. The nationwide database had different accuracies from the regional survey project databases. The reference map scale of the nationwide database is 1:4 000 000 with a horizontal accuracy of 12.8 km. *(3.2 mm in hardcopy map) (GB/T 33178-2016, link: https://openstd.samr.gov.cn/bzgk/gb/newGbInfo?hcno=CD9C6E0ACD4862BE808F6C6F3FCB9C8E).* The regional survey project data had the same survey approach. When the data was integrated into the project databases, it only needed to satisfy the designed reference map scale. The scale of the survey mapping projects was 1:50000, with a horizontal accuracy of 37.5 m. *(GB/T 33177-2016, link: https://openstd.samr.gov.cn/bzgk/gb/newGbInfo?hcno=92CF20825A9C143397F75B6976F3288E).* The scale of the urban active fault survey projects was 1:250000 with a horizontal accuracy of 200 m. *(GB/T 33178-2016, link: https://openstd.samr.gov.cn/bzgk/gb/newGbInfo?hcno=CD9C6E0ACD4862BE808F6C6F3FCB9C8E).*
We apologize for the ambiguity in the statements and have modified Section 3.1, paragraph 1, and Section 3.2, paragraph 1 to clarify these statements.
"The CAFD (2022) presented in this paper, which is based on the most reliable results of the projects introduced in Section 1, is an updated version of the CAFD (2015)." The nationwide CAFD (2015) had different accuracies from the regional survey project databases. The horizontal accuracy of the nationwide database on the scale of 1:4,000,000 is about 12.8 kilometers (GB/T 33178-2016). The nationwide CAFD (2015) (Xu et al., 2016) is based on previous studies. In earlier research, the low-resolution seismic petroleum exploration profiles caused the low accuracy of the interpreted top breakpoints. Because of that, the accuracy of positional precision of the blind faults was not precise. The locator devices with low positioning accuracy limited the accuracy of positional precision of the exposed faults. The observing sites had lower density than nowadays because of less funding, causing low positional accuracy. The horizontal accuracy of survey mapping projects on a scale of 1:50000 is 37.5 meters. (GB/T 33177-2016), and the urban active fault survey projects on 1:250000 is 200 meters (GB/T 33178-2016). The regional fault survey project databases (1:250 000–1:50 000) are based on quantitative methods written into the Chinese mandatory standard in 2018 (GB/T 36072-2018), which were classified as exposed fault survey method (Section 3.3) and blind survey method (Section 3.4), and guaranteed better data quality and accuracy than the nationwide CAFD (2015) (Xu et al., 2016)."

RC: Line 166-169 "Finally, a systematic method that combines geomorphological surveys, stratigraphic analyses of the geological cross sections, trench stratigraphic logs, sample dating from terraces and trenches, and paleo-earthquake identification are used to obtain the latest faulting ages and kinematic

parameters of the mapped active faults"
all these parts should be better addressed in the text. The cited approaches range over an extensive range of spatial observations. Could you address, specifically the following points? Is seismological Data considered? moment tensor solutions to address fault kinematics? In case geological and seismological data give a different result, what is the weight given in the evaluation?
AR: Thank you for your pertinent comments. This paragraph introduced how to identify the exposed fault. The exposed faults refer to the faults demonstrating surface expressions (e.g., linear fault scarp, offset gullies, folding, and so on) or fault outcrops. We added sentences to explain how to obtain the age and motion mode of fault activity. "In this systematic method, the dislocated strata, samples, and trenches are accurately located in typical offset landforms. The number of paleo-earthquake events and the motion mode of faults are visualized in the trenches. The age of fault activity is determined by the ages of dislocated strata, measured by dating methods, including radiocarbon (14C), cosmogenic nuclides (10Be), and luminescence techniques."
In the present-day fault database, we only strengthen the locations, motion modes, and ages of these near-surface faults. The fault geometry or dipping angle as suggested by seismic data was omitted. We add this supplementary explanation at the beginning of the same paragraph. The seismological data and moment tensor solutions are not necessary for the exposed fault.

RC: How have you segmented the faults? only by the decrease of displacement of given landforms? lines 182-183 are not clear on the method for segmentation.
AR: Thank you for bringing this to our attention. The segmentation of active faults is based on the geological landforms, geometric structure (straight, curved, bent, and so on.), displacement distribution, seismic rupture characteristics, or signs of fault activity. We clarified this description accordingly.

RC: How are the faults grouped into systems?
AR: "In general, faults in the same system are matched in geometry and kinematics, together with accumulated crustal strains, or are possibly connected in depth." We added this sentence to the second paragraph of Section 3.7.

RC: is the slip rate available somewhere in the database? if yes, how is the slip rate calculated?
AR: The objective of the current system is to identify and display the distribution and location of faults, and provide information on the motion mode and age of the fault activity. In the current version, the system with the public database was designed to highlight the location, motion mode, and ages of the near-surface faults. The system did not add the slip rate.

RC: Section 3.2
To avoid confusion, I suggest the Authors first enounce the approach and the rules for classification, mapping, etc. then, give examples of application of the method in another section of the paper. mixing general rules and examples is somehow confusing.
AR: Thank you for this suggestion. Accordingly, we modified Section 3.2 and separated it into Sections 3.2, 3.3, and 3.4. In section 3.2, we overviewed the data acquisition and methods. The quantitative methods of data acquisition written into the Chinese mandatory standard in 2018 (GB/T 36072-2018), were classified as exposed fault survey method (Section 3.3) and blind survey method (Section 3.4). In Sections 3.3 and 3.4, we first introduced the workflow of the methods in the first paragraph, then gave an example of the application of the method in the second paragraph.

RC: Line 294-297
Is there a specific rule for merging segments? it is, as mentioned in the text, a scale problem? but this is meaningful only for hardcopy maps...
AR: One of the most important applications of the database is hardcopy or electronic image maps for earthquake emergency response (Wu, et al., 2021). The reference scale of the hardcopy maps is about 1:4,000,000~1:1,000,000. If the contiguous segments within 2 cm have different activity ages, they will be merged for map generalization. We added these sentences to the second paragraph of Section 3.6.

RC: Line 323

These terms need a specific definition. what do you mean by exposed? partly or totally? inferred is a tract connecting two known segments or the whole segment is not certain?

AR: We appreciate your comments. The exposed faults refer to the faults having surface expressions (such as linear fault scarp, offset gullies, and folding.) or fault outcrops.

The buried faults mean that they do not cut to the near-surface, have no surface expression, and are possibly covered by the overlying sediments or rocks.

The inferred faults mean that they don't have evidence of activity 120,000 years ago, but could be inferred from the seismic activity, analogous geological structure, and tectonic stress field.

We checked the data again. The database only included exposed and buried faults. We revised the system and merged the inferred fault layer with the buried layer. Thank you for your reminder.

We changed the last sentence of the third paragraph to "Active faults are also divided into exposed and buried faults".

AR: Line 325-326

A clear nomenclature is lacking in the online web GIS. Only codes are reported and not the meaning.

RC: Thank you for highlighting this. We added a field for age code description in the online web application.

Age field:

Holocene, Qh

late Pleistocene, Qp3

middle–early Pleistocene, Qp2+1, Qp2, Qp1

pre-Quaternary, pre Q

AR: Line 329

But are active e.g., in the Pliocene? or are they just geological faults with no evidence of activity so far?

RC: The pre-Quaternary faults designate that no evidence shows the fault displaced the Quaternary landforms or sediments. We also did not find the Quaternary fault age such as ESR dating fault gouging. We added the sentence "This means that no evidence showed that the fault displaced the Quatenary landforms or sediments. There was also no Quaternary fault age information such as the ESR dating fault gouge" to the last paragraph of Section 3.7.

AR: Line 336

What are the criteria for naming a fault?

RC: "The fault names were collected from published or unpublished papers, geological literature, or existing fault databases. Two naming methods were used: one was named after the mountains and rivers. The other was name after the place name (county, village, and so on)." We added these sentences to the first paragraph of Section 3.8.

Response to referee #3 of the manuscript
"China Active Faults Database and its Web System"

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October 31, 2023

We are very grateful to referee #3 for their constructive comments that greatly improved the manuscript. Below is a point-by-point reply (RC: referee comment; AR: author reply)

RC: Line 30-31. Change "A close relationship exists between the strong or great earthquake and the spatial feature of an active fault." to "A close relationship exists between the large or great earthquakes and the spatial distribution of active faults."
AR: This change has been implemented.

RC: Line 31. Change "an earthquake" to "earthquakes".
AR: This change has been implemented.

RC: Line 33. Change "recorded to" to "associated with".
AR: This change has been implemented.

RC: Line 107. Change "seismo-active" to "seismically active".
AR: This change has been implemented.

RC: Line 128. Change "seismo-active" to "seismically active".
AR: This change has been implemented.

RC: Line 157. Change "analyzing" to "analysis".
AR: This change has been implemented.

RC: Line 159-161. "In earlier research, the positional precision of the exposed faults was restricted by funding and locator devices, and interpreted top breakpoints of the blind faults from low-resolution seismic petroleum exploration profiles restricted their positional precision." The meaning is unclear.
AR: Thank you for your comments. We have rewritten this sentence as follows: "In earlier research, the low-resolution seismic petroleum exploration profiles caused the low accuracy of the interpreted top breakpoints. Because of that, the accuracy of positional precision of the blind faults was not precise. The locator devices with low positioning accuracy limited the accuracy of positional precision of the exposed fault. The observing sites had lower density than nowadays because of less funding, causing low positional accuracy."

RC: Line 186-189. "Common dating methods include radiocarbon (14C), cosmogenic nuclides (10Be), and luminescence techniques. They are used to identify whether or not a fault is active, to calculate its slip rate during a certain period, to determine when a paleo-earthquake occurred, paleo-earthquake recurrence interval, and the elapsed time of the last earthquake of the corresponding fault segment." Do you use ages obtained for segments to divide the entire fault into sections that could be ruptured simultaneously (e.g. by combining several segments}?
AR: We appreciate your valuable insights. The fault is separated into segments based on the mapped geometry. The ages obtained from a single geometry segment presented the age of this segment. It determined the latest active age of the fault, although may not be the rupture behavior. We added these sentences to the second paragraph of the Section 3.3.

RC: Line 222-224. “The mapped blind fault trace is a line of vertically projected the uppermost points on the ground, which are obtained by using the comprehensive multi-level exploration method.” Not very clear how you find sites where you have to perform all these studies. If the fault is blind how do you select sites for geophysics, drilling, etc.? What morphological expression do you need?
AR: Thank you for your pertinent comments. We added additional details on how to select sites for geophysics and drilling at the beginning of this paragraph as follows: “Firstly, we collected petroleum exploration profiles, historical earthquakes, and published references. The location of the blind faults was inferred from the collected petroleum exploration profiles. Secondly, the historical earthquakes and published references about tectonic settings were used to determine the faults associated with earthquakes. The approximate location of collected petroleum exploration profiles was selected for geophysics and drilling sites.”

RC: Line 241. Change “seismo-active” to “seismically active”.
AR: This change has been implemented.

RC: Line 243. Change “the” to “such”.
AR: This change has been implemented.

RC: Line 241. Delete “seismo-active”.
AR: This change has been implemented.

RC: Line 322-323. “Oblique faults consist of left- and right-oblique slip faults.” It would be useful to add data on vertical components that might be either normal or reverse for oblique faults.
AR: Thank you for the suggestion. Oblique faults consist of left- and right-oblique slip faults, with vertical components that might be either normal or reverse.

RC: Line 342. Change “meg-strike-slip” to “mega-strike-slip”.
AR: This change has been implemented.

RC: Line 342. Change “dtriking” to “striking”.
AR: This change has been implemented.

RC: Line 408. “-2021.6.30”. And what occurred later? In 2022-2023? Does the catalog have been updated?
AR: The catalog has been updated to 7.30. 2023. We have updated the article and Web System.

Response to referee Kirsten Elger of the manuscript
"China Active Faults Database and its Web System"

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October 31, 2023

We are very grateful to referee Kirsten Elger for their constructive comments that greatly improved the manuscript. Below is a point-by-point reply (RC: referee comment; AR: author reply)

RC: Line 33
Where in China? Or do you mean more than one block?
AR: "The Tibetan Plateau block in western China and the Ordos block in Central and East China." We added these words to the sentence.

RC: Line 48 "The earliest historical earthquake records worldwide were obtained in China."
When?
AR: 1860 BC. We delete this sentence, as it is not important in this article.

RC: Line 51. "Already in the 2000s, the China Earthquake Administration organized the compilation of an active tectonic database (Qu, 2008)."
Do you mean database or map? A scale fits better to a map, while a database is more what you are describing in your article
AR: Thank you for your comment. It is a database downloadable at the NEDC (sub-center in IG, CEA), 2023, http://datashare.igl.earthquake.cn/map/ActiveFault/introFault.html
The data's spatial accuracy is similar to a map of 1:4,000,000. The database also has an attribute table with more information than a map. We changed this sentence to "The China Earthquake Administration built a 1:4,000,000-scale active tectonic database (Qu, 2008) in the 2000s."

RC: Line 53-55. "A large amount of survey work should be carried out because China is situated in the Circum-Pacific and Himalayan-Mediterranean 55 seismic zones, producing strong neotectonic and frequent seismic activities." This sentence is difficult to understand. Do you like to say the following? "In the following years, a large number of field surveys has been carried out to investigate the active neotectonic and seismic activities of the Circum-Pacific and Himalayan-Mediterranean seismic zones in China. "I am adding this as a suggestion.
AR: We appreciate your excellent suggestion. We changed the sentence to "In the following years, several field surveys have been performed to investigate the active neotectonic and seismic activities of the Circum-Pacific and Himalayan-Mediterranean seismic zones in China."
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RC: Line 56. "mapping projects". Is it possible to cite some results of these projects?
AR: Thank you for highlighting this. Here are the relevant citations: "Yang et al., 2018a, 2018b, 2020; Huang et al., 2021a, 2021b; Lei et al., 2008; Chai et al., 2011, Xu et al., 2015."

RC: Line 60. "(2001–2003)" Citation?
AR: Thank you for highlighting this. We have added citations: "2) active fault prospecting in urban regions and their earthquake risk assessments, such as "Urban active fault experimental prospecting" (2001–2003)(Pan et al., 2002; Wang et al., 2002) and "Seismo-active-fault prospecting technology system in China" (2004–2008) (Wang et al., 2004; Deng et al., 2007;);"

RC: Line 68-70. "Those project databases include data associated with the geophysical prospecting, drilling, offset-landform measuring and sample dating, geometric and kinematic parameters of the exposed and blind faults, paleo-earthquakes, their occurrence ages, and recurrence intervals." Do you mean the

radiometric age dating of samples?
AR: Thank you for your query. We corrected sample dating to "age dating (e.g., cosmogenic nuclides, OSL, ESR, or ^{14}C used for dating offset-landform, and OSL or ^{14}C used for dating dislocated-strata in trench)."

RC: Line 70-72 "The data types include two-dimensional Geographic Information System (GIS) data, photographs, geological interpretation pictures, geophysical prospecting data, electronic literature, and scientific reports." What do you mean with "pictures". drawings of geological cross-sections or profiles?
AR: Thank you for your query. We changed "geological interpretation pictures" to "geological photos with interpretated faults and illustrations"

RC: Line 72 "electronic literature" If you provide copies of scholarly literature, you have to make sure that the provision of these via your database is a "secondary publication" and this must comply with the copyright of the articular. Adding the citation is okay and required, but not the provision of a PDF copy of the articles.
AR: Thank you for your suggestion. The databases stored articles with copyright and did not provide literature copies. We corrected the sentence.

RC: Line 77. "database" Please add a link or citation.
AR: The link has been added to references.
CEFIS (V2)
https://data.activetectonics.cn/arcportal/apps/webappviewer/index.html?id=684737e8849c4170bbca14447608c451, last access: 12 May 2023.

RC: Line 79. "the extensive use of the database" In which sections of the article?
AR: Section 3.9. We changed this sentence to "In addition, several classical application cases in Section 3.9 are presented to demonstrate the extensive use of the database.".

RC: Line 85-89. Is this a repetition of the detailed overview in the introduction? Then it can be shortened at either place. I would summarize the information in the "introduction" and list all projects here in this section with respective citations. There is no need for duplication of information.
AR: Thank you for the suggestion. The first half of the second paragraph of Section 1 "introduction" introduced "The Active Tectonic Map of China (1:4 000 000)" (Deng et al., 2007) and was repeated with the sentences: "Deng et al. (2007) systematically summarized the classical tectonic characteristics, such as the latest slip rate and age of faults, historically strong earthquake activity, and co-seismic surface ruptures in mainland China and adjacent sea areas. In addition to the print edition, a geospatial database based on the map (Deng et al., 2007) was constructed (Qu et al., 2008)." We deleted these sentences.
Other sentences are not repetition. Lines 85-89 is an introduction of nationwide active tectonics and fault maps from 1976 to 1987. The latter half of the second paragraph of Section 1 "introduction" introduced projects with digital databases from 2001 to 2019.

RC: Line 89. "a specific periods" Periods or regions? Moreover, do you mean geological periods or different states of research (between 1978 and 1987)?
AR: We corrected "a specific periods" to "specific periods". We added the sentence "Every map summarized all of the research as much as possible before its publication date" into the paragraph.

RC: Line 77-78. "Currently, it can be freely downloaded online (NEDC (sub3 https://doi.org/10.5194/essd-2023-119 Preprint. Discussion started: 6 June 2023 c Author(s) 2023. CC BY 4.0 License. center in IG, CEA), 2023), and scientists have updated this map based on new finding" Does "it" refer to the Map or the database?
AR: "It" refers to the database. We changed "it" to "the database".

RC: Line 102. "SMCAR". Please explain the abbreviation.
AR: This abbreviation first appears in Line 91. "Seismotectonic Map in China and its Adjacent Regions (1:4,000,000)"

RC: Line 103. "Chinese mandatory standard GB/T 18306-2015" Is there a citation/rereferred existing?
AR: We appreciate your query. This citation exists and is in Chinese. Here are some links on the government website.
https://openstd.samr.gov.cn/bzgk/gb/newGbInfo?hcno=EC0585F90CA21ABE02826394F266B623
or
https://std.samr.gov.cn/gb/search/gbDetailed?id=71F772D80C50D3A7E05397BE0A0AB82A

AR: Line 116. "115 project databases." Is there an overview table on the project databases?
RC: Thank you for this query. I have listed these projects and updated the number of databases in the attachment (an Excel file) and Tables A1 and A2 in the article.

AR: Line 127. "research references" Is there an overview?
RC: Thank you for this query. Some research references are introduced in the final sentence of Section 3.5. We change the sentence to "The CAFD (2022) is obtained from numerous surveys (Section 3.5) and research references (Xu et al., 2008a, 2008b, 2009a, 2009b; Chen et al., 2009; Xu et al., 2014a, 2014b; Xu et al., 2000; He et al., 2013; Shu et al., 2016, 2020; Li et al., 2019)"

AR: Line 159-161. "In earlier research, the positional precision of the exposed faults was restricted by funding and locator devices, and interpreted top breakpoints of the blind faults from low-resolution seismic petroleum exploration profiles restricted their positional precision." This sentence is hard to understand.
RC: We appreciate your insight. Accordingly, we have rewritten this sentence as per your suggestion as follows. "In earlier research, the low-resolution seismic petroleum exploration profiles caused the low accuracy of the interpreted top breakpoints. Accordingly, the accuracy of positional precision of the blind faults was not precise. The locator devices with a low positioning accuracy limited the accuracy of positional precision of the exposed faults. The observation sites had a lower density than currently because of less funding, thereby causing a low positional accuracy."

AR: Line 162. "the exposed and blind fault survey methods." Can you please add a reference for this method? Or is it described in Xu et al., 2016?).
RC: We appreciate your comment. The methods were introduced in Sections 3.2 and 3.3. We have rewritten this sentence. "The regional fault survey project databases (1:250 000–1:50 000) are based on quantitative methods. These were classified as the exposed fault survey method (Section 3.2) and blind survey methods (Section 3.3), and they guaranteed a better data quality and accuracy than the nationwide CAFD (2015) (Xu et al., 2016)."

AR: Line 171. "remote sensing images with meter-level resolution." Please specify which data you have used.
RC: Thank you for your comment. We add example of remote sensing images: "remote sensing images with meter-level resolution (Quickbird, worldview, SPOT, etc.)"

AR: Line 172. "and vertical resolutions of > 5 m." Please specify the DEM sources.
RC: We appreciate your comment. We have rewritten the sentence. "First, remote sensing images with meter-level resolution (Quickbird, worldview, SPOT, and so on) and DEMs with horizontal and relative vertical resolutions of $\leqslant$ 37.5 m (Quickbird, worldview, SPOT, and so on) were used to mark surface deformations or offset landforms (fault scarps, dislocated gullies, fault valleys, pull-apart basins, pressure ridges, terraces, alluvial or fluvial fans and so on) and plan geological survey sites, lines, and areas."

AR: Line 175. “Global Navigation Satellite System.” Did you use differential GNSS?
RC: We appreciate your comment. We used hand-held GPS receiver, which received signals from satellites. It is not differential GNSS. We added “hand-held GPS receiver” to the sentence.

AR: Line 178-179. “to ensure the horizontal location error is less than 15 m.” To ensure an “overall” horizontal location error of less than 15 m?
RC: We changed the sentences to “The density of the recorded sites controls the geometric accuracy of the fault data. the horizontal location error of every recorded site was less than 15 m.”

AR: Line 185. “revealed.” Revealed? Do you mean visualized?
RC: We apologize for this oversight. We have corrected it to visualized.

AR: Line 209. This is difficult to understand. You begin with the results from petroleum exploration, then describe your improved version, and end with details on the petroleum exploration results. I would move this sentence before the description of your method.
RC: Thank you for this suggestion. We deleted the sentence “Then, the exploration of the geologic section from the joint drilling was planned based on the above preliminary verification.” To remove any confusion.

AR: Line 471. “are accessible online” Can you please add the link?
RC: The link is in the references: WMS (CAFD WMS, 2023) and WFS (CAFD WFS, 2023).

AR: Line 473. (http://data.earthquake.cn) This website is fully in Chinese. Can you please provide more information on which earthquake catalogs you have used? Ideally with links, because non-Chinese speaking people cannot find any of them.
RC: We added more information about it.
“The data are not freely downloadable. Their information and links are below.
FormalEq20090101T20210630:
https://data.earthquake.cn/datashare/report.shtml?PAGEID=datasourcelist&dt=40280d0453e414e40153e44861dd0003
CSNEq19700101T20081231:
https://data.earthquake.cn/datashare/report.shtml?PAGEID=datasourcelist&dt=40280d0453e414e40153e44861dd0002
HistoryEqT19691231:
https://data.earthquake.cn/datashare/report.shtml?PAGEID=datasourcelist&dt=8a85efd754e7d6910154e7d691810000”