Response to Reviewer#2:

Your valuable insights have significantly contributed to enhancing the quality of our manuscript. I feel extremely honored to receive such positive and constructive feedback from you. I genuinely appreciate every thoughtful suggestion you've provided and will address each one of them with utmost care, offering detailed responses in return.

In the revised manuscript, we have meticulously restructured and refined the logic and content of the abstract, introduction, discussion, and image sections. **The revisions in the manuscript are indicated using red font.** Below is a comprehensive overview of the modifications we have made:

**General comments:**

This study examined the soil salinity patterns reveal changes in the water cycle of inland river basins in arid zones. The results contribute towards a better conceptualisation of soil salinity patterns in inland river basins in arid zones China. The topic of these article is appropriate for the journal of Hydrology and Earth System Sciences. However, the manuscript still has many shortcomings and needs to be further improved. Therefore, I would recommend the manuscript for major revisions.

**Respond:** Thank you very much for your insights. To provide more comprehensive content, we have diligently reviewed and refined the abstract, introduction, literature review, research methods,results, discussion and conclusion, aiming to enhance the depth of our research focus.

**Specific comments:**

Abstract:

Line 6: Add to the abstract the country where the Shiyang River Basin is located. It will help to make it easier to find the article during following reviews and meta-analyses.

**Respond:** Thank you for your suggestion. We have added it to the original text. As follows:

Based on remote sensing and observation data, this study quantitatively analyzed the changes in soil salinization in the Shiyang River Basin, an arid region in Northwest China, from 2002 to 2022. It also explored the impact of hydraulic engineering and farmland irrigation on soil salinization.

Introduction:

The Introduction is conceived too generally and in a broad context. I recommend focusing more on changing soil salinity in the context of landuse management.

**Respond:**We have reorganized the structure of the introduction section and added relevant research, as shown below:

Land is an essential natural resource for human beings with economic, social, and ecological benefits in various production activities (Lambin and Meyfroidt., 2011). Soil is the basis of natural ecosystems. Material and energy can cycle within the system and interact with the biosphere, hydrosphere, atmosphere, and so on (Seneviratne et al., 2010; Smith et al., 2015). Soils can promote plant growth and coordinate the watershed water cycle by regulating infiltration and distribution of precipitation. The purification capacity of soils breaks down potential pollutants, preventing water and air pollution to some extent (Bünemann et al., 2018; Banwater et al., 2019). At the same time, water bodies also impact soil quality, mainly through irrigation and precipitation, which influence changes in soil composition. Once soil quality decreases or degrades, it will cause irreversible damage and directly affect human life (Reynolds et al., 2007; Abu Hammad and Tumeizi, 2012). Soil salinization is critical to land degradation (Daliakopoulos et al., 2016). It specifically means that water is lost after groundwater rises to the surface through evaporation from soil pores to the atmosphere under high temperatures. At the same time, heavy masses of salts remain at the surface as they precipitate. Long-term accumulation of salts at the soil surface affects the growth of all types of crops, which can lead to negative consequences such as reduced yields (Qadir and Oster, 2004; Folberth et al., 2016). Soil salinization can be divided into primary and secondary salinization according to the cause of its formation. Primary salinization is mainly influenced by natural factors such as physical or chemical interaction of rocks during the water cycle, sea level rise leading to erosion of coastal land, infiltration of sedimentary brine, evaporation from sea level, changes in the composition of the soil colony, and atmospheric precipitation, all of which increase the salt concentration in the groundwater, resulting in widespread soil salinization (Kaushal et al., 2005; Zhuang et al., 2021; Perri et al., 2022).

The problem of secondary salinization of soil triggered by human activities and incredibly irrational agricultural irrigation has increased the risk of elevated salt concentrations in groundwater(Sharma and Minhas, 2005). It has become a challenge in areas such as hydrology and agriculture. Artificial water transfer projects have significantly altered the connectivity between groundwater and soil water, and the trend of salt enrichment to the surface through evaporation has become more pronounced. Seasonal storage in reservoirs also affects soil water salinity in watersheds. The global area of saline soils is estimated to have exceeded 833 million hectares (Food and Agriculture Organization of the United Nations). Globally, about 20 percent of agricultural land and 33 percent of irrigated agricultural land is saline (Xiao et al., 2023), which is expected to worsen (Hassani et al., 2021). In the inland river basins of the arid zone, the climate is exceptionally arid, the intensity of evaporation from soils and plants is high, and the water table is high. Soil salinization in arid and semi-arid regions is more severe and more extensive, with salinized cultivated land in the inland northwest accounting for nearly one-fifth of the total cultivated land in China; therefore, the study of soil salinization in inland river basins in the arid zone is conducive to the understanding of water cycle processes and mechanisms in the basins and is of great significance in irrigated agriculture and water resource management (Wei et al., 2020).

Remote sensing technology has been widely used to assess soil salinization, and feature spectral characteristics are essential markers for identifying saline soils (Konstantin et al., 2019). There is a significant difference in reflectance between various soil salinity levels in the visible light and near-infrared bands. Saline soils exhibit higher reflectance compared to non-saline soils and show absorption peaks in the visible light band. There is a positive correlation between soil reflectance and soil salinization. (Metternicht et al., 2003; Farifteh et al., 2007; Abderrazak et al., 2016;

Zhang and Huang, 2019; Lotfollahi et al., 2023). Saline soils show absorption peaks in the visible band, and there is a positive correlation between their soil reflectance and soil salinity. In world-scale soil salinity studies, researchers have used machine learning methods to monitor the dynamics of soil surface salinity over the past four decades (Hassani et al., 2020) and ML algorithms to predict soil salinity in the 21st century in the context of global climate change (Has-sani et al., 2021). It was found that the salt-affected areas were mainly distributed in arid and semi-arid regions, significantly more severe in northwestern China (Li et al., 2014). The risk challenge of soil salinization is further increased in arid and semi-arid regions of China due to their special climatic conditions, which are influenced by irrigation, drainage, and ecological water transport (Wang et al., 2012; Miguel et al., 2013). The temporal and spatial relationship between soil salinization and groundwater decline exacerbates the regional water-salt imbalance. Irrigated agriculture carries salts into the groundwater layers, leading to increased groundwater salinity and resulting in soil salinization in irrigation areas (Foster et al., 2018). Furthermore, as more land is converted to farmland, increased irrigation leads to salt accumulation. The overexploitation of land resources has had a significant and lasting impact on soil salinization (Wang et al., 2013; Yin et al., 2021).

The Shiyang River Basin, located in the arid region of Northwest China, is a typical inland river basin where soil salinization is a prominent issue closely linked to factors such as hydraulic engineering and irrigation activities. Therefore, assessing the distribution of soil salinization in this basin is crucial for understanding how natural and human activities impact soil salinization in arid areas. In this study, we aim to address the following questions: (1) Quantitatively analyze the degree of salinization in the Shiyang River Basin and reveal its spatial and temporal distribution characteristics; (2) analyze the impacts of water cycle changes on salinization. The study's results will help clarify the impact of the water cycle on soil salinization in the inland river basin and provide a scientific basis for agricultural development, ecological construction, and water resource use planning in the arid zone.

Materials and Methods:

Lines 104 – 108: General description of climatic conditions at the sites, include specific ranges of long-term meteorological variables (air temperatures, precipitation) for the period of the last 30 years (1991 – 2020).

**Respond:** Thank you for your suggestion. We have described the meteorological variables of the study area according to the geomorphological units, as shown below：

The bedrock of the southern Qilian Mountains consists of metamorphosed sandstones and volcanic rocks, with soil types including Cryosols, Leptosols, and Phaeozems. The land is primarily forest and grassland, with annual precipitation of 300-600mm, evaporation rates of 700-1200mm, and the groundwater level is 50-200 meters below the surface. The central corridor plain features bedrock composed of schist and slate, with soil types including Gypsisols, Calcisols, and Solonchaks. The land use is primarily agricultural, with annual precipitation of 150-300mm, evaporation rates of 1300-2000mm, and the groundwater level is 50 meters below the surface. The northern low hills and deserts have predominantly igneous bedrock, and soils consisting of Arenosols, Leptosols, and Solonchaks. The landscape is barren, with annual precipitation below 150mm, evaporation rates of 2000-3000mm, and the groundwater level is 30 meters below the surface.

Lines 108 – 111: Add bedrock for all four geomorphological units.

**Respond:** We have added bedrock information for the four geomorphological units, as shown below:

The bedrock of the southern Qilian Mountains consists of metamorphosed sandstones and volcanic rocks, with soil types including Cryosols, Leptosols, and Phaeozems. The land is primarily forest and grassland, with annual precipitation of 300-600mm, evaporation rates of 700-1200mm, and the groundwater level is 50-200 meters below the surface. The central corridor plain features bedrock composed of schist and slate, with soil types including Gypsisols, Calcisols, and Solonchaks. The land use is primarily agricultural, with annual precipitation of 150-300mm, evaporation rates of 1300-2000mm, and the groundwater level is 50 meters below the surface. The northern low hills and deserts have predominantly igneous bedrock, and soils consisting of Arenosols, Leptosols, and Solonchaks. The landscape is barren, with annual precipitation below 150mm, evaporation rates of 2000-3000mm, and the groundwater level is 30 meters below the surface.

Lines 111 – 116: Change the soil classification to one of the international classification systems, e.g. “World reference base for soil resources 4th edition (2022)”. Please add also estimated soil texture and water permeability of these soils based on available references.

**Respond:** Thank you for your suggestion. We have consulted the “World reference base for soil resources 4th edition (2022)”, and revised the soil classification in the original text as follows:

The bedrock of the southern Qilian Mountains consists of metamorphosed sandstones and volcanic rocks, with soil types including Cryosols, Leptosols, and Phaeozems. The land is primarily forest and grassland, with annual precipitation of 300-600mm, evaporation rates of 700-1200mm, and the groundwater level is 50-200 meters below the surface. The central corridor plain features bedrock composed of schist and slate, with soil types including Gypsisols, Calcisols, and Solonchaks. The land use is primarily agricultural, with annual precipitation of 150-300mm, evaporation rates of 1300-2000mm, and the groundwater level is 50 meters below the surface. The northern low hills and deserts have predominantly igneous bedrock, and soils consisting of Arenosols, Leptosols, and Solonchaks. The landscape is barren, with annual precipitation below 150mm, evaporation rates of 2000-3000mm, and the groundwater level is 30 meters below the surface.

Lines 104 – 116: Add main landcover and land type for all geomorphological units.

**Respond:** We have added the main land cover types for the four geomorphological units, as shown below:

The bedrock of the southern Qilian Mountains consists of metamorphosed sandstones and volcanic rocks, with soil types including Cryosols, Leptosols, and Phaeozems. The land is primarily forest and grassland, with annual precipitation of

300-600mm, evaporation rates of 700-1200mm, and the groundwater level is 50-200 meters below the surface. The central corridor plain features bedrock composed of schist and slate, with soil types including Gypsisols, Calcisols, and Solonchaks. The land use is primarily agricultural, with annual precipitation of 150-300mm, evaporation rates of 1300-2000mm, and the groundwater level is 50 meters below the surface. The northern low hills and deserts have predominantly igneous bedrock, and soils consisting of Arenosols, Leptosols, and Solonchaks. The landscape is barren, with annual precipitation below 150mm, evaporation rates of 2000-3000mm, and the groundwater level is 30 meters below the surface.

Lines 104 – 116: If information is available, add the groundwater level for all geomorphological units.

**Respond:** After consulting the "Annual Report of Groundwater Level Monitoring for China's Geological Environment" and relevant research papers, we obtained the groundwater level ranges for the geomorphological units in the study area. This information has been added to the original text, as shown below:

The bedrock of the southern Qilian Mountains consists of metamorphosed sandstones and volcanic rocks, with soil types including Cryosols, Leptosols, and Phaeozems. The land is primarily forest and grassland, with annual precipitation of 300-600mm, evaporation rates of 700-1200mm, and the groundwater level is 50-200 meters below the surface. The central corridor plain features bedrock composed of schist and slate, with soil types including Gypsisols, Calcisols, and Solonchaks. The land use is primarily agricultural, with annual precipitation of 150-300mm, evaporation rates of 1300-2000mm, and the groundwater level is 50 meters below the surface. The northern low hills and deserts have predominantly igneous bedrock, and soils consisting of Arenosols, Leptosols, and Solonchaks. The landscape is barren, with annual precipitation below 150mm, evaporation rates of 2000-3000mm, and the groundwater level is 30 meters below the surface.

Lines 162 – 174: The methodology of data processing and synthesis is too concisely conceived and requires expansion and logical continuity.

**Respond:**Thank you for your suggestion. We have rewritten this section as follows:

This article selects the years 2002, 2007, 2012, 2017, and 2022 as the study periods, with four satellite remote sensing images chosen for each period to cover the entire study area. Preference is given to downloading high-quality satellite remote sensing images from the summer of each year, with cloud cover less than 1%, as this is more conducive to identifying the salinity and alkalinity levels of the soil (Allbed & Kumar, 2013). For the subsequent remote sensing inversion of salinity and alkalinity, preliminary preprocessing of the images in ENVI5.3 software is necessary(Source： https://www.l3harrisgeospatial.com/Software-Technology/ENVI), including steps such as radiometric calibration, atmospheric correction, image fusion, image mosaicking, and image clipping. Based on the natural attributes of the soil in the study area, auxiliary data, and field survey conditions, we use high-resolution images from Google Maps to select interpretation markers for mild, moderate, and severe saline-alkaline land and other land types. Next, we adjust the band combination of satellite remote sensing images to be most suitable for extracting saline-alkaline land (Khan et al., 2005; Jia et al., 2024). Using the Normalized Difference Salinity Index (NDSI), slope data, and texture features as references, we employ a Support Vector Machine (SVM) algorithm for supervised classification to identify the distribution of saline-alkaline land in the study area. The formula is as follows:

$$\min_{\mathrm{w},\, \mathrm{b},\, \xi_i} \left( \frac{1}{2} \|w\|^2 + C \sum_{i=1}^{n} \xi_i \right) \tag{1}$$

$$\mathrm{y}_i \left( w \cdot x_i \right) \geq 1 - \xi_i, \xi_i \geq 0, i = 1, \ldots, n \tag{2}$$

In the formula, w represents the weight vector, which defines the direction of the hyperplane; b is the bias term, defining the offset of the hyperplane; $\xi_i$ is the slack variable, which increases the robustness of the model; C is the regularization parameter, balancing the model complexity and training error; $y_i$ is the label of data point i, commonly used to define a hyperplane.

Finally, the accuracy of the supervised classification results is evaluated using the confusion matrix method, including overall classification accuracy, Kappa coefficient, etc. The data processing flow is shown in Figure 2.

Line 172: For field sampling points, add the number of points, sampling depth and design of soil sampling at sites, e.g. regular grid, irregular grid or random sampling. If necessary, add a map with field sampling points.

**Respond:**Thank you for pointing out the lack of clarity in our description. The sampling points we refer to are based on the natural attributes of the soil in the study area, auxiliary data, and field research conditions. These points are established as interpretation markers in areas classified as slightly, moderately, and severely saline-alkali land, as well as in other land types. We have rewritten this part as follows:

This article selects the years 2002, 2007, 2012, 2017, and 2022 as the study periods, with four satellite remote sensing images chosen for each period to cover the entire study area. Preference is given to downloading high-quality satellite remote sensing images from the summer of each year, with cloud cover less than 1%, as this is more conducive to identifying the salinity and alkalinity levels of the soil (Allbed & Kumar, 2013). For the subsequent remote sensing inversion of salinity and alkalinity, preliminary preprocessing of the images in ENVI5.3 software is necessary(Source：https://www.l3harrisgeospatial.com/Software-Technology/ENVI), including steps such as radiometric calibration, atmospheric correction, image fusion, image mosaicking, and image clipping. Based on the natural attributes of the soil in the study area, auxiliary data, and field survey conditions, we use high-resolution images from Google Maps to select interpretation markers for mild, moderate, and severe saline-alkaline land and other land types. Next, we adjust the band combination of satellite remote sensing images to be most suitable for extracting saline-alkaline land (Khan et al., 2005; Jia et al., 2024). Using the Normalized Difference Salinity Index (NDSI), slope data, and texture features as references, we employ a Support Vector Machine (SVM) algorithm for supervised classification to identify the distribution of saline-alkaline land in the study area. The formula is as follows:

$$\min_{\mathrm{w},\, \mathrm{b},\, \xi_i} \left( \frac{1}{2} \|w\|^2 + C \sum_{i=1}^{n} \xi_i \right) \tag{1}$$

$$y_i\left(w\cdot x_i\right)\geq 1-\xi_i,\xi_i\geq 0,i=1,\dots,n \tag{2}$$

In the formula, w represents the weight vector, which defines the direction of the hyperplane; b is the bias term, defining the offset of the hyperplane; $\xi_i$ is the slack variable, which increases the robustness of the model; C is the regularization parameter, balancing the model complexity and training error; $y_i$ is the label of data point i, commonly used to define a hyperplane.

Finally, the accuracy of the supervised classification results is evaluated using the confusion matrix method, including overall classification accuracy, Kappa coefficient, etc. The data processing flow is shown in Figure 2.

Results:

Line 180: Nowhere in the methodology is there an explanation of the classification of mild, moderate, and severe soil salinization. Are there di\erences in the various salt concentrations in the soil ( μ S/cm) for these three categories? Please, add this classification to Material and Methods chapter.

**Respond:**Thank you for your suggestion. We have added the following to the original text:

This article selects the years 2002, 2007, 2012, 2017, and 2022 as the study periods, with four satellite remote sensing images chosen for each period to cover the entire study area. Preference is given to downloading high-quality satellite remote sensing images from the summer of each year, with cloud cover less than 1%, as this is more conducive to identifying the salinity and alkalinity levels of the soil (Allbed & Kumar, 2013). For the subsequent remote sensing inversion of salinity and alkalinity, preliminary preprocessing of the images in ENVI5.3 software is necessary(Source：https://www.l3harrisgeospatial.com/Software-Technology/ENVI), including steps such as radiometric calibration, atmospheric correction, image fusion, image mosaicking, and image clipping. Based on the natural attributes of the soil in the study area, auxiliary data, and field survey conditions, we use high-resolution images from Google Maps to select interpretation markers for mild, moderate, and severe saline-alkaline land and other land types. Next, we adjust the band combination of satellite remote sensing images to be most suitable for extracting saline-alkaline land (Khan et al., 2005; Jia et al., 2024). Using the Normalized Difference Salinity Index (NDSI), slope data, and texture features as references, we employ a Support Vector Machine (SVM) algorithm for supervised classification to identify the distribution of saline-alkaline land in the study area. The formula is as follows:

$$\min_{\mathrm{w},\,\mathrm{b},\,\xi_i}\left(\frac{1}{2}\|w\|^2+C\sum_{i=1}^{n}\xi_i\right) \quad (1)$$

$$\mathrm{y}_i\left(w\cdot x_i\right)\geq 1-\xi_i,\xi_i\geq 0,i=1,\ldots,n \quad (2)$$

In the formula, w represents the weight vector, which defines the direction of the hyperplane; b is the bias term, defining the offset of the hyperplane; $\xi_i$ is the slack variable, which increases the robustness of the model; C is the regularization parameter, balancing the model complexity and training error; $y_i$ is the label of data point i, commonly used to define a hyperplane.

Finally, the accuracy of the supervised classification results is evaluated using the confusion matrix method, including overall classification accuracy, Kappa coefficient, etc. The data processing flow is shown in Figure 2.

Lines 211 – 212: I would recommend that the results in the previous subsection “3.1 Spatial distribution of soil salinisation" should also be described according to administrative boundaries so that the results are clear. The division of areas according to administrative boundaries should also be descripted in the methodology.

**Respond:**Thank you for your suggestion. Considering that describing based on natural landform units can make the results clearer, we have rewritten this section as follows:

Remote sensing inversion of salinization in the Shiyang River Basin from 2002 to 2022 was carried out based on the selected samples of mild, moderate, and severe soil salinization (Fig. 3). The results showed that the salinization of the basin gradually increased from upstream to downstream, especially in the downstream of the basin near Qingtu Lake, where the salinization of the soil was the most serious.

From the perspective of natural landform division, the salt-accumulating areas of the Shiyang River Basin are widely distributed across the central corridor plains, northern low mountains, hills, and desert areas. In the central corridor plains, soil salinization is mainly characterized by mild and moderate salinization. Moderate saline soils are primarily concentrated in the oasis farmland irrigation areas on both sides of the river, with a few plots transforming into severe saline soils. The area of moderate saline land expanded significantly in 2012, with growth areas located in the central part of the plains. Mild saline lands are scattered and cover a smaller area. In 2012, a large number of new mildly saline plots emerged in the western part of the central corridor plains, and the area of mild saline land increased in the southeast. By 2022, mild salinization in these areas had improved to some extent. In the northern low mountains, hills, and desert areas, soil salinization is mainly characterized by moderate and severe salinization, with the area and extent far exceeding those of the central corridor plains. Moderate saline lands are mostly located in semi-desert areas and outside irrigation zones, especially at the end of the Shiyang River Basin, where downstream salt accumulation is prevalent, resulting in a concentration of heavily saline lands. In contrast, mildly saline lands are less common and scattered.

Line 217: Why did you use the unit hm2 /a? It would be more accepted to use km$^2$ /a, which will be understood by more people from di\erent country. For example, in Europe, the hm2 unit is used rarely. What does "/a" mean? Is it a change in a year?

**Respond:**As you mentioned, the use of hm$^2$ /a is quite rare, so we have replaced all instances of hm$^2$ with km$^2$ throughout the text. The "/a" indicates the average annual change, representing a trend of change.

Discussion:

In my opinion, the discussion chapter seems to me to be a continuation of the results chapter, with detail on river water transfer, Red Blu\ Mountain Reservoir, and irrigation and salinization. I believe that research uncertainty and research perspectives need to be added to the discussion section so that manuscript studies can be made more complete. The chapter lacks a clear critical view of the issue and a confrontation of the results with other science results. In this chapter, I expect critical evaluation of the author's results, a follow-up to the current state of knowledge in the issue of soil salinization in a global context. At the same time, it is appropriate for critics to evaluate the limits, weakness of this study (methodical, interpretative, etc.) and, on the contrary, also the study strengths that contribute to the understanding of knowledge in the issue of global soil salinations.

**Respond:**Thank you for your suggestion. We have improved the discussion section by integrating it with existing studies and added an uncertainty analysis in section 4.3.

Lines 305 – 308: What is the source of this information? Were they observed directly by this study, or were these results from some previous study? If yes, please add a reference.

**Respond:**The groundwater EC (Electrical Conductivity) values were obtained through our measured data, we did not list the data separately.

Conclusion:

In this chapter, there are unfounded conclusions that were not presented in the results or discussed subsequently. Lines 381 – 383: "Farmland, grassland, and wasteland are at the most significant risk of being converted into saline soils, challenging farmland management." However, landuse was not analysed in this study, and the extent of changes in landuse during the studied period is not study.

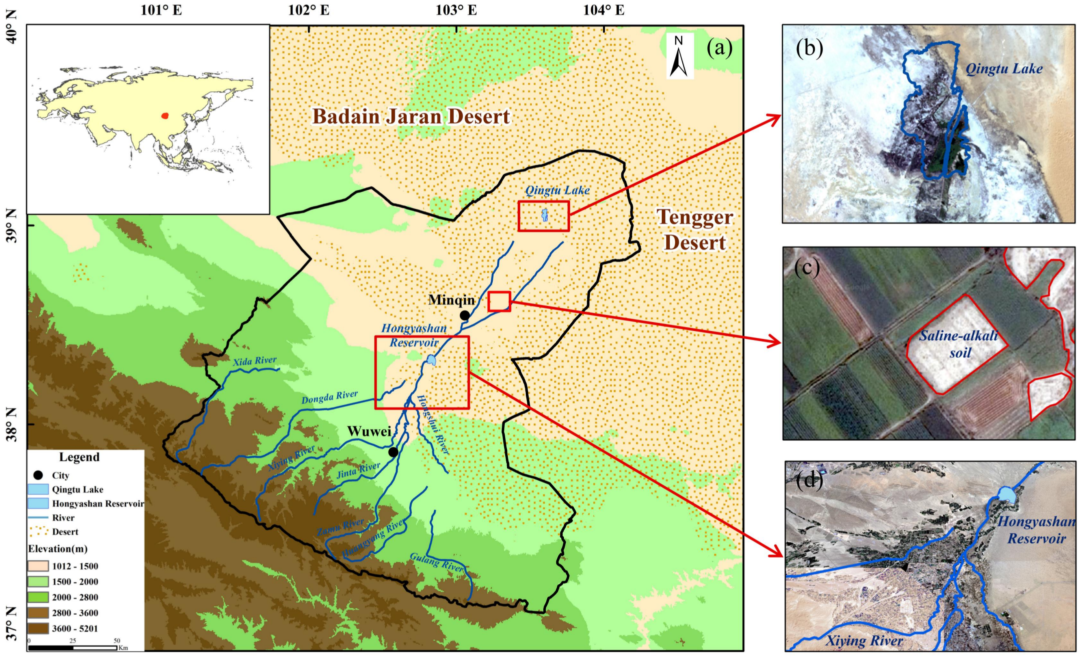
**Respond:**Regarding the question you mentioned, we processed the land use type data of the Shiyang River Basin in our preliminary work and calculated the land use transfer matrix for the years 2002 to 2022. In the statistics on land type changes, alkali-saline land converted from farmland accounted for 3.07% of the alkali-saline land area in 2022, conversion from grassland accounted for 6.23%, and conversion from wasteland had the largest share at 11.27%. Therefore, we put forward this view in the conclusion section. We have now added the relevant calculation results to section 4.2 of the original paper.

Technical corrections:

In Figure 1: Please add compass rose to legend. The Figure 5 is not cited in the text.

**Respond:**We have added a north arrow to Figure 1 and have included a reference to

Figure 5 in section 4.1.



Ecological water transfer mainly refers to the Jingdian water transfer (i.e., water diversion from the Yellow River), which regulates the irrigation water use pattern by transferring water to Qingtuhu Lake through the Hongya Mountain Reservoir (Fig. 5).

Lines 155 – 160: Please, add references (sources) to the used software (ENVI and GIS software) and to the used digital data (Slope and DEM data).

**Respond:** Thank you for your suggestion. We have added the sources for the software and numerical data in the original text as follows:

Landsat data is available from the Earth Explorer service (https://earthexplorer.usgs.gov), which provides surface reflectance every 16 days with a spatial resolution of 30 meters.

This article obtained the 30m land use data product for the Shiyang River Basin from 2002 to 2022, which is available in the public domain at https://doi.org/10.5281/zenodo.4417810 (Yang and Huang, 2022).

The Digital Elevation Model (DEM) data is ASTER GDEM data jointly developed by Japan's METI and the U.S. NASA, distributed to the public for free with a resolution of 30m. This data can be downloaded at http://reverb.echo.nasa.gov/reverb/. Slope data is calculated from the DEM data.

For the subsequent remote sensing inversion of salinity and alkalinity, preliminary preprocessing of the images in ENVI5.3 software is necessary(Source：https://www.l3harrisgeospatial.com/Software-Technology/ENVI).

There are occasional typos in the entire text, especially in some places there are missing spaces after the end of the sentence. Please check all text.

**Respond:**Thank you for your suggestion. We have reviewed and revised the entire text.