

Figures

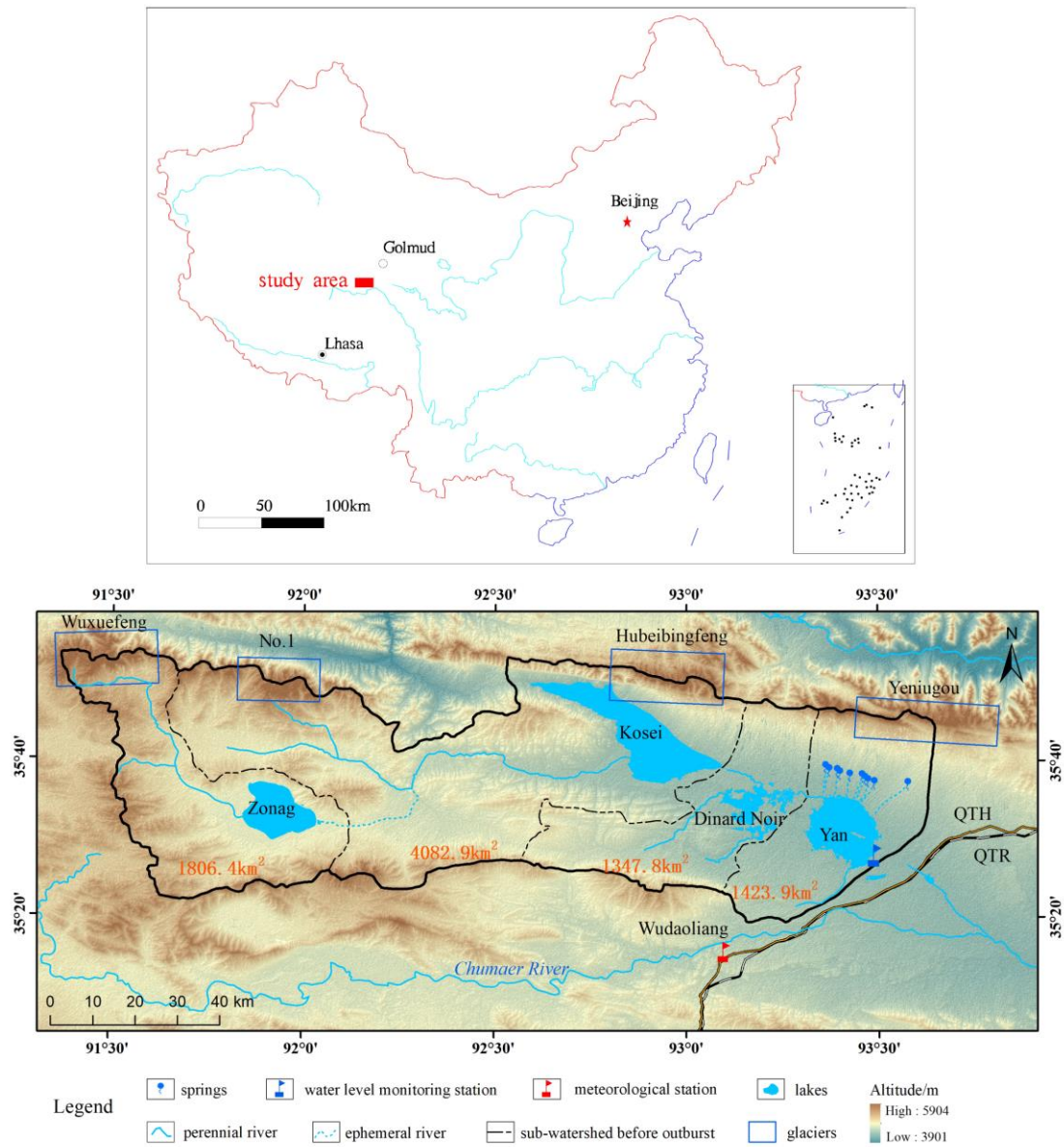


Fig. 1. The location of the study area, and features within that area important to the study.

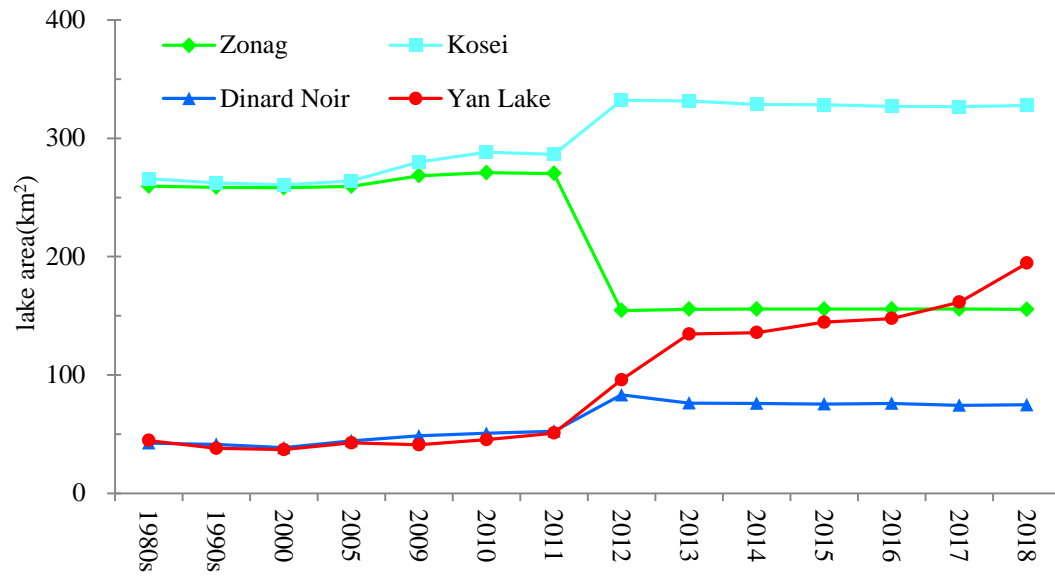


Fig. 2. Lake area changes over the past 40 yrs, as shown from combined Landsat and Chinese high resolution HJ satellite data.

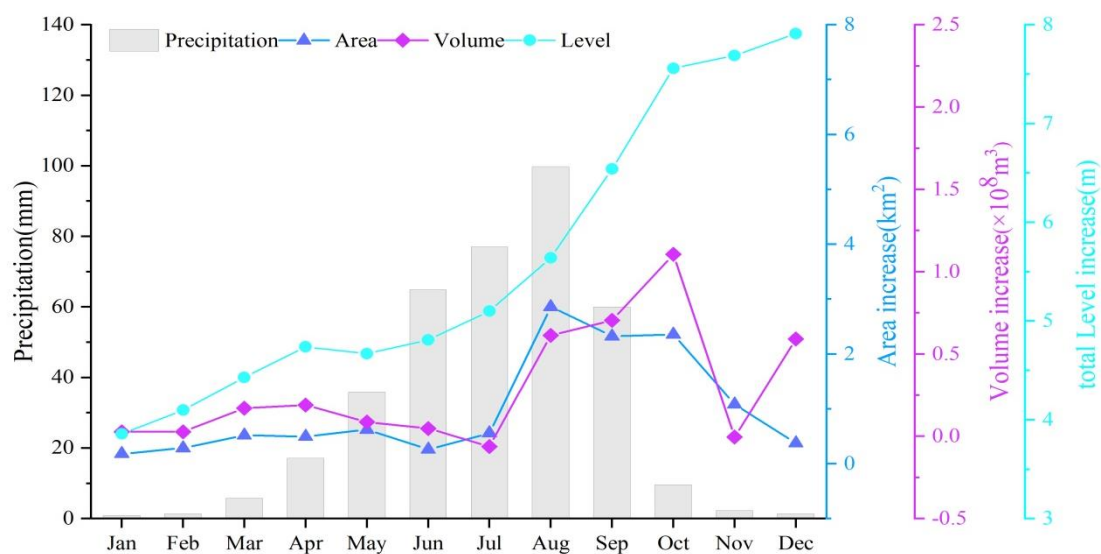


Fig. 3. Mean monthly precipitation, increases in lake area and volume, and the accumulative increase of lake level from 2015 to 2018 in the Yan Lake basin. Precipitation was measured at the Wudaoliang meteorological station.

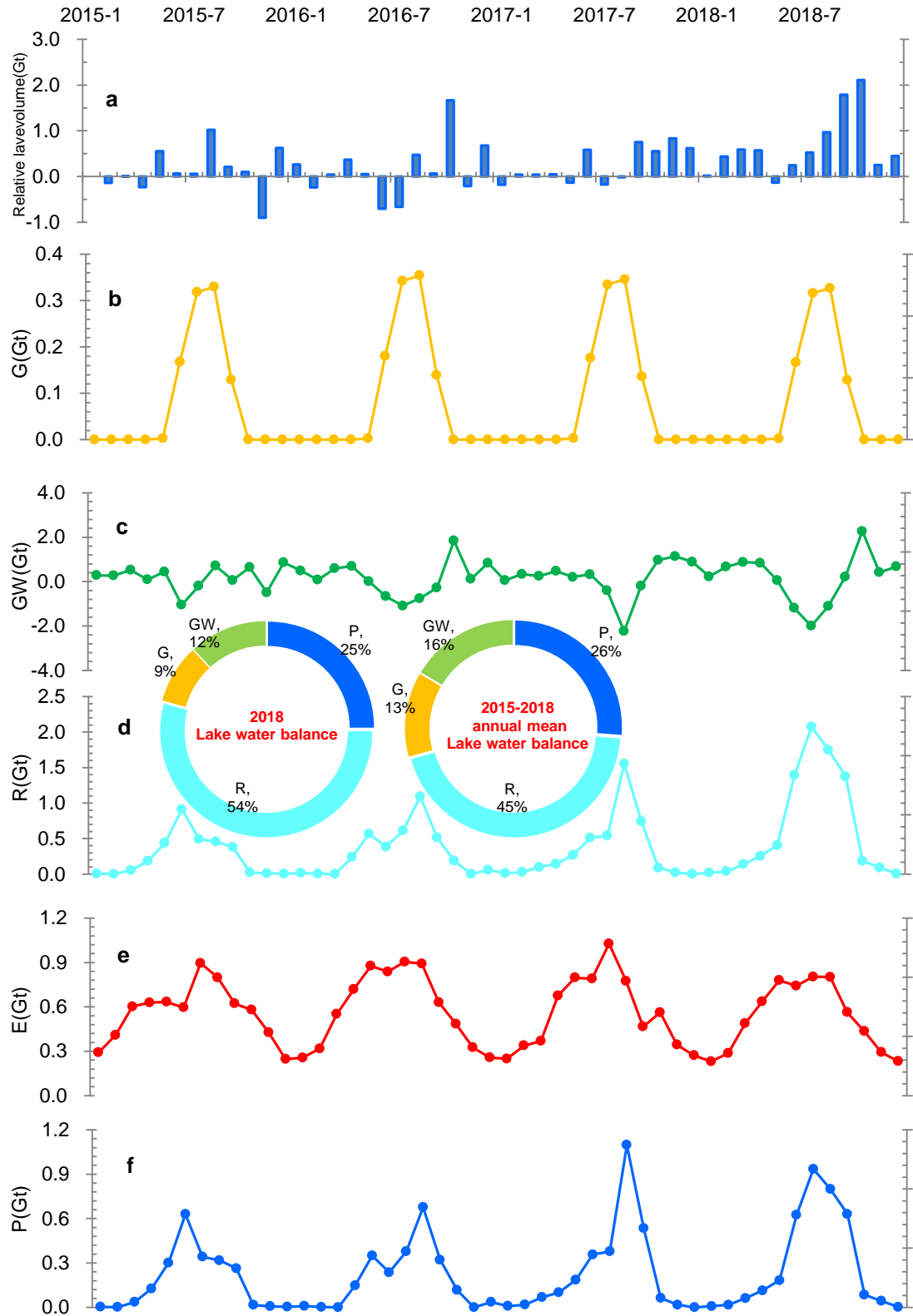


Fig. 4. Water balance in the Yan Lake basin from 2015 to 2018. (a) Monthly lake volume variations, inset graphs show the lake water balance based on lake volume (ΔV) and contributing factors. (b) Glacial meltwater (G); (c) groundwater (GW); (d) precipitation-induced terrestrial runoff (R); (e) evaporation over the lake surface (E); (f) net precipitation (P)

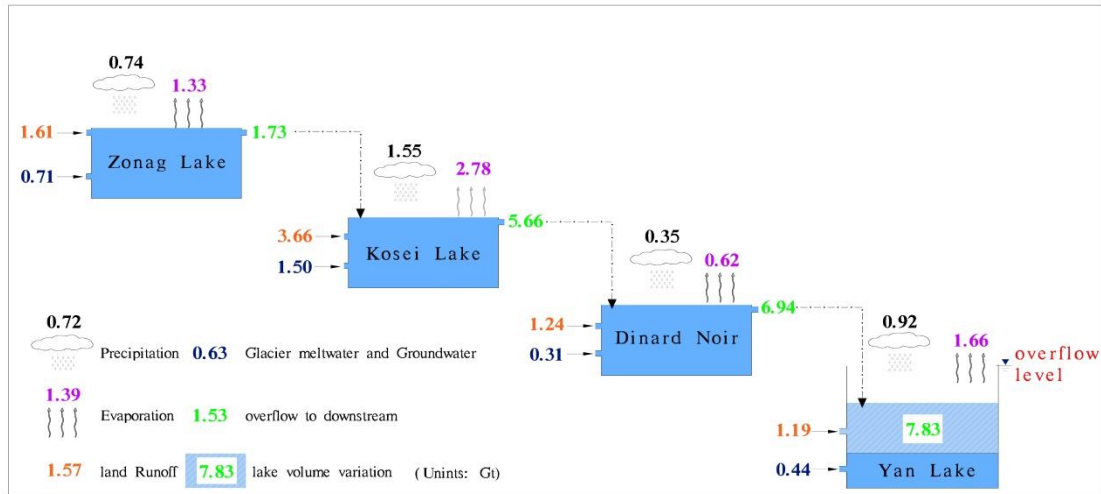


Fig. 5. Water sources and their contributions to the lake in the Yan Lake basin in 2018.

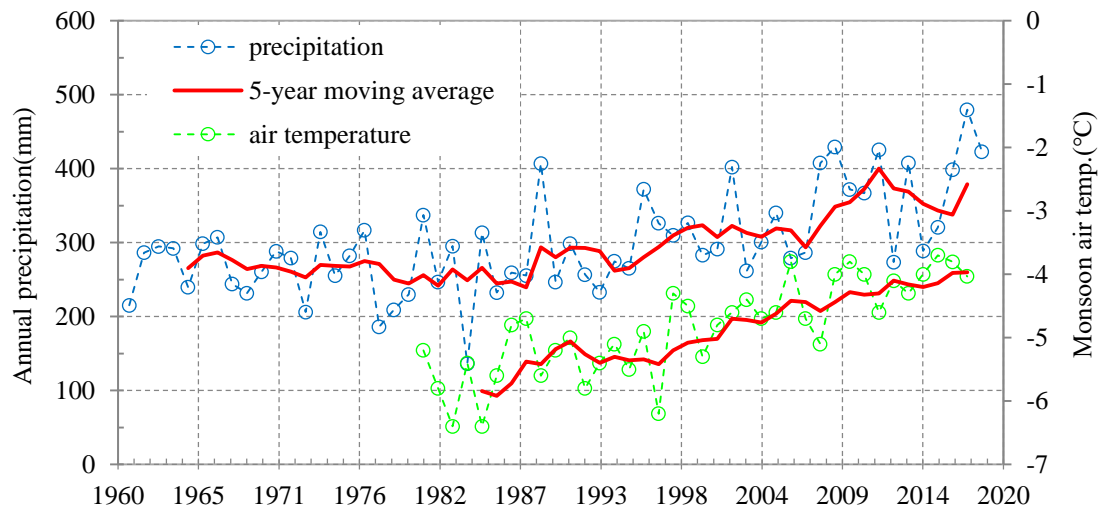


Fig. 6. Precipitation and air temperature trends in the Yan Lake basin during the monsoon seasons and the corresponding 5-yr moving averages during the period of 1961-2019.

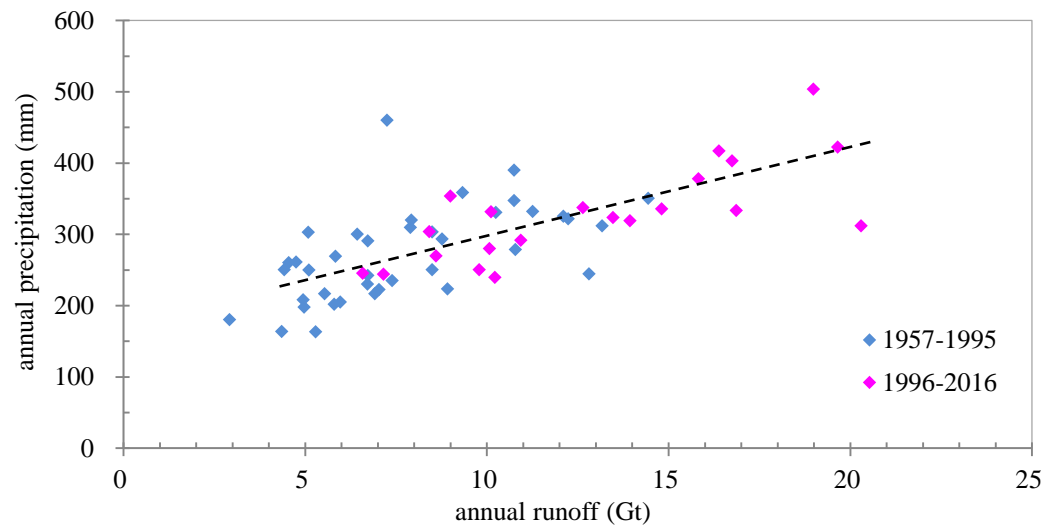


Fig. 7. Relationship between runoff and precipitation from 1957–1995 and 1996–2016 at Tuotuohe station.

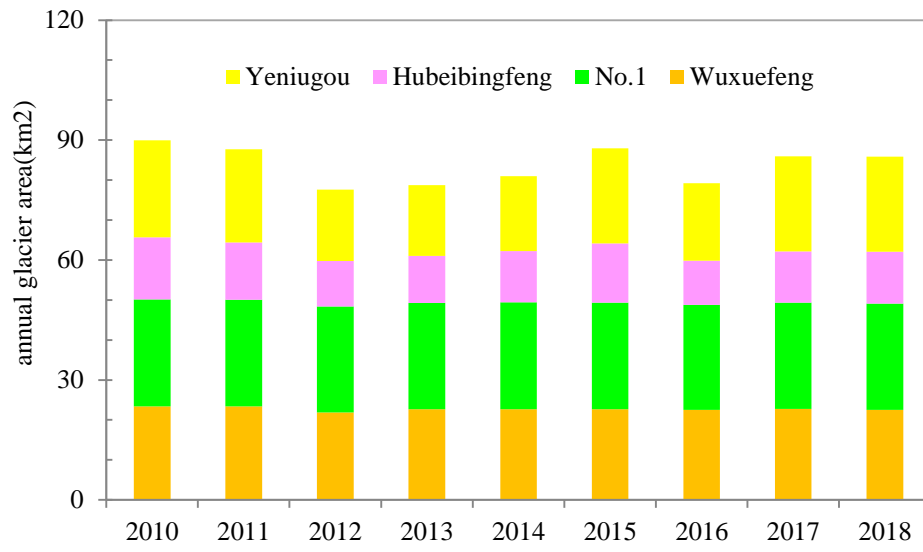


Fig. 8. Variations in glacier area during 2010–2018. The Yeniugou glacier is located to the north of Lake Yan (see Fig. 1 for locations), while Hubeibingfeng and No.1 were located in Kosei, and Wuxuefeng was in the Lake Zonag basin.