Supporting information for

Recent large inland lake outbursts on the Tibetan Plateau: Processes, causes and mechanisms

Fenglin Xu[1,2]†, Yong Liu[3]†, Guoqing Zhang[1], Ping Zhao[4], R. Iestyn Woolway[5],
Yani Zhu[6], Jianting Ju[1], Tao Zhou[1,2], Xue Wang[1,2], Wenfeng Chen[1]

[1]State Key Laboratory of Tibetan Plateau Earth System Science, Environment and Resources (TPESER),
Institute of Tibetan Plateau Research, Chinese Academy of Sciences, Beijing, China
[2]University of Chinese Academy of Sciences, Beijing, China
[3]Department of Atmospheric Science, School of Environmental Studies, China University of Geosciences,
Wuhan, China
[4]State Key Laboratory of Severe Weather, Chinese Academy of Meteorological Sciences, Beijing, China
[5]School of Ocean Sciences, Bangor University, Menai Bridge, Anglesey, UK
[6]National Meteorological Information Center, China Meteorological Administration, Beijing, China

†These authors contributed equally to this work.
Correspondence: Guoqing Zhang (guoqing.zhang@itpcas.ac.cn)

Contents of this file
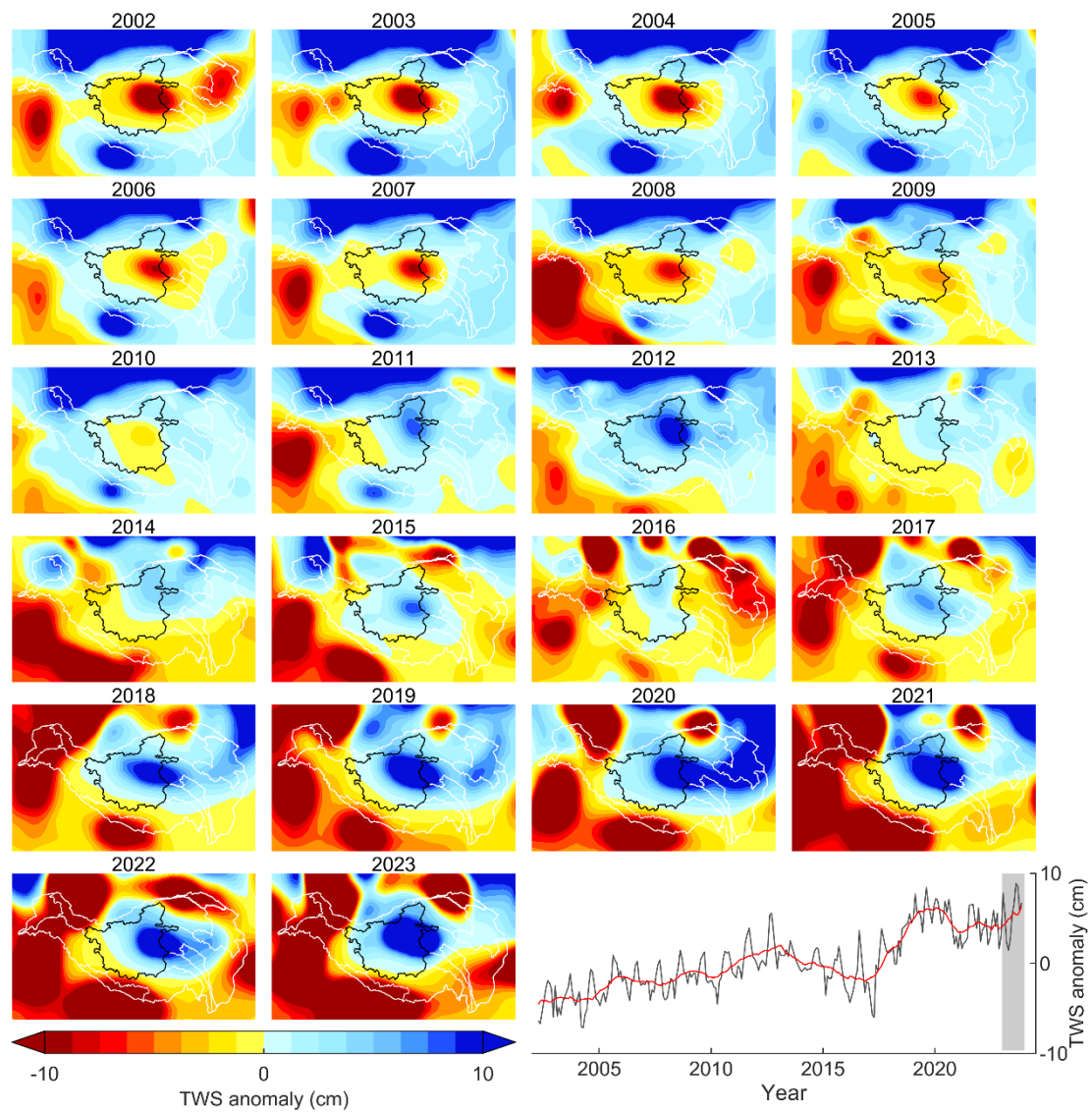
Figure S1. The change in terrestial water storage (TWS) in September, derived from GRACE data, between 2003 and 2023. Time series of total TWS anomaly in the Inner Tibetan Plateau (the area enclosed by the black line) was shown. The red curve shows the smoothed variation by use of a one-yearsliding window.
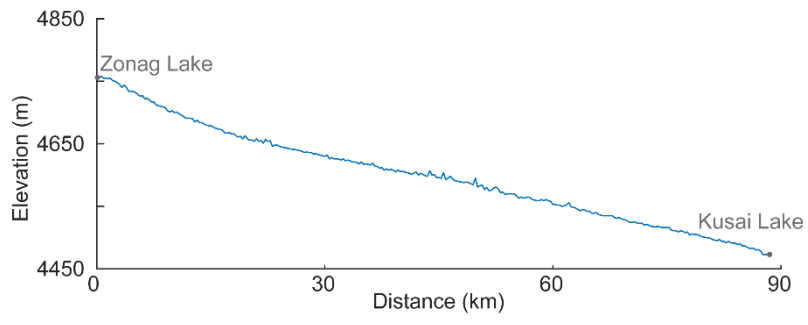
Figure. S2. The terrain gradient of river channel from Zonag Lake to Kusai Lake
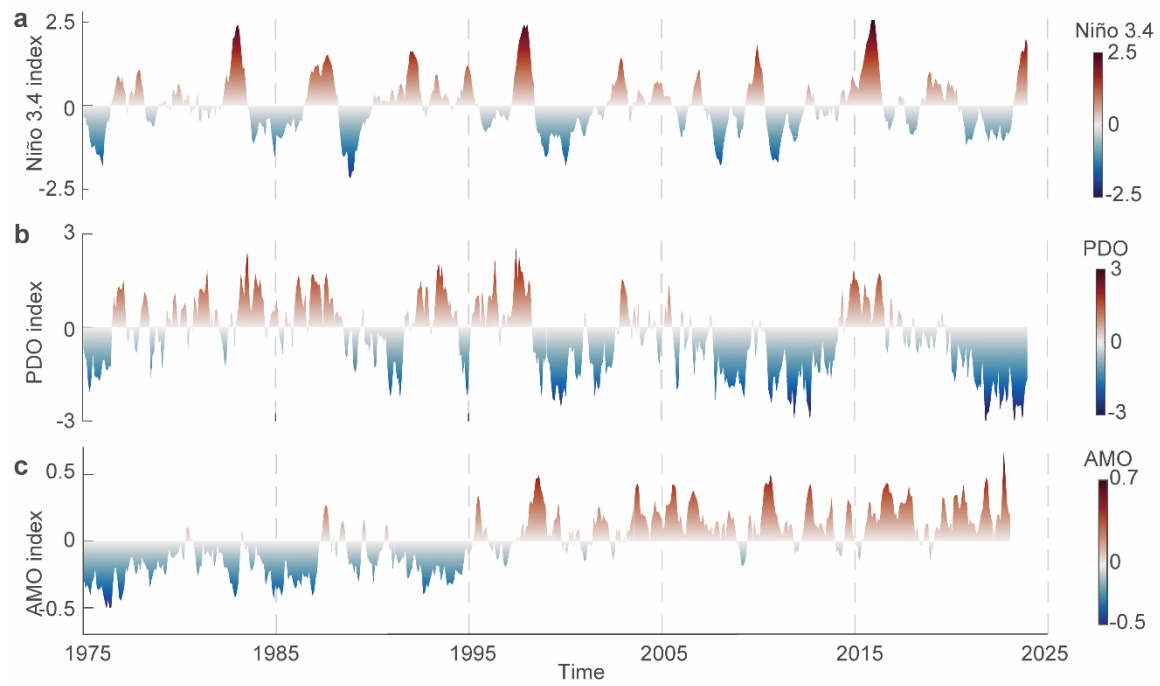
Figure. S3. (a) Niño 3.4 index, the data is obtained from https://psl.noaa.gov/gcos_wgsp/Timeseries/Nino34.

(b) AMO index, the data is obtained from https://psl.noaa.gov/data/timeseries/AMO. (c) PDO index, the data

is obtained from https://www.ncei.noaa.gov/access/monitoring/pdo.