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### Dryness-wetness change and regional differentiation of flood-drought disasters in Guangdong during 1480-1940AD

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Based on the historical records of the drought and flood disasters during 1480-1940AD, this paper reconstructs the sequences of wetness index (WI) and drought and flood disasters. We find a good identical relationship between the fluctuation of WI sequence and the 180 record of the GISP2 ice core in Greenland, which shows an apparent monsoonal diurnal pattern of moisture and temperature. By applying the Morlet Wavelet Transform Method to deal with the data, several apparent periodicities, such as 7-8a, 11-15a, 20-23a and ca 50a, are revealed, among which some can be attributed to the solar forcing. Based on results of Cluster Analysis of dry-wet changes, we resume the regional differentiation pattern of flood-drought disasters all over Guangdong during different climatic intervals in the LIA and, find that the western and northern parts of Guangdong have undergone drastic changes in drought-flood regional differentiation, but the eastern part is relatively stable, and the area of the Pearl River Delta shows stable condition of more flood disasters.

Paper (PDF)

**关键词:** Guangdong; climatic change; drought and flood disaster; regional differentiation; the LIA doi: 10.1360/gso50303