

Perceived Climatic Warming and Drying Near the Khangai Mountains, Mongolia Explored Through Station Record Length Analysis

N. B. H. Venable¹, S. R. Fassnacht¹, G. Adyabadam², Tumenjargal S.^{1,3}.
Watershed Science Program, Colorado State University

Abstract. Mongolia is a country dominated by expansive rangelands. As such, the traditional pastoral lifestyle has been maintained by many of its people. Herders rely on the natural resources that recently have been threatened by various external factors such as increasing desertification, pollution, and climate change. Temperature and hydrologic regime changes are linked to these threats and the perceptions of change have been reported by herders. Since the herder perception of hydro-climatic change does not have a definite time period, we examined the length of instrument record and the statistical significance of climatic trends for four meteorological stations near the Khangai Mountains in west-central Mongolia, and four nearby watersheds. The length of record not only dictates the significance of change, but also the rate of change. At most locations, there is significant warming with reduced precipitation at some sites in part yielding less water in the rivers. These changes may have already begun to affect herder livelihoods and the results of these analyses will guide future research.

¹ 1 Watershed Science Program, Colorado State University, Fort Collins Colorado 80523-1476

² Institute of Meteorology and Hydrology, Khudaldaany Gudamj-5, Ulaanbaatar-210646, Mongolia

³ Ministry of Nature, Environment and Tourism Mongolia, Government Building-2,
United Nation's Street-5/2, Ulaanbaatar-210646, Mongolia