

Abstract

Drought is a pervasive natural hazard, which can profoundly affect ecosystems and societies globally. To strengthen the global community's resilience to droughts, a multi-dimensional understanding of global drought awareness is imperative. Here we investigate global drought awareness at local (awareness of local droughts in the affected country), remote (awareness of remote droughts in other countries), and global levels (awareness from non-exposed countries). This study uses relevant search activity volumes of a country to drought as a proxy of national-level drought awareness. We find that the recent decade has experienced no change in drought hazard over the globe, but the global community has been increasingly seeking information about drought online, that is, elevated awareness of the global community on drought. We further find that long-lasting droughts enhance local- and global-level awareness and high gross domestic product are associated with remote-level awareness. **This study provides an observational evidence of global disparities in the awareness/interest regarding drought, underscoring a continuing role of European nations in enhancing global drought awareness.**

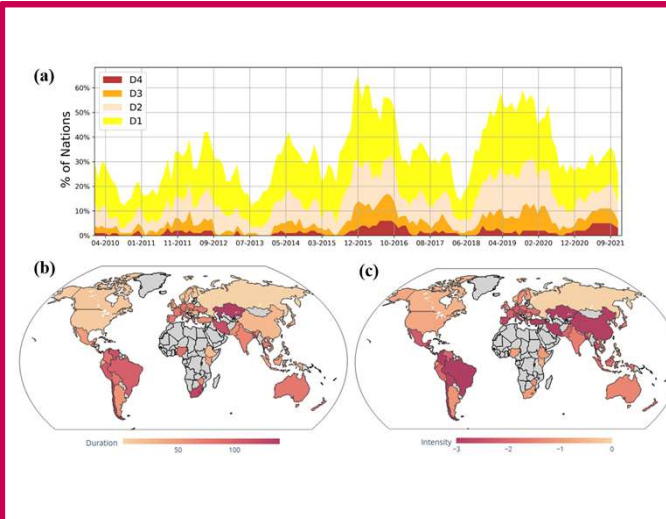


Fig. 1: Characteristics of global drought events. **a** Areal fraction under drought conditions of the 63 countries. **b** Drought Intensity from 2010 through 2021 over 63 countries globally. **c** Drought duration in months from 2010 to 2021 over 63 countries globally. D1, D2, D3, and D4 are the drought categories having $SPI_{12} \leq -0.5, -1, -1.5,$ and -2 respectively.

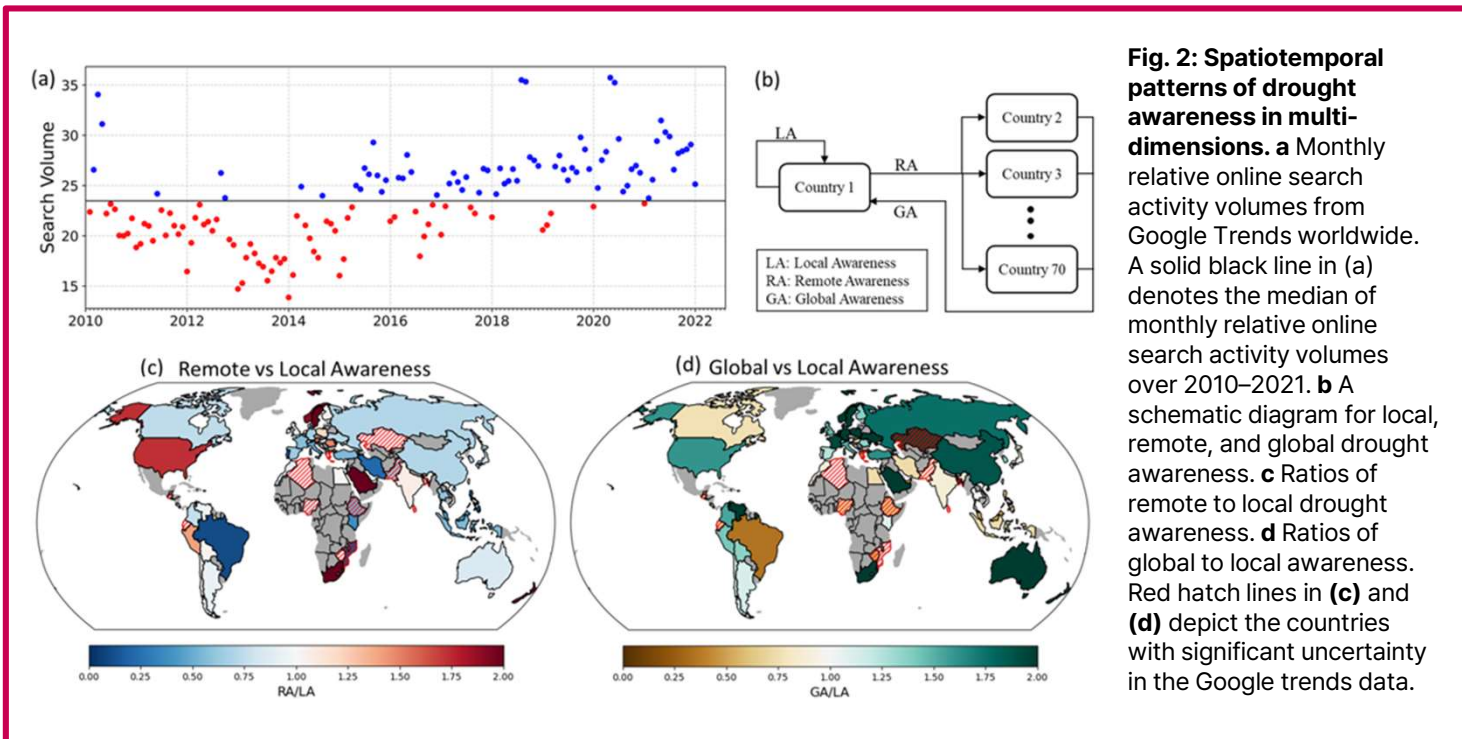


Fig. 2: Spatiotemporal patterns of drought awareness in multi-dimensions. **a** Monthly relative online search activity volumes from Google Trends worldwide. A solid black line in (a) denotes the median of monthly relative online search activity volumes over 2010–2021. **b** A schematic diagram for local, remote, and global drought awareness. **c** Ratios of remote to local drought awareness. **d** Ratios of global to local awareness. Red hatch lines in (c) and (d) depict the countries with significant uncertainty in the Google trends data.

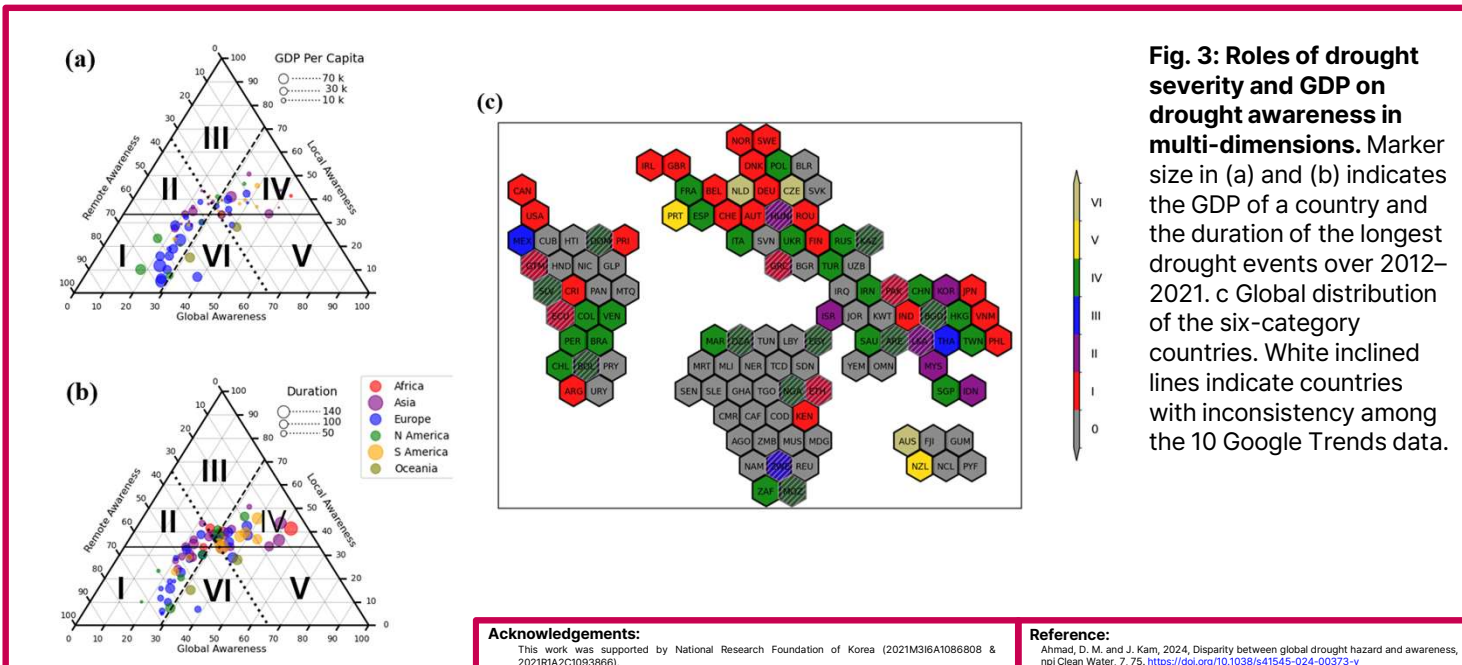


Fig. 3: Roles of drought severity and GDP on drought awareness in multi-dimensions. Marker size in (a) and (b) indicates the GDP of a country and the duration of the longest drought events over 2012–2021. **c** Global distribution of the six-category countries. White inclined lines indicate countries with inconsistency among the 10 Google Trends data.

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Reference:

Ahmad, D. M. and J. Kam, 2024, Disparity between global drought hazard and awareness, npj Clean Water, 7, 75. <https://doi.org/10.1038/s41545-024-00373-y>