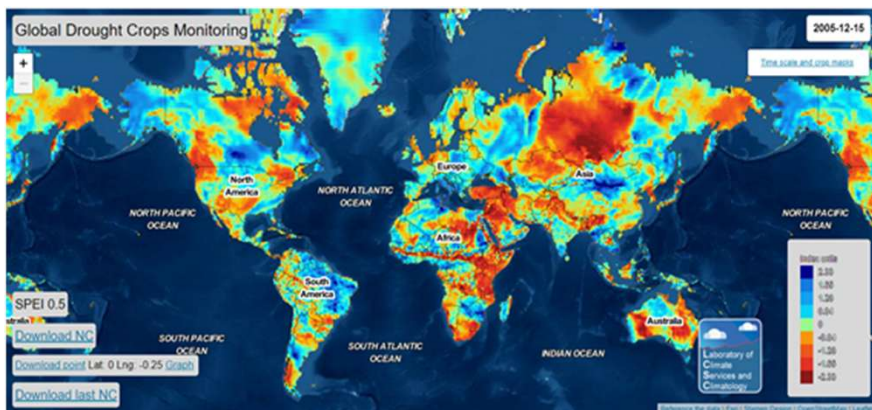


Technology Offer

CSIC/AP/011

Global-scale, real-time drought index database



The SPEI is a multi-scale drought index based on climate data that allows the objective quantification of the characteristics of drought episodes on a global scale.

Intellectual Property

Registered software

Stage of development

TRL 9

Intended Collaboration

Licensing and/or co-development

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Market need

Drought is one of the main natural causes of agricultural, economic, and environmental damage. Droughts are evident after a long period without rainfall, but their onset, extent, and end are difficult to determine. Therefore, it is very difficult to objectively quantify their characteristics in terms of intensity, magnitude, duration, and spatial extent. For this reason, much effort has been devoted to developing techniques for drought analysis and monitoring.



Proposed solution

This SPEI-based system measures drought severity based on its intensity and duration, and identifies the onset and end of drought episodes relative to normal conditions. Its calculation is based on the use of precipitation and reference evapotranspiration data at different time scales, thus including the effects of temperature variability in the drought assessment.

The system's benefits relate to the possibility of better adaptations and more effective mitigation measures.

Competitive advantages

- This index allows for the identification of different types of drought and their effects in real time and in the context of global warming.
- It can be used in various natural and managed systems, such as crops, ecosystems, rivers, water resources, and other climate regions.
- Multidisciplinary application: drought monitoring, risk assessment, and climate change studies.