



Contextualized indicators for drought

PhD From 2019-2023 | Total budget € 75,000

In Northeast Brazil, droughts have affected water resources and the human activities depending on them. The mainly agricultural water uses reciprocally affected the water balance and increased vulnerability to drought. Their influence is however difficult to quantify as the existing monitoring systems are not equipped to inform the stakeholders about the impacts of their actions.

As the majority of studies focus on the physical impacts of droughts and the overexploitation of natural resources, we propose a novel approach based on the explicit inclusion of two-way feedback between human and water systems, a key aspect of socio-hydrology. The aim of this PhD is to determine (i) the influence of human activities at specific locations and times on droughts and reciprocally (ii) how droughts affect them.

The objective is to link these results, based on water accounting data, to water and drought management tools for decision making and makers. It is aimed to build feasibility indicators of practices taking into account three human-related water dimensions: water use, water management and virtual-water transfer. This approach and its replicable pattern could benefit other semiarid regions affected by droughts.

More information:

www.wur.eu/diagnosingdrought

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