iRain

Dossier de
 la rÃ©daction de H2o
December 2016

New mobile App to promote citizen-science and support water management

iRain is an invitation for people everywhere to help monitor the impacts of the climate on the water cycle. This new App will crowd-source data on rainfall, which is essential for water resource planning and preparing for floods and droughts. It was launched during the UN Climate Change Conference (COP22) by UNESCO's International Hydrological Programme (IHP) and the Center for Hydrometeorology and Remote Sensing (CHRS) at the University of California-Irvine, during a side event at the UNESCO Pavilion, in the civil society area.

The iRain Mobile App is designed to facilitate citizens' involvement in collecting local data for global precipitation monitoring. It allows users to visualize real-time global satellite precipitation observations, track extreme precipitation events worldwide, and report local rainfall information using crowd-sourcing functionality of the App to supplement the data. A useful feature of iRain is that real-time rainfall observation data can be easily shared through social networks such as Facebook and Twitter.

This crowd-sourced data will feed into existing tools that use remote sensing technologies and artificial intelligence to estimate rainfall globally from satellite imagery in near real-time (the G-WADI PERSIANN-CCS GeoServer). Within the framework of The Global Network on Water Resources Management in Arid and Semi-Arid Zones (G-WADI), IHP collaborated with the Center for Hydrometeorology and Remote Sensing (CHRS) of the University of California, Irvine, on the development of tools to provide access to global satellite estimates of precipitation at high spatial and temporal resolutions. These tools are used to inform emergency planning and management of hydrological risks, such as floods, droughts, and extreme weather events. For example, the Namibia Drought Hydrological Services (NHS) prepares a daily bulletin with up-to-date information on flood and drought conditions for local communities using the PERSIANN-CSS tools. In fact, the building blocks of iRain rest on satellite precipitation estimates generated by the PERSIANN algorithm, which has been under development for over two decades. The real-time global high-resolution (~4 km) satellite precipitation products from PERSIANN-CCS will be accessible using the App. New technologies are key driver of the recent success of citizen science activities, and applications such as this one engage non-scientists in the collection of local data, that can later be used by national and local authorities to prepare adaptation measures and better manage their water resources under climate change. This effort is a component of UNESCO-IHP's strategy to promote collaboration among scientists, stakeholders and governments in order to prepare adaptation measures based on evidence-informed decision-making. Collaboration among all stakeholders is crucial to addressing global challenges and achieving common goals with a stronger focus on scientific and social values. UNESCO-IHP has prepared a tutorial to facilitate use of the App. iRain is available for iOS. A version for Android devices is currently under development.

More information aboutÂ PERSIANN-CCS

Â iRain Tutorial

Â

Â