



Trans-African Hydro-Meteorological Observatory

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Our computing capacity to model hydrological processes is such that we can readily model every hectare of the globe's surface in real time. Satellites provide us with important state observations that allow us to calibrate our models and estimate model errors. Still, ground observations will remain necessary to obtain data that can not readily be observed from space. Hydro-Meteorological data availability is particularly scarce in Africa. This presentation launches a simple idea by which Africa can leapfrog into a new era of closely knit environmental observation networks. The basic idea is the design of a robust measurement station, based on the smart use of new sensors without moving parts. For example, instead of using a Eu 5000 long-wave pyrgeometer, a factory calibrated IR microwave oven sensor is used that costs less than Eu 10. In total, each station should cost Eu 200 or less. Every 30 km, one station will be installed, being equivalent to 20,000 stations for all of sub-Saharan Africa. The roll-out will follow the XO project ("€100 computer") and focus on high schools. The stations will be accompanied by an educational package that allows high school children to learn about their environment, measurements, electronics, and mathematical modeling. Total program costs lie around MEu 18.