ID: Type: **Poster**

for Rain Monitoring and Flood Prevention Risk Oriented Citizen in Dakar

Senegal like Sahel countries, has experienced a very long and persistent drought from 70s to 90s impacting dramatically society and economy. Since 2000s, annual rainfall amount is being recovered with an increase of extreme events and floods mainly in most populated urban areas and suburbs like Dakar. In addition, the existing infrastructure for weather and environmental observation and the present local rainfall and hydrology process knowledge are far from sufficient. To fight against floods and ensure good protection and mobility for people during rainy seasons, we propose to set up a centralized monitoring platform with our meteorological observation network, integrating with Satellite data and IMS data to be able to prevent heavy rain events and ensure real-time rain monitoring allowing good mobility by indicating low risk areas in Dakar and to help addressing SDGs 6, 10 and 11 . It consists of a central system (data storage and processing), a web application (real-time visualization) and a mobile application for citizens (rainfall and floods map, alert system for possible heavy rain, ...). Machine Learning will be used for analysis taking into account physical environment and rain spatio-temporal variability.

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Track Classification: Theme 3. Verification Technologies and Technique Application