Can Drought and Flood Hazards be Skillfully and Robustly Assessed at Fine Spatial Resolution in Maldives and Sri Lanka?

Goal : To develop operational drought, flood and landslide hazard assessments using climate, terrestrial and societal information and to assess drought, flood and landslide risk more reliably in Sri Lanka and the Maldives.

Duration : 2015-2019

Foundation for Environment, Climate, and Technology [FECT] | Maldives Meteorological Services [MMS] | NASA's Goddard Space Flight Center [GSFC] | Maldives National University [MNU] | University of Peradeniya [UoP] | Ministry of Disaster Management.

Sponsors: US National Academy of Sciences and USAID.

Summary :

Current drought and flood disaster hazard estimations do not combine separate indicators from models, observations, and remote sensing into an overall assessment or provide a way to cope with shortfalls in data in real time; we hope to implement a hazard analysis framework for combining multiple terrestrial indicators from satellite observations and climate/hydrological model simulations to assess hazard risks and impacts of climate variability. These assessments shall be evaluated for utility in decision support for disaster management.

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Image credits - Creator:Eranga Jayawardena

OBJECTIVES

- » Engage with Key stakeholders
- » Develop Data resources
- » Develop Historical hazard indices
- » Assess multiple methodologies for hazard estimation
- » Assess vulnerability and resilience for the different hazards
- » Assess predictions from satellite and model predictions
- » Develop multivariate hazard estimation methodology
- » Diagnose physical underpinnings of differences of multivariate indices
- » Capacity building through improving infrastructure and training

Anticipated Development Outcomes :

- Improved risk management and policy making
- Use of advanced climate information
- Application of near-term climate change info
- Expertise in application of near-term climate change information
- Training of undergraduates, researchers, disaster managers.

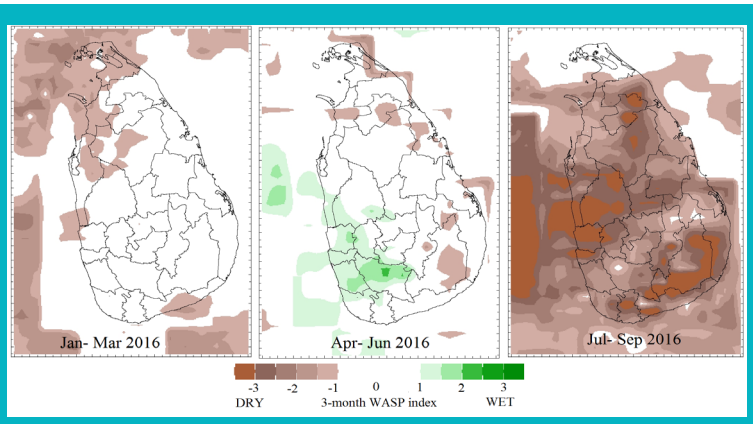
Affected People by the drought by 13th October 2016

Pic. from : http://www.redcross.lk

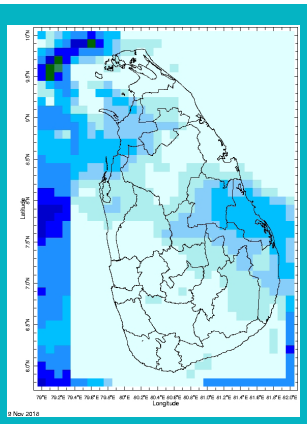
What has been done?

I. Climate Analysis & Tools – Progress

- Compilation of climate predictions
- Ongoing weekly & monthly dissemination of climate reports
- Developed tools for drought monitoring



Drought Estimates Using the 3-Month WASP Index



Satellite Rainfall Estimate

II. Dissemination and Training

- Conference contribution
- Training of junior scientists
- Conducting University lectures at University of Peradeniya,
- Sri Lanka & Maldives National University, Maldives
- Web & social media dissemination of products
- Workshops, media outreach

III. Case Studies

- Prof. Wickramagamage and FECT scientists (P. Agalawatte, Ruchira Lokuhetti) visted the landslide at Aranayake, July 2016
- We investigated the May 2016 flooding in Akurana, Sri Lanka

May 2016 Flooding in Akurana, Sri Lanka

Landslide at Aranayake, July 2016

TEAM

Principal Investigator (P.I.) :
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Co-PIs :
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