15th AOGEO Symposium

"Enhancing resilience for water-related disaster risks: Seeking opportunities for further collaboration"

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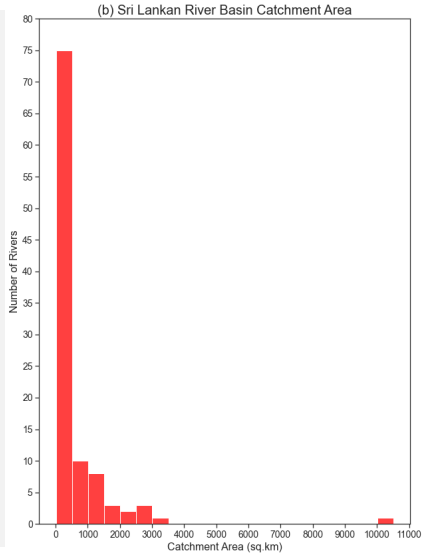
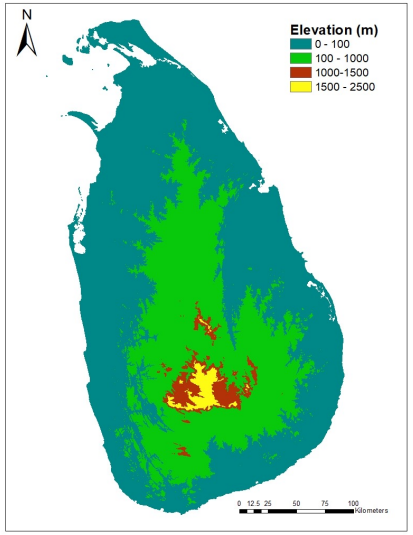
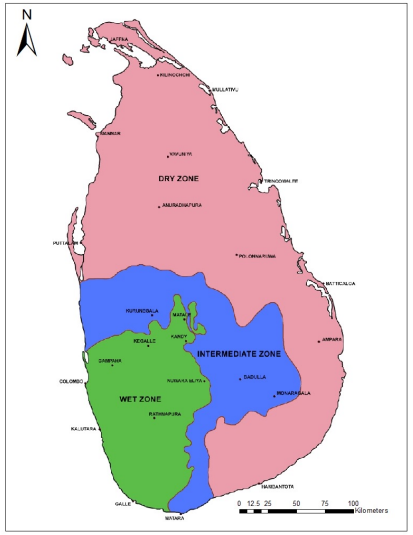
Sri Lanka

Sri Lanka

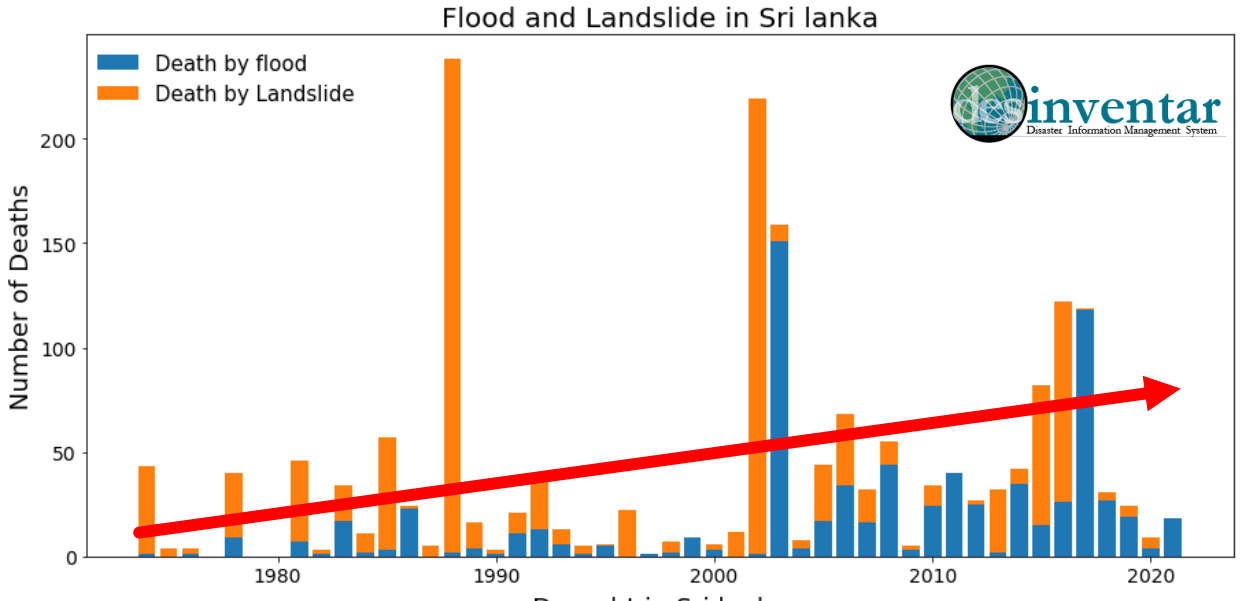
- Country in South Asia
- Population : 22 million
- Topography : 0 to 2525 m
- 103 river basins
- 4 climatic seasons
- 3 climatic zones
- 2 main agricultural seasons

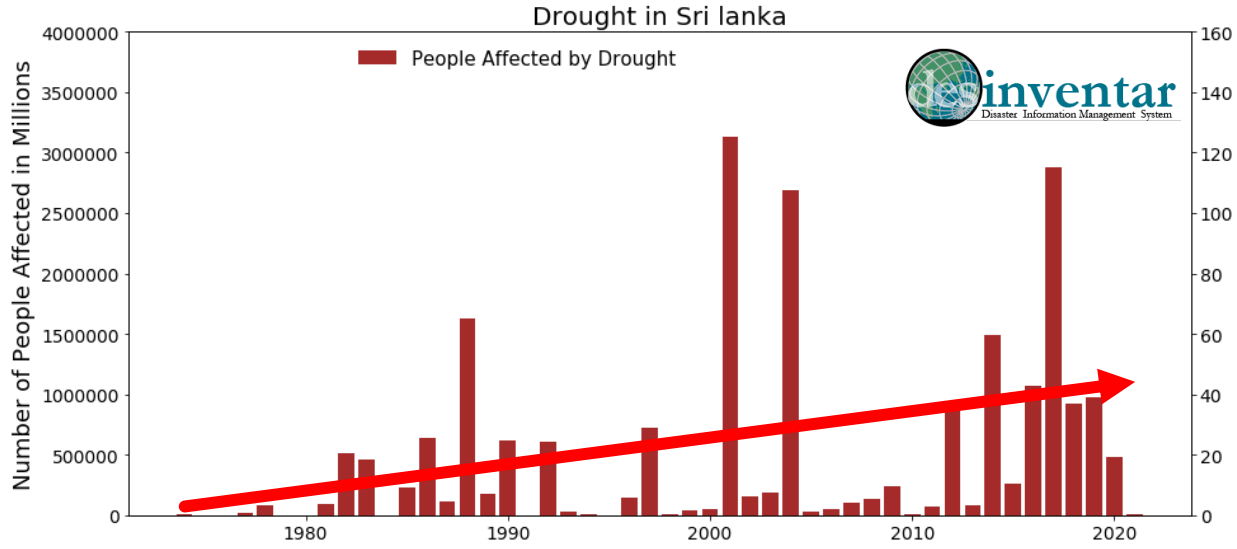






Climatic Seasons	Intermediate-2 (IM-2) (400 ~ 1200 mm)		North East Monsoon (NE) (500 ~ 1200 mm)			Intermediate-1 (IM-1) (100 ~ 250 mm)		South West Monsoon (SW) (1000 ~ 4000 mm)				
Months	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*
Agriculture Seasons	Off 2		Maha Season			Off 1		Yala Season				Off 2



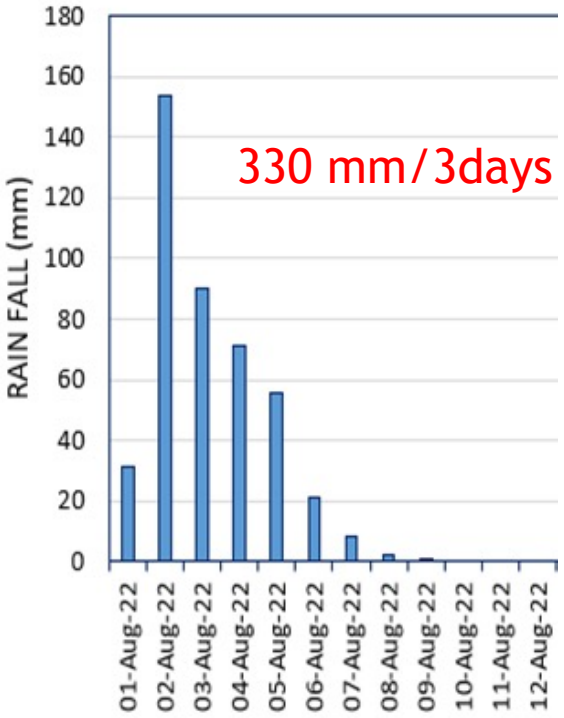


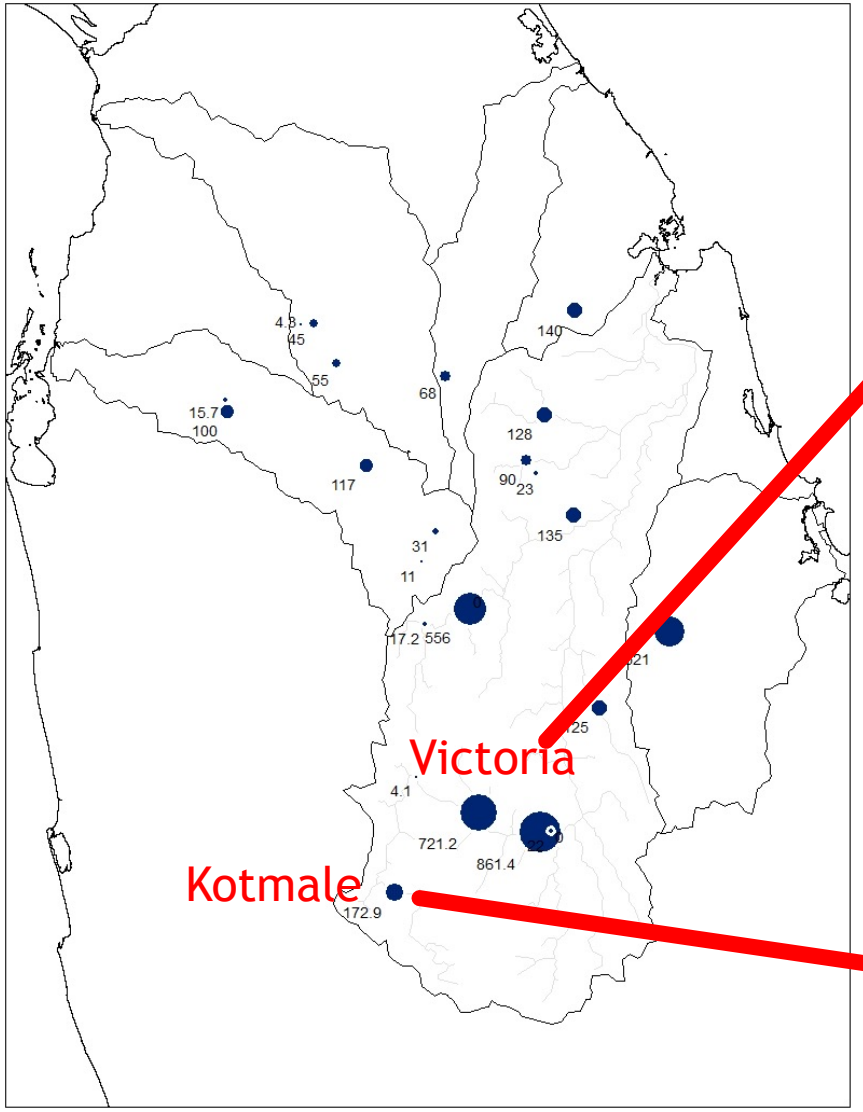
GLOBAL CLIMATE RISK INDEX 2019

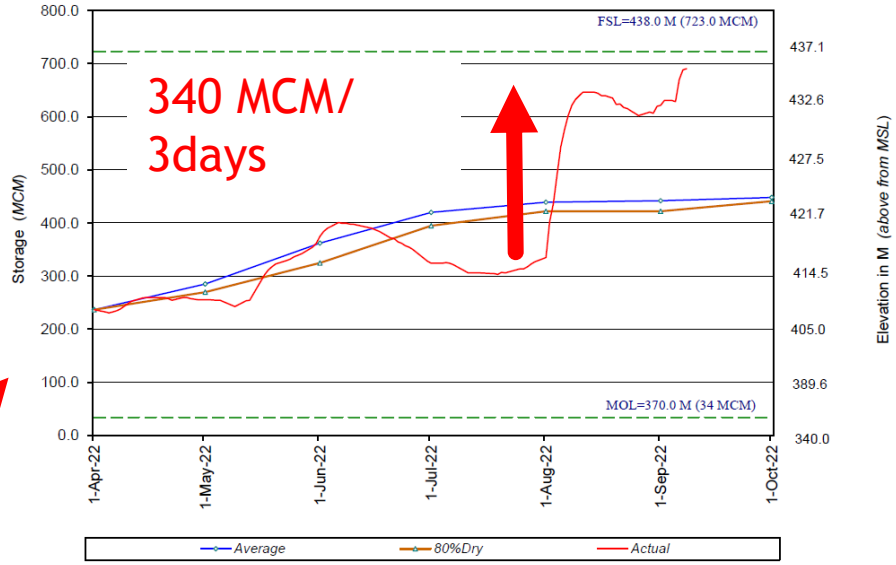
Ranking 2017 (2016)	Country	CRI score	Death toll	Deaths per 100 000 inhabitants	Absolute losses (in million US$ PPP)	Losses per unit GDP in %	Human Development Index 2017[10]
1 (105)	Puerto Rico[11]	1.50	2 978	90.242	82 315.240	63.328	-
2 (4)	Sri Lanka	9.00	246	1.147	3 129.351	1.135	76
3 (120)	Dominica	9.33	31	43.662	1 686.894	215.440	103
4 (14)	Nepal	10.50	164	0.559	1 909.982	2.412	149

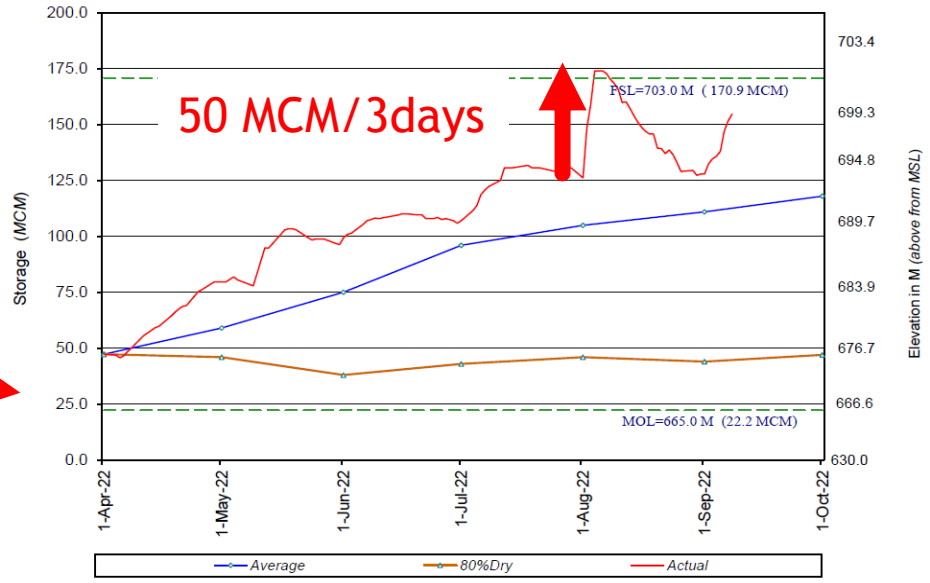
Challenges and Gaps

In August 2022







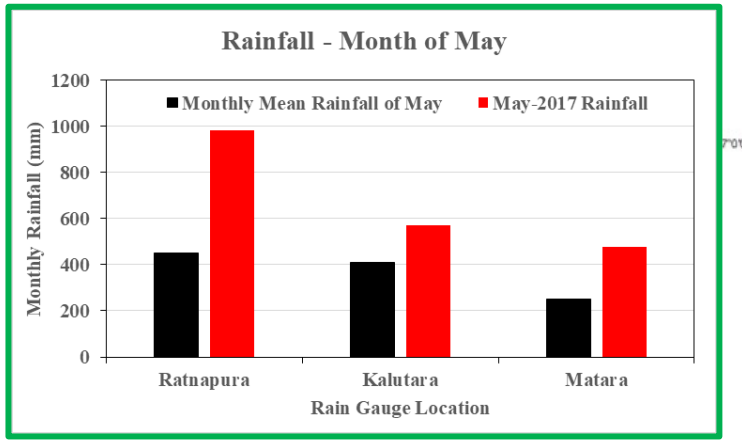


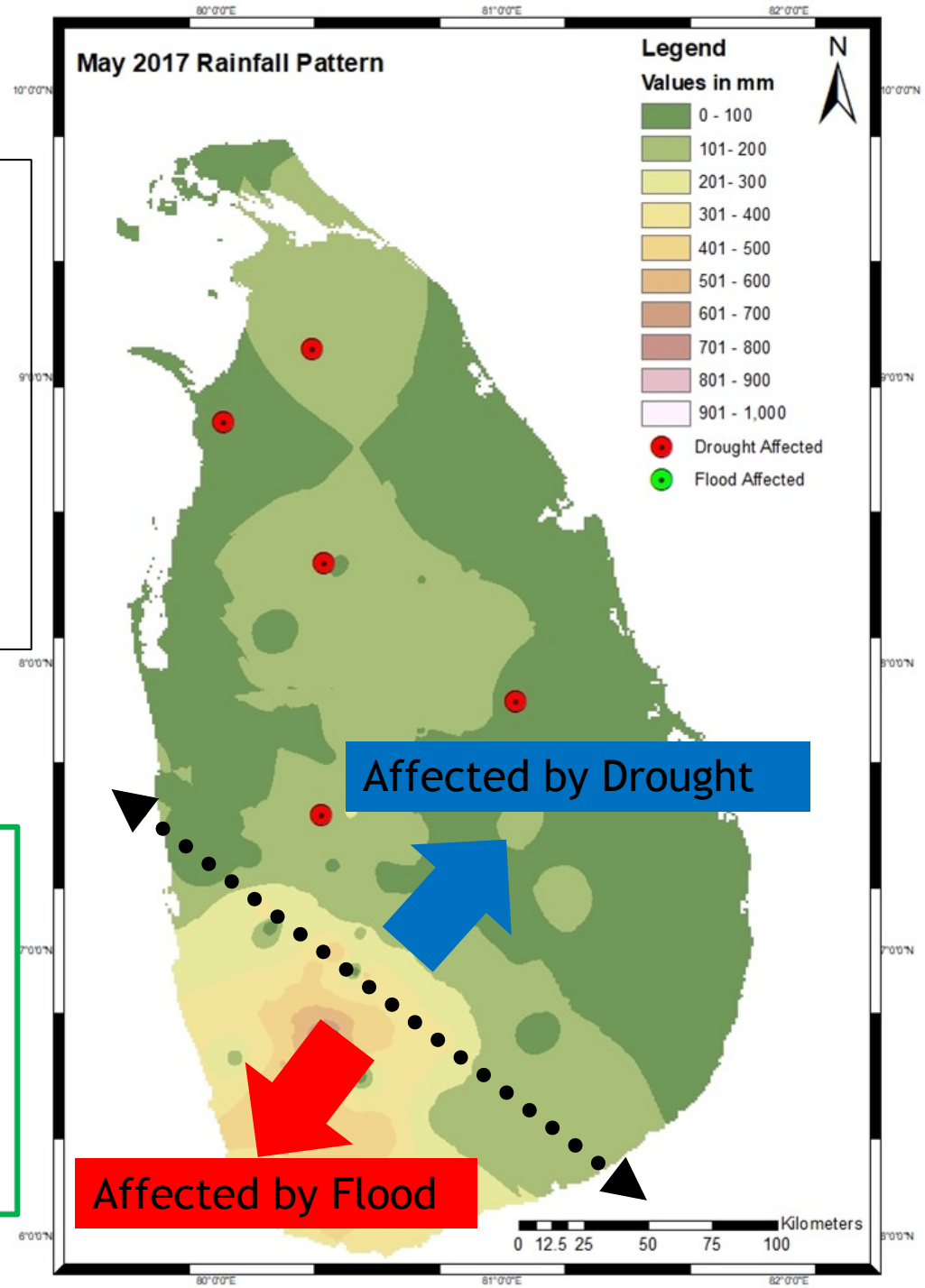
Challenges

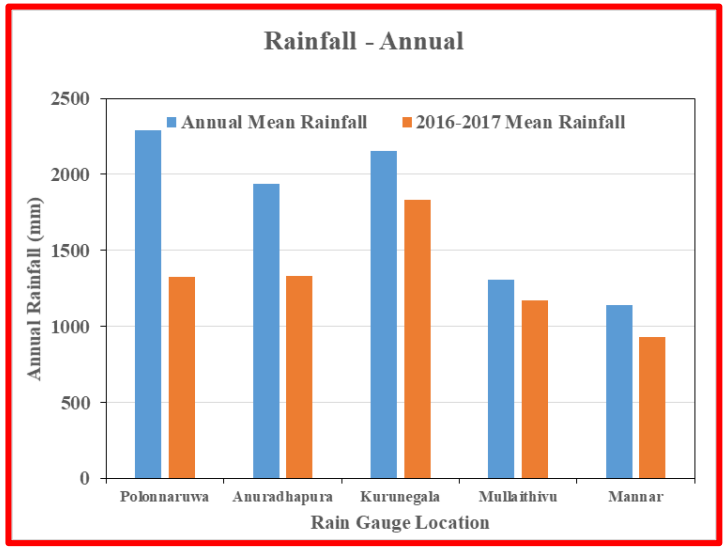
battled through

- A cyclone (Mora)
- Heavy monsoon rains
- Landslides
- Worst floods

213 CAUSALITIES and about 600,000 displaced





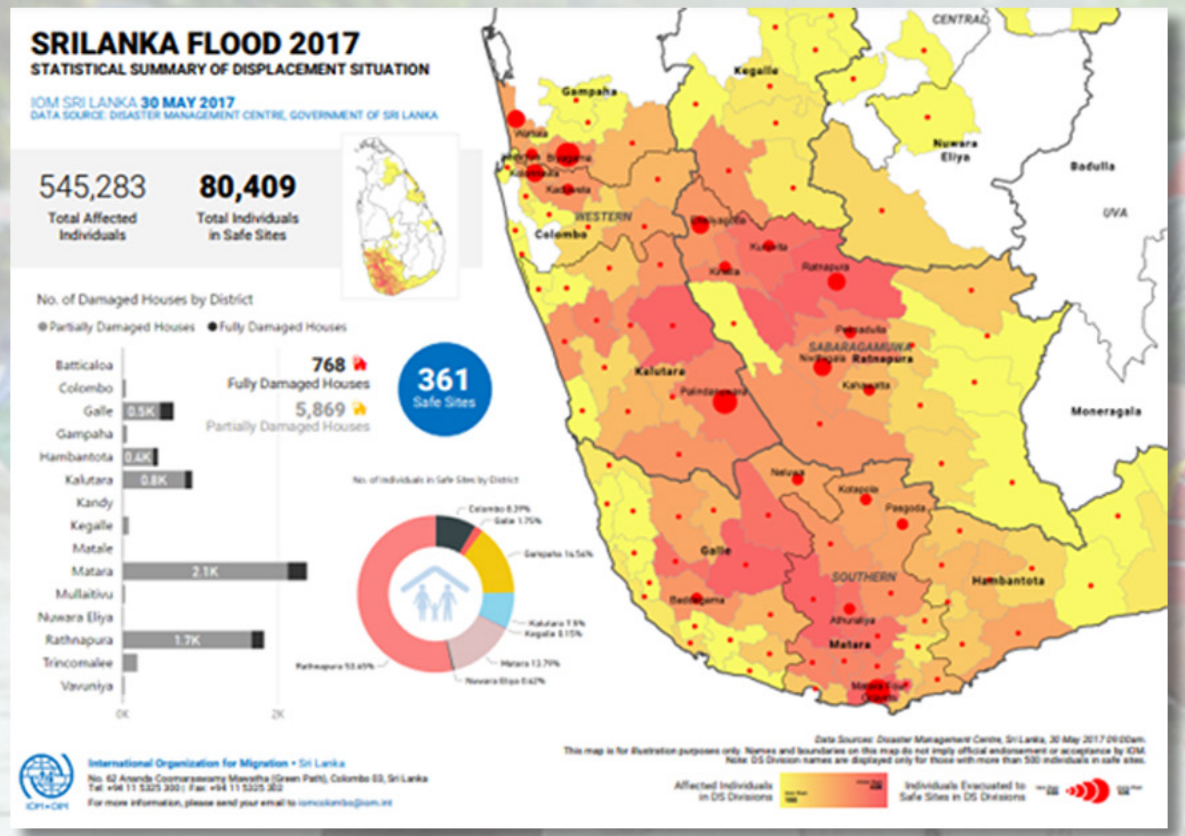


While;

Experiencing the worst drought of last two decades (2016-2017)

- 850,000 people directly affected
- Only 35% of the paddy land cultivated (November 2016)
- Out of which around 65% were harvested (March 2017)

Cross-Sectoral and Interdisciplinary Corporation



Soon after the historic flood in 2017, Japan has extended its support by providing relief and assisting with Disaster Expert Team. Under the International Flood Initiative (IFI) framework, a cross-sectoral dialogue and cooperation for participatory water governance have been implemented.

IFI promotes an integrated approach to flood management to take advantage of the benefits of floods and the use of flood plains while minimizing the social, environmental and

INTERNATIONAL FLOOD INITIATIVE
UNESCO • WMO • UNU • ISDR

Platform on Water Resilience and Disasters in Sri Lanka

Under IFI scheme, for strengthening Water-related Disasters Resilience and Enabling Sustainable Development in Sri Lanka, the Platform on Water Resilience and Disasters was established with the support of ICHARM in 2017.

OSS-CCRA

Online Synthesis System for Climate Change Resilience & Adaptation

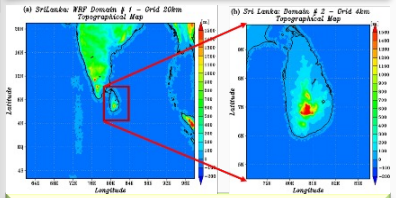
Flood Early Warning & Risk mapping

Climate Change Impacts Assessments

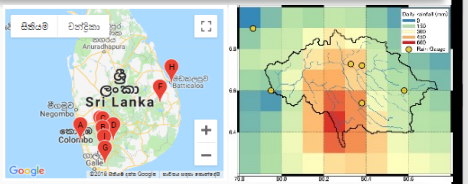
Capacity Building for Facilitators

Basin Scale

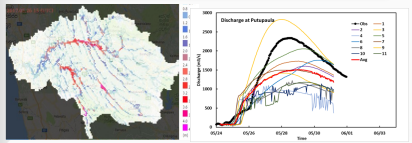
Rainfall forecasting



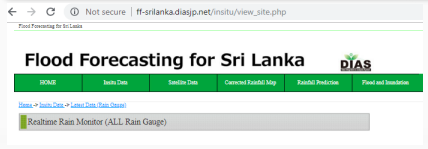
Rainfall monitoring and integration



Flood monitoring & forecasting

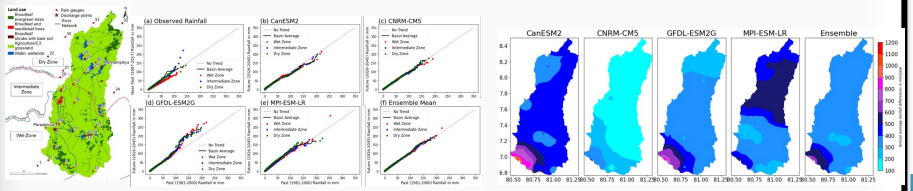


Visualization & Online dissemination

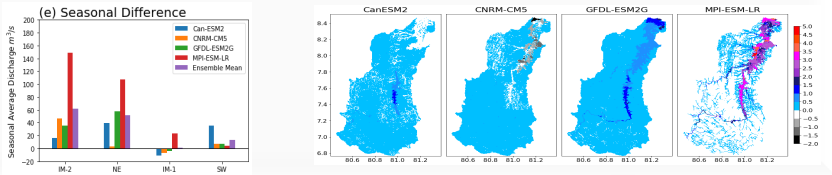


Basin

GCM projected rainfall downscaling and impact assessments on rainfall

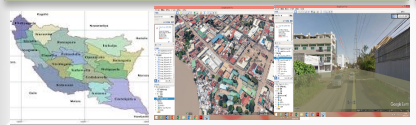


Qualitative and quantitative Changes in river discharges and floods



Hot-spot

High-resolution flood inundation mapping (2-D, 3-D)



Support planning of evacuation, prevention, rescue, and recovery

- Hazard & Risk Information
- Crisis management & resource allocation tools

Hot-spot

High-resolution flood hazard mapping (2-D, 3-D)

Evidence-based long-tern planning policy making

- Hazard & Risk Information
- Optimized dam and irrigation practices (hydropower vs irrigation)

Disaster

Disaster

Contingency planning with national and local agencies

Economic Impacts of disasters

Adaptation planning

E-Learning Materials (Lectures & tutorials)

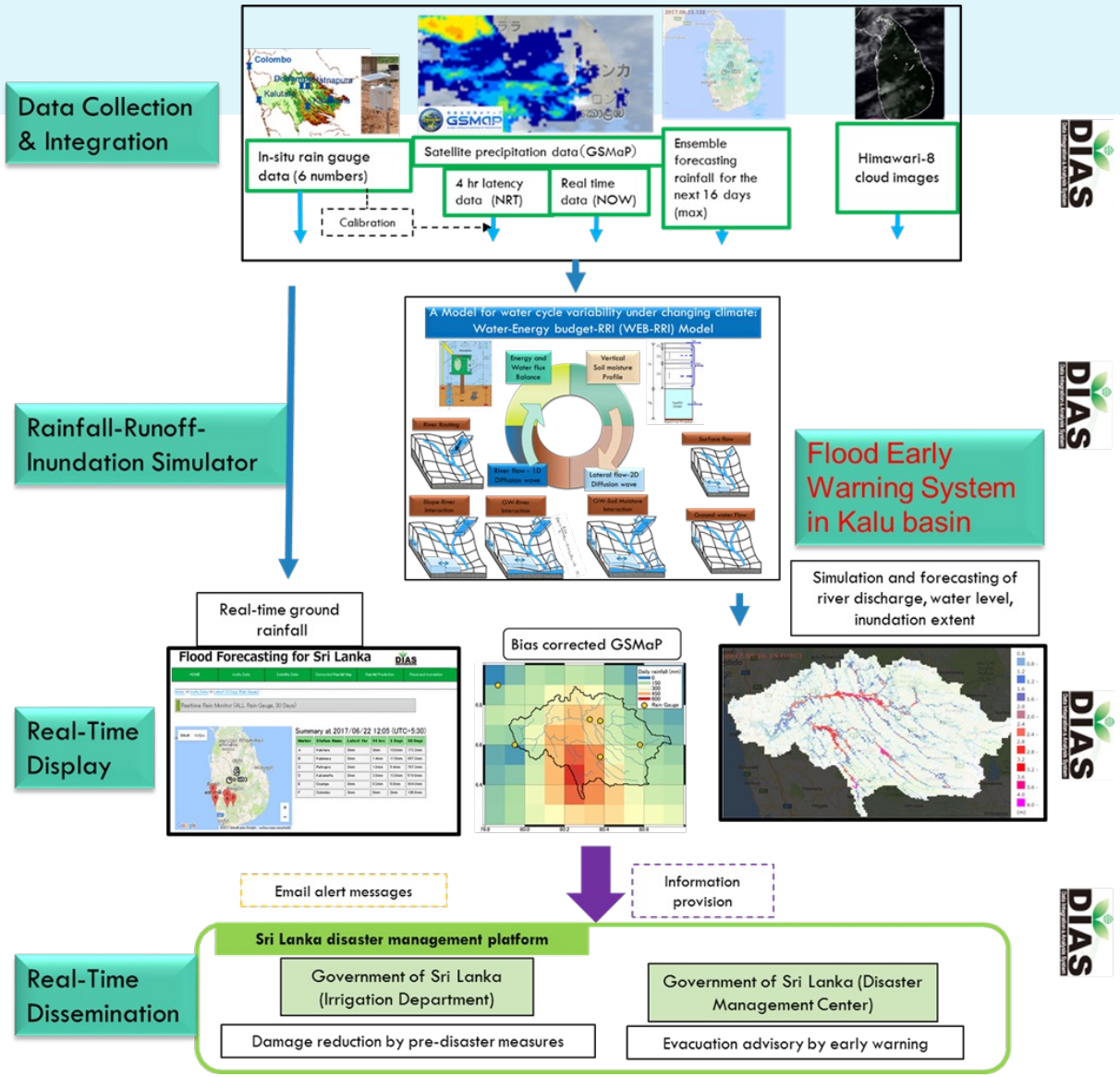
-Flood Early Warning
- Ensemble rainfall forecasting
- Rainfall monitoring and integration
- Flood modeling
- Flood mapping (2-D, 3-D)
- Contingency planning
- Disaster impact assessment

- Climate Change Impact Assessments
- GCM downscaling
- Flood modeling & hazard mapping
- contingency planning
- Dam optimization

Flood Early Warning

Early Warning System for Kalu River Basin (Operation in DIAS)

http://ff-srilanka.diasjp.net



- One week ahead ensemble rainfall forecasting
- Rainfall monitoring and integration (use of automated rain gauges for bias correction of GsMap data with ground data)
- Flood monitoring and forecasting
- Visualization and online dissemination

DIAS
Data Integration & Analysis System

Thank you very much