

Country Report - Water Topics

SRI LANKA

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Water Resources in Sri Lanka

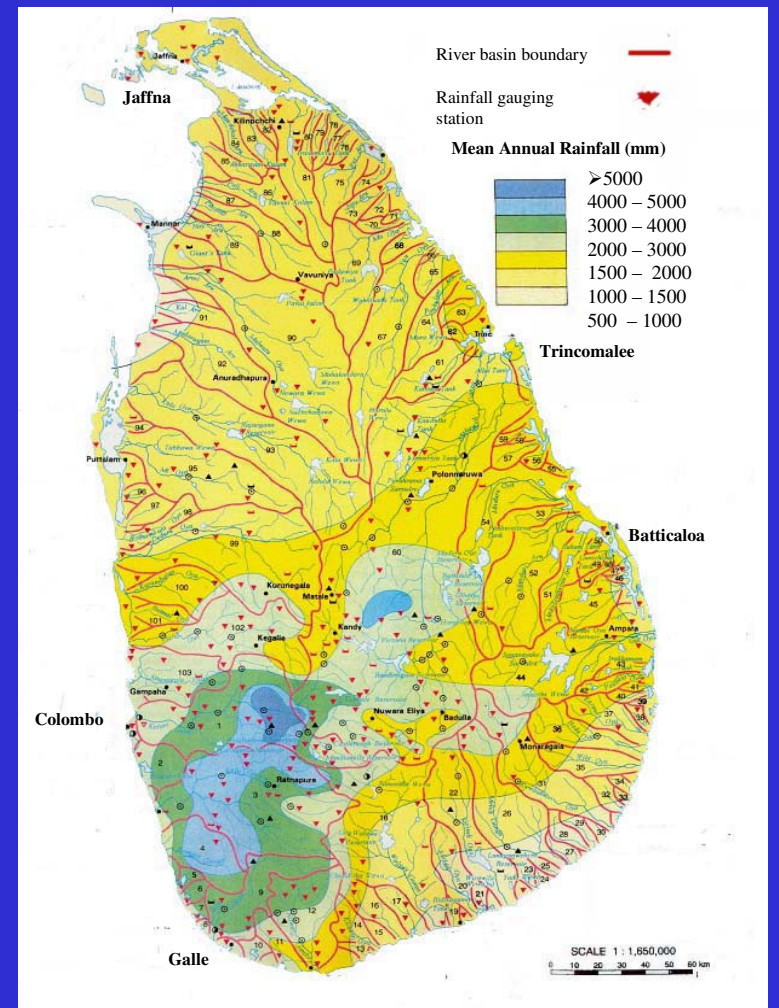
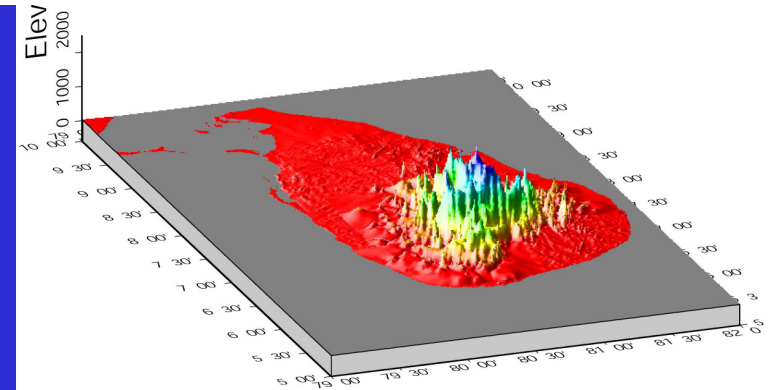
- Sri Lanka has 103 river basins with sizes varying from 10 - 10³ km².

- High spatial and temporal variation of rainfall

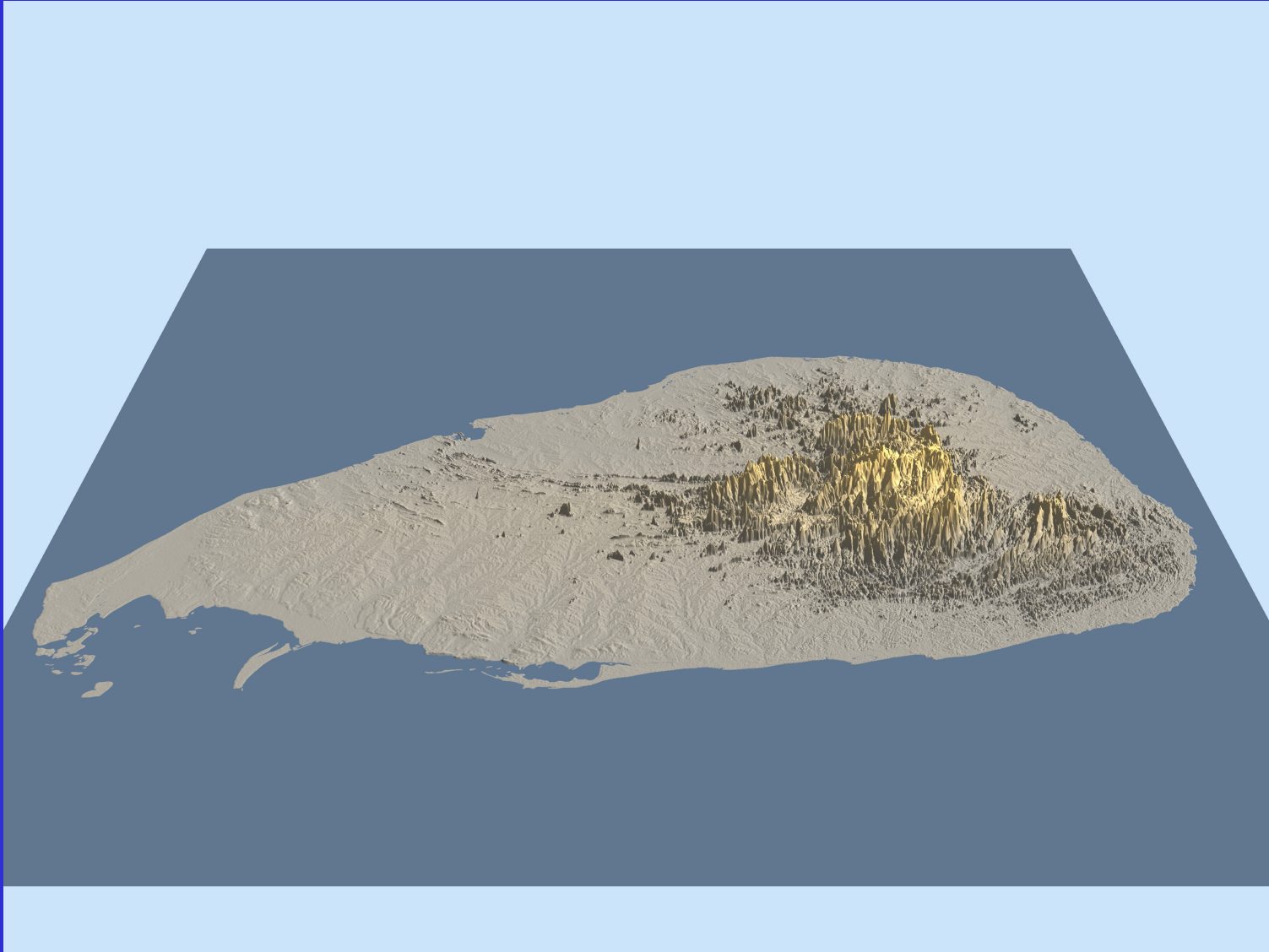
Water resources issues -

- Floods , urban floods
- Water scarcity

- There are only 35 stream flow measuring stations



Sri Lankan topography



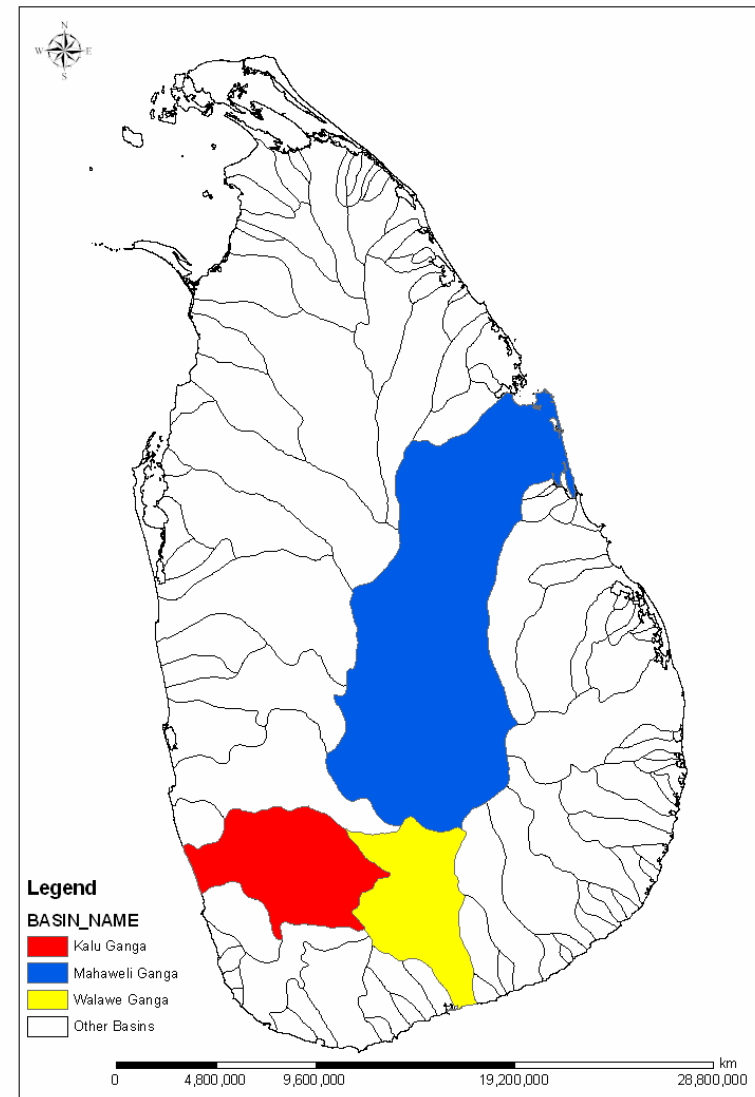
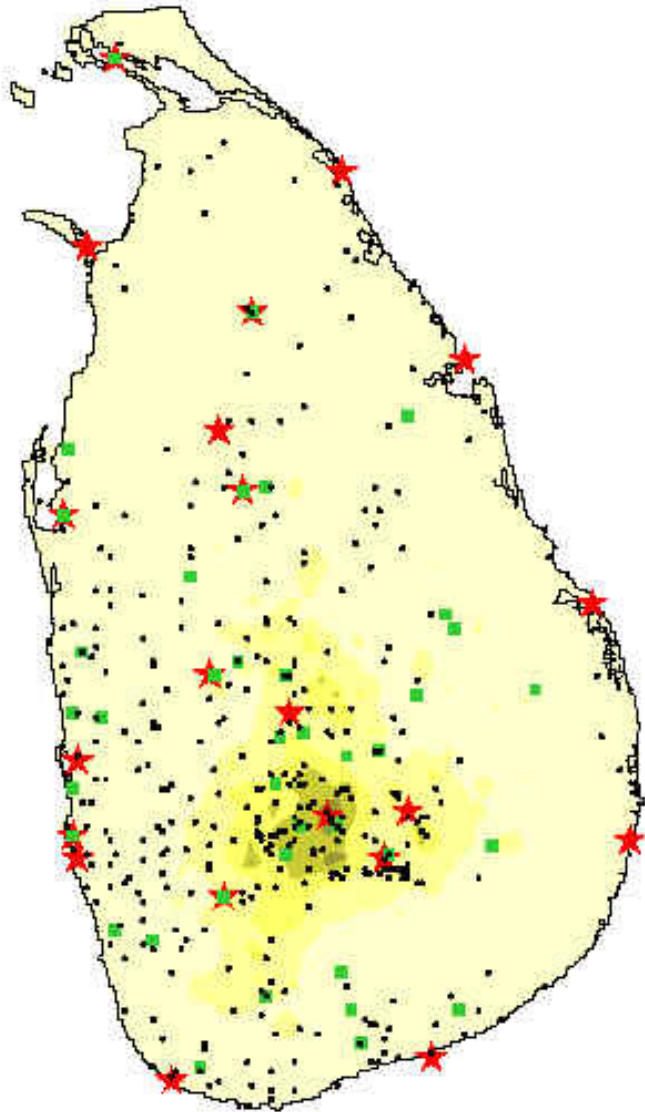
- significant spatial variation of climate, r/f, geology, soil, land cover,...

★ Principal Meteorological Stations

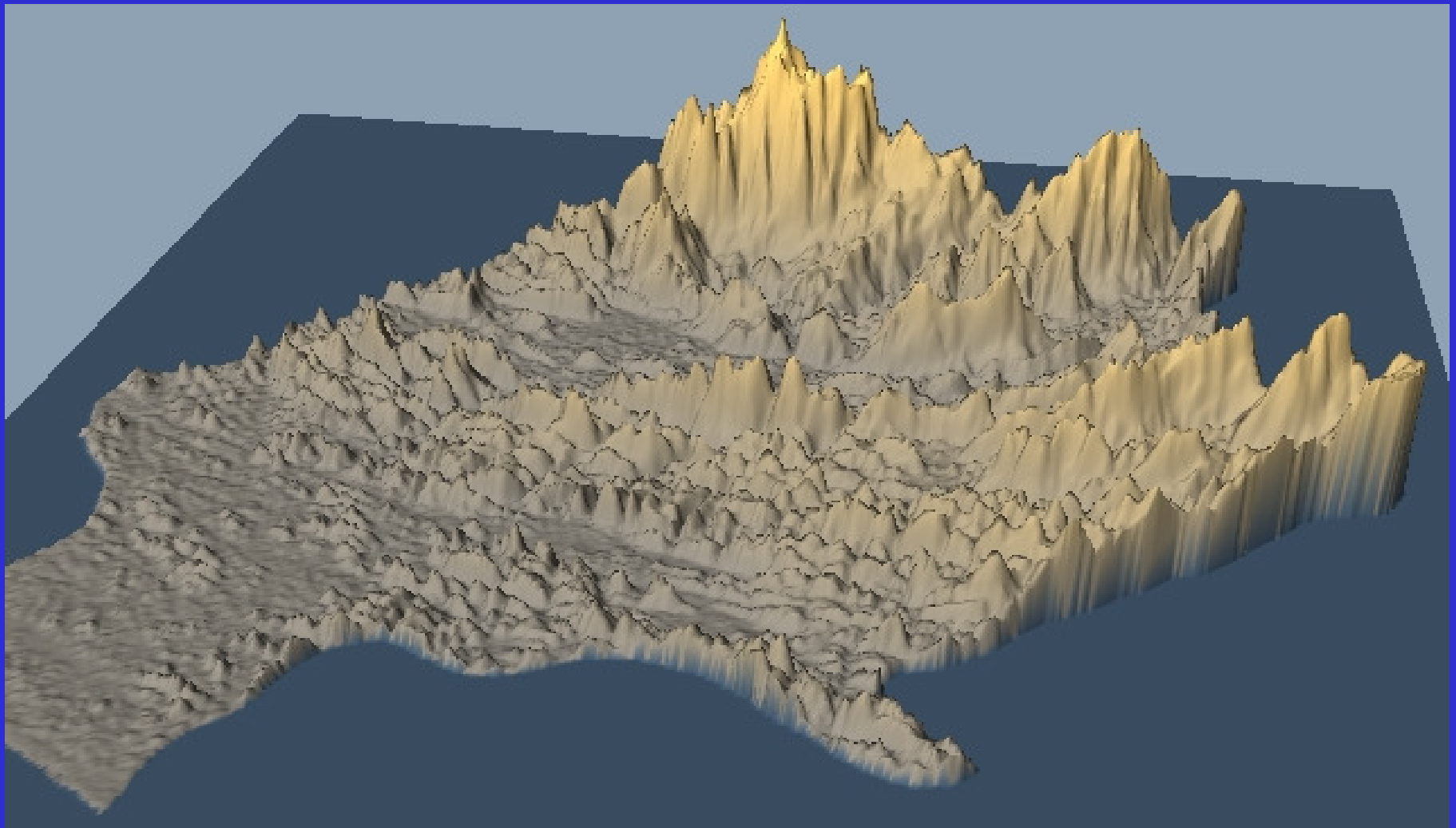
■ Agrometeorological Stations

■ Raingauge Stations

Meteorological Station Network



Kaluganga Basin

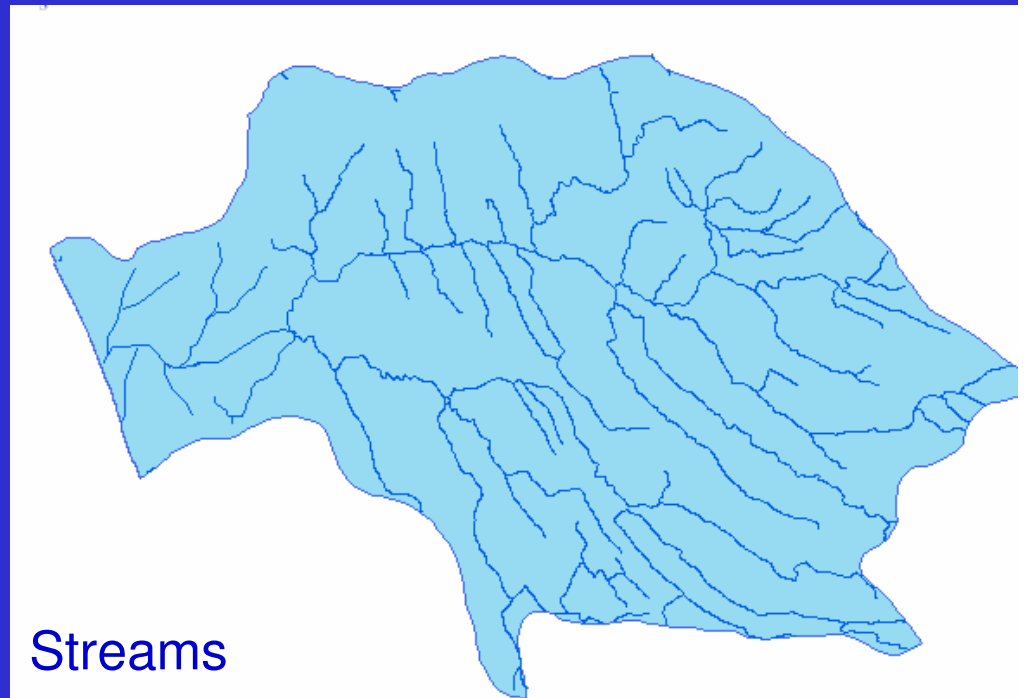


Kaluganga Basin

Magnitude of the annual flow volume	4000 MCM
Catchments area	2690 sq. km
Average annual rainfall	4000 mm (3000-5000mm)
Elevation up to	2250 m
River length	129 km
Length to Ratnapura	65 km

Major floods to Ratnapura 20mMSL

Year	Water level/(m MSL)
1913	24.6
1940	24.3
1941	24.4
1947	24.8
2003	23.7



Data in Demonstration Basins

Reference basin	Sri Lanka Mahaweli Basin	Sri Lanka Kaluganga Basin	Sri Lanka Nilwalaganga Basin
METADATA (River Basin Description)			
Location (longitude and latitude extent)	(06°45' N, 80°40' E to 08°30' N, 81°15'E)	(06°25' N, 80°00' E to 06°50' N, 80°40'E)	(06°00' N, 80°25' E to 06°30' N, 80°45'E)
Catchment outlet longitude and latitude	08deg30min N, 81deg15min E	06deg35min N, 80deg00min E	06deg00min N, 80deg30min E
Catchment area	10448 sqkm	2719 sqkm	971 sqkm
Number of MOLTS points in the basin		1	1
MOLTS point1 longitude and latitude	07deg20min N, 80deg38min E	06deg41min N, 80deg24min E	06deg09min N, 80deg25min E
MOLTS point1 elevation	477 meters	34 meters	25 meters
MOLTS point X			
Basin Contacts (Name, office address, phone, fax, email)			
Basin Maps	Available	Available	Available
Basin Pictures	Available	Available	Available
River Network Maps	Available	Available	Available
Soil Maps and Soil Characteristics	Available	Available	Available
Land Use Maps and Vegetation Characteristics	Available	Available	Available
River Constructions (dams, weirs, etc.) - type, location (longitude, latitude)	Available	Available	Available

Data in Demonstration Basins

River Constructions (dams, weirs, etc.) - type, location (longitude, latitude)	Available	Available	Available
OBSERVATION DATA - HYDROLOGICAL			
Streamflow	Available	Available	Available
Reservoir (Water level, Outflow)	Available	Available	Available
Others - please specify (each data type on a single line)			
OBSERVATION DATA - SUB-SURFACE			
Soil Temperature	Available	Available	Unavailable
OBSERVATION DATA - SURFACE			
Air Temperature	Available	Available	Unavailable
Humidity	Available	Available	Unavailable
Wind	Available	Available	Unavailable
Pressure	Available	Available	Unavailable
Precipitation	Available	Available	Available
Evaporation	Available	Available	Available

Radar and Radiosonde observations are available in Colombo (06°54' N, 79°85' E) but outside of the three selected basins

Capacity building needs for sustainable WRD

Capacity building should aim at updating following sectors :

- Policy makers
- Professionals and implementation officers
- Scientists/Technical support staff
- End users of water resources

Policy makers

Generally, they are

non-technical

look for short-term political advantage

less technical approach in decision making

Capacity building to convince them on the advantages of modern technology for socio-economic development

Demonstration of successful and unsuccessful cases in different countries

Professionals/Implementation officers

Capacity building to train them:
in recent advancements and equip
them with modern scientific tools

Short term sandwich training courses of
multi-disciplinary nature

Postgraduate level sandwich training
programs using local case studies

Scientists/Technical Support staff

To Scientists:

To provide them an exposure to modelling tools

To Technical Support Staff:

To provide them an exposure on automation of data collection, on new technical infrastructure and their advantages.

Short term training courses to expose the use of modern technology

End users/ Beneficiaries

Generally, they are reluctant to
change from the present inefficient
methods of water use
accept new systems and technologies

Thus, to make them aware of economic
benefits and time saving by adopting the
new practices.

Continuous awareness through field
programs and through pilot projects

Capacity building

-carried out

- Training Workshops

 - Hydrological Modelling Workshop

 - Computational Hydraulic Modelling Workshop

Resource Persons:

From the University of Peradeniya,

Visiting Scholars from abroad

- Participation

 - 30 engineers in water sector in Sri Lanka

Capacity building needs in Matrix

CEOP	data integration service	0
	QC service	0
GWSP	G bba DB Digital Atlas, Dam)	0
	training & research workshop	1
	University curricula	1
	Web-based teaching package	1
UNU	fbod inundation modelling	1
	loss estimation	1
	rainfall downscaling and forecast	1
ICHARM	G bba F b o d A l e r t S y s t e m	0
	fbod hazard map training	2
	river and dam engineering training	2
	Master course on fbod mitigation	2
MRC	river basin management training	2
	water quality analysis training	2
	fbod hazard mapping training	2
	fbod emergency management training	2
	mathematical modelling training	2
	satellite rain estimation training	2
China	fbod and drought management system	0
	training	2
	data & product access	2
PUB	WGs and projects	1
JAXA/AIIM	Mini-projects	2
	Sentinel Asia	2
MARS	Enhanced observation	1
	regional model development	0



Devon waterfall
(Upper Kotmale Subbasin)

Thank You