

Flood and Drought Webinar #2  
January 12, 2017

## Drought management today - cases from Asia



Facilitator: Gareth James Lloyd  
Senior Advisor  
UNEP-DHI Partnership



Technical support: Maija Bertule  
and coordination Programme Advisor  
UNEP-DHI Partnership

UNEP-DHI PARTNERSHIP  
Centre on Water and Environment



UNEP-DHI Water Webinar series  
Flood and Drought Management Webinars

# Flood and Drought Management Tools project



- Implemented by UNEP and executed by IWA and DHI
- Duration 2014 to 2018
- Development of technical tools to improve the ability to address floods and droughts in the planning process at basin and local scale.



Project web-page: <http://fdmt.iwlearn.org>



# Agenda

1. Dr. Giriraj Amarnath (*Sub-theme leader, IWMI, Sri Lanka*); **Drought monitoring and warning in Sri Lanka**
2. Dr. Sutat Weesakul (*HAI, Thailand*): **Drought management in Thailand and community adaptation to flood and drought problems in Thailand**
3. Oluf Jessen (*Project manager, DHI*): **Drought risk management approaches implemented by the Flood and Drought management project in Asia**
4. Additional questions from the audience
5. Info on upcoming webinars



# DROUGHT MONITORING AND WARNING IN SRI LANKA

**Giriraj Amarnath**

*International Water Management Institute (IWMI), Sri Lanka*

**UNEP-DHI Flood and Drought Management Webinars**

**12 January 2017**



A water-secure world

[www.iwmi.org](http://www.iwmi.org)



**Giriraj Amarnath, Ph.D.**

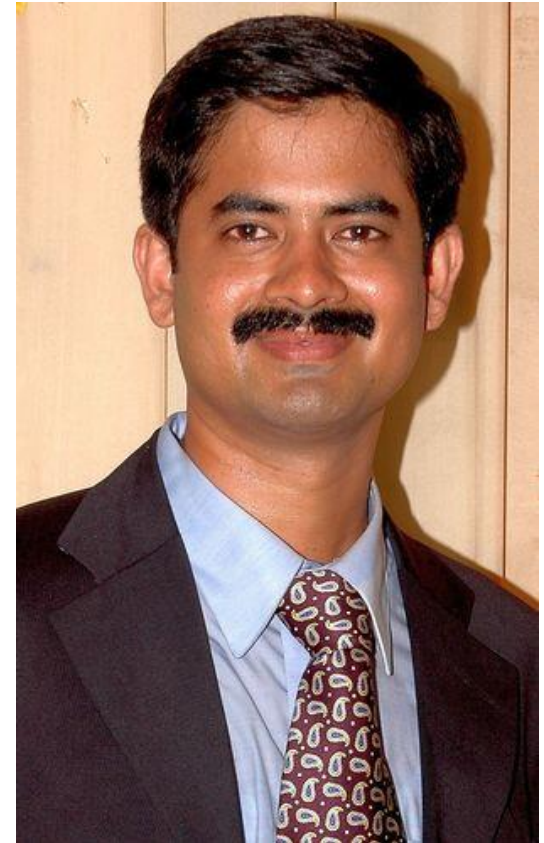
**Sub Theme Leader: Water-related Disaster Risk Management,  
IWMI, Sri Lanka**

My background applied remote sensing and Water-related disaster risk monitoring and assessment across a wide range of natural hazards and monitoring land and water resources in Asia and Africa.

Over 13 years' experience in research including 3 years in academic at University of Bayreuth, Germany.

Key research area: (i) **Drought Monitoring, Forecasting in South Asia and ongoing new project with FAO on DEWS in Southern Africa**; (ii) mapping flood inundation extent in south Asia and south-east Asia, Nigeria and Sudan (iii) global flood hotspots assessment for climate risk studies, (iv) piloting operational flood mapping and modeling in Eastern Sudan, (v) snow cover mapping and monitoring in the Hindu-Kush Himalayas, (vi) Smart ICT for climate and weather information in Africa, (vii) Risk transfer solutions using index insurance programme, (viii) environmental impact assessment using RS/GIS and (viii) relationship between upstream-downstream linkages in Indo-Gangetic plain and the possible causes of climate change impacts in this region.

My email: [a.giriraj@cgiar.org](mailto:a.giriraj@cgiar.org)



# Where we are based:

:: LOCATIONS OF IWMI OFFICES



# Drought vs. Food Insecurity

- No commonly accepted definition of drought; No physically measurable “drought” variable
- Complex, multi-causal natural disaster with large spatial/temporal extent
- Efficient food security monitoring requires integration of environmental information and socio-economic information; Not existing yet
- Key variables (e.g. rainfall, soil moisture) can be detected via space-based sensors (data availability on a global scale, free of charge)





# **SOUTH ASIA DROUGHT MONITORING SYSTEM (DMS): OVERVIEW**

- Goal - build climate resilience, reduce economic and social losses, and alleviate poverty in drought - affected regions in SA through an integrated approach to drought management
- SADMS Integrates remote sensing and ground truth data (vegetation indices, rainfall data, soil information, hydrological data)
- SADMS supports regionally coordinated drought mitigation efforts that can be further tailored to national level
- SADMS is a partnership with WMO, GWP, CGIAR CCAFS and WLE and Governments in SA.

# Vegetation Condition Index (VCI) for Sri Lanka

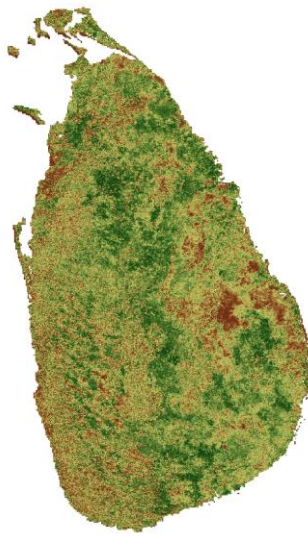
*Weekly composite*



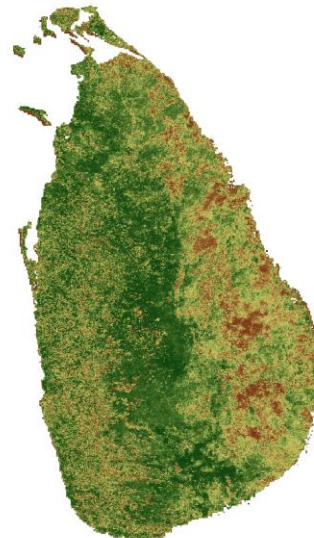
June 2, 2013



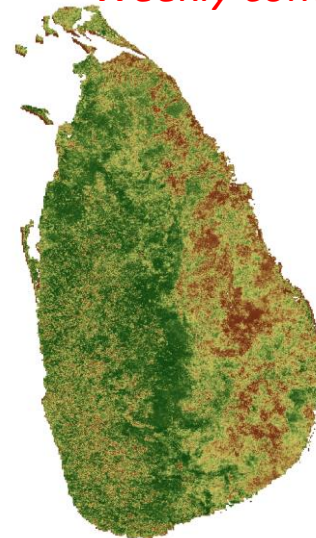
June 4, 2013



July 2, 2013



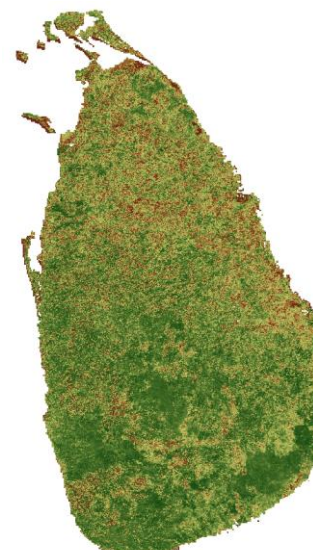
July 4, 2013



August 3, 2013



November 1, 2013



October 3, 2013



October 1, 2013



September 3, 2013



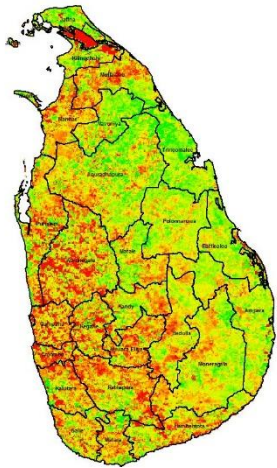
September 1, 2013

Value  
High : 100  
Low : 0

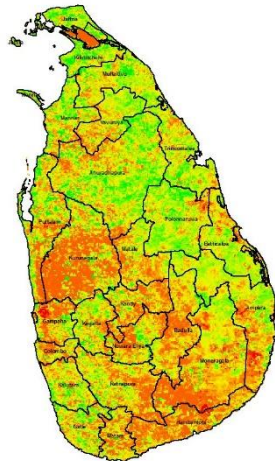


# Temperature Condition Index (TCI) for Sri Lanka

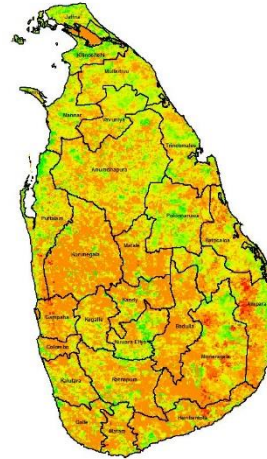
*2001 Weekly composite*



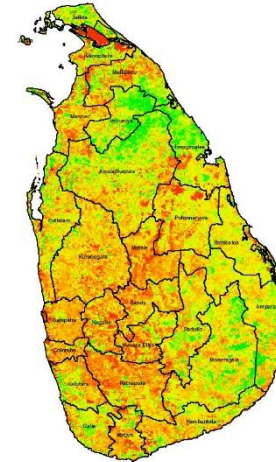
121 – May 1<sup>st</sup> week



201 – July 3<sup>rd</sup> week

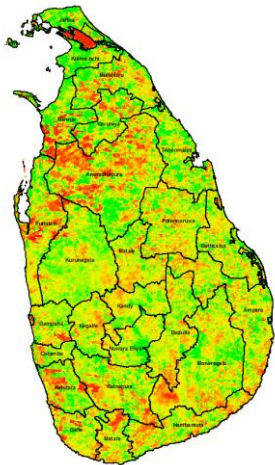


225 – Aug 2<sup>nd</sup> week

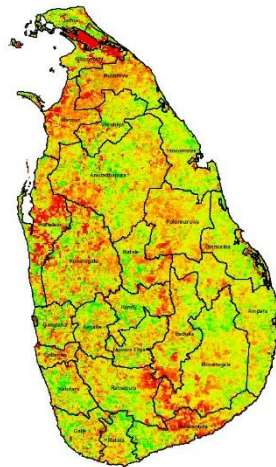


241 – Aug 4<sup>th</sup> Week

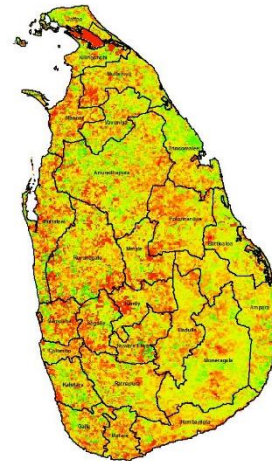
High : 100  
Low : 0



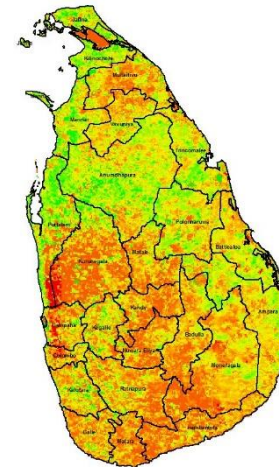
305 – Nov 1<sup>st</sup> week



281 – Oct 3<sup>rd</sup> week



273 – Oct 1<sup>st</sup> week

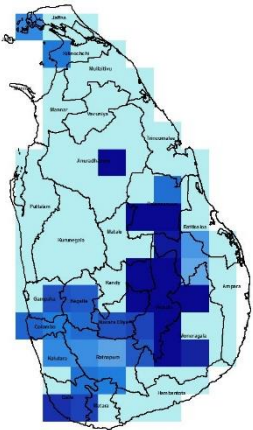


257 – Sep 2<sup>nd</sup> week

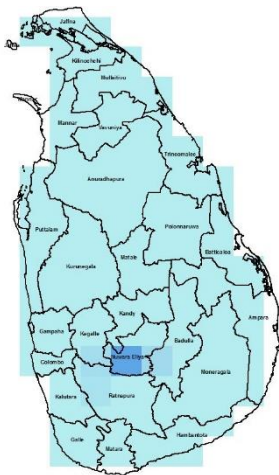


# Precipitation Condition Index (PCI) for Sri Lanka

*2001 Weekly composite*



121 – May 1<sup>st</sup> week



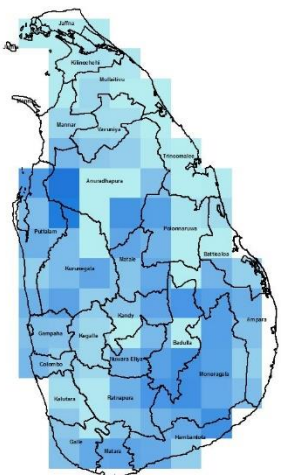
201 – July 3<sup>rd</sup> week



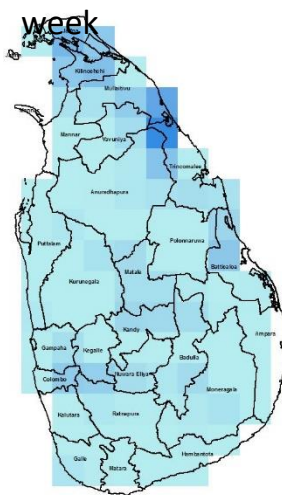
225 – Aug 2<sup>nd</sup> week



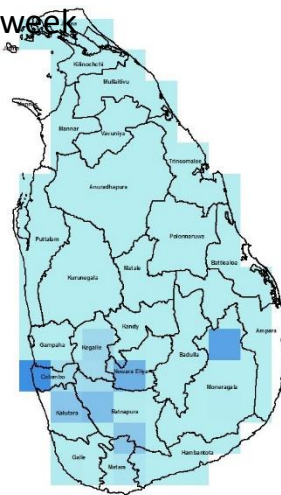
241 – Aug 4<sup>th</sup> Week



305 – Nov 1<sup>st</sup> week



281 – Oct 3<sup>rd</sup> week



273 – Oct 1<sup>st</sup> week

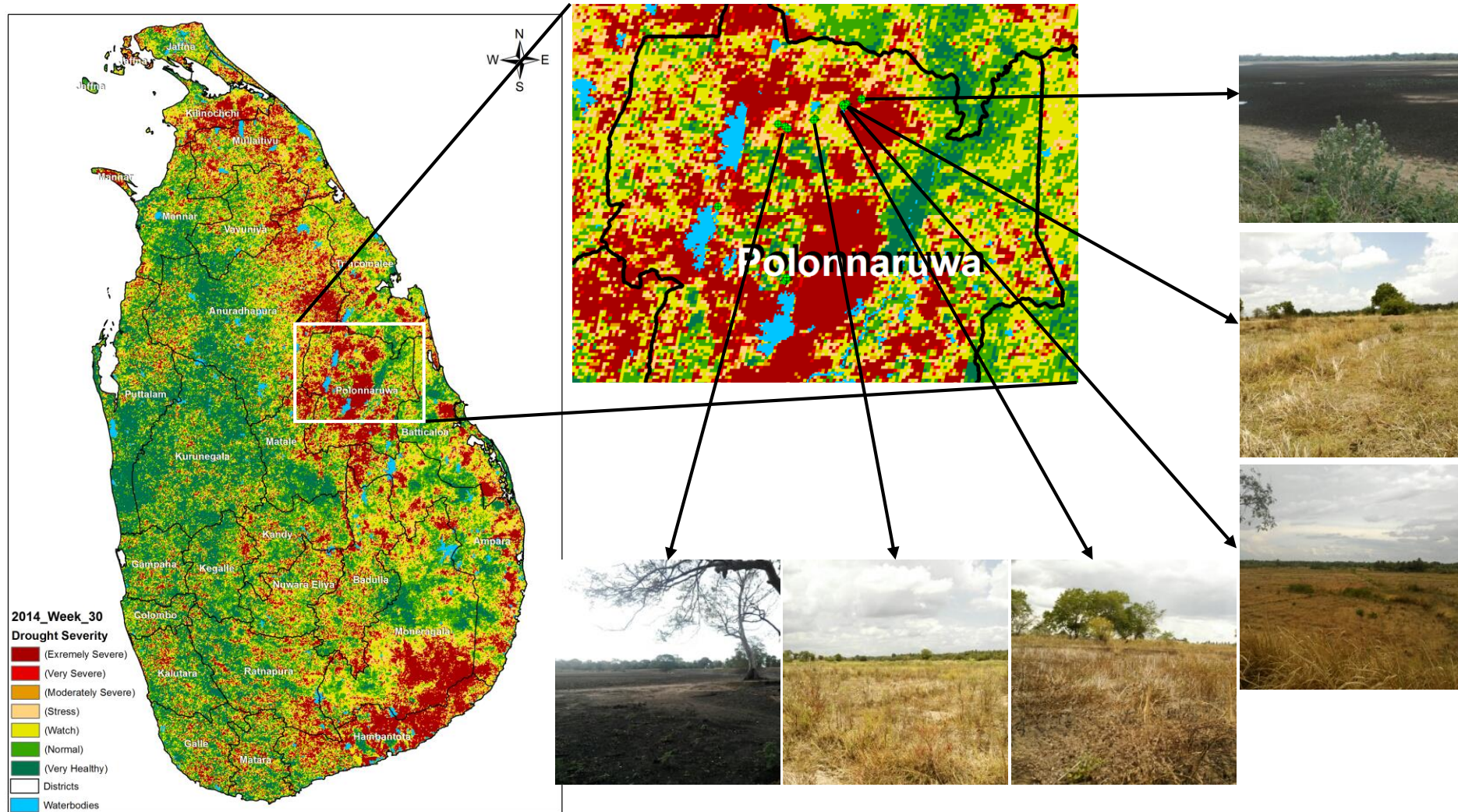


257 – Sep 2<sup>nd</sup> week

High : 100  
Low : 0

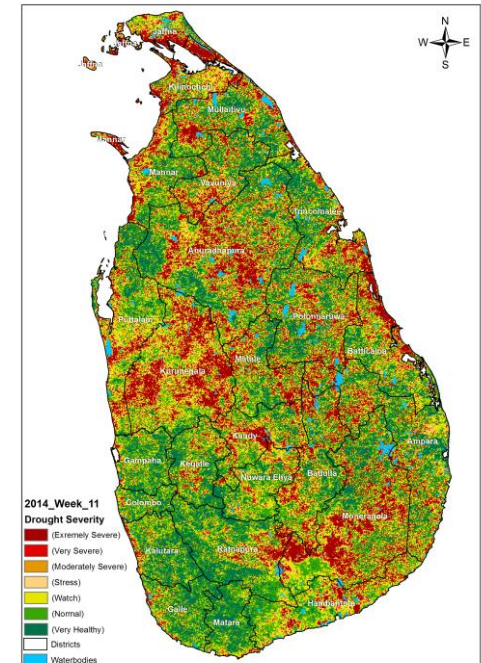
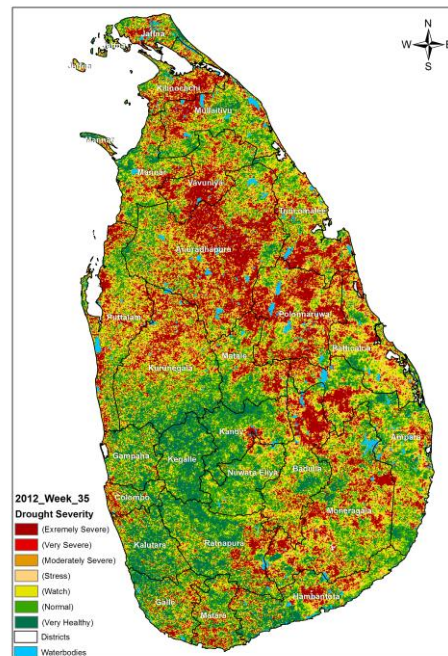
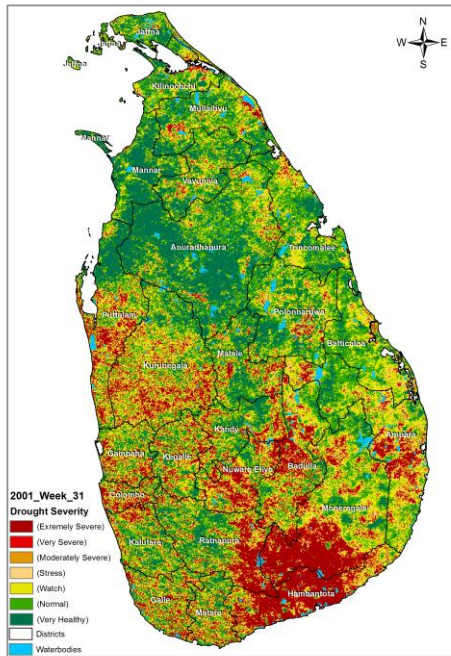
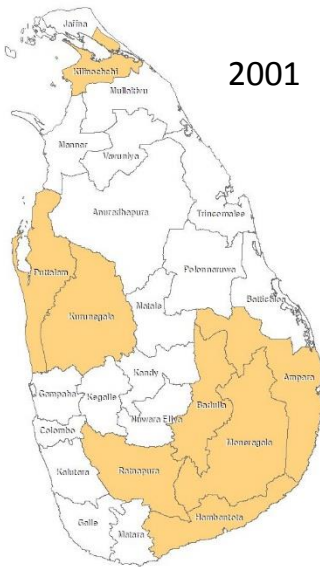


# Characterizing Drought Severity



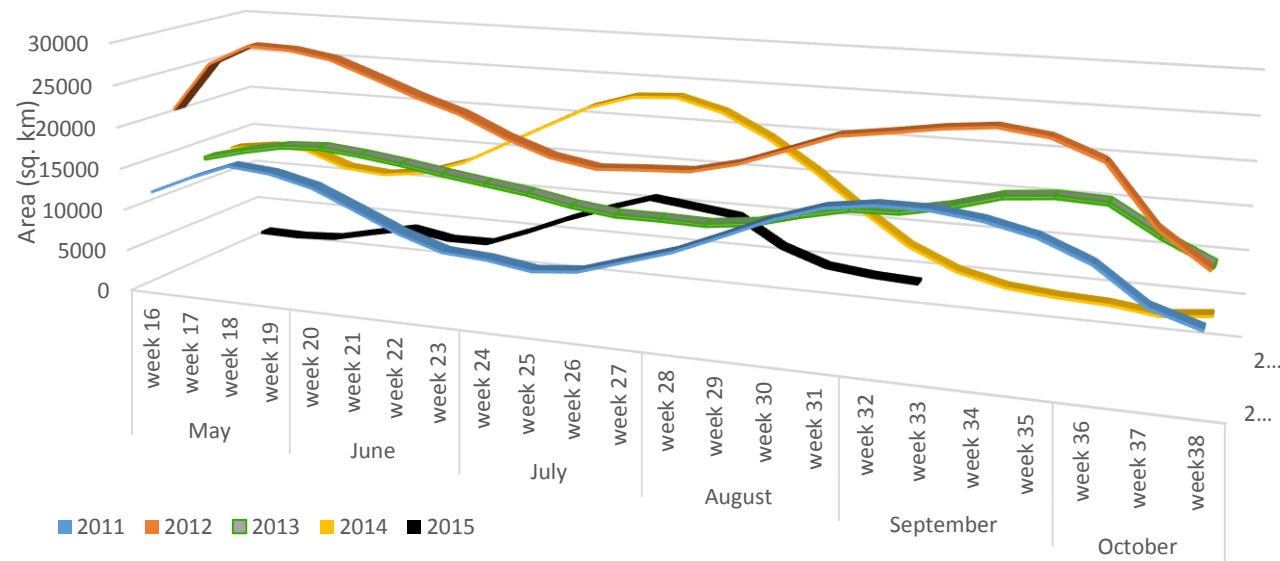


# SL Disaster Management Centre (DMC) Drought Maps

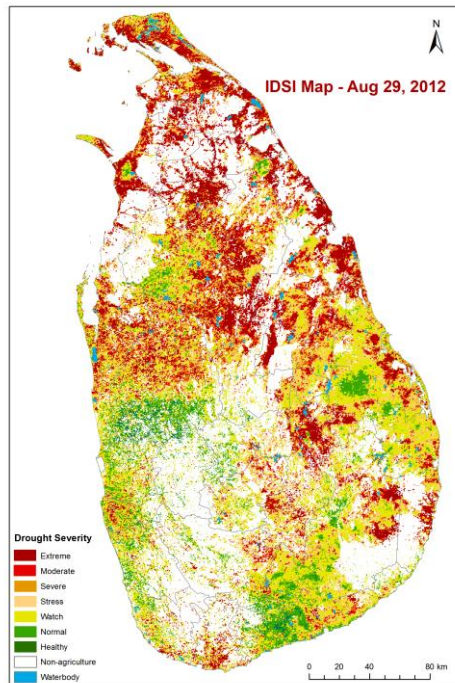




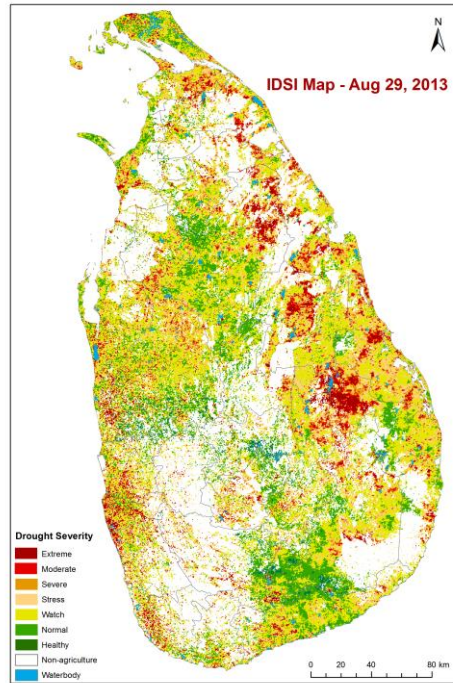
# IDSi Product (2011 – 2015) – Sri Lanka



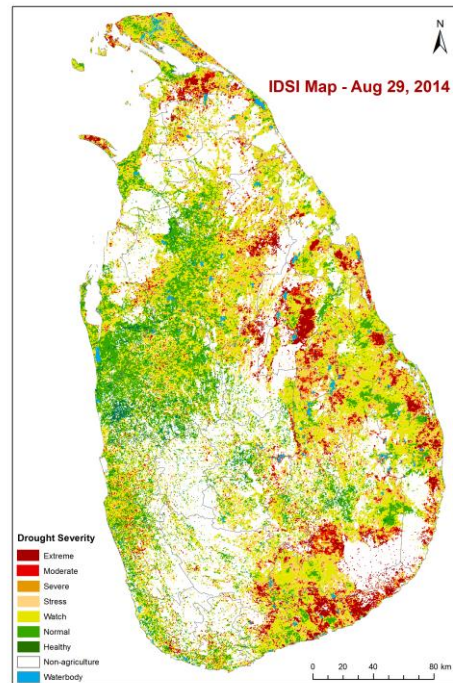
IDSi 2012



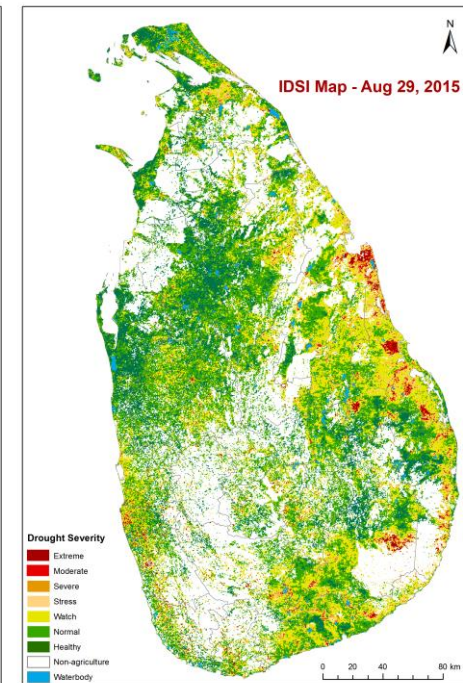
IDSi 2013



IDSi 2014

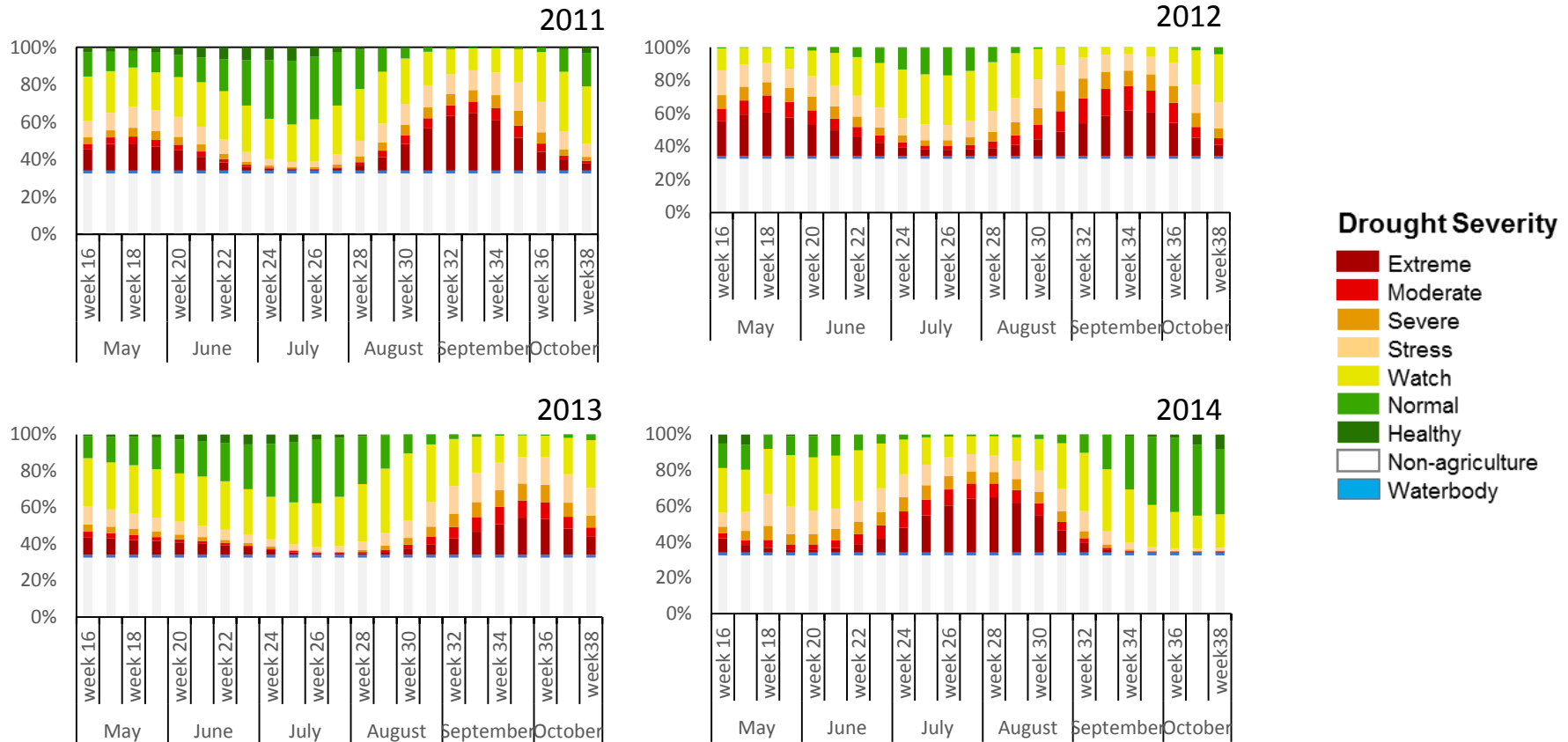


IDSi 2015



# IDS Product (2011 – 2015) – Sri Lanka

## Polonnaruwa

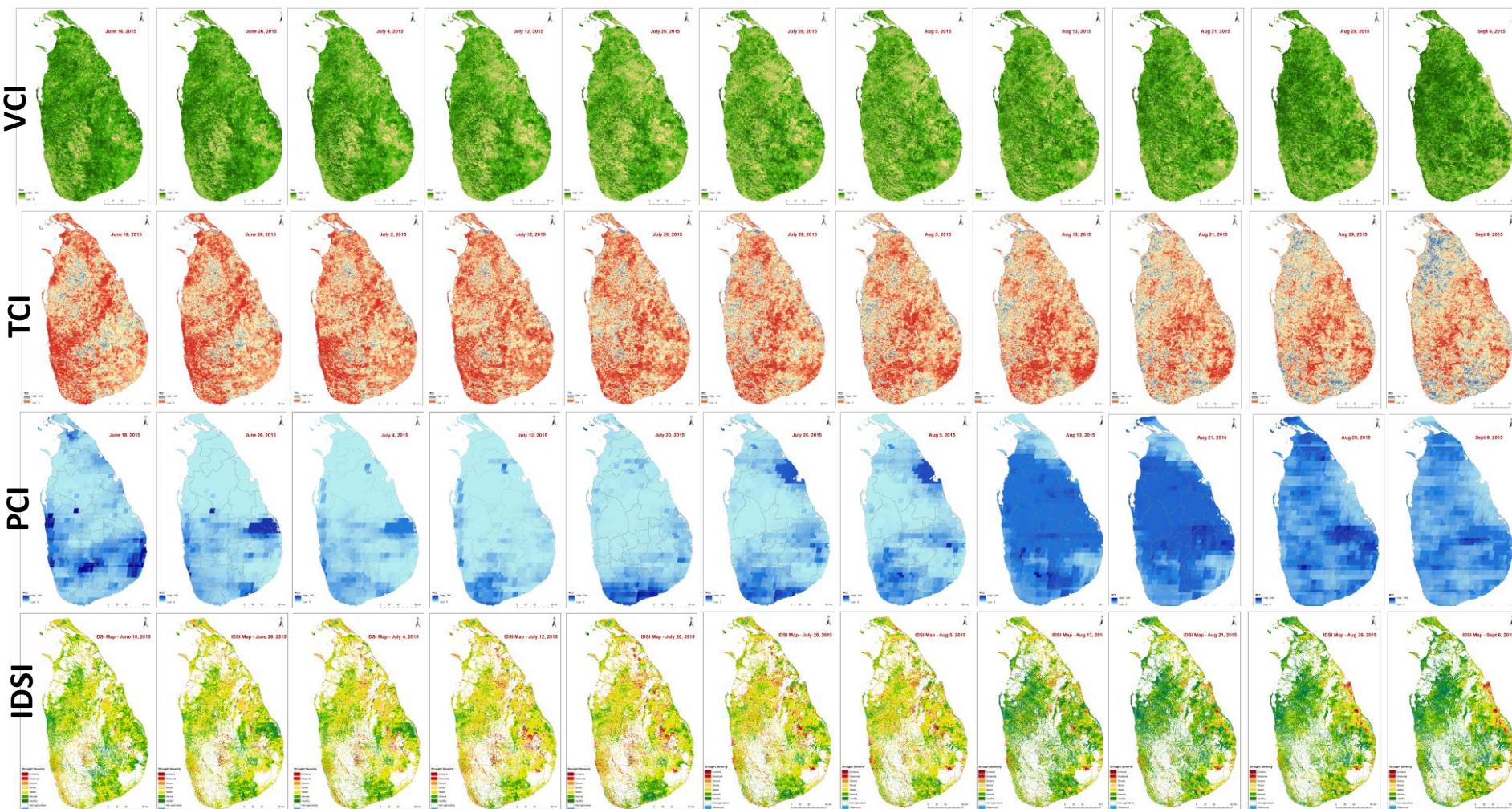


- Highlights scale of drought severity from 2011 – 2014
- 2011 drought is much lower compare to 2012 and 2014 (note exception rainfall in NE province during the rainy season (Dec 2010 – Feb 2011))



# 2015 Operational Drought Indices – Sri Lanka

June to Sept





# SRI LANKA DROUGHT OUTLOOK

Bulletin Issue 01

January 2017

## CURRENT CONDITION

This issue will focus on the prevailing drought condition of the country.

- Xx Divisional Secretariats of 08 Districts has been severely affected by drought since August 2016.

- Total estimated population by drought is xxxxx (data estimated by population densities)

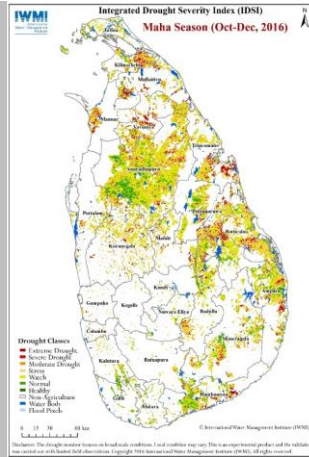
- DMC reports revealed that the xxxxxx persons affected in xx Divisional Secretariat without proper drinking water

- Seasonal forecast of Meteorological Department forecast that failure of monsoon will increase dry whether situation till March 2017

- Rice stocks and expected harvest will only sufficient till May 2017

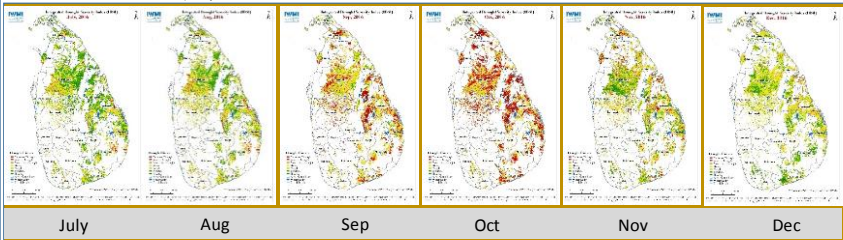
- Agriculture department estimates 60% of the Maha Season will be failed loosing xx of paddy metric tons

- Water levels of the major reservoirs are less than 30% of the total capacity

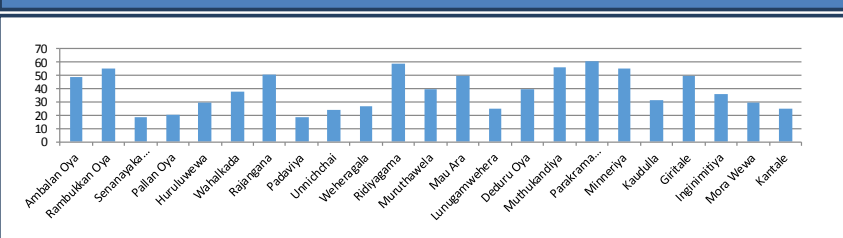


### District wise affected population

District	Sub-division	Total Population Affected
Ampara	Samanthurai	65401
Polonnaruwa	Dimbudagala	43749
Colombo	Maharagama	42783
Trincomalee	Muttur	40663
Badulla	Welimada	40397
Polonnaruwa	Kingunigoda	38914
Batticaloa	Eravur Pattu	37417
Ampara	Dehiattakandiya	36031
Polonnaruwa	Thamankaduwa	35162
Colombo	Moratuwa	35059
Anuradhapura	Kochchigama	32968
Kurunegala	Maha	31689
Colombo	Kaduvela	30002
Badulla	Mahavangana	28622
Kandy	Minipe	28514
Vavuniya	Vavuniya	27989
Kilinochchi	Karachi	26840
Colombo	Kinsewa	26187
Kilinochchi	Kandavalai	24343
Matale	Wigimawa	23482
Moneragala	Siyambalanduwa	23294
Anuradhapura	Kahatagadigalla	22734
Trincomalee	Kunniya	20539
Hambantota	Ambaratota	20378
Kurunegala	Giribawa	19484
Kurunegala	Polpithigama	18223
Sampaha	Ja-Ela	17697
Anuradhapura	Kekirawa	17266
Trincomalee	Thambalagamawa	17252
Anuradhapura	Thamburugama	16913
Ampara	Thurukkovil	16803
Anuradhapura	Rajanganaya	16530

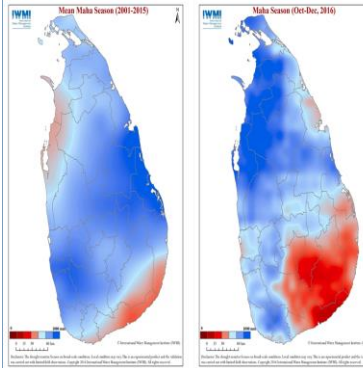


## RESERVOIR WATER LEVEL



Jointly published by Disaster Management Centre and International Water Management Institute (IWMI) with Department of Meteorology, Department of Irrigation, Department of Agriculture and Mahaweli Authority

## RAINFALL VARIATION



District	Mean Maha Season (2000-2015) (mm)	Oct-Dec 2016 (mm)	% Above/Below Normal	District	Mean Maha Season (2000-2015) (mm)	Oct-Dec 2016 (mm)	% Above/Below Normal
Ampara	811.6	639.7	-21.2	Kurunegala	822.6	838.2	1.9
Anuradhapura	819.8	887.6	8.3	Mannar	728.3	1029.9	41.4
Badulla	816.2	565.7	-30.7	Matale	856.7	766.3	-10.6
Batticaloa	915.8	730.8	-20.2	Matara	736.8	721.0	-2.1
Colombo	887.2	791.3	-10.8	Moneragala	718.8	502.2	-30.1
Galle	771.8	840.6	8.9	Mullaitivu	783.7	843.1	7.6
Gampaha	827.6	773.0	-6.6	Nuwara Eliya	797.6	543.1	-31.9
Hambantota	640.6	456.0	-28.8	Polonnaruwa	882.1	833.0	-5.6
Jaffna	779.1	832.5	6.9	Puttalam	790.8	971.0	22.8
Kalutara	866.9	799.2	-7.8	Ratnapura	797.8	624.2	-21.8
Kandy	823.5	705.9	-14.3	Trincomalee	905.5	749.4	-17.2
Kegalle	826.9	808.4	-2.2	Vavuniya	785.4	887.7	13.0
Kilinochchi	792.6	881.4	11.2				

## AGRICULTURE AND FOOD SECURITY

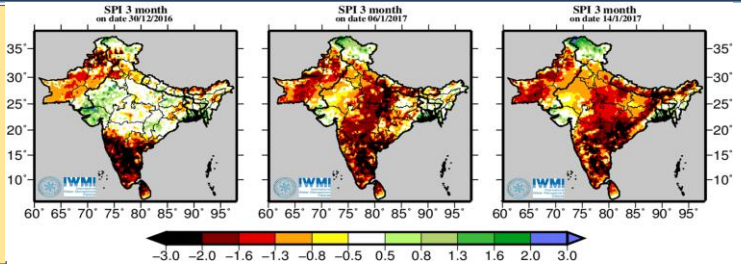
The table above visualizes the data presented here on the agriculture yield production to the ongoing Maha season with the prevailing drought condition. Data derived from Agriculture and Environmental Statistics Division for the past 2 years seasons were compared to the 2016/17 Maha season crop production. Based on the drought severity classes the priority districts with limited or no rainfall, and high poverty rates, are mainly in Ampara, Badulla, Batticaloa, Hambantota, Moneragala and Trincomalee. A scenario of estimated agriculture production losses are given in the table for reference only.

In these districts and across Sri Lanka, rising food prices require close monitoring. Poor urban households may be heavily impacted by price fluctuations. Beyond food access, access to clean drinking water is a major concern that may affect large populations. Poor water access and reduced diet quality are a significant issue due to high levels of chronic (stunting) and acute (wasting) malnutrition.

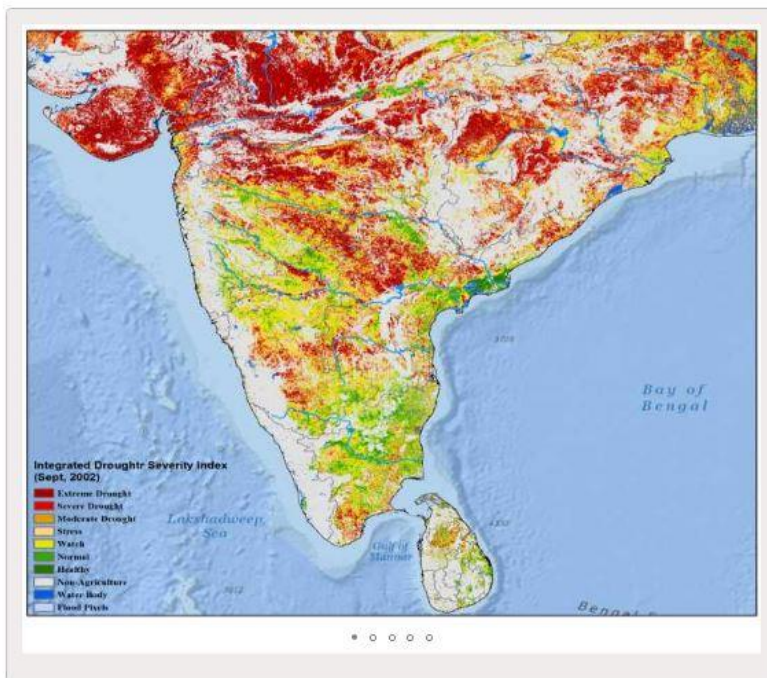
Districts	Maha Production (MT) 2014-15	2015-16	Rainfall Deficit	Estimated Production	Districts	Maha Production (MT) 2014-15	2015-16	Rainfall Deficit	Estimated Production
AMPARA	307661	344765	-21.2	271674.82	KURUNEGALA	278269	333062	1.9	339390.18
ANURADHAPURA	353924	365988	8.3	396365.004	MANNAR	88661	89979	41.4	125957.71
BADULLA	109463	99813	-30.7	69170.499	MATALE	82768	79115	-10.6	70728.81
BATTICALOA	120570	150434	-20.2	120046.332	MATARA	48184	37932	-2.1	37135.428
COLOMBO	10156	8381	-10.8	7475.852	MONERAGALA	140155	140855	-30.1	96457.645
GALLE	38317	23476	8.9	25565.364	MULLAITIVU	45739	45881	7.6	49335.676
GAMPAHA	33529	32661	-6.6	38085.374	NUWARAELIYA	10912	10365	-31.9	7058.565
HAMBANTOTA	144681	128424	-28.8	91437.888	POLONNARUWA	349625	291274	-5.6	274962.66
JAFFNA	27000	17511	6.9	18719.259	PUTTALAM	62620	66466	22.8	81620.248
KALUTARA	43668	36314	-7.8	33481.508	RATNAPURA	39147	36660	-21.8	28668.12
KANDY	40102	34921	-14.3	29927.297	TRINCOMALEE	117256	145279	-17.2	120291.01
KEGALLE	22335	21046	-2.2	20582.988	VAVUNIYA	76363	71889	13	81234.57
KILINOCHCHI	69319	84913	11.2	94423.256	SRI LANKA	2876987	2902693	-5.96	2740258

## DROUGHT FORECAST

Drought forecast using GEFS from NOAA/NCDC to predict 14days in advance the meteorological drought. Sri Lanka drought warning for the coming 14days seems moderate dry to severe dry in the central, north and eastern provinces.



Jointly published by Disaster Management Centre and International Water Management Institute (IWMI) with Department of Meteorology, Department of Irrigation, Department of Agriculture and Mahaweli Authority



## Drought

The South Asia Drought Monitoring System (SADMS), established in 2014, is a weekly map of drought conditions that is produced and maintained at the International Water Management Institute (IWMI). Numerous drought indices - including the Integrated Drought Severity Index, Standardized Precipitation Index, and Soil Moisture Index - have been developed to provide advanced drought monitoring and assessment information for various purposes. In tandem, these indices not only paint an accurate picture of any particular drought episode, but provide invaluable decision-making tools.

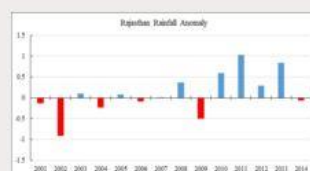


Through the SADMS website, the International Water Management Institute (IWMI) provides a wide array of

## Key remarks

- An operational platform that integrates various drought products to provide advanced drought monitoring and assessment information for various purposes
- A first regional platform for South Asia and have inherently finer spatial detail (500m resolution) than other commonly available global drought products

## South Asia Drought Stats



## Important Links

- ▶ Global Drought Management Info
- ▶ US Drought Monitor
- ▶ Global Drought Monitor
- ▶ Standardized Precipitation Index
- ▶ Standardized Precipitation and Evapotranspiration Index

## News Alerts

- ▶ IWMI-developed tool to give Sri Lanka advance warning of drought
- ▶ Monitoring drought in Bundelkhand region, India
- ▶ IMD ends drought of hope, predicts above normal monsoon for India
- ▶ With months to go for the rains, this is the drought map of India
- ▶ Ray of light in Pakistan's drought-hit Thar desert



**THANK YOU**





## Hydro and Agro Informatics Institute

Ministry of Science and Technology  
Thailand



# Drought management in Thailand and community adaptation to flood and drought problems in Thailand

Dr. Sutat WEESAKUL



# Thailand 2015 Drought

## Severe droughts, in particular in the upper-middle part of the country

# Ping River



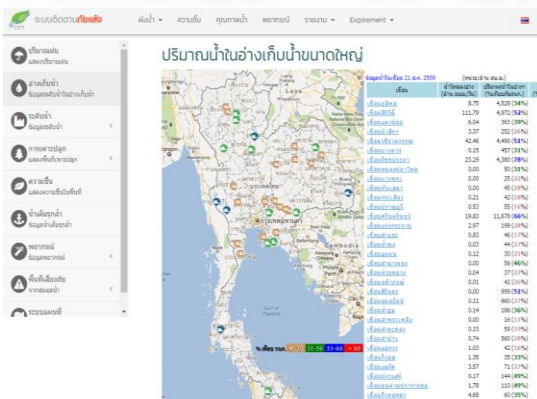
# Phayao Lake



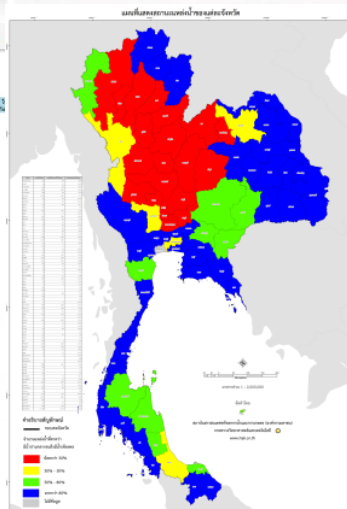
## Khwae Noi Bamrungdan Dam



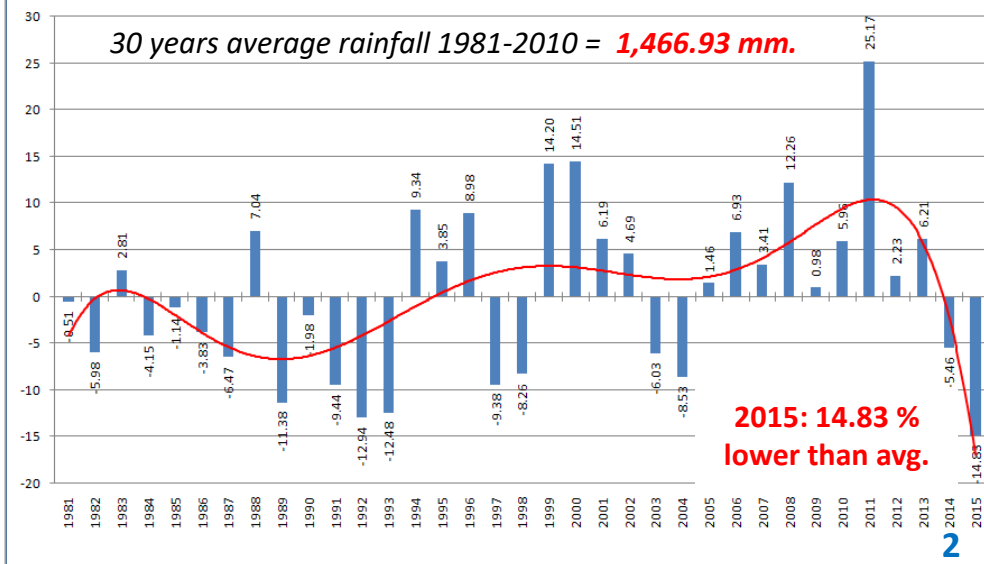
## Ubolratana Dam



## Drought Monitoring System

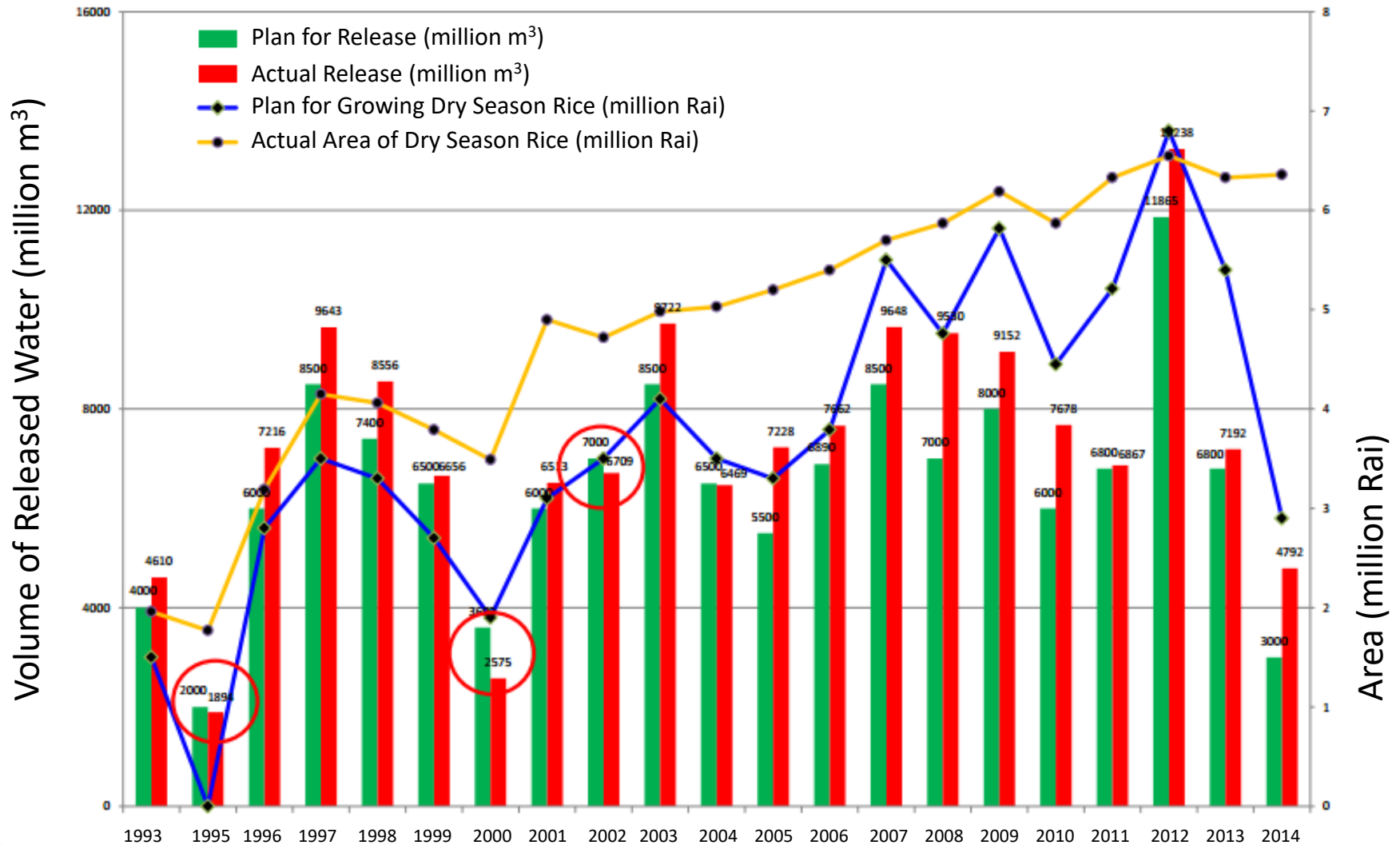


## Map Technology for Data Analysis



\*source data from 93 main stations of TMD

# Planned /Actual Release and Area of Dry Season Rice



**Note:** 1 Rai = 1,600 m³



# Drought risk

- Population in Thailand is expected to be 67.31 Million in Q2 2016
- Projected to trend around 67.52 Million in 2020

**Water demand** is expected to **increase 35%** by 2024

*Source: Department of Water Resources, Thailand*

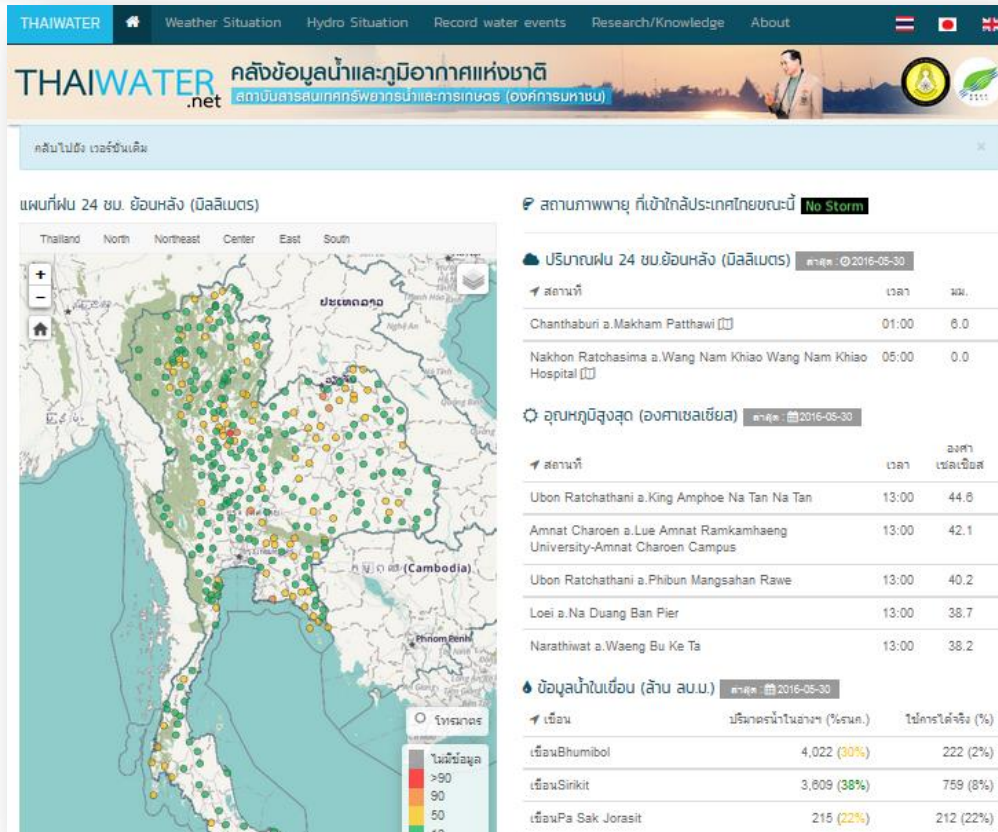


# Hydroinformatics

Getting the most out of **HYDROINFORMATICS**  
for **THE BENEFITS** of all

From Data to information to provide decision  
support for Drought management

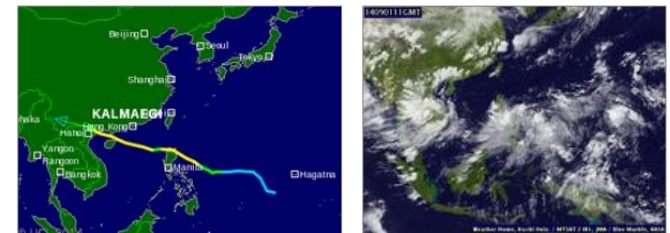




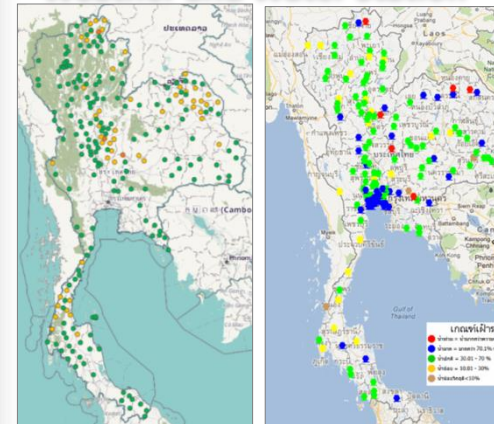
**Weather Data :** Storm Tracking, satellite and radar image, rainfall , temperature, humidity, pressure ,wind speed and direction

**Water Data :** Reservoir, water level, water quality , sea level

## Storm tracking and Satellite Image



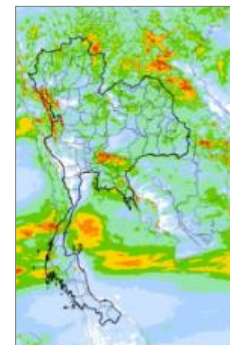
## Weather and Water Station



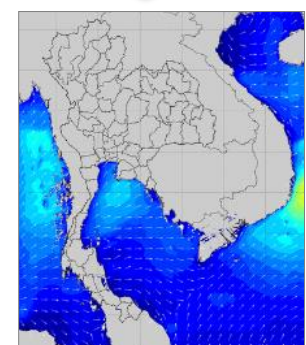
## Water Diagram



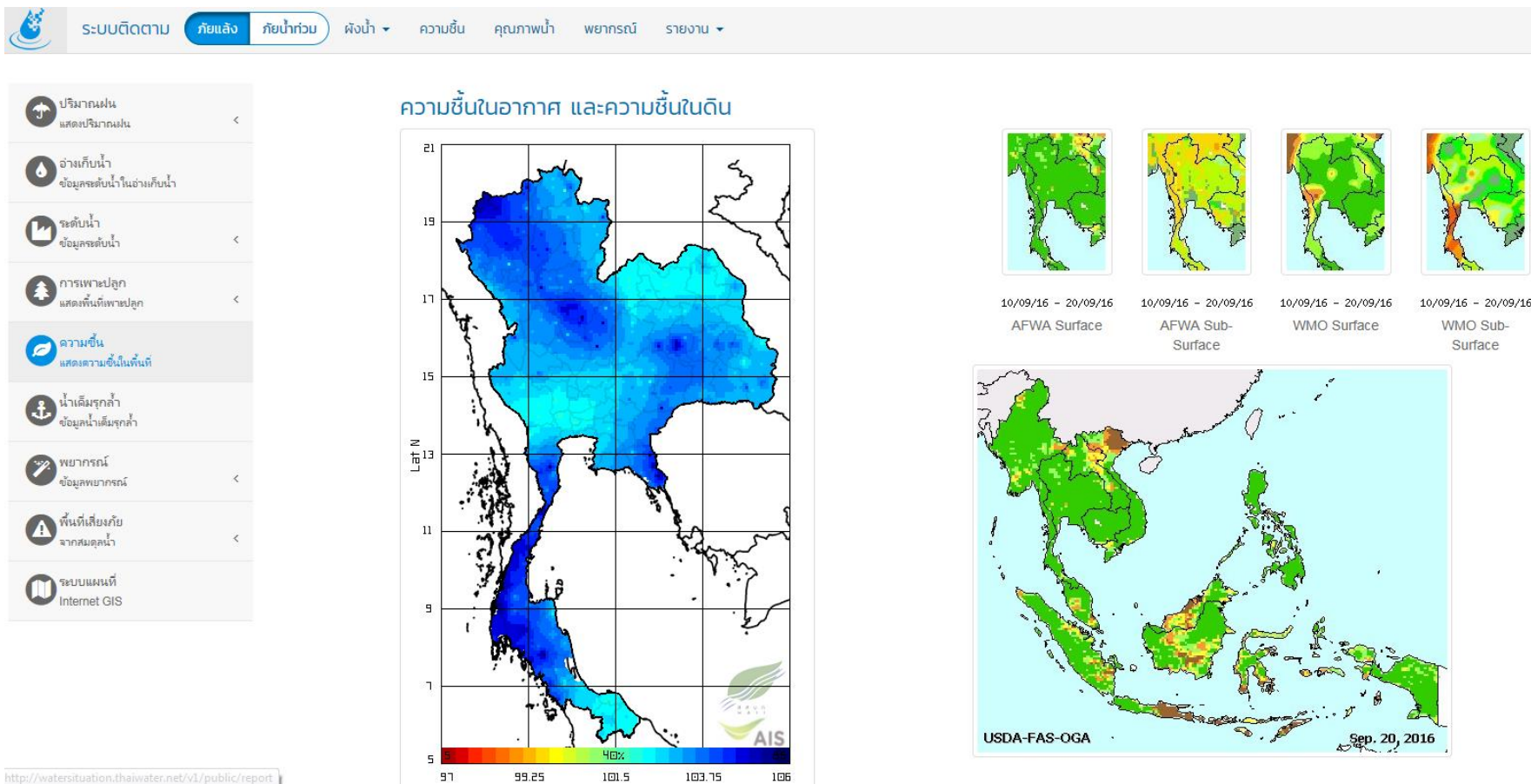
## Rainfall Forecasting



## Wave Height Forecasting



# Drought Monitoring System



Monitoring of air and soil moisture using remote sensing data



# Drought Monitoring System



ระบบติดตาม

ภัยแล้ง

ภัยน้ำท่วม

ฝั่งน้ำ

ความชื้น

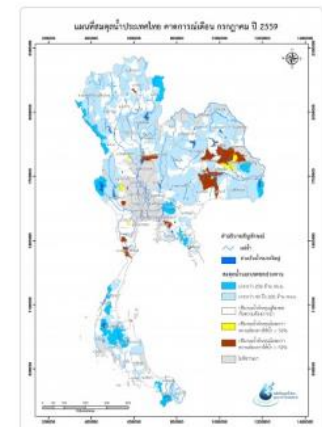
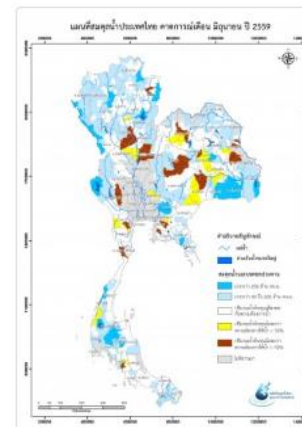
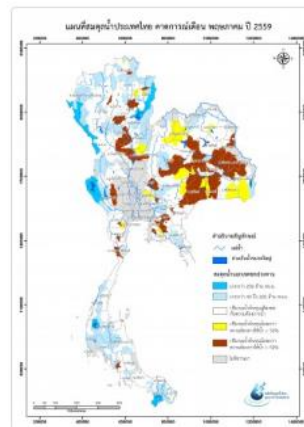
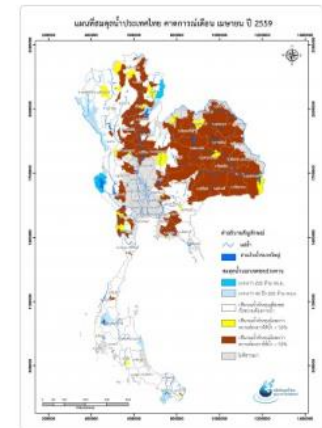
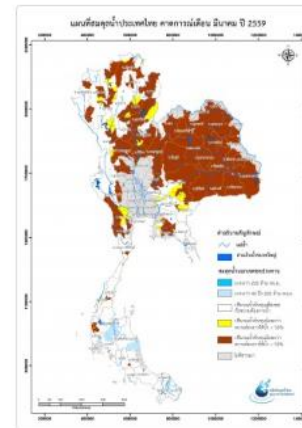
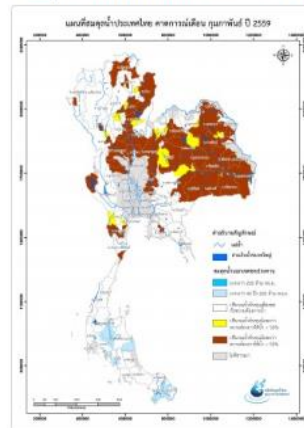
คุณภาพน้ำ

พยากรณ์

รายงาน

- บริการแผนที่แบบเรียลไทม์
- ข้อมูลระดับน้ำในอ่างเก็บน้ำ
- จุดรับน้ำ
- การเพาะปลูก
- ความชื้น
- น้ำดื่มราคาถูก
- พยากรณ์
- พื้นที่เสี่ยงภัย
- แผนที่น้ำนอกเขตชลประทาน รายสัปดาห์
- แผนที่น้ำนอกเขตชลประทาน รายเดือน
- พื้นที่เสี่ยงขาดน้ำปรมาณ
- ระบบแผนที่ Internet GIS

## สมดุลน้ำนอกเขตชลประทาน รายเดือน

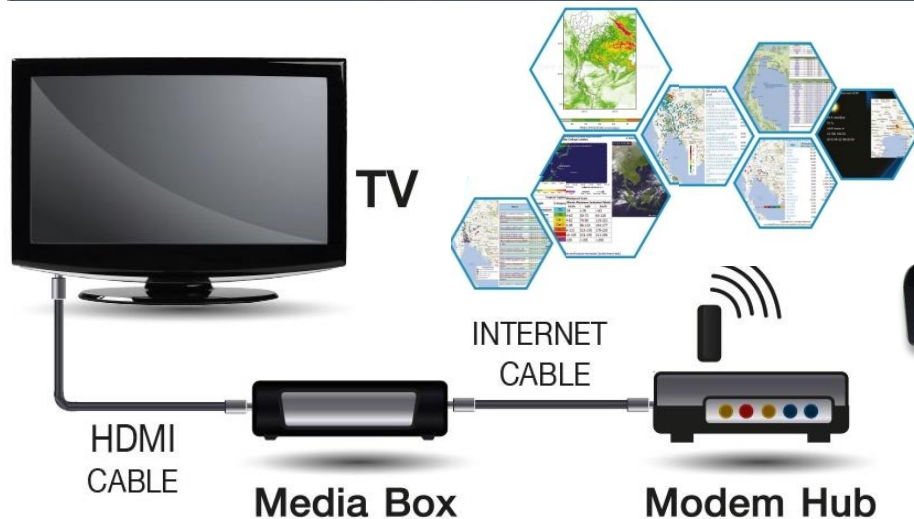


Monthly forecasted water balance modelling results

# Media Box : S&T for Local administration and Community



## Automated weather and water tracking tool

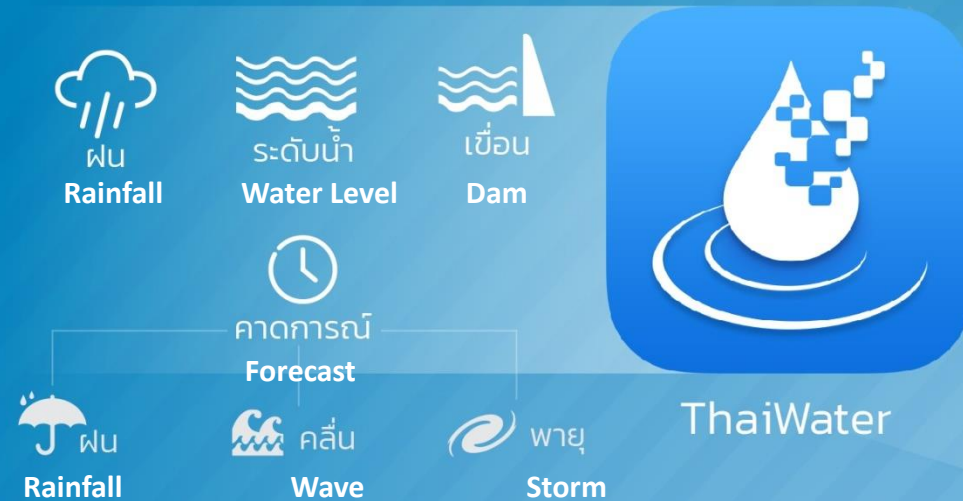


**Broadcast water situation NEWS**  
**Serve Local administration and Community**



# ThaiWater Mobile Application : S&T for Weather and Water Situation Monitoring and Warning

ANDROID APP ON  
 Google play  Available on the App Store



NEWS Report / Water situation monitoring  
Serve Executive and Public

# Water Management Operation Center : s&T for Water

## Management at the provincial level



แพร่ สถานการณ์ปกติ

ฝนชั่วโมงย้อนหลัง 24 ชม.

ล่าสุด 18:00น. - ฝน 14.6 มม.



สถานีวังชิ้น  
อ.วังชิ้น

ระดับน้ำสูงสุด

ล่าสุด 18:50น. - 55%รณก



สถานียม3 อ.หนองม่วงไข่  
น้ำปกติ

อ่างเก็บน้ำ

ล่าสุด 2013-06-05

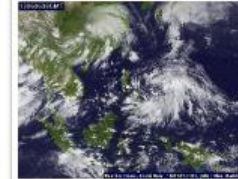
35%

กักเก็บ (%รณก)

สิริกิติ์  
จ.อุตรดิตถ์

ภาพเมฆ

ล่าสุด 2013-06-06 10:00 UTC



### (1)ปริมาณฝน

ฝน 24 ชม.

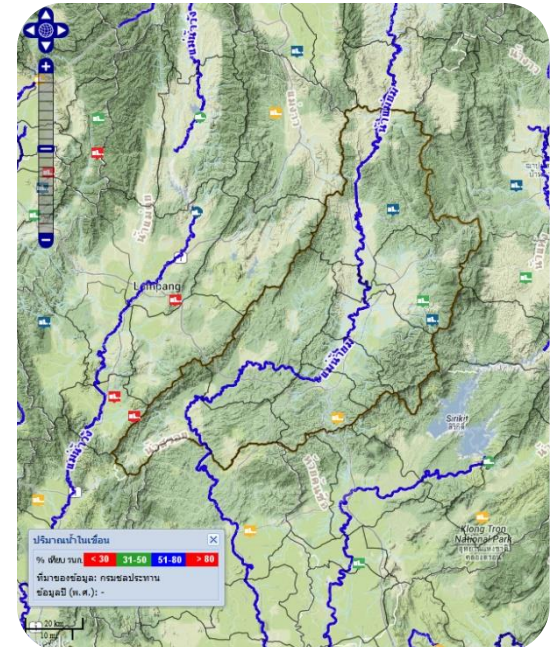
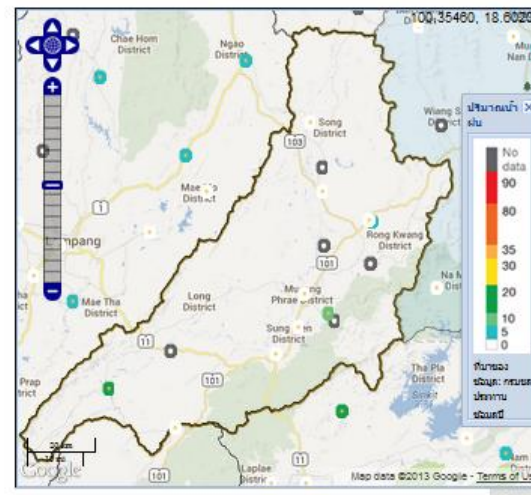
ฝนวันนี้

ฝนล่าสุด

สถานี	อำเภอ	ฝน (มม.) ▼	ล่าสุด
วังชิ้น	วังชิ้น	14.6	18:00
ช่อแฮ	เมืองแพร่	4.6	18:00
บ้านแม่แฮด	วังชิ้น	3.0	18:30
บ้านแม่จอก	วังชิ้น	0.5	18:30
บ้านแม่แก้ว	เด่นชัย	0.5	18:15
ร้องกวาง	ร้องกวาง	0.4	18:00
บ้านแม่ระนัง	สูงเม่น	ไม่มีฝน	19:00
บ้านนาพูน	วังชิ้น	ไม่มีฝน	18:45
บ้านโคกป่ากั้น	ลอง	ไม่มีฝน	18:45
บ้านทุ่งโป่งไผ่	สูงเม่น	ไม่มีฝน	18:30

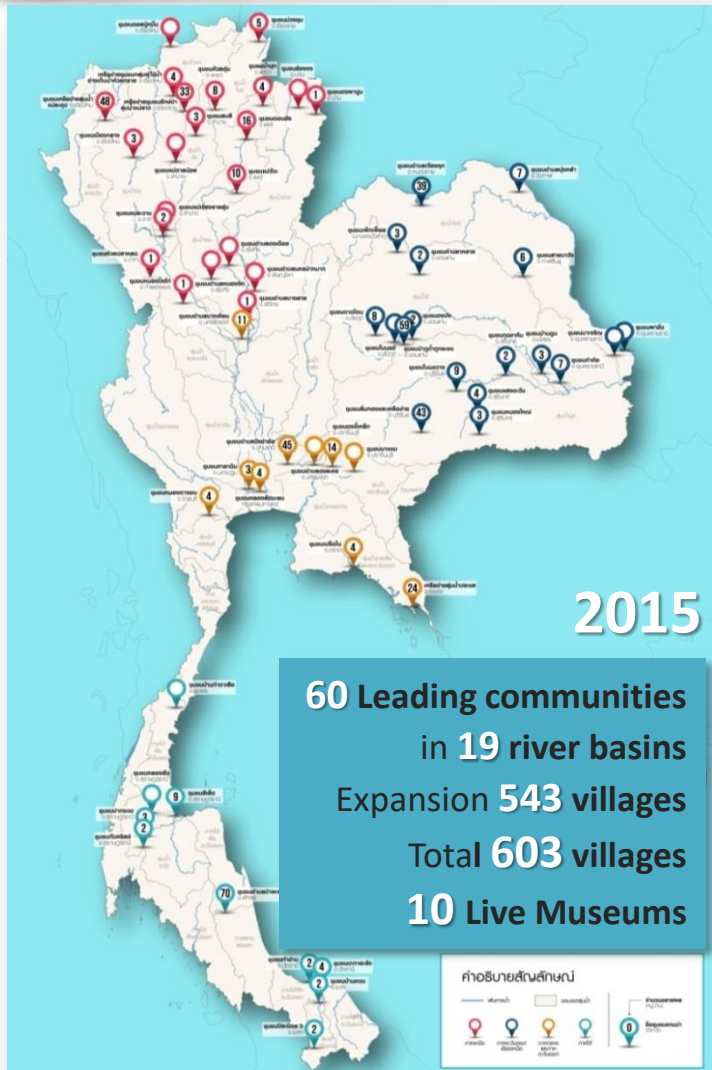
\* ปริมาณฝนสะสม ที่ตกใน 24 ชม นับจากเวลาที่ระบุ

### (2)Internet GIS





# CWRM Network in Thailand



	2012-2013	2014	2015
Leading communities	50 communities expanded to 236 villages	55 communities expanded to 341 villages	60 communities expanded to 543 villages
Decreased flood & drought	19,370 households 229 km <sup>2</sup>	81,320 households 779 km <sup>2</sup>	264,000 households 1,553.6 km <sup>2</sup>
Increased water storage	2.31 Million M <sup>3</sup>	17.85 Million M <sup>3</sup>	34.0 Million M <sup>3</sup>
Value added from agriculture (dry season :Oct – May)	- (Start operation)	1,190 Million THB	1,333 Million THB



# CWRM– Example of S&T Drought Adaptation

## S&T

- GPS receivers, Topographic Maps, and Satellite images
- Water chart
- Water Balance Analysis
- Telemetering station
- Level survey
- Echo Sounder

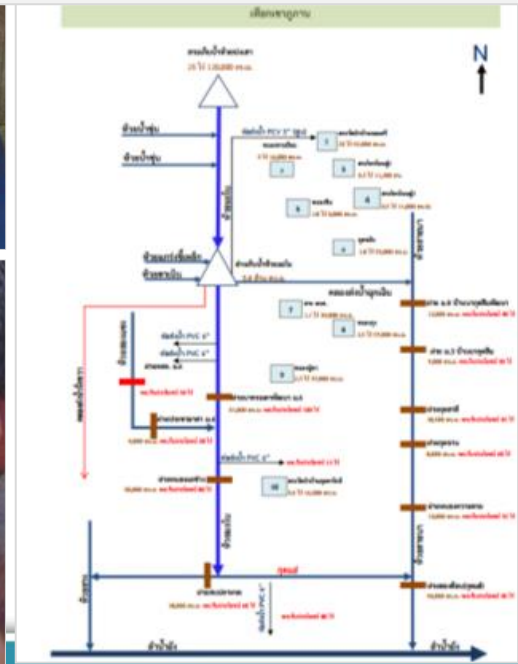
## Example

### Huay Sai reservoir, Chiang Mai province

With total capacity of 225,000 cubic meters, the reservoir is originally expected to supply water for **0.8 sq.km.** of agricultural area.

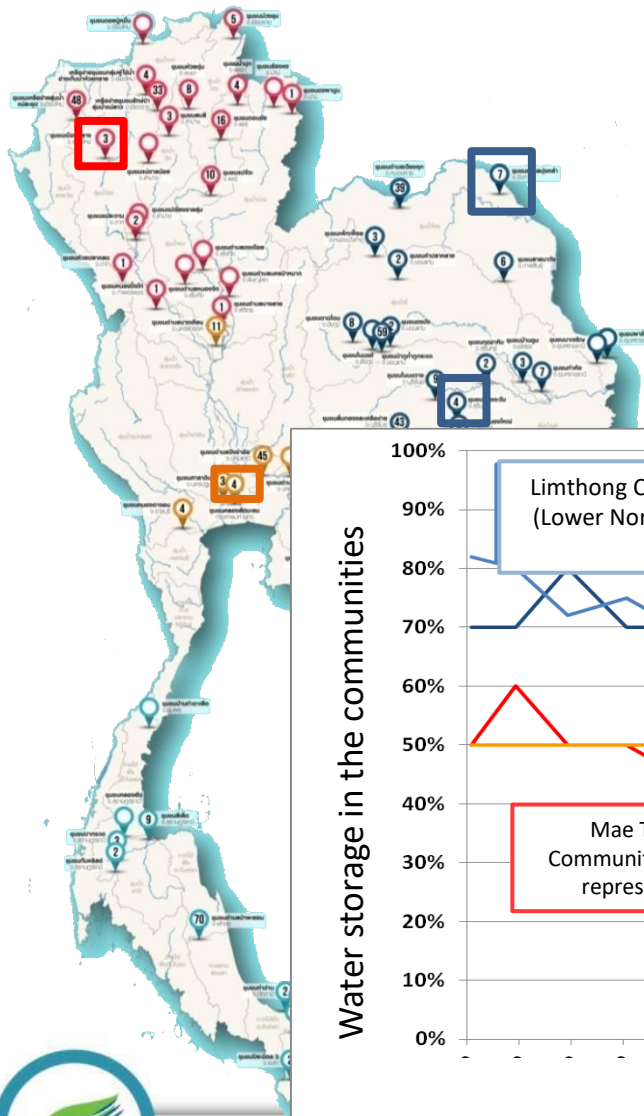
By calculating water balance and proper manage water resource, the community can expand their beneficial to **3.432 sq.km.**

4 times increased





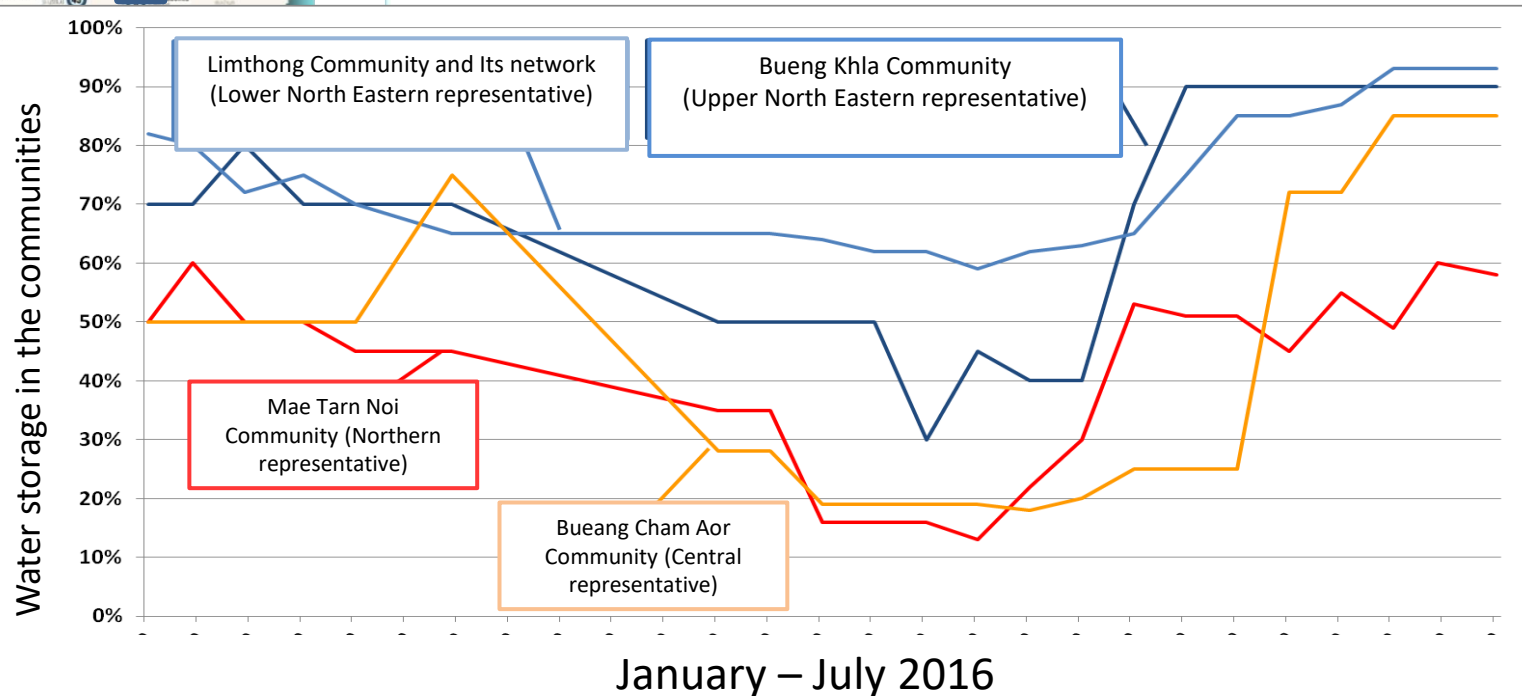
# Water storage in the community during Drought 2016



The communities recorded the status and reported every 2 weeks

During dry season in 2016, **most of communities involved in Community Water Resource Management Network with HAI rarely faced drought problem.**

The communities reserved enough water for consumption and agricultural activities during the whole drought season.





## Ministry of Science and Technology, Thailand

[www.haii.or.th](http://www.haii.or.th) ● [www.thaiwater.net](http://www.thaiwater.net)







# Drought risk management approaches implemented by the Flood & Drought project

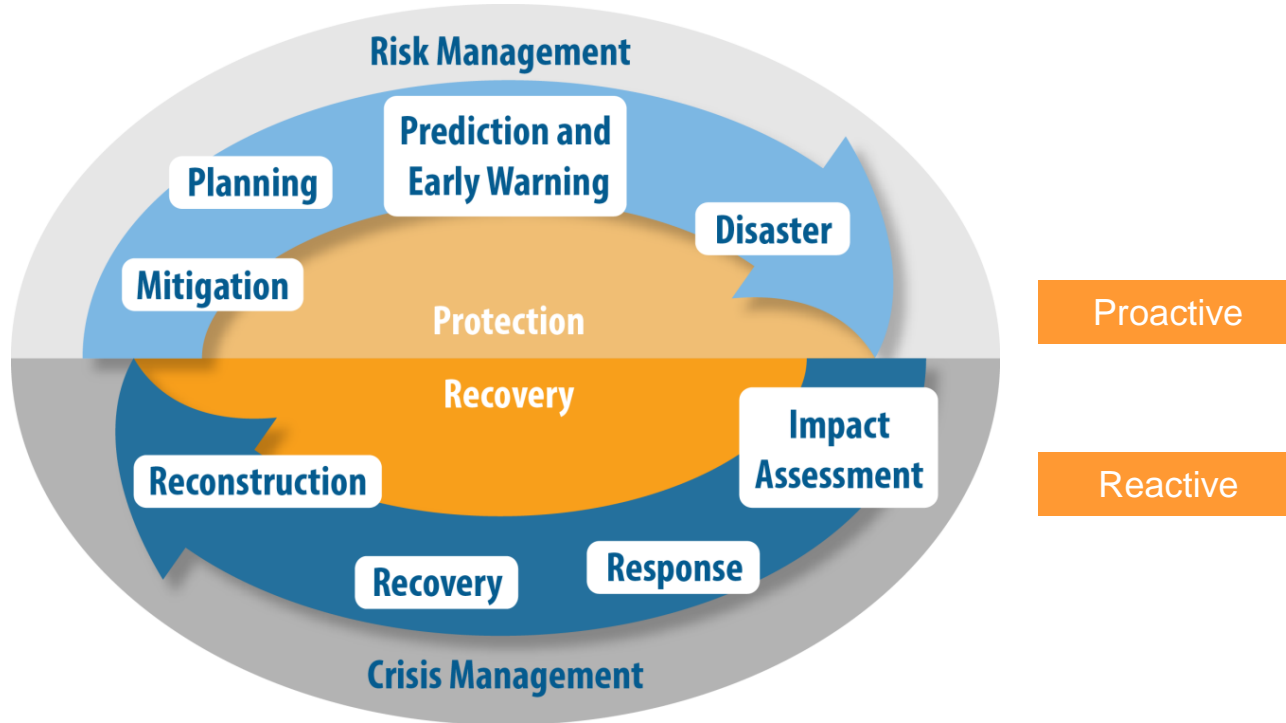
**Oluf Jessen – DHI**  
Project manager

[ozj@dhigroup.com](mailto:ozj@dhigroup.com)



# Early warning and detection as part of a risk based approach

From crisis to risk management



Source: Adapted from  
National Drought Mitigation  
Center,  
<http://drought.unl.edu>

➡ A need to develop risk-based drought management policies



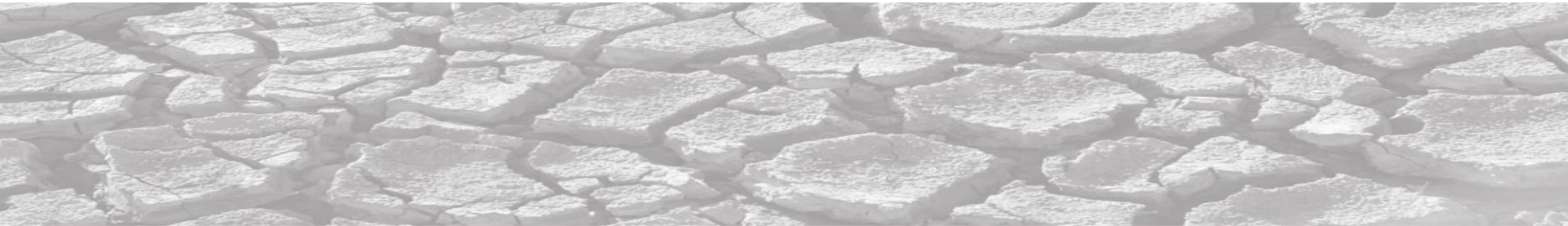


# Objective – drought risk management

**Objective:** Detect the emergence or probability of the occurrence and likely severity of drought.

**Target:** Provide risk reduction through improved technical tools and preparedness for a specific group of people or economic sector

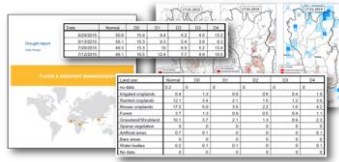
**Impact:** Reduce losses (crop, economic etc.) in connection with drought events (disasters) at local, regional and national levels.



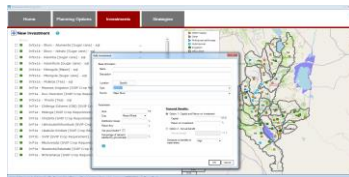
# Risk reduction framework (technical)



- Near real-time indicator monitoring
- Status reports



- Automatic reports
- Operational early warning
- Dissemination



Implementation and monitoring

Dissemination and warnings

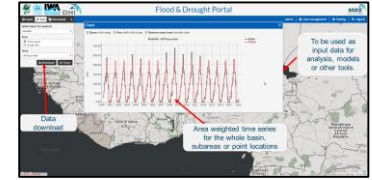


Baseline assessment

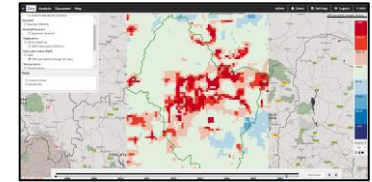
Impact assessment

Planning

- Investments
- Planning options
- Indicators and MCA
- Strategy



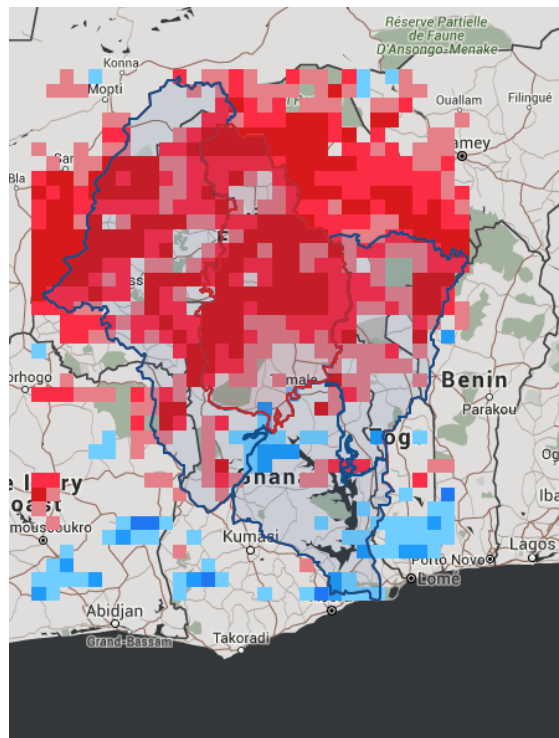
- Near real-time data
- Drought indices
- Status reports



- Drought forecast
- Drought early warning
- Link to crop and water resource models



# Drought identification



Legend

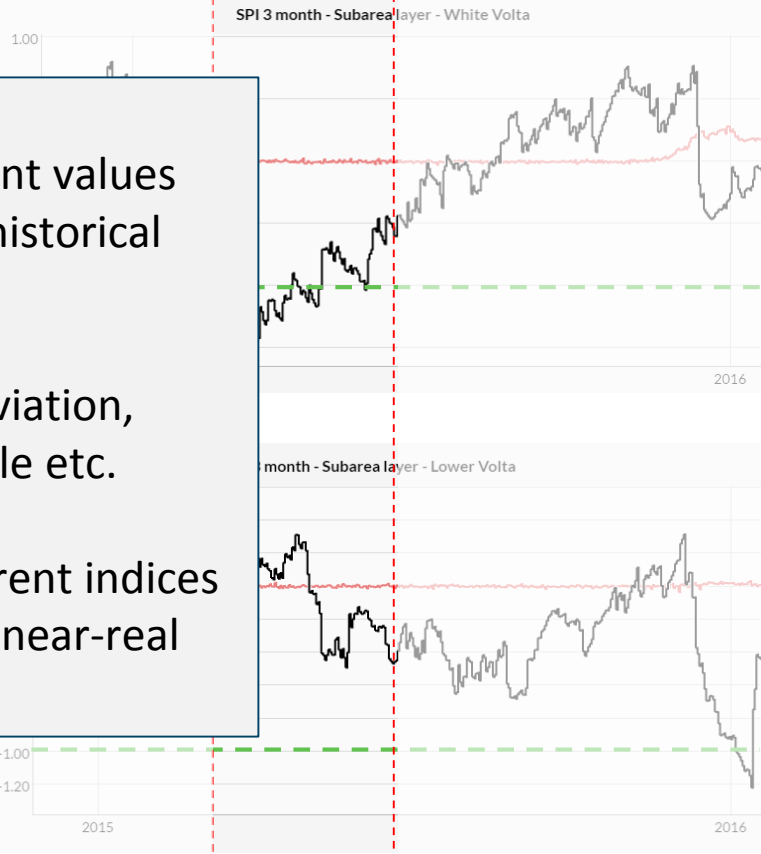
SPI 3 month

## Index

How are the current values compared to the historical values?

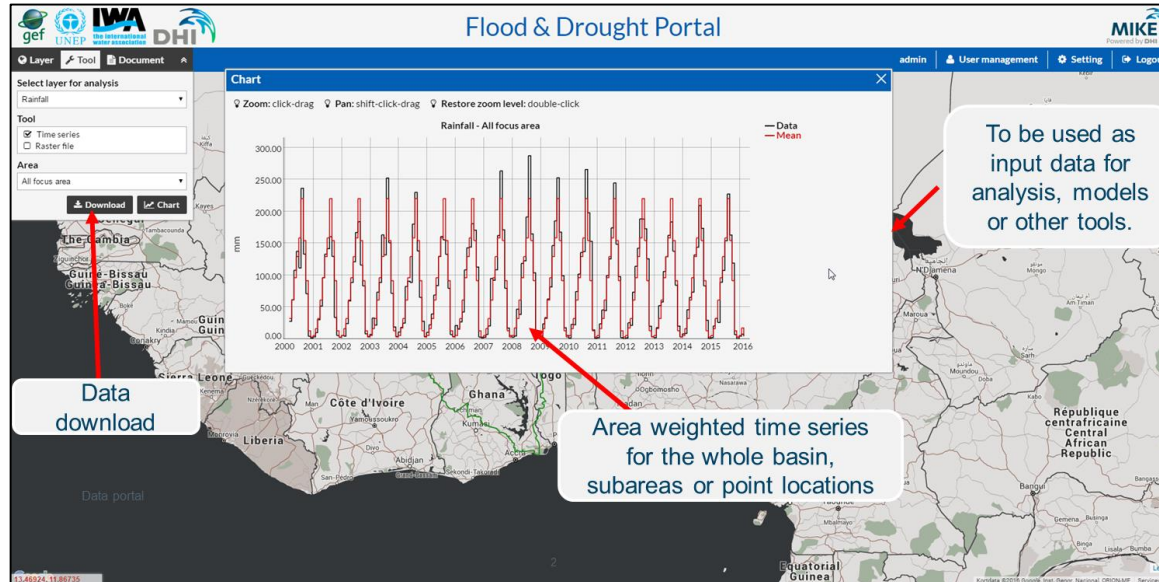
Expressed as a deviation, anomaly, percentile etc.

A number of different indices are maintained in near-real time.



# Drought identification

Flood & Drought portal enables near real time data, drought indices and identification of drought impacted areas - [link](#)



Near real time  
satellite data

Drought indices

Seasonal  
forecast data

Climate change  
information

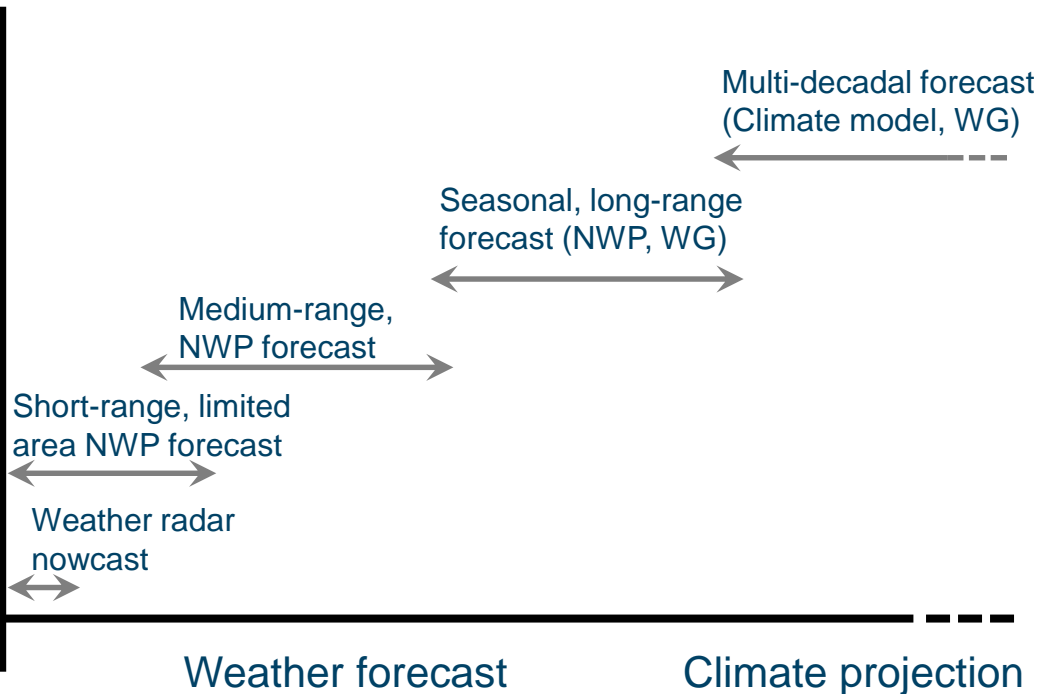


# Seamless weather prediction

Forecast products with highest confidence should be merged across different time scales

Combining predictions from

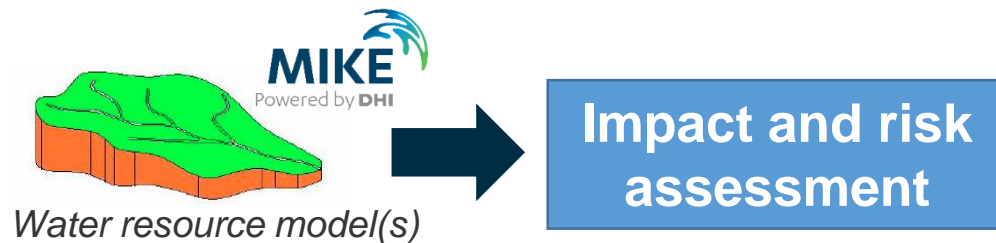
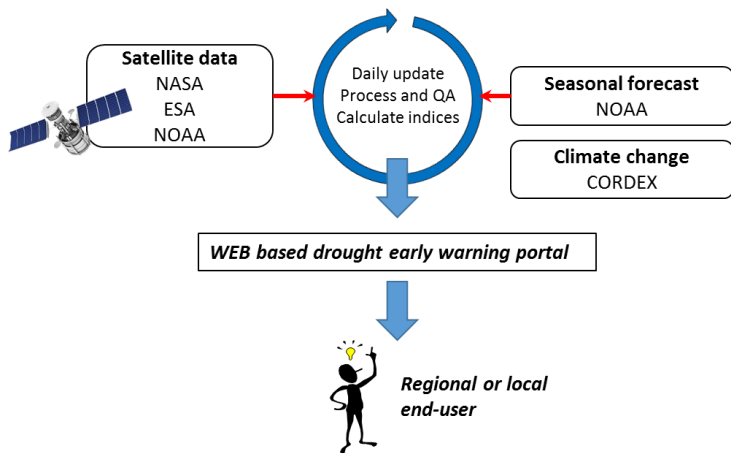
- In-situ gauges
- Weather radar
- Satellites
- NWP



# Early warning and detection

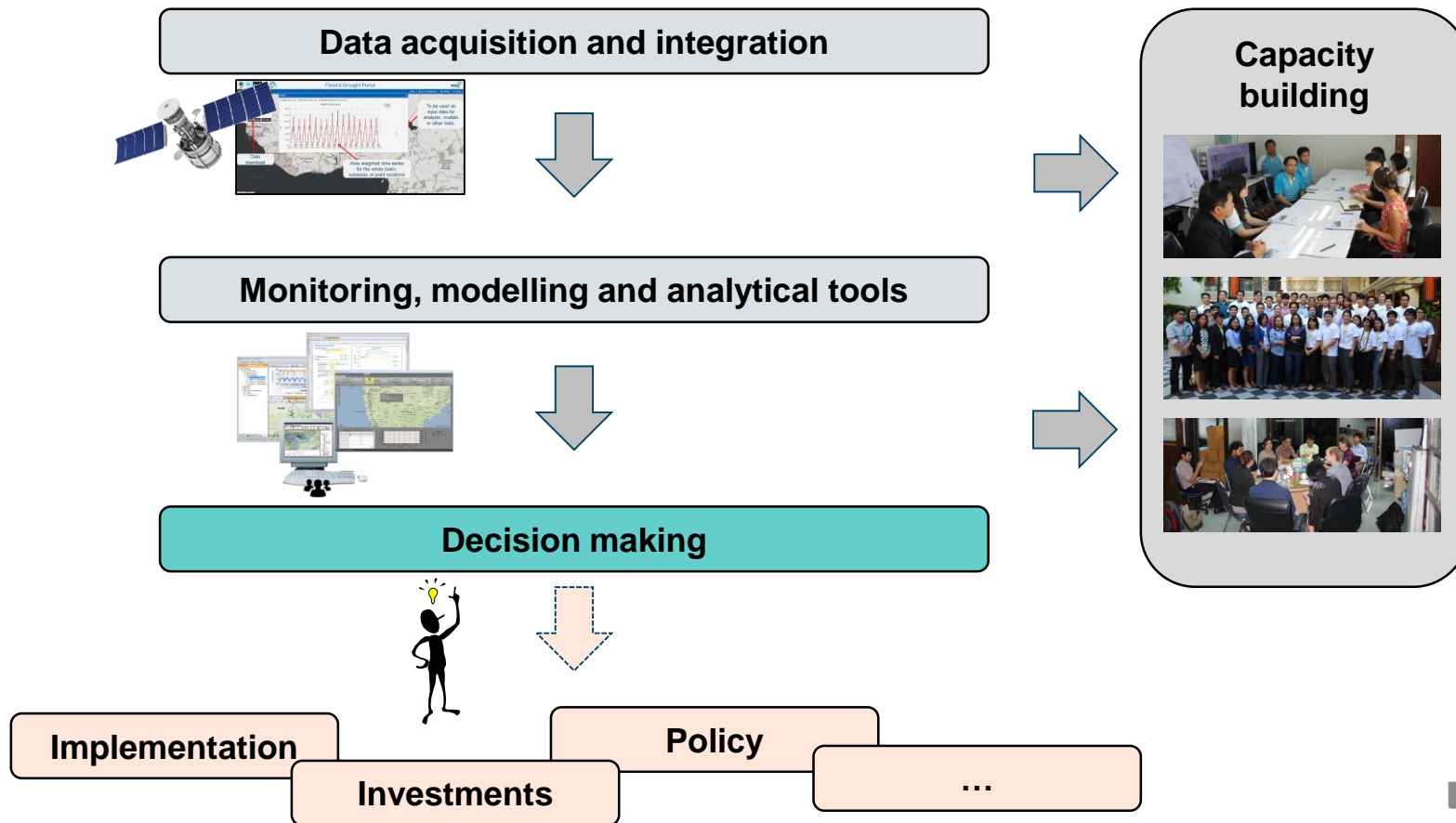
Forecasted drought indices used to locate and evaluate future condition

Simulation models used to estimate current and forecasted risk (losses)





# Providing sound basis for decisions making



THANK YOU

**Oluf Jessen – DHI**

Project manager

[ozj@dhigroup.com](mailto:ozj@dhigroup.com)



[www.flooddroughtmonitor.com](http://www.flooddroughtmonitor.com)

# Audience questions



# Upcoming FD webinars

#1: Use of satellite data for drought and flood management (Technical presentation)

#2: Drought management today - cases from Asia (January 12, 2017)

#3: Drought early warning and assessment, experiences from Ghana (February 28, 2017)

#4: Water Safety Plans – how to link water utilities with basin planning processes (March 15<sup>th</sup>, 2017)

#5: Basin planning – the climate change challenge (April 6, 2017)

#+++!

Dates and recordings on  
<http://www.unepdhi.org/fd-webinars>

- Questions/comments to Maija Bertule [mabe@dhigroup.com](mailto:mabe@dhigroup.com)
- Webinar recording and slides on YouTube (UNEP-DHI) and <http://www.unepdhi.org/fd-webinars>
- Short feedback survey in follow-up email – please take 5 minutes to fill in – we value your opinion!

### **Future webinars in the series**

- Feedback and suggestions for future topics welcome!

# Thank you for attending!