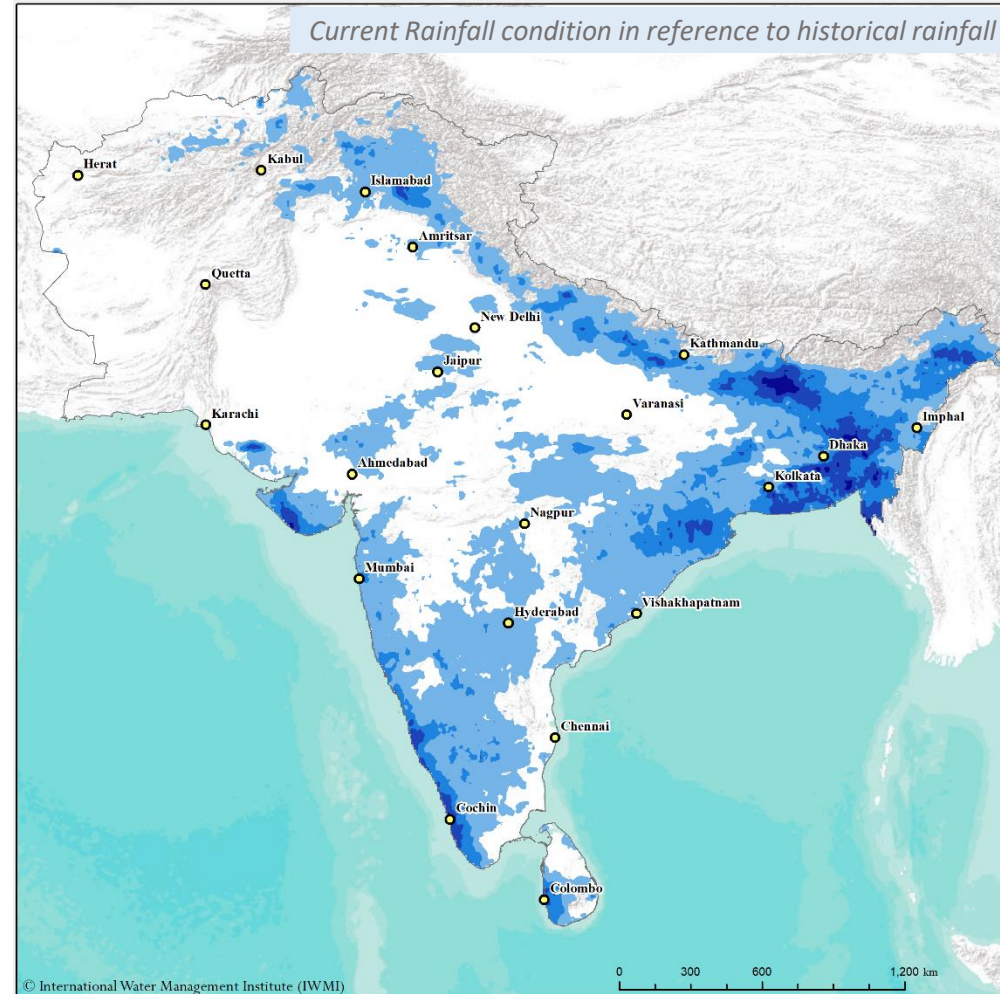
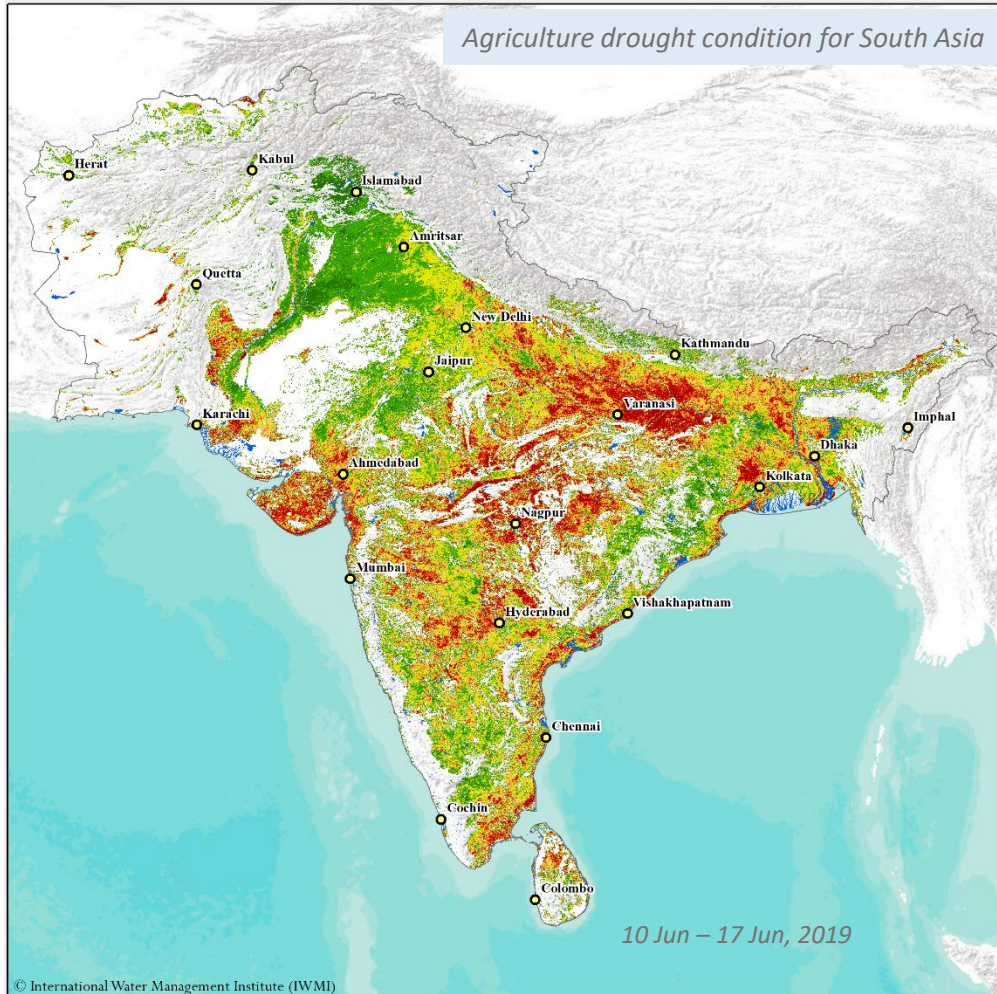


SADMS DROUGHT BULLETIN

17 June 2019 | ISSUE 02



IWMI
International
Water Management
Institute



CGIAR | RESEARCH
PROGRAM ON
Water, Land and
Ecosystems

South Asia Drought Monitoring System (SADMS) drought weekly bulletin is produced by International Water Management Institute (IWMI) and is funded by the Indian Council of Agricultural Research (ICAR), the CGIAR Research Program on Water, Land and Ecosystems (WLE) and the Ministry of Agriculture, Forestry and Fisheries (MAFF), Japan. Development of the beta-monitoring system was made possible at this inception through IDMP supported by WMO/GWP. The bulletin supports the government and other users to strengthen the potential use of satellite technology and modeling tools to reduce the impacts on agriculture risks and support in drought contingency plans and mitigation efforts.

Published Date: 21 Jun 2019

Rainfall Summary - Predicted week wise rainfall for South Asia

Multi Model Ensemble (MME) Seasonal Prediction System for 2019 Monsoon Season

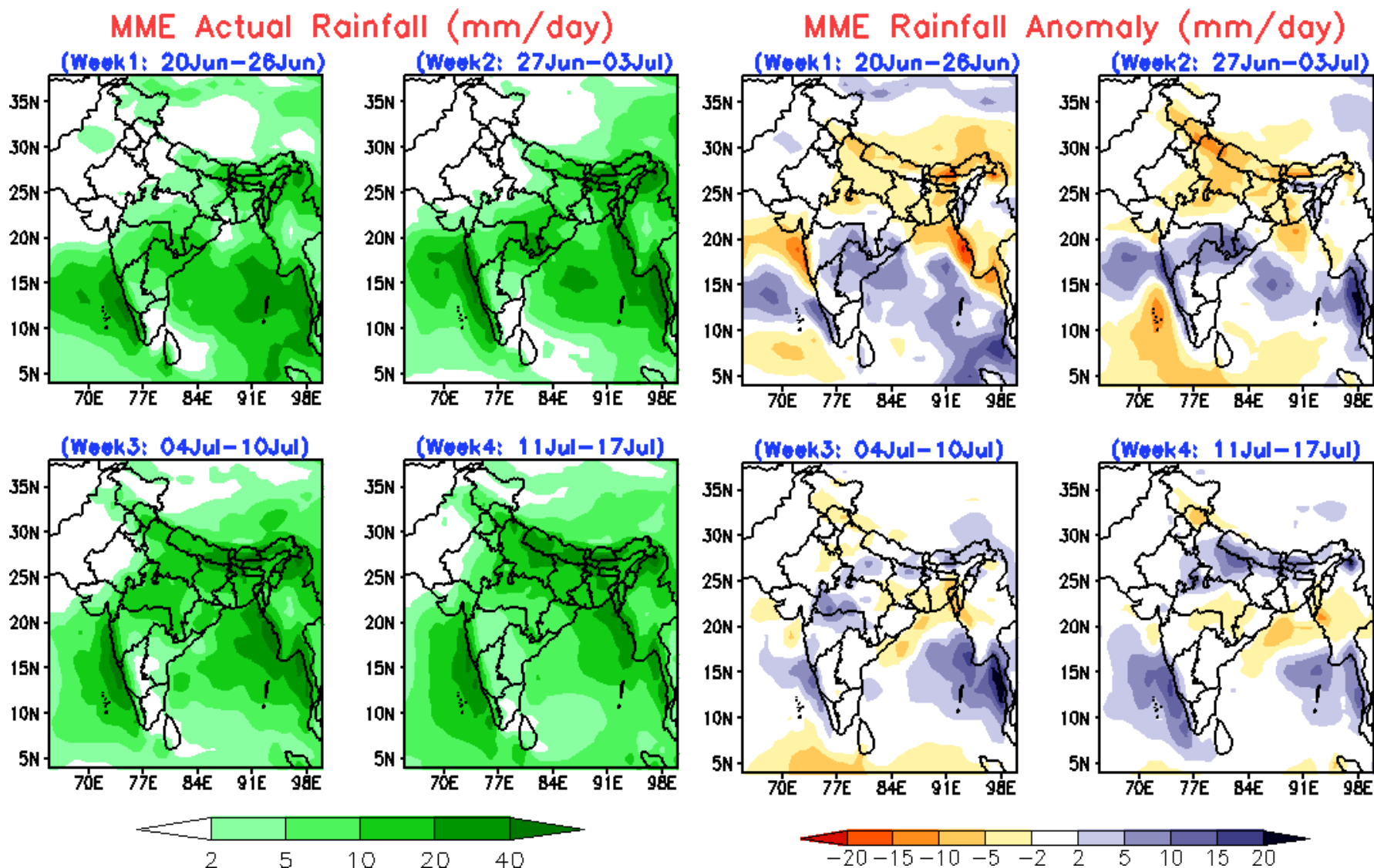


Image Source: Indian Institute of Tropical Meteorology (IITM) and India Meteorological Department (IMD) Pune, India

- Rainfall for South and South-west, Karnataka, west Maharashtra and Kerala might experience in the next week; east Bhutan, north west Assam, south west Arunachal might experience a slight increase in rainfall, however the rainfall anomaly explains deficit rainfall.
- Most of India might experience increasing in rainfall by beginning of July.
- MP, UP, Bihar, Odisha, Jharkhand, Telangana and West Bengal may experience deficit rainfall from 13th June to 19th. But from 27th June to 17th July will experience excess rainfall
- Sri Lanka for Northern, North Central and Eastern province explains normal rainfall but western and central might experience excess rainfall in month of June.
- Nepal rainfall anomaly explains a decrease in rainfall including Bhutan and it will slightly increase in end of June.
- Overall Pakistan shows no anomaly in rainfall.

Note: The summary on country specific details described above based on the ERPAS MME information product do not imply the expression of any opinion whatsoever on the part of the IWMI and its partners as well the data provided by IITM.

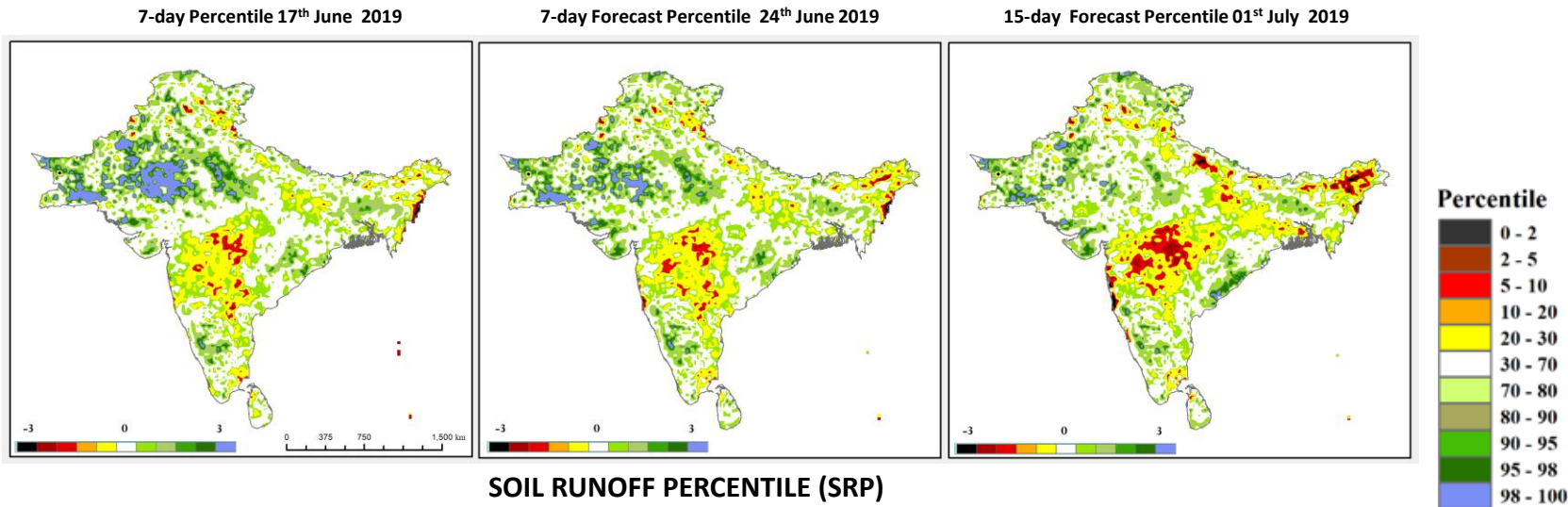
SOUTH ASIA DROUGHT EARLY WARNING SYATEM (SADEWS)

Current Condition: 17 Jun 2019

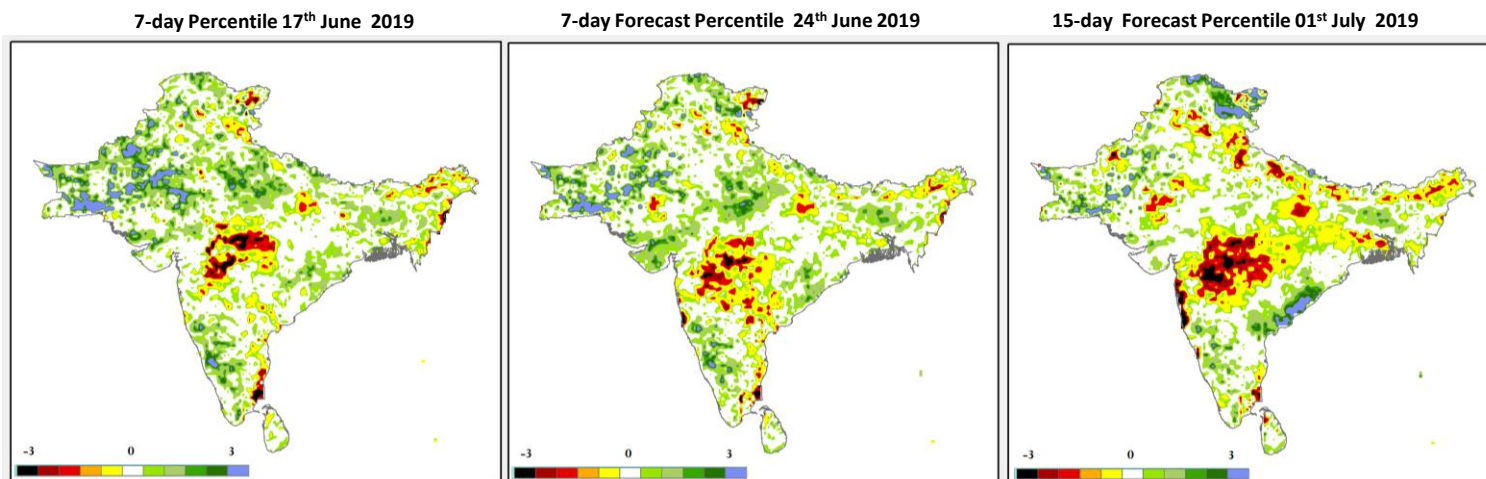
Forecast Period : 17 Jun and 01 July 2019

Standardized Soil Moisture and Runoff Index for regional drought and early warning

SOIL MOISTURE PERCENTILE (SMP)



SOIL RUNOFF PERCENTILE (SRP)



Summary:

The experimental drought forecast products for research/scientific use based on 17th June 2019 initial condition. These forecast products are based on the real time weekly operational forecast generated by Global ENSEMBLE (GENS), a weather forecast model made up of 21 separate forecasts, or ensemble members developed at The National Centers for Environmental Prediction (NCEP), NOAA.

Drought Forecast Outlook:

- Rainfall of Karnataka, Tamil Nadu, Kerala, Andhra Pradesh, Odisha, Chhattisgarh, Rajasthan, Haryana, Punjab will be increasing while rainfall of Maharashtra, UP, Bihar, MP and Telangana will be decreasing slightly in coming two weeks.
- Initial condition on the Soil Runoff Index (SRI) explains similar trend to SSI.
- Dryness is increasing in the following week and it will be further increasing in the 3rd week of June over center part of India include few areas of Maharashtra, MP and UP.
- South and South west of Sri Lanka will get more rain when rainfall in Jammu & Kashmir and Bhutan is normal.
- The areas are in deficit rainfall condition which may affect the crop productivity and advance need for State and Local authorities for better planning and coordination on water resources management.

The SADEWS is regional scale early warning system developed as a collaborative project between International Water Management Institute (IWMI) and Indian Institute of Technology – Gandhinagar (IIT-GN).

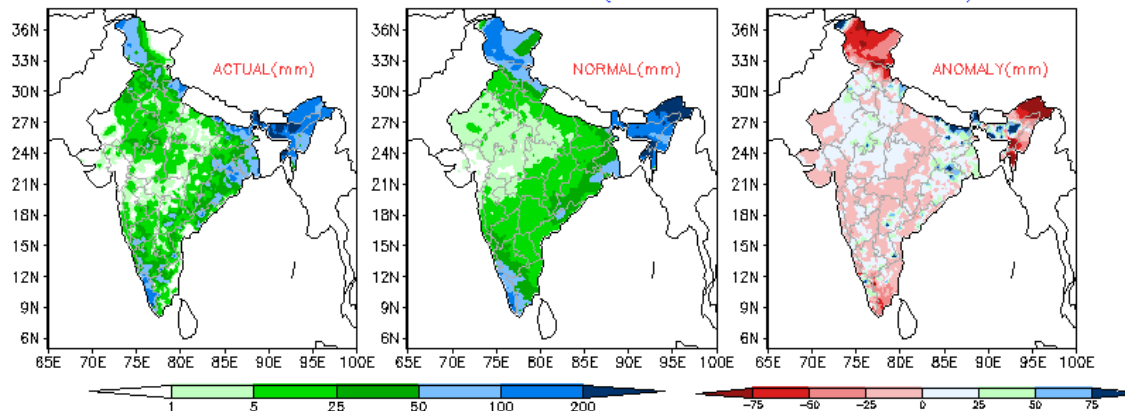
Disclaimer: The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the International Water Management Institute (IWMI) and its partners concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of IWMI.

INDIA – Monthly Rainfall Condition (Actual vs. Anomaly)

Actual Rainfall – April 2019

RAINFALL OVER THE COUNTRY FOR APRIL 2019

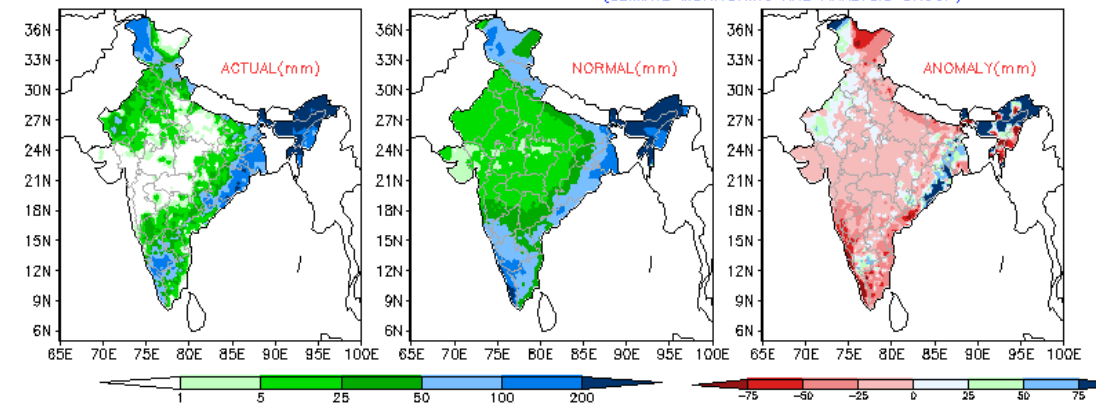
(CLIMATE MONITORING AND ANALYSIS GROUP)



Actual Rainfall – May 2019

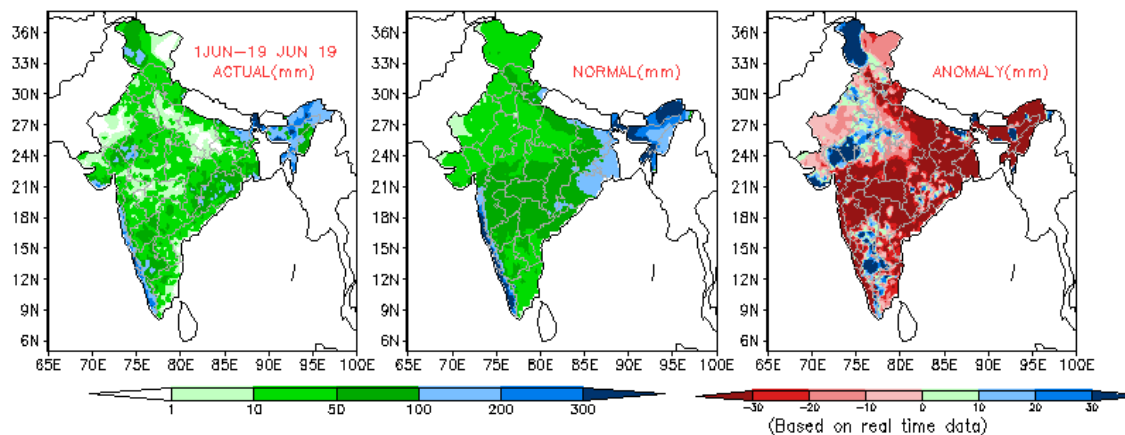
RAINFALL OVER THE COUNTRY FOR MAY 2019

(CLIMATE MONITORING AND ANALYSIS GROUP)



Actual Rainfall – Seasonal 2019

CLIMATE MONITORING AND ANALYSIS GROUP



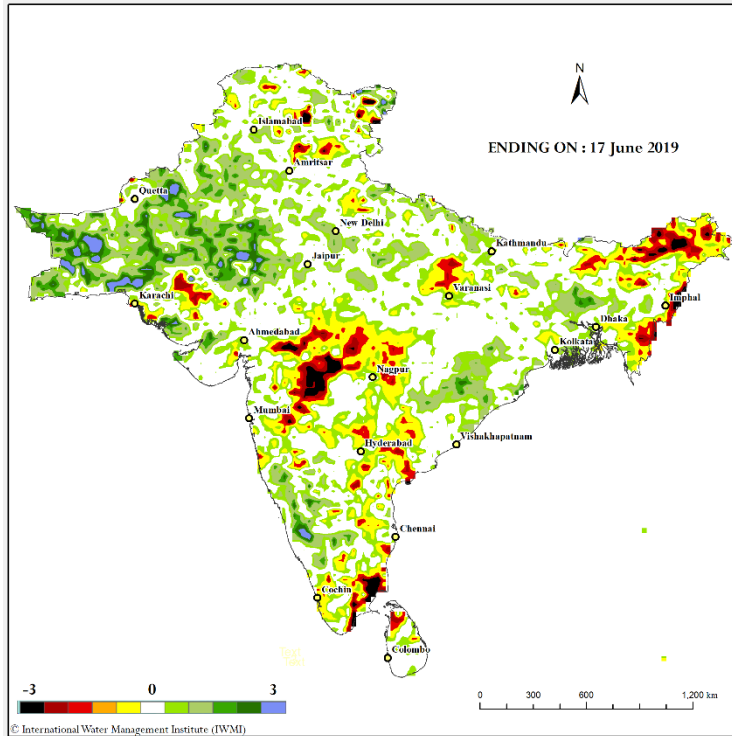
Data Source: IMD

- Overall there is an decrease in rainfall for the month of May compared to the long-term anomaly, however some coastal areas in Odisha and West Bengal, had excess rainfall.
- Month of April has experienced mostly negative anomalies across India except small patches. Arunachal Pradesh, Manipur, Jammu & Kashmir experiences an excess negative rain anomaly.
- There has been a high reduction in rainfall in the month of April, May and until June 20 all over the India.
- Overall there has been an slightly excess rainfall north, eastern and south belt (Karnataka) of India.

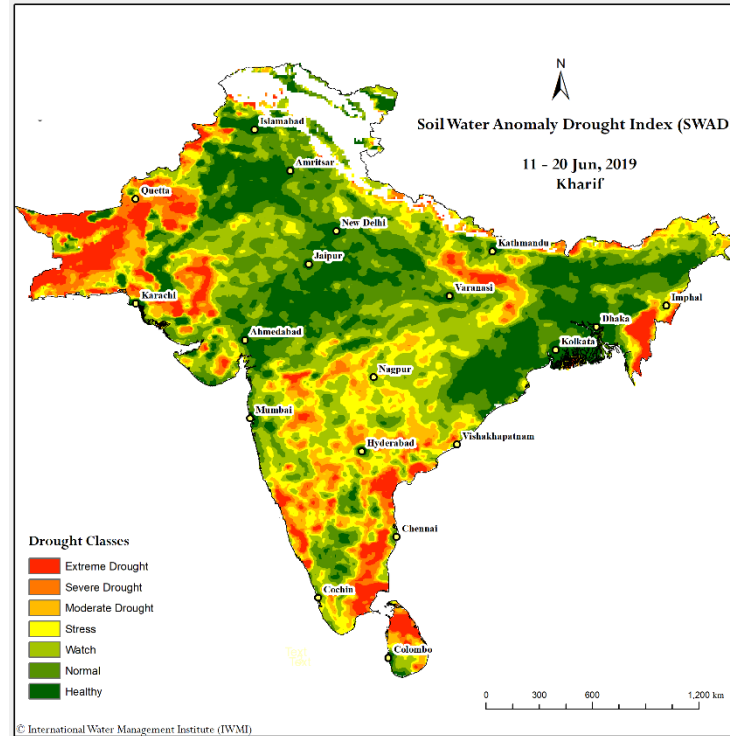
Note: Simple qualitative assessment on the performance on rainfall condition was described here to cross compare with SADMS – IDSI products for evaluation purpose only.

South Asia Drought Indices – A Comparison & Assessment

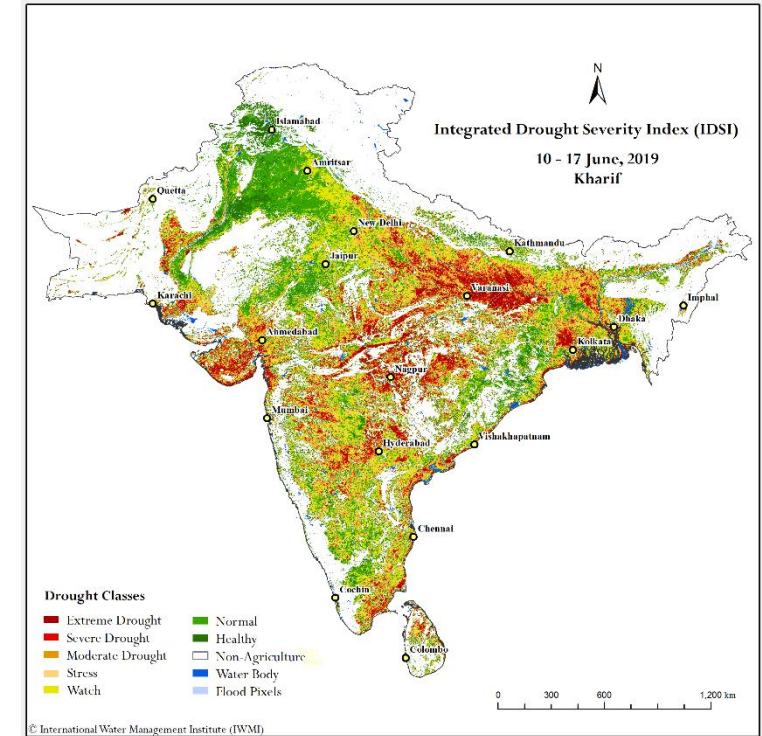
SA-DEWS



SWADI

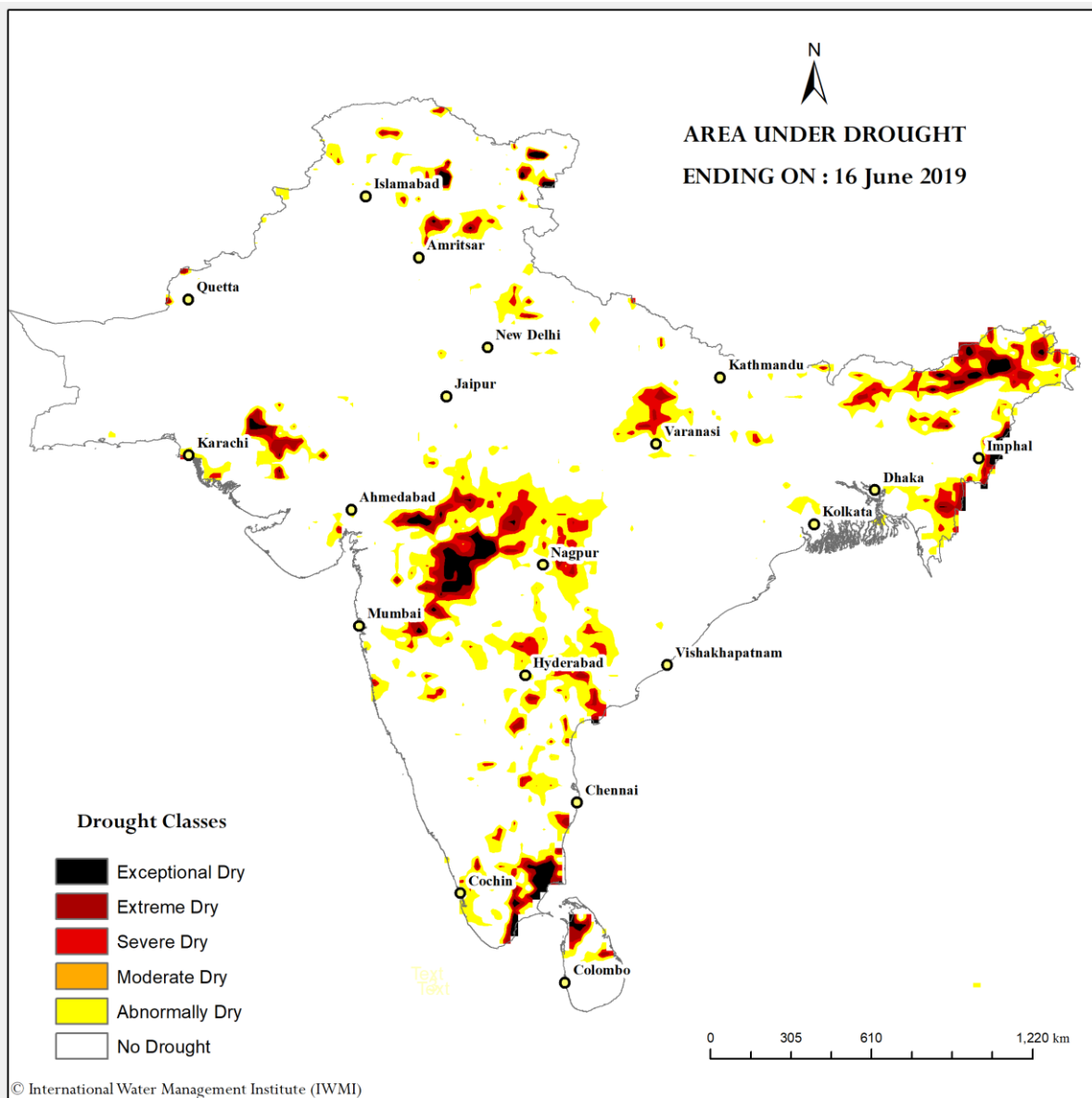


IDSi



- South Asia-Drought Early Warning System (SA-DEWS) is an integrated approach based on satellite estimates of rainfall temperature, wind and soil type utilized in VIC model and the derived outputs namely Standardized Precipitation Index (3-Month), Standardized Soil Moisture Index (SSI) and Standardized Runoff Index (SRI).
- Soil Water Anomaly Drought Index (SWADI) is derived from satellite based decadal soil moisture product of ASCAT provided by EUMETSAT.
- Integrated Drought Severity Index (IDSi) is an integrated index that has been formulated using VCI, TCI & PCI at 500m resolution for agricultural land-use over South Asia.
- It can be observed, that during this time period, all the three indices shows a relation with each other. The peninsular India is reviving from the drought situation, except Haryana, Punjab, Odisha, south of Jharkhand, Karnataka and North AP.

South Asia Drought Forecast



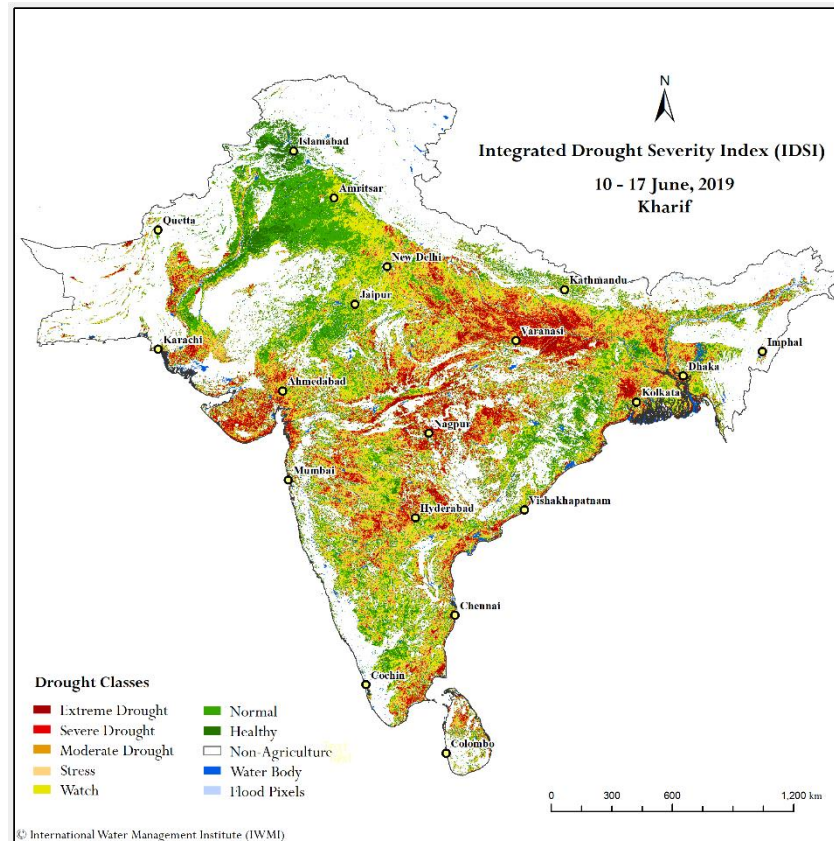
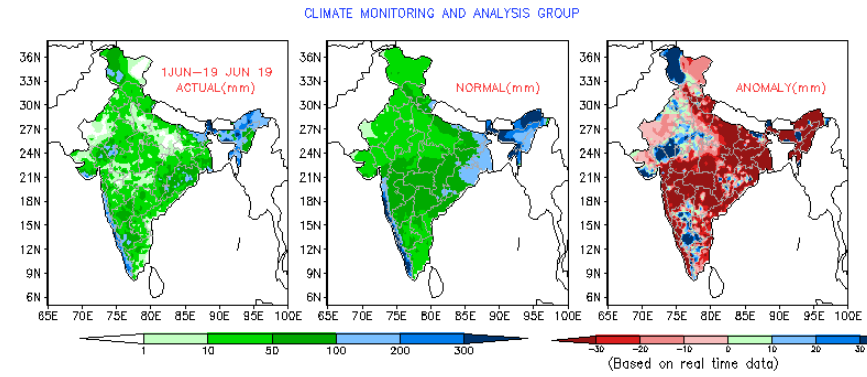
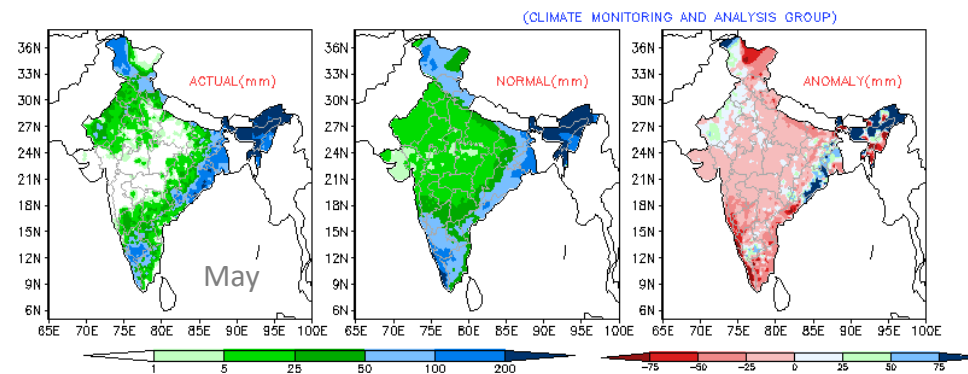
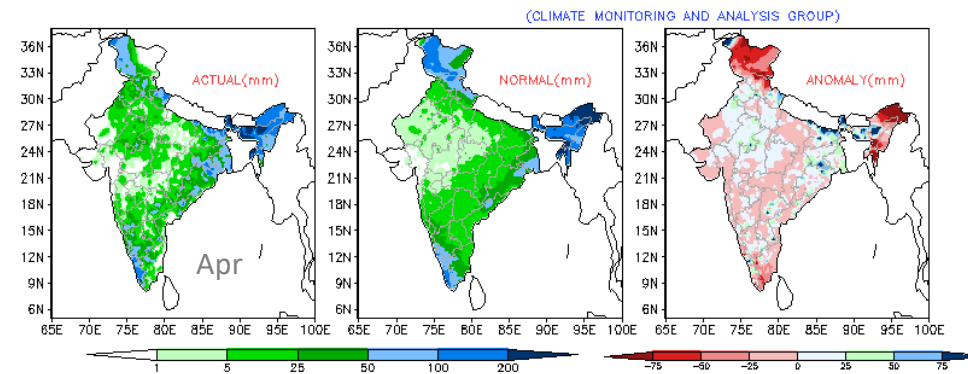
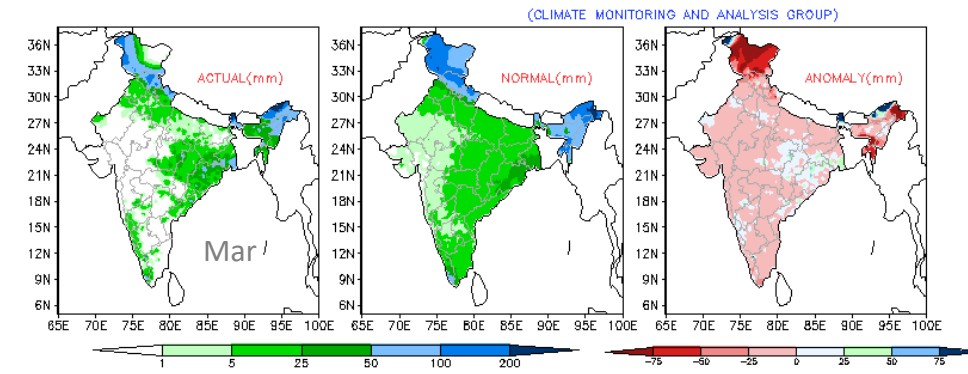
Summary:

- Using the initial condition i.e. 16th June 2019 based on satellite rainfall estimates of 3B42RT daily time-step integrates in the VIC model and the derived outputs namely Standardized Precipitation Index (3-Month), Standardized Soil Moisture Index (SSI) and Standardized Runoff Index (SRI)
- The extreme values of all three conditions are statistically combined to generated areas under drought for entire South Asia
- Extreme dry condition of Maharashtra, Telangana, northern Gujarat, Arunachala Pradesh, Manipur, Nagaland and few patches of Tamil Nadu have increased to Severe to Extreme/Exceptional dry condition.
- Part of Jammu & Kashmir, and parts of northeastern belt are observed to have increasing dry condition. Also, Bhutan, Pakistan, Nepal and north and north central of Sri Lanka are under extremely/exceptionally severe drought condition.
- *Reference to IMD SPI data is well correlated to the area under drought predicted by drought algorithm.*

India – State wise analysis



India Monthly Rainfall Comparison & Assessment



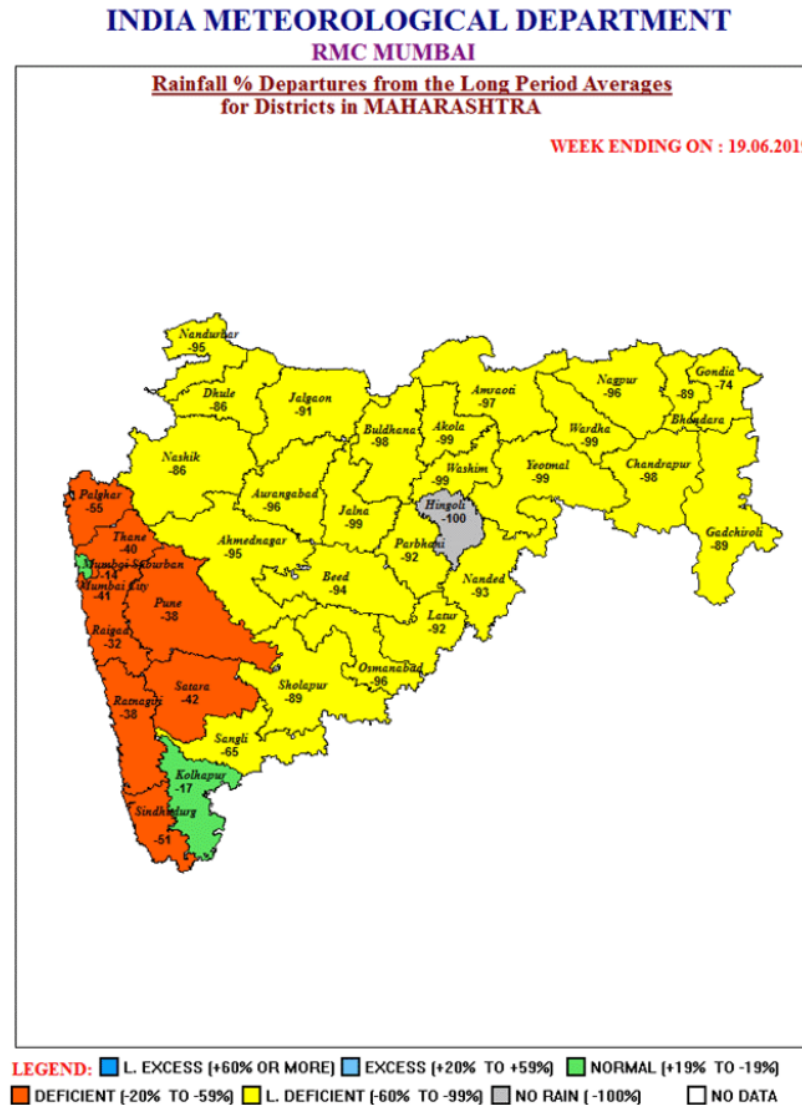
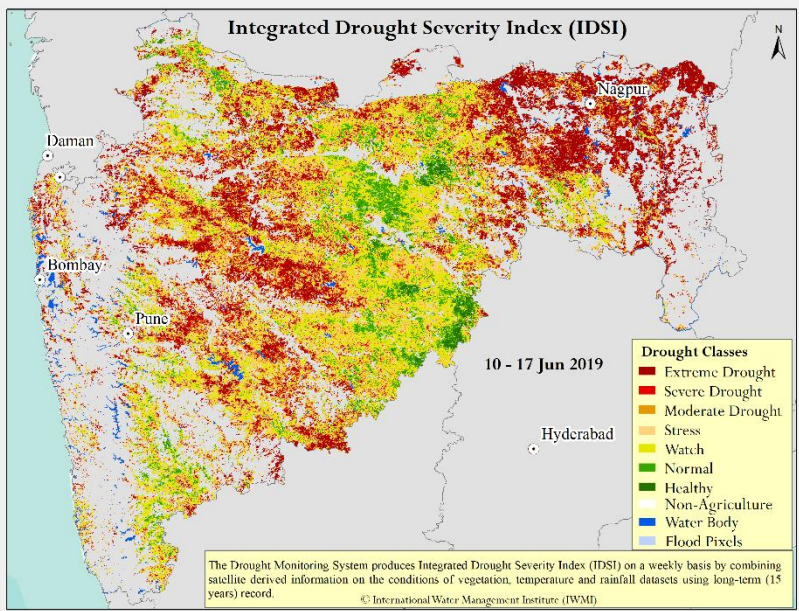
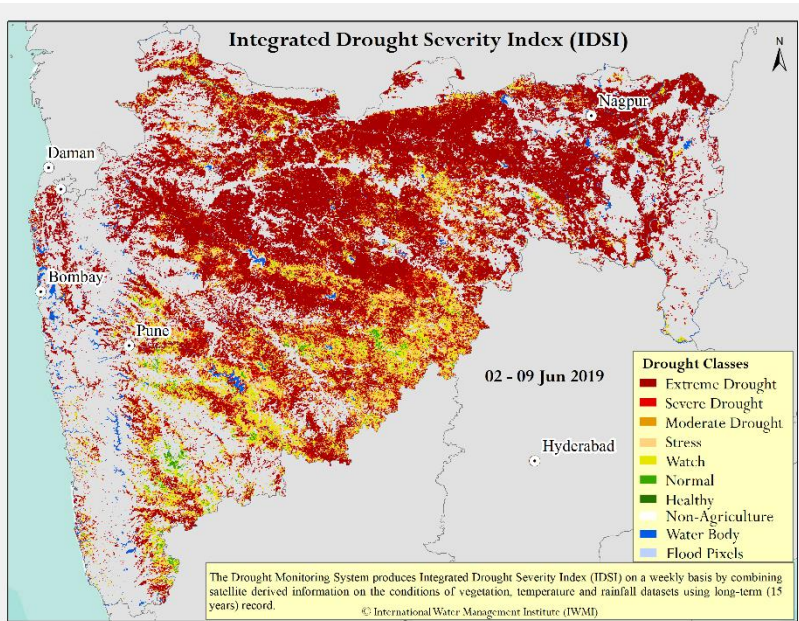
Summary:

Rainfall deficit in whole India has increased, except April month more than 80% of the country under negative rainfall anomaly which is trigger the vegetation stress in the agricultural land, which is clearly reflected in the IDSi.

Extreme to severe drought condition has most of the State in India except Punjab, Haryana and Odisha.

Similar pattern has been revealed by monthly rainfall anomaly report from IMD.

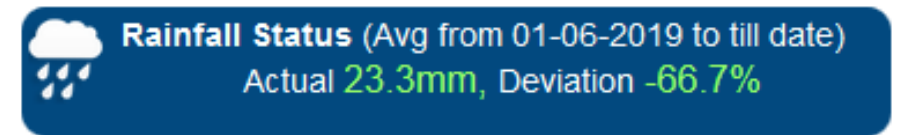
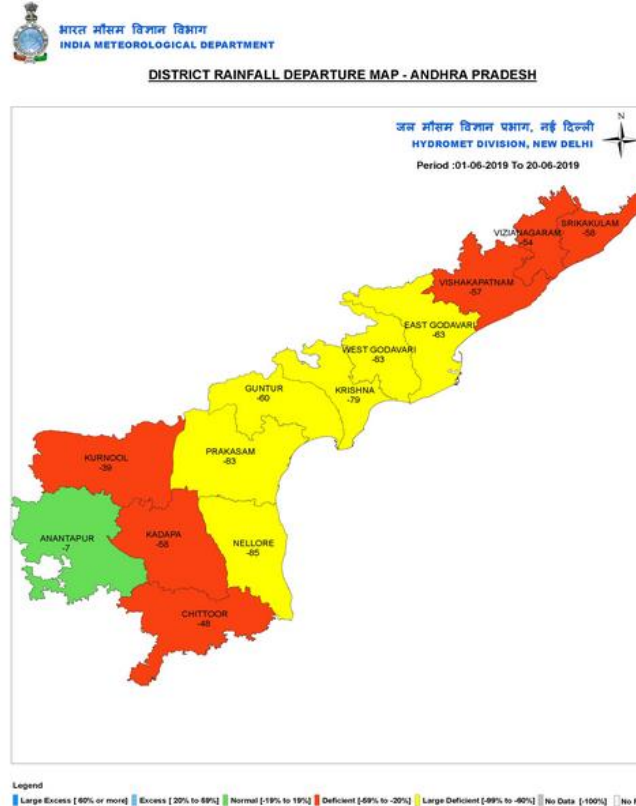
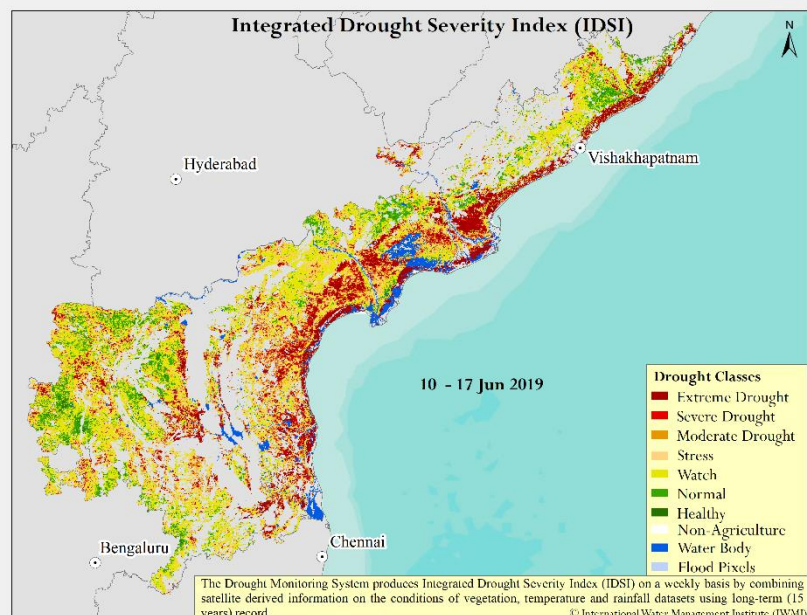
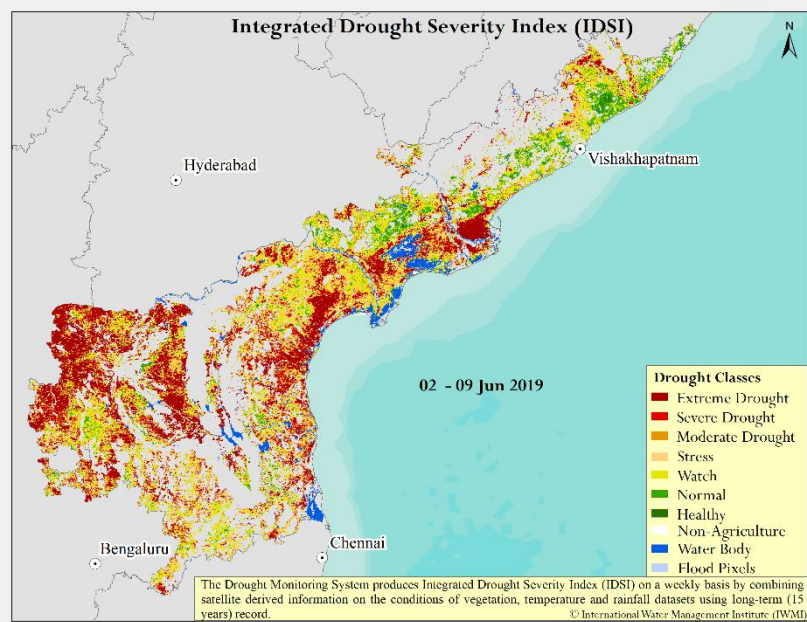
South Asia Drought Monitoring System (SADMS) – Agriculture Assessment (Maharashtra)



Summary:

- SADMS framework was applied for the agriculture drought monitoring in Maharashtra for current obtained mainly from satellite remote sensing data. The index (Integrated Drought Severity Index – IDSI), Indian Meteorological Rainfall maps were analysed to understand rainfall deficit which could help in validating the drought maps with the absence of in-situ observations.
- Except Kolhapur, Mumbai city and Mumbai suburban district all the district are under 20-99% rainfall deficient in month of June 2019. Also from Jan to May 2019 indicates the negative rainfall anomaly through out the state (**refer slide 8**).
- Rainfall deficit in whole state has increased the vegetation stress in the agricultural land, which is clearly reflected in the IDSI. Extreme to severe drought condition has most of the State. Similar pattern has been revealed by seasonal rainfall report from IMD. But due to occasional rainfall stress condition slightly reduced in central and southern region of state.

South Asia Drought Monitoring System (SADMS) – Agriculture Assessment (Andhra Pradesh)



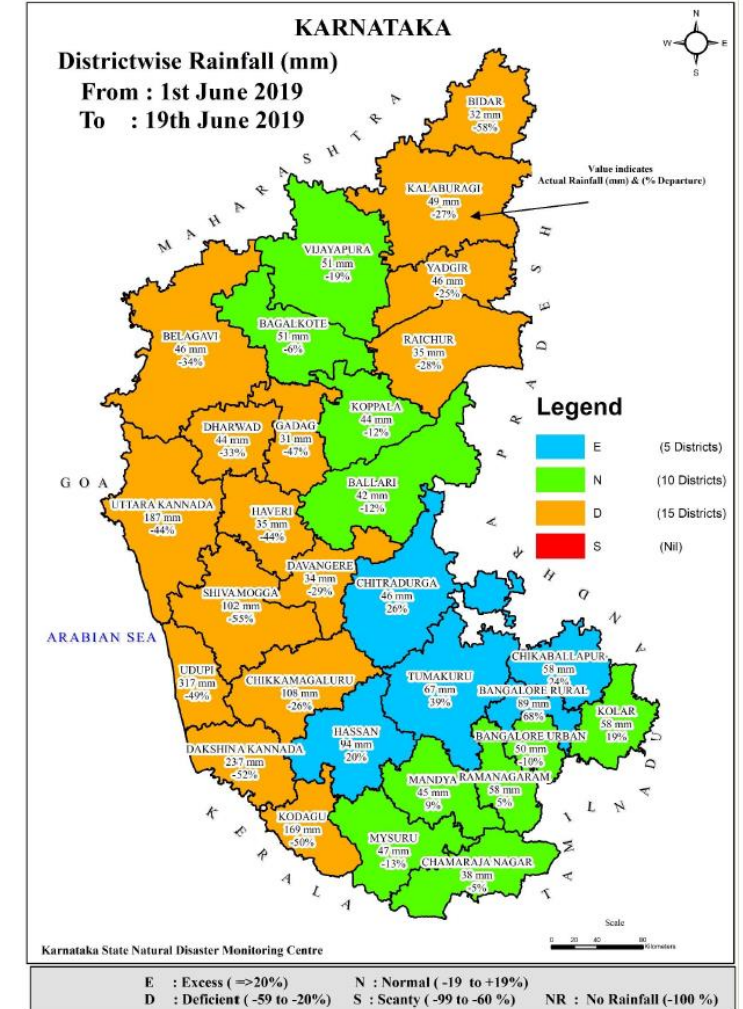
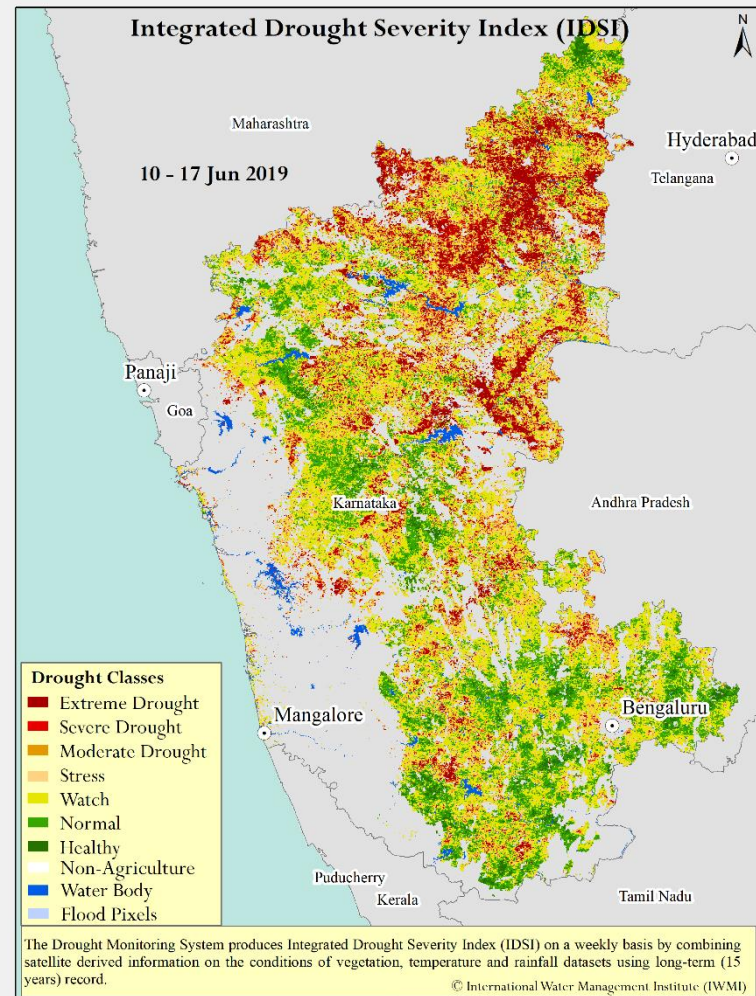
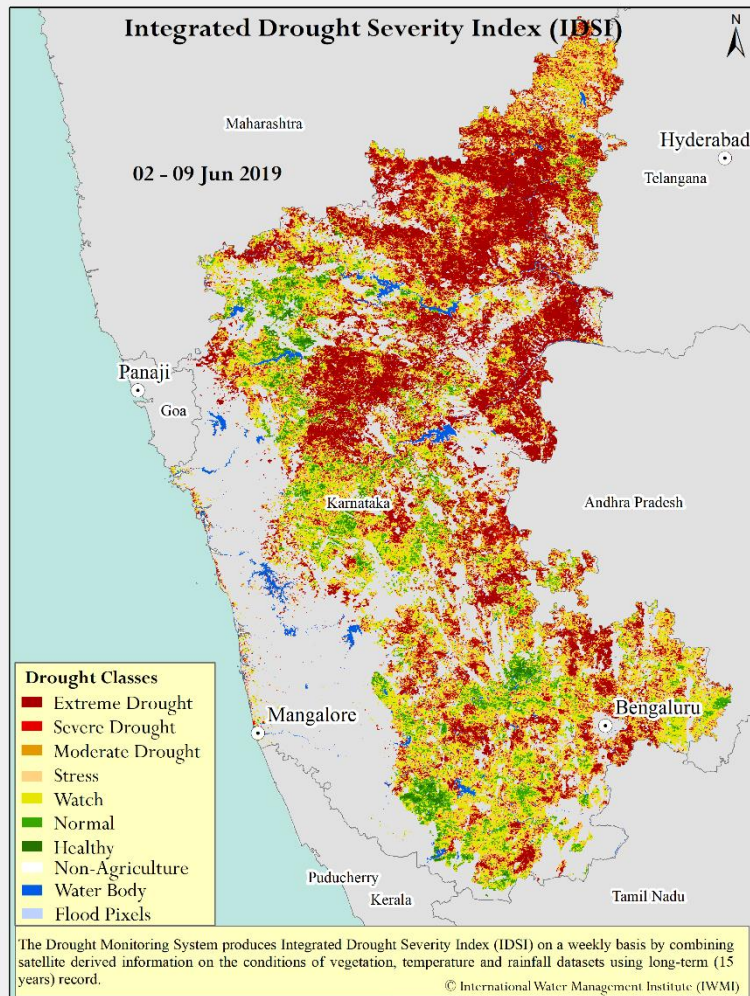
District-Wise, Month-Wise Rainfall Status from 01/06/2019				
District	Actual	Normal	Deviation(%)	Status
Srikakulam	22.3	101.2	-78.0	Scanty
Vizianagaram	35.5	96.9	-63.4	Scanty
Vishakapatnam	43.7	99.7	-56.2	Deficient
East Godavari	34.5	87.2	-60.4	Scanty
West Godavari	15.5	80.2	-80.7	Scanty
Krishna	9.6	68.7	-86.0	Scanty
Guntur	21.3	61.4	-65.3	Scanty
Prakasham	8.5	43.0	-80.2	Scanty
Nellore	2.6	43.6	-94.0	Scanty
Chittoor	27.3	63.0	-56.7	Deficient
Kadapa	19.7	56.9	-65.4	Scanty
Anantapur	37.0	50.8	-27.2	Deficient
Kurnool	23.7	57.2	-58.6	Deficient
State	23.3	70.0	-66.7	Scanty

Data Source: APSDPS

Summary:

- Out of the 13 districts in A.P., 12 districts had low rainfall from June 01 to 17 June 2019;
- 'Stress to extreme drought' category is still continue same as previous map all over the district.
- Due to low negative rainfall anomalous condition experience till 17 June 2019. it is the good indication for increasing drought condition (refer slide 8). Due to starting south western monsoon drought condition slightly reduced in several parts of state.

South Asia Drought Monitoring System (SADMS) – Agriculture Assessment (Karnataka)



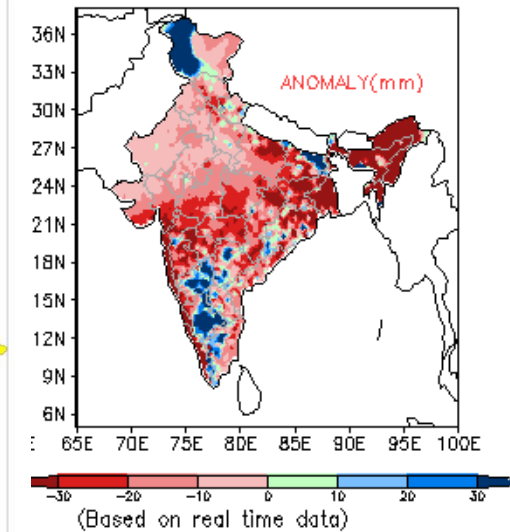
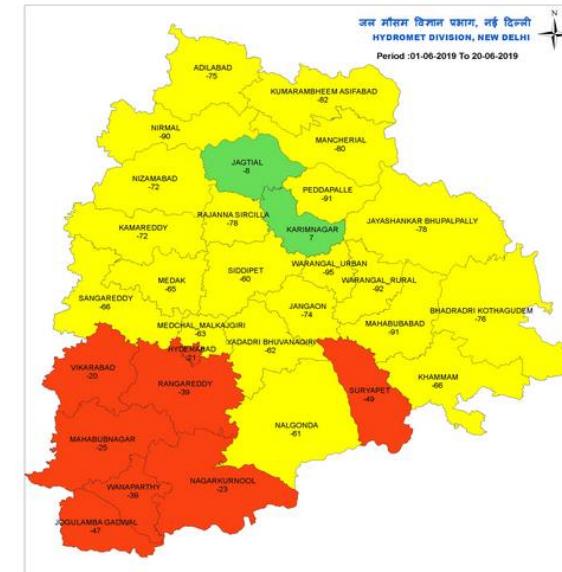
The Integrated Drought Severity Index (IDSI) for Karnataka were assessed at district level. The condition of vegetation has been slightly affected along northern district still, southern and eastern region of the State, reduce the drought condition due to excess rainfall. Extreme drought condition in the many district has changing watch to normal from last week of current week of June.

South Asia Drought Monitoring System (SADMS) – Agriculture Assessment (Telangana)

01 June – 20 June 2019

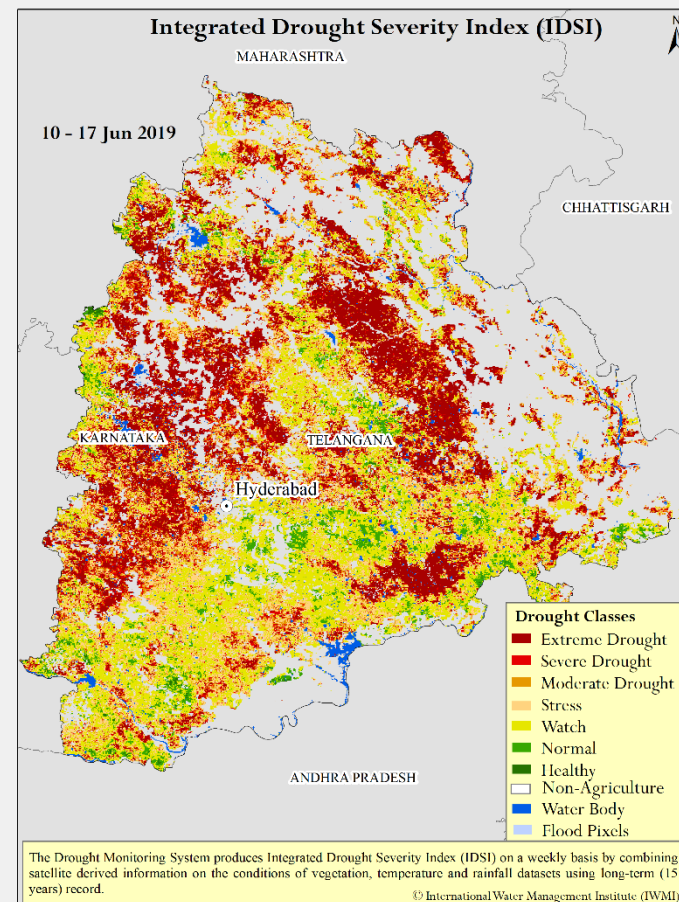
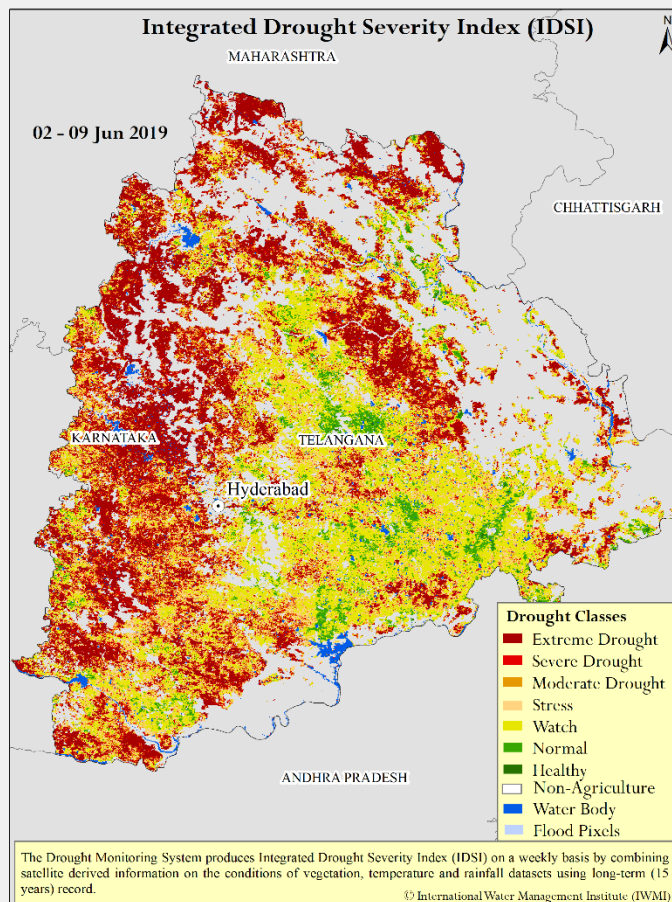


DISTRICT RAINFALL DEPARTURE MAP - TELANGANA

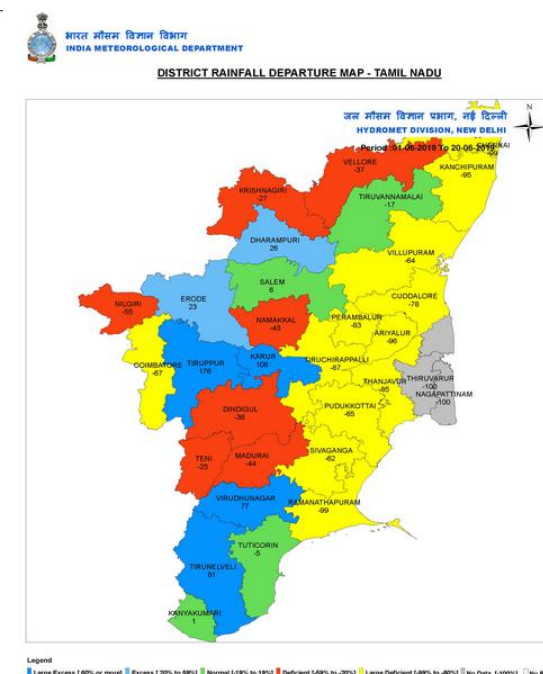
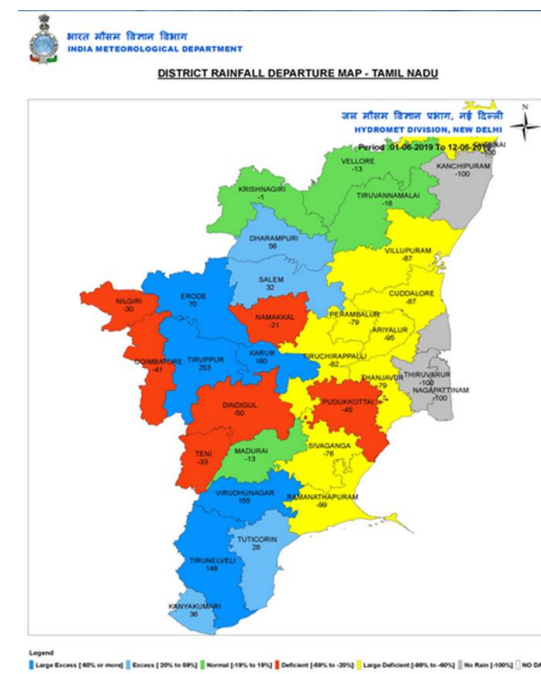
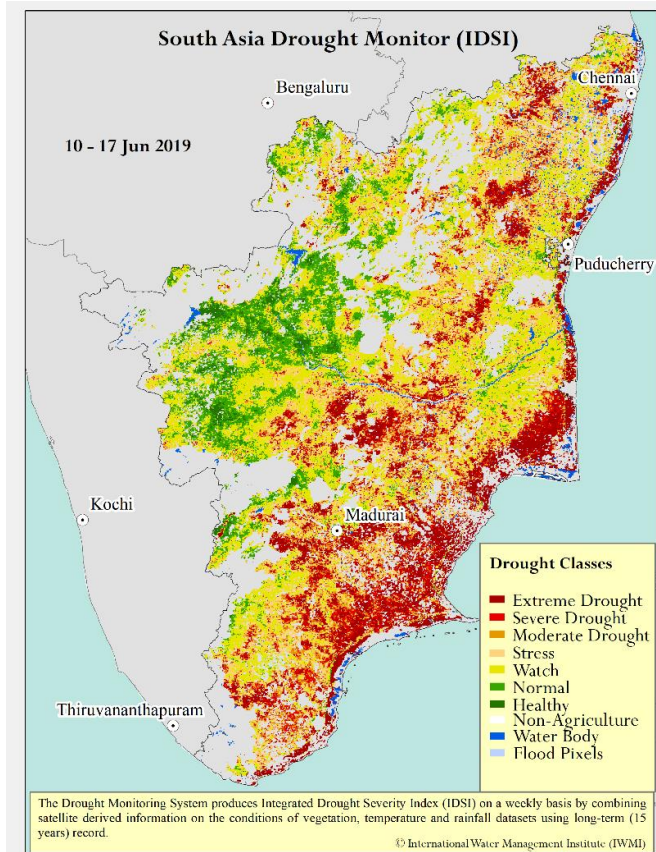
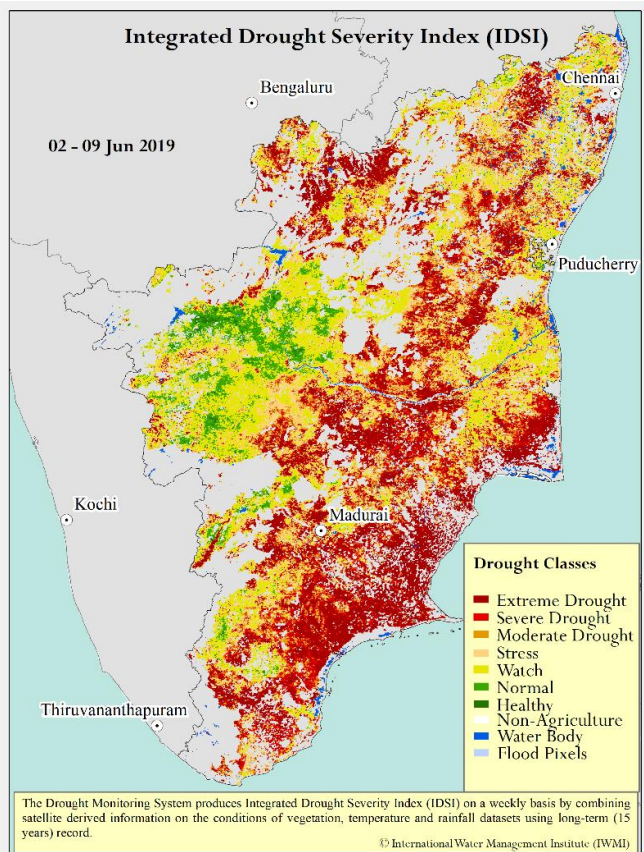


Summary:

The Integrated Drought Severity Index (IDSI) for Telangana was assessed at district level. There seems to be continuation of same drought condition from previous week. More than 50 % of the state is under extreme to severe drought condition. South East district of the States are observed to have severe to watch category while some patches are represent the severe category.



South Asia Drought Monitoring System (SADMS) – Agriculture Assessment (Tamil Nadu)

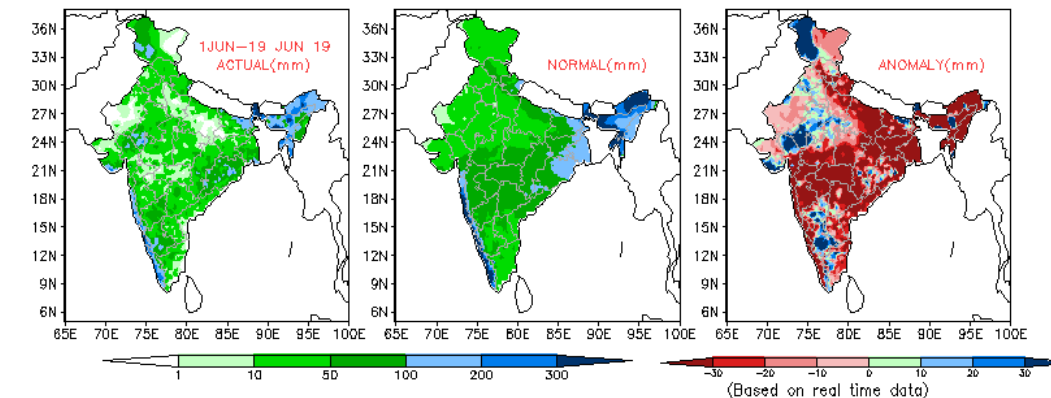


01 June – 19 June 2019

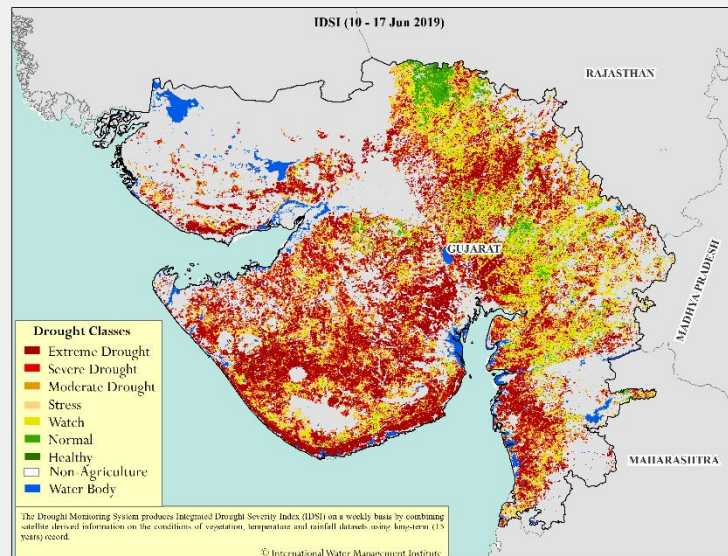
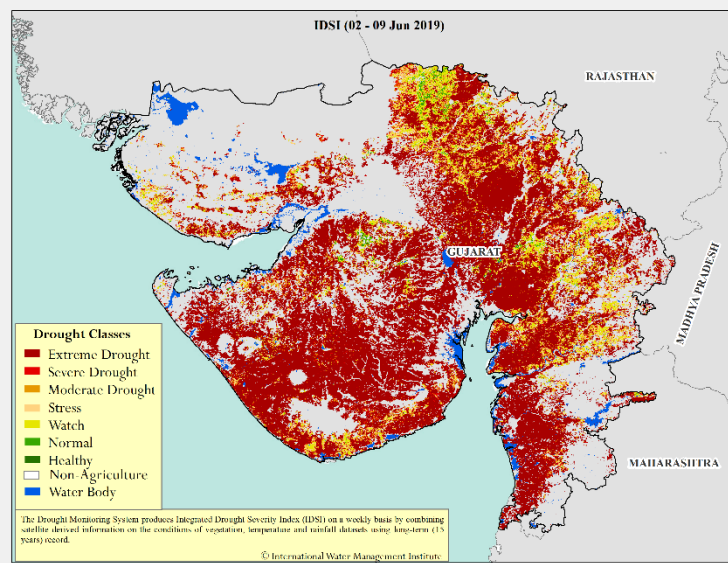
Summary:

- Overall drought condition is continued from previous analysis cycle. Also south, South-East, North and of Tamil Nadu seem to have 'extreme' to 'severe' drought at the week ending on 17th of June 2019. Only western districts are under the 'severe' to 'Watch' category with some extreme patches in IDSI which is giving the good correlation with rainfall anomaly as well.
- Overall, it can be observed that 30-40% area of the state have 'extreme' to 'watch and normal' drought classes and same spatial pattern is continue from previous week.

CLIMATE MONITORING AND ANALYSIS GROUP



South Asia Drought Monitoring System (SADMS) – Agriculture Assessment (Gujarat)



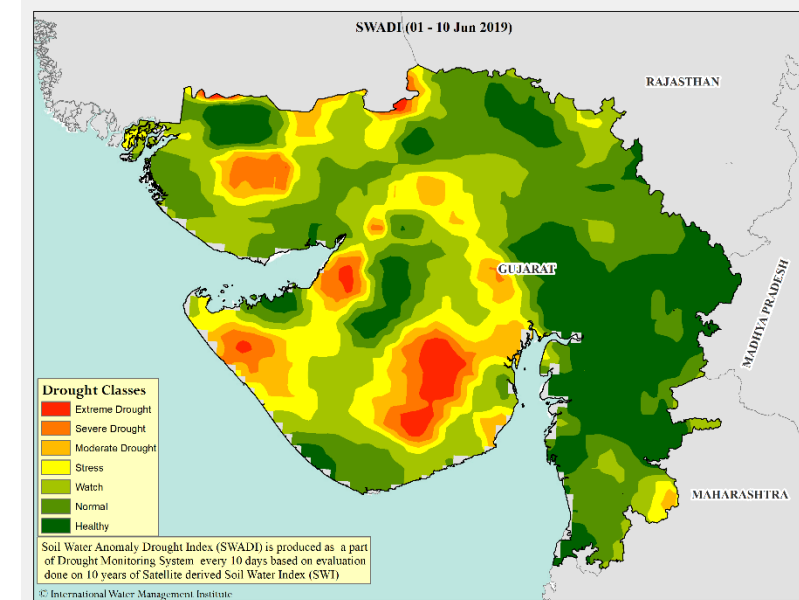
भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

DISTRICT RAINFALL DEPARTURE MAP - GUJARAT



Legend

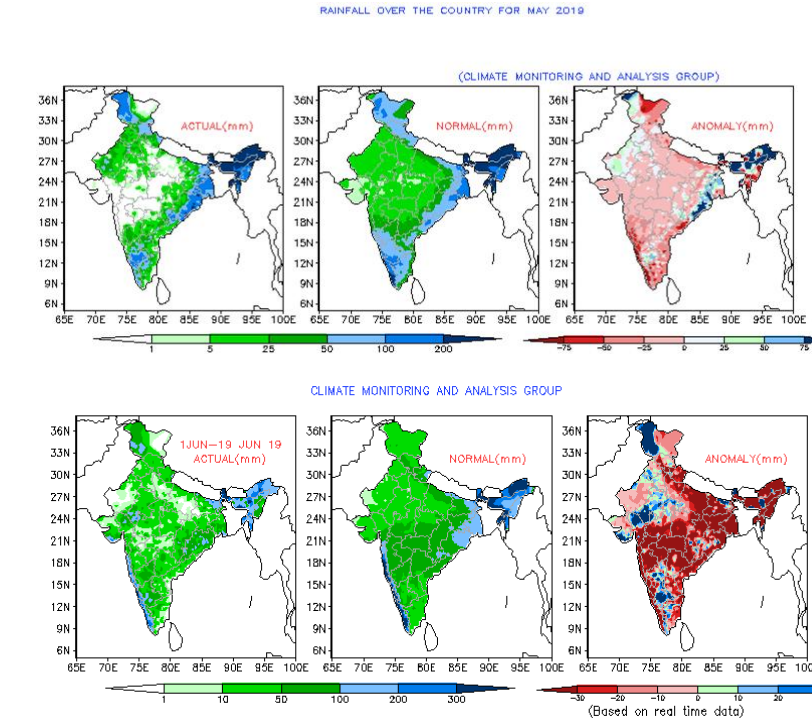
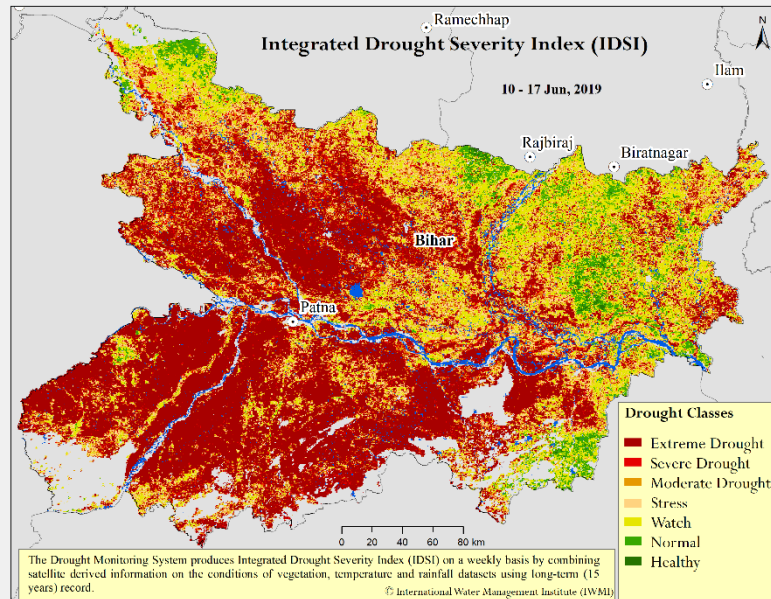
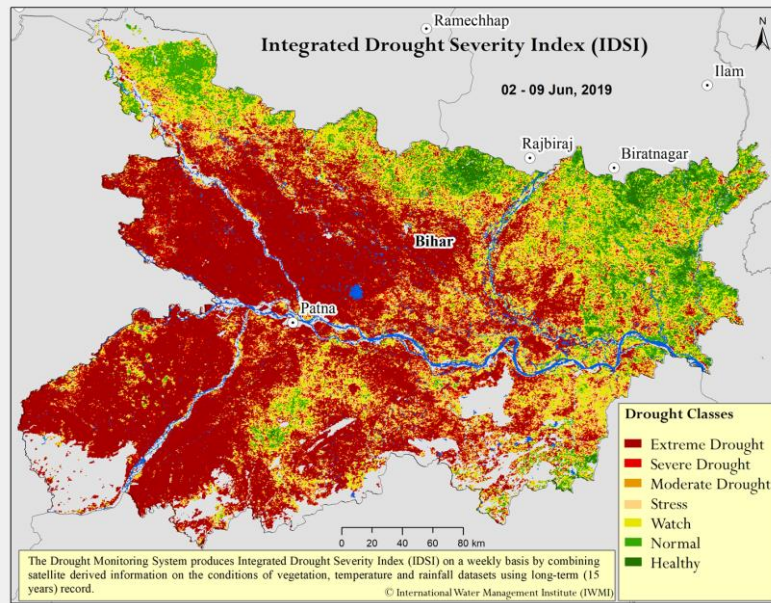
Large Excess [60% or more] Excess [20% to 59%] Normal [19% to 19%] Deficient [-69% to -20%] Large Deficient [-99% to -60%] No Data [-100%] No Rain



Summary:

- Overall the state is recovering from extreme to severe drought condition form previous to resent week.
- There is excess and normal rainfall for some states but still half of the state under 50-100% rainfall deficient from 10 to 17 June
- Overall, it can be observed that most of the districts are under drought but it is recovering towards extreme to watch category.

South Asia Drought Monitoring System (SADMS) – Agriculture Assessment (Bihar)



India Meteorological Department
Hydromet Division, New Delhi

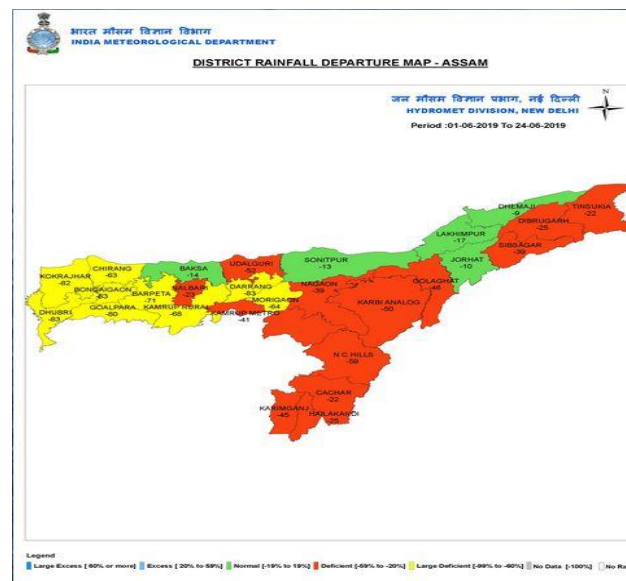
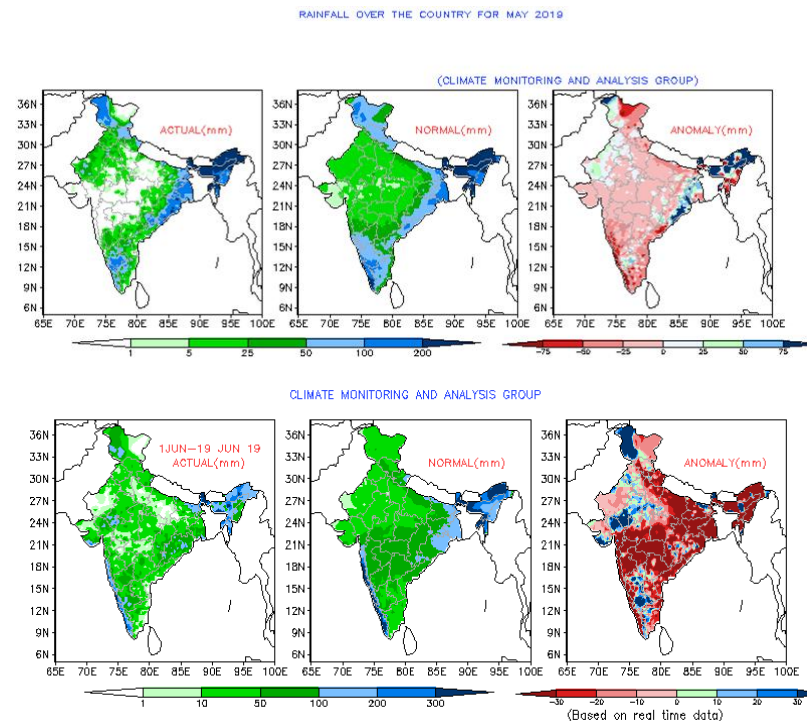
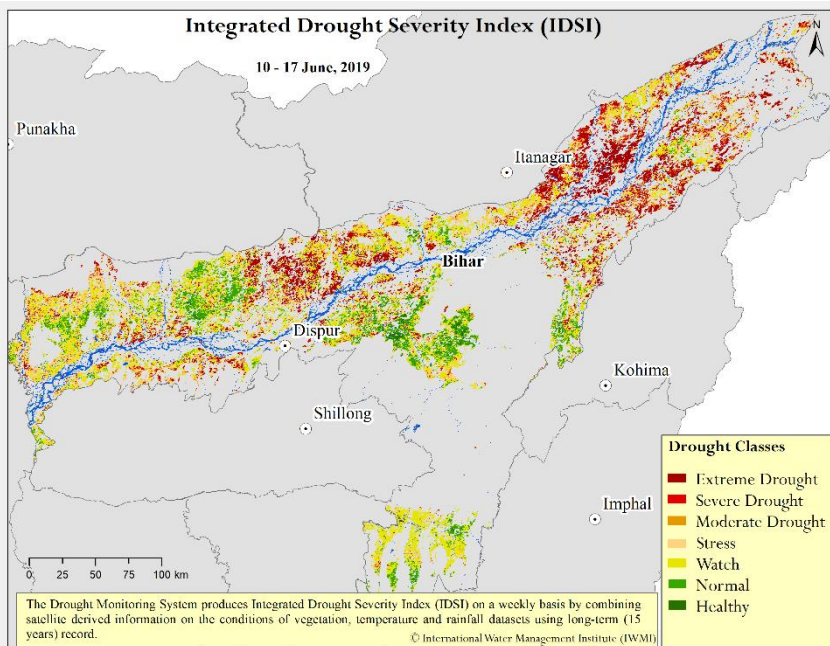
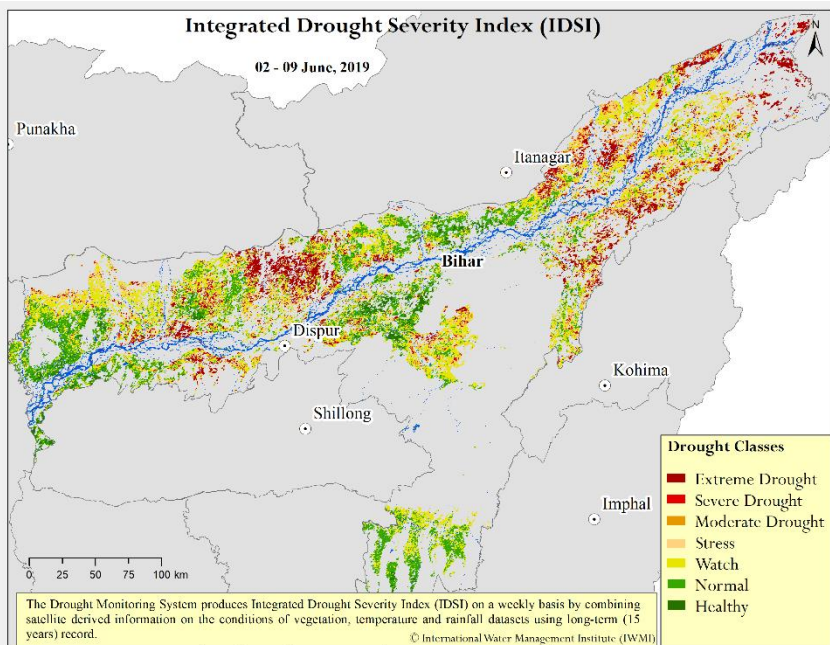
DISTRICT-WISE RAINFALL DISTRIBUTION

S. NO	MET SUBDIVISION/STATE/DISTRICT	Day :12-06-2019				Period:01-06-2019 To 12-06-2019			
		ACTUAL (mm)	NORMAL (mm)	% DEP.	CAT.	ACTUAL (mm)	NORMAL (mm)	% DEP.	CAT.
	SUBDIVISION - BIHAR	1.5	5.8	-75%	LD	40.7	86.9	-53%	D
1	ARARIYA	2.8	6.8	-60%	LD	157.5	148.0	6%	N
2	ARWAL	0.0	3.3	-100%	NR	0.0	43.1	-100%	NR
3	AURANGABAD	0.0	4.7	-100%	NR	0.0	53.0	-100%	NR
4	BANKA	0.0	6.9	-100%	NR	4.6	79.8	-94%	LD
5	BEGUSARAI	0.0	6.0	-100%	NR	3.9	83.7	-95%	LD
6	BHABUA	0.0	4.2	-100%	NR	0.3	53.3	-99%	LD
7	BHAGALPUR	0.0	9.5	-100%	NR	43.6	98.1	-56%	D
8	BHOJIPUR	0.0	2.8	-100%	NR	14.3	46.5	-69%	LD
9	BUXAR	0.0	2.9	-100%	NR	0.0	46.8	-100%	NR
10	DRABHANGA	0.0	6.2	-100%	NR	36.9	78.4	-53%	D
11	GAYA	0.0	3.5	-100%	NR	0.5	60.6	-99%	LD
12	GOPALGANJ	0.0	4.4	-100%	NR	14.2	73.0	-81%	LD
13	JAHANABAD	0.0	2.9	-100%	NR	0.0	60.2	-100%	NR
14	JAMUI	0.0	6.3	-100%	NR	6.6	75.1	-91%	LD
15	KATIHAR	0.0	6.3	-100%	NR	97.4	127.2	-23%	D
16	KHAGARIA	0.0	6.7	-100%	NR	11.2	99.8	-89%	LD
17	KISHANGANJ	17.7	12.8	38%	E	194.0	201.9	-4%	N
18	LAKHISARAI	0.0	4.9	-100%	NR	11.7	67.2	-83%	LD
19	MADHEPURA	0.0	7.9	-100%	NR	148.9	129.6	15%	N
20	MADUBANI	4.0	6.5	-38%	D	59.2	93.9	-37%	D
21	MUNGER	0.0	5.8	-100%	NR	8.6	89.3	-90%	LD
22	MUZAFFARPUR	0.0	6.5	-100%	NR	5.5	79.1	-93%	LD
23	NALANDA	0.0	4.0	-100%	NR	10.7	57.4	-81%	LD
24	NAWADA	0.0	5.7	-100%	NR	1.0	64.0	-98%	LD
25	PACHIM CHAMPARAN	1.5	7.1	-79%	LD	85.2	112.0	-24%	D
26	PATNA	0.3	3.2	-91%	LD	10.7	65.4	-84%	LD
27	PURBA CHAMPARAN	0.3	5.7	-96%	LD	40.6	96.2	-58%	D
28	PURNIA	15.1	8.5	78%	LE	160.6	164.6	-2%	N
29	ROHTAS	0.0	3.1	-100%	NR	0.0	45.4	-100%	NR
30	SAHARSA	0.0	9.4	-100%	NR	60.8	126.5	-52%	D
31	SAMASTIPUR	0.0	7.2	-100%	NR	8.9	74.9	-88%	LD
32	SARAN	0.5	3.4	-85%	LD	17.1	63.4	-73%	LD
33	SHEIKHPURA	0.0	5.7	-100%	NR	2.2	63.8	-97%	LD
34	SHEOHAR	0.0	10.1	-100%	NR	18.0	103.4	-83%	LD
35	SITAMARHI	0.0	6.5	-100%	NR	28.8	104.8	-73%	LD
36	SIWAN	0.0	3.9	-100%	NR	5.3	70.3	-92%	LD
37	SUPAUL	9.2	8.7	6%	N	182.6	119.4	53%	E
38	VAISHALI	0.0	4.6	-100%	NR	4.4	73.5	-94%	LD

Summary:

- The drought severity in all parts of Bihar seems to be extreme to severe in the weeks are ending on 10th and 17th of June. Only north eastern districts has recover slightly from drought most probably same as to previous week.
- This has happened because of all the district shows deficit rainfall compared to normal for beginning of 2019 monsoon season. 21 Districts out of the 38 districts are experiencing 60-99% deficient in rainfall this season which is largely to affect the rainfed agricultural system of Bihar.

South Asia Drought Monitoring System (SADMS) – Agriculture Assessment (Assam)



India Meteorological Department
Hydromet Division, New Delhi

DISTRICT-WISE RAINFALL DISTRIBUTION

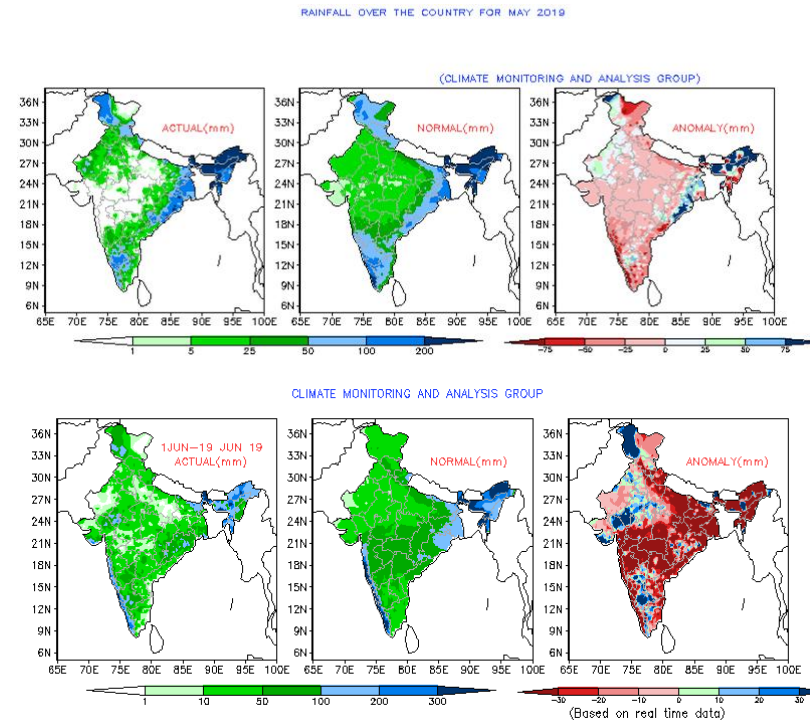
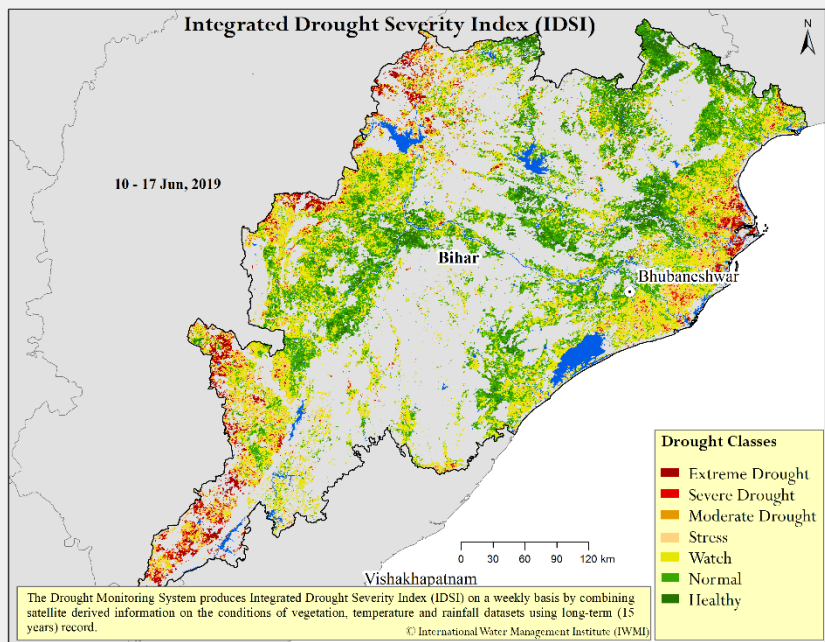
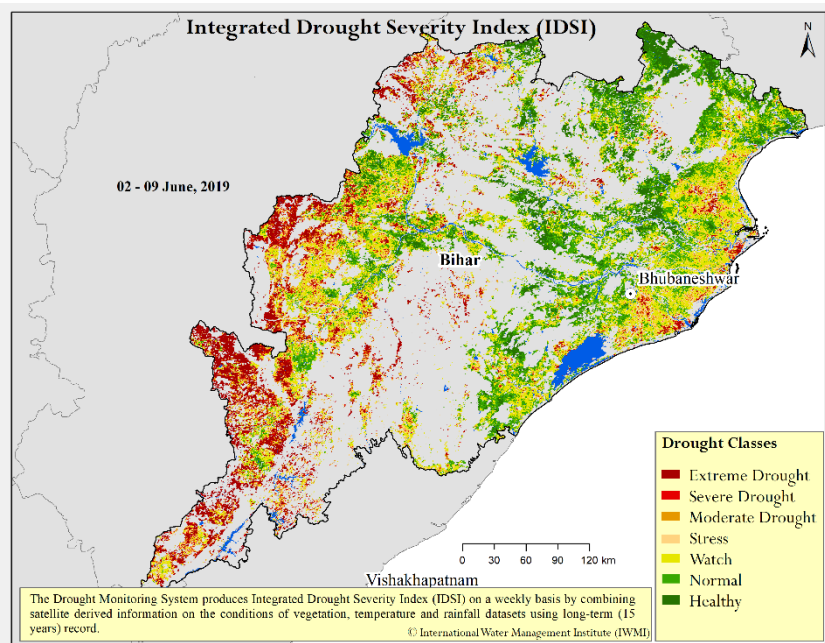
SUBDIVISION : ASSAM & MEGHALAYA	5.1	17.6	-71%	LD	205.1	397.0	-48%	D
STATE : ASSAM	5.4	14.4	-62%	LD	176.2	335.9	-48%	D
1 BAKSA	0.0	11.2	-100%	NR	299.1	348.2	-14%	N
2 BARPETA	1.8	22.6	-92%	LD	165.0	559.6	-71%	LD
3 BONGAIGAON	2.0	16.7	-88%	LD	183.1	496.9	-63%	LD
4 CACHAR	0.0	16.4	-99%	LD	341.4	435.9	-22%	D
5 CHIRANG	1.7	17.9	-91%	LD	221.4	603.0	-63%	LD
6 DARRANG	0.0	9.3	-100%	NR	57.5	339.6	-83%	LD
7 DHEMAJI	68.2	31.8	114%	LE	361.6	395.4	-9%	N
8 DHUBRI	0.0	17.3	-100%	NR	94.4	560.8	-83%	LD
9 DIBRUGARH	2.2	11.5	-81%	LD	227.5	303.4	-25%	D
10 GOALPARA	0.0	17.0	-100%	NR	85.8	418.6	-80%	LD
11 GOLAGHAT	6.1	11.9	-49%	D	115.7	215.1	-46%	D
12 HAILAKANDI	0.0	17.3	-100%	NR	293.3	389.1	-25%	D
13 JORHAT	7.1	9.7	-27%	D	207.6	230.4	-10%	N
14 KAMRUP METRO	0.0	13.1	-100%	NR	131.1	220.8	-41%	D
15 KAMRUP RURAL	0.0	18.1	-100%	NR	102.3	317.0	-68%	LD
16 KARBI ANAGLO	0.0	7.4	-100%	NR	84.6	169.1	-50%	D
17 KARIMGAJ	0.0	29.2	-100%	NR	285.9	518.2	-45%	D
18 KOKRAJHAR	12.1	24.8	-51%	D	109.9	614.5	-82%	LD
19 LAKHIMPUR	15.4	21.1	-27%	D	332.7	399.6	-17%	N
20 MORIGAON	0.0	12.0	-100%	NR	80.0	222.4	-64%	LD
21 N.C HILLS	0.0	8.5	-100%	NR	135.6	328.7	-59%	D
22 NAGAON	0.0	12.0	-100%	NR	124.9	203.3	-39%	D
23 NALBARI	0.0	12.8	-100%	NR	305.8	398.6	-23%	D
24 SIBSAGAR	7.2	12.1	-40%	D	134.2	219.3	-39%	D
25 SONITPUR	1.5	9.5	-85%	LD	210.7	242.3	-13%	N
26 TINSUKIA	18.2	14.1	29%	E	227.2	291.0	-22%	D
27 UDALGURI	0.0	17.5	-100%	NR	170.8	358.6	-52%	D

Summary:

The drought severity in several parts of Assam except central and southeast area and seems to be increase severe to extreme specially in north-eastern and central, simultaneously normal to watch include southern and rest of the area.

This has happened because of most of southern and eastern district shows deficit rainfall are experiencing around 29-99% deficient and large deficient in rainfall

South Asia Drought Monitoring System (SADMS) – Agriculture Assessment (Odisha)



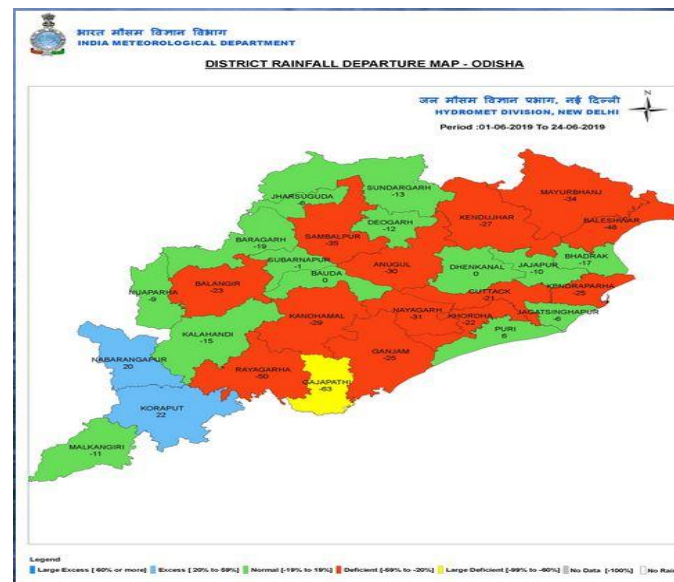
India Meteorological Department
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DISTRICT-WISE RAINFALL DISTRIBUTION

SUBDIVISION - ODISHA	6.2	9.3	-33%	D	125.4	156.1	-20%	D
1 ANUGUL	7.0	8.0	-13%	N	108.2	154.1	-30%	D
2 RAI ANGIR	0.3	11.4	-97%	LD	108.5	141.0	-23%	D
3 BALESHWAR	3.7	9.1	-59%	D	100.4	194.7	-48%	D
4 BARAGARH	1.0	12.9	-93%	LD	123.4	152.9	-19%	N
5 BAUDA	23.0	9.5	142%	LE	148.1	147.7	0%	N
6 BHADRAK	3.5	9.3	-62%	LD	133.4	160.8	-17%	N
7 CUTTACK	1.1	6.9	-84%	LD	119.7	151.8	-21%	D
8 DEOGARH	4.4	13.9	-68%	LD	146.7	166.4	-12%	N
9 DHENKANAL	2.5	8.5	-70%	LD	153.1	152.7	0%	N
10 GAJAPATHI	1.3	10.9	-88%	LD	58.4	157.6	-63%	LD
11 GANJAM	4.1	7.4	-45%	D	95.8	128.2	-25%	D
12 JAGATSINGHPUR	0.0	6.7	-100%	NR	131.9	140.6	-6%	N
13 JAJAPUR	1.4	9.4	-85%	LD	199.6	220.9	-10%	N
14 JHARSUGUDA	10.8	10.5	2%	N	143.6	153.2	-6%	N
15 KALAHANDI	1.9	9.2	-80%	LD	126.7	149.2	-15%	N
16 KANDHAMAL	0.0	11.0	-100%	NR	109.0	152.4	-29%	D
17 KENDRAPARHA	1.7	5.2	-68%	LD	113.3	152.1	-25%	D
18 KENDUJHAR	2.2	7.8	-71%	LD	134.5	185.2	-27%	D
19 KHORDHA	3.6	8.1	-56%	D	112.3	144.5	-22%	D
20 KORAPUT	29.4	10.0	194%	LE	174.5	142.7	22%	E
21 MALKANGIRI	31.0	7.9	292%	LE	112.9	126.3	-11%	N
22 MAYURBHANJ	4.6	6.9	-33%	D	140.1	213.9	-34%	D
23 NABARANGAPUR	8.4	11.2	-25%	D	201.0	167.8	20%	E
24 NAYAGARH	0.7	6.3	-89%	LD	96.4	139.7	-31%	D
25 NUAPARHA	0.0	11.9	-100%	NR	111.9	123.1	-9%	N
26 PURI	0.0	6.7	-99%	LD	126.4	119.6	6%	N
27 RAYAGARHA	5.8	7.6	-24%	D	69.7	138.5	-50%	D
28 SAMBALPUR	9.1	13.9	-35%	D	107.6	166.4	-35%	D
29 SUBARNAPUR	0.0	13.0	-100%	NR	147.2	148.8	-1%	N
30 SUNDARGARH	0.6	9.6	-94%	LD	132.2	152.0	-13%	N

Summary:

The drought severity in some parts of Odisha as western to be extreme to watch and the eastern coastal area denoted watch and normal to severe from 10-17 June. Usually the extreme situation has been transferred western to eastern areas within 02-17 June. Most of Districts observed both deficient (12 districts) and normal condition (14 districts) with 19-59% rainfall deficient reported till 24 June and few areas exist with water excess as well as large deficient level (vary with 20-99%)



Thanks.....

Disclaimer

All content within this bulletin is based upon the most current available data. As the drought is a dynamic situation, the current realities may differ from what is depicted in this document. The product has not been validated and used only the weather forecast and remote sensing observation. We welcome the feedback from the end-users and request you to provide field observations and any other details which can improve the product quality and prediction skills in the near future.

For further information please contact the following:

Dr. Giriraj Amarnath
a.giriraj@cgiar.org

Mr. Niranga Alahacoon
n.alahacoon@cgiar.org

Website: SADMS Drought Monitor ([Click here](#))

To subscribe to the newsletter, please submit a request to: a.giriraj@cgiar.org