BRINGING KRISHI AND VIGYAN TOGETHER

Krishi Care & Management Services Pvt.Ltd.

KHARIF 2021 PROGRESSION REPORT

- 30th June 2021

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

INTRODUCTION

Rainfall

For District level , the Actual R/F is the simple Arithmetic average P in eq(1) while for subdivision, state, homogenous regions and country as a whole the Area weighted rainfall "Actual R/F" is defined as Psubdivision, P state, Phomogenous and Pcountry respectively in the points b, c and d above. Departure (As %) = (Actual R/F – Normal R/F)x 100 / Normal R/F

Departures (%) are categorized into Normal, Excess, Large Excess, Deficient and Large Deficient depending as per the ranges defined in Table-2 for spatial domain of District, Met Sub division and State/UT. Each category is associated with the color representing each of the categories.

CATEGORY	% DEPARTURES OF RAINFALL	Colour Code
Large Excess (LE or L. Excess)	= 60%	
Excess (E)	= 20% and = 59%	
Normal (N)	= - 19% and = + 19%	
Deficient (D)	= - 59% and = - 20%	
Large Deficient (L. Deficient)	= - 99% and = - 60%	
No Rain (NR)	= - 100%	
No Data (*)	Data Not Available	

Soil Wetness Index (SWI)

The Soil Water Index quantifies the moisture condition at various depths in the soil. It is mainly driven by the precipitation via the process of infiltration. Soil moisture is a very heterogeneous variable and varies on small scales with soil properties and drainage patterns. Satellite measurements integrate over relative large-scale areas, with the presence of vegetation adding complexity to the interpretation. The soil moisture, up to 5cm soil depth, is recognized as an Essential Climate Variable (ECV) by the Global Climate Observing System (GCOS).

Vegetation Health (VH) System: Background and Explanation

No noise Normalized Difference Vegetation Index (SMN) The System contains the following vegetation health indices and products: Vegetation Condition index (VCI), Temperature Condition index (TCI), Vegetation Health index (VHI) VH is a product estimating vegetation health (condition) base on moisture conditions (VCI), thermal conditions (TCI) and their combination (VHI). VH is used often to estimate crop condition and anticipated yield. If the indices are below 40 indicating different level of vegetation stress, losses of crop and pasture production might be expected; if the indices above 60 (favorable condition) plentiful production might be expected. VH is very useful for an advanced prediction of crop losses.

▸No noise (smoothed) Normalized Difference Vegetation Index (SMN)

The SMN is derived from no noise NDVI, which components were pre- and post-launch calibrated. SMN can be used to estimate the start and senescence of vegetation, start of the growing season, phenological phases.

▸Vegetation Condition index (VCI)

VCI is based on the pre and post-launch calibrated radiances converted to the no noise Normalized Difference Vegetation Index (NDVI = (NIR-VIS)/(NIR+VIS)). The VCI was expressed as NDVI anomaly relative to 25-year climatology estimated based on bio-physical and ecosystem laws (law-of-minimum, law-of-tolerance and carrying capacity). VCI is a proxy for moisture condition.

(VCI <40 indicates moisture stress; VCI >60: favorable condition)

▸ Temperature Condition index (TCI)

TCI is based on 10.3-11.3 µm AVHRR's radiance measurements converted to brightness temperature (BT), which was improved through completely removed high frequency noise. BT was expressed as an anomaly relative to 25-year climatology estimated based on bio-physical and ecosystem laws (law-of-minimum, law-of- tolerance and carrying capacity). TCI is a proxy for thermal condition.

(TCI <40 indicates thermal stress; TCI >60: favorable condition)

▸ Vegetation Health index (VHI)

VHI=a*VCI + (1- a)*TCI, where 'a' is a coefficient determining contribution of the two indices. VHI is a proxy characterizing vegetation health or a combine estimation of moisture and thermal conditions.

(VHI <40 indicates vegetation stress; VHI >60: favorable condition)
(VHI<15 indicates drought from severe-to-exceptional intensity)
(VHI<35 indicates drought from moderate-to-exceptional intensity)
(VHI>65 indicates good vegetation condition)
(VHI>85 indicates very good vegetation condition)

CHATTISGARH

Out of the total geographical area of 137.36 lakh hectares of Chattisgarh, 34.80% i.e. 47.79 lakh ha is the net sown area.

Kharif Major Crops

Paddy is the principal crop and the central plains of Chattisgarh are known as rice bowl of central India. Other major crops include gram, maize and tur. Soybean, rape and mustard seed are also grown in some parts of the state.

Agro-climatic Zones of Chattisgarh

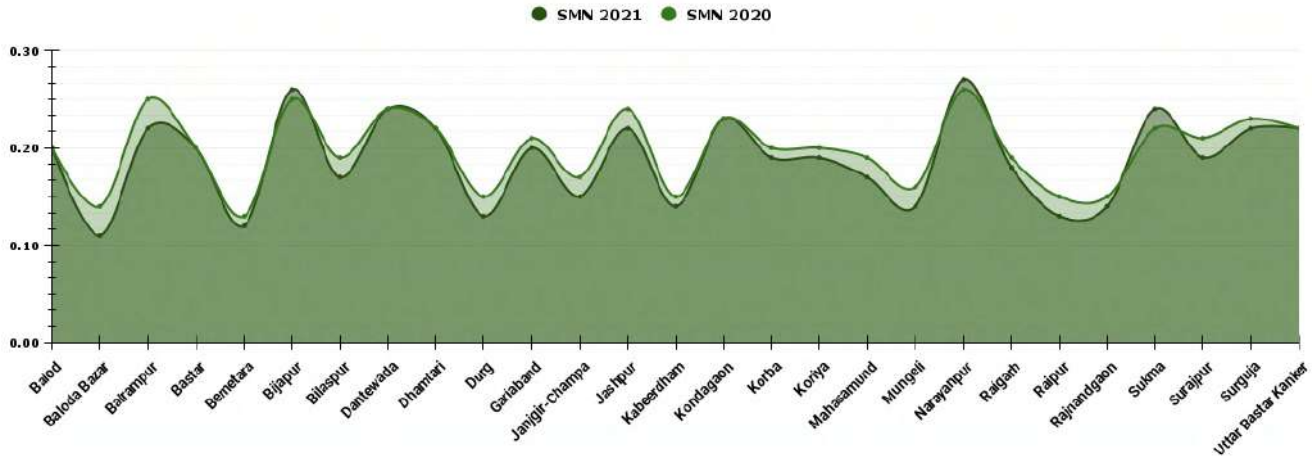
S. No.	Agro-Climatic zone	Districts
1	Bastar Plateau Zone	Sukma, Narayanpur, Kondagaon, Dantewada, Bijapur, Bastar
2	Chhattisgarh Plain Zone	Rajnandgaon, Raipur, Raigarh, Mungeli, Mahasamund, Korba, Kanker, Kabirdham, Janjgir-Champa, Gariaband, Durg, Dhamtari, Bilaspur, Bemetara, Baloda Bazar, Balod
3	North Hills Zone	Surguja, Surajpur, Korea (Koriya), Jashpur, Balrampur

Reservoir Storage Status

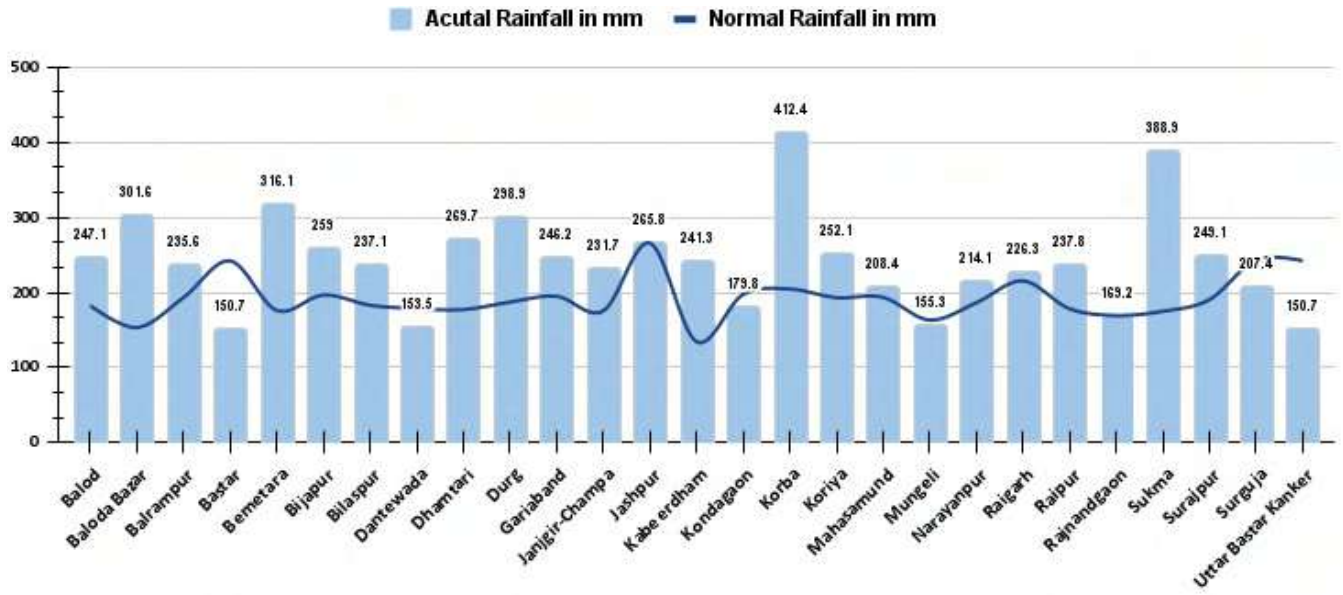
NAME OF RESERVOIR	FRL (MTS	LIVE CAP. AT FRL (BCM)	THIS SEASON		LAST SEASON	
			LEVEL (MTS)	LIVE STORAGE (BCM)	LEVEL (MTS)	LIVE STORAGE (BCM)
MINIMATA BANGO	359.66	3.046	351.90	1.693	355.80	2.254
MAHANADI	348.7	0.767	342.53	0.291	342.47	0.287
DUDHAWA	425.1	0.284	418.41	0.082	421.05	0.135
TANDULA	332.2	0.312	322.97	0.026	325.04	0.061

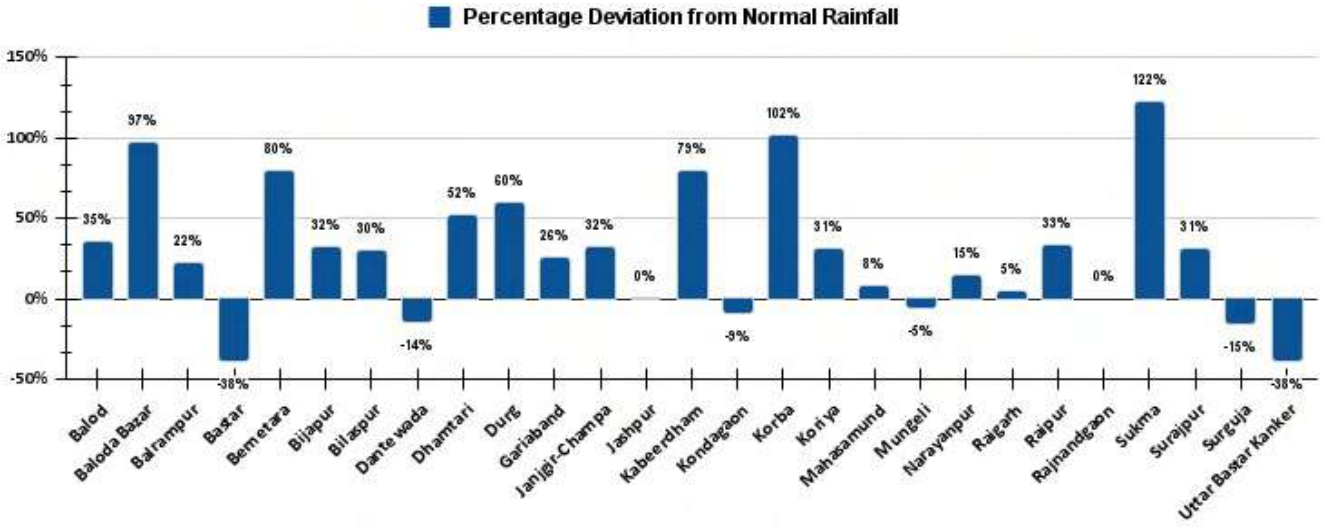
LAST YEAR STORAGE AS % OF LIVE CAP AT FRL	% OF THIS YR STORAGE TO LAST YEARS STORAGE
74	75
37	101
48	61
20	43

Smoothed Normalized Difference Vegetation Index (SMN)



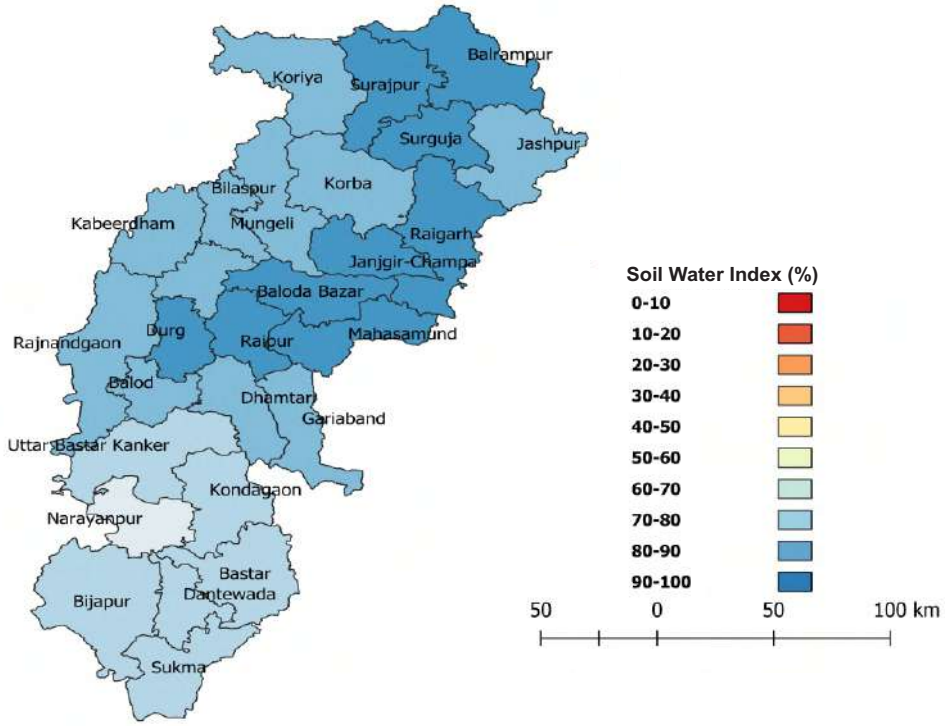
Rainfall



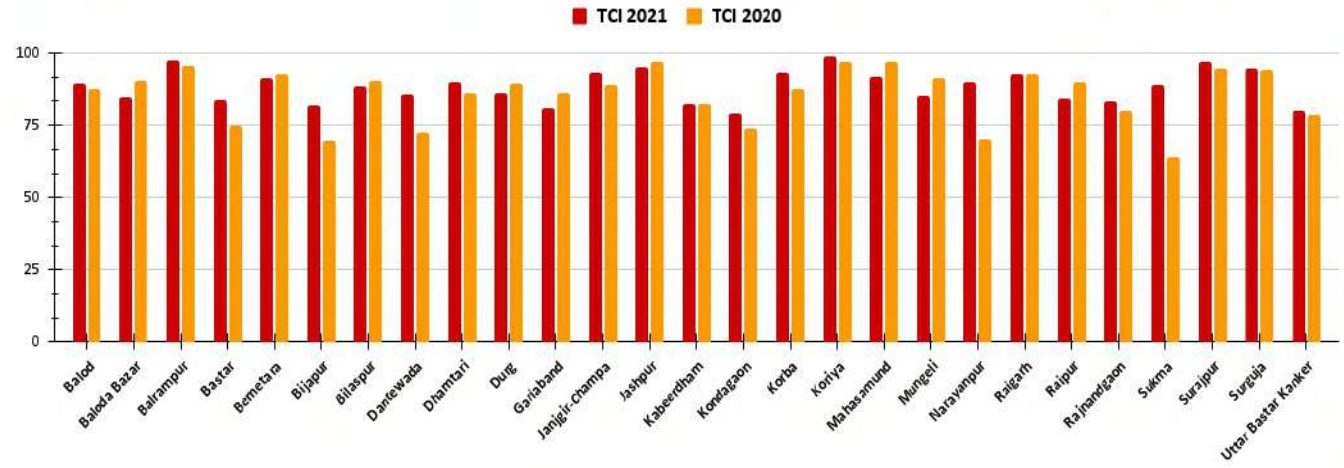


CATEGORY	% DEPARTURES OF RAINFALL	Colour Code
Large Excess (LE or L. Excess)	= 60%	
Excess (E)	= 20% and = 59%	
Normal (N)	= - 19% and = + 19%	
Deficient (D)	= - 59% and = - 20%	
Large Deficient (L. Deficient)	= - 99% and = - 60%	
No Rain (NR)	= - 100%	
No Data (*)	Data Not Available	

Soil Water Index

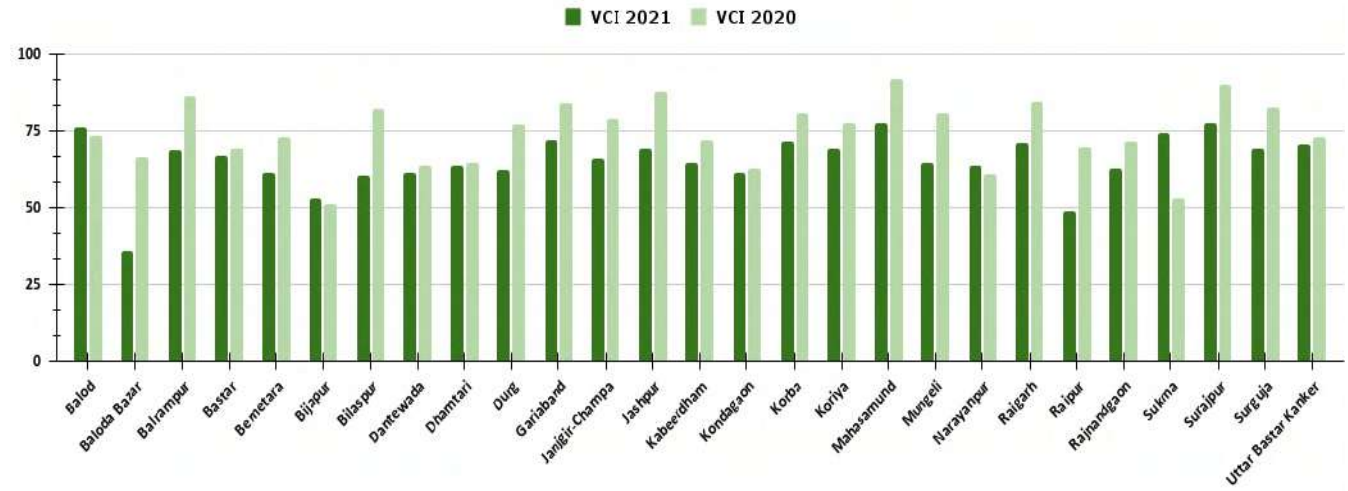


Temperature Condition Index (TCI)



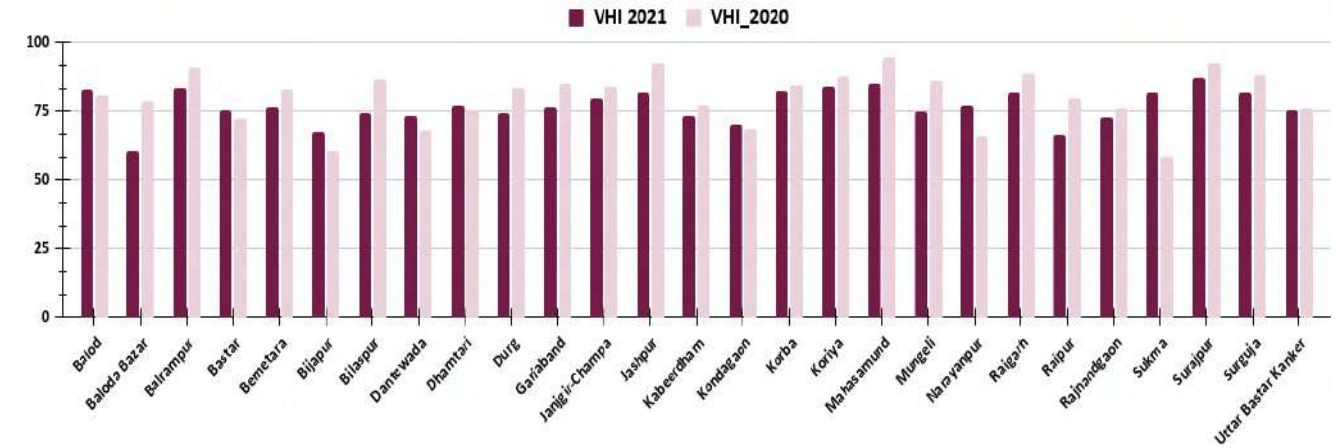
(TCI <40 indicates thermal stress; TCI >60: favorable condition)

Vegetation Condition Index (VCI)



(VCI <40 indicates moisture stress; VCI >60: favorable condition)

Vegetation Health Index (VHI)



(VHI <40 indicates vegetation stress; VHI >60: favorable condition)
(VHI>65 indicates good vegetation condition)
(VHI>85 indicates very good vegetation condition)

For Drought : (VHI<15 indicates drought from severe-to-exceptional intensity)
(VHI<35 indicates drought from moderate-to-exceptional intensity)

HARYANA

The cultivable area is 3.809 million hectare (86.2%of total geographical area) and the net area sown is 3.566 million hectare (93.6% of cultivable area) and the percentage of net irrigated sown area is 82.3%.

Kharif Major Crops

The main crops in the state include sugarcane, groundnut, maize and paddy etc. The minor Kharif crops are Chillies, Bajra, Jowar, Pulses and vegetables.

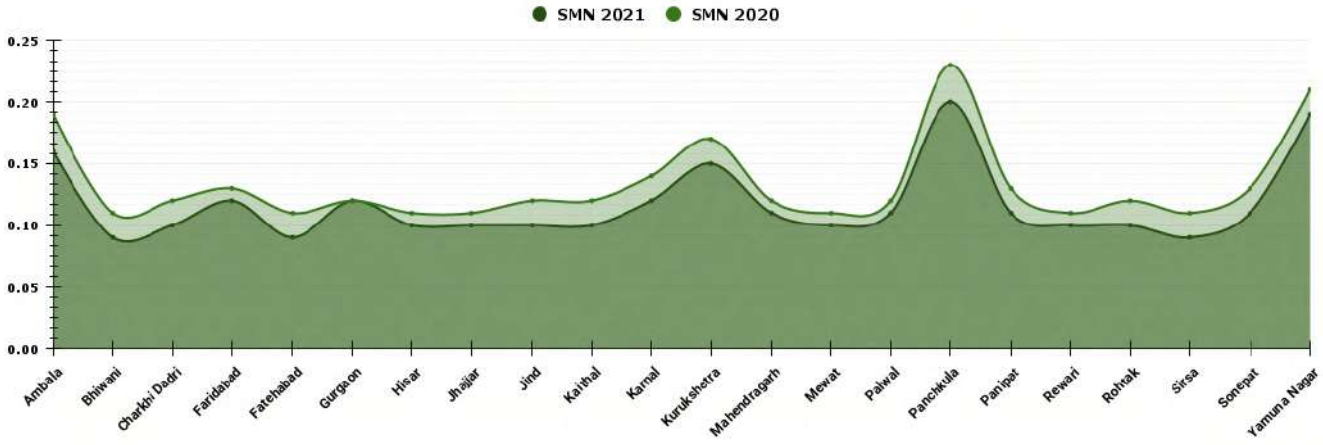
Agro-climatic Zones of Haryana

S. N.	Agro-Climatic Regions	Districts
1	Eastern Zone	Ambala, Faridabad, Gurgaon, Jhajjar, Jind, Kaithal, Karnal, Kurukshetra, Panipat, Rohtak, Sonipat, Yamunanagar
2	Western Zone	Bhiwani, Fatehabad, Hisar, Mahendragarh, Rewari, Sirsa

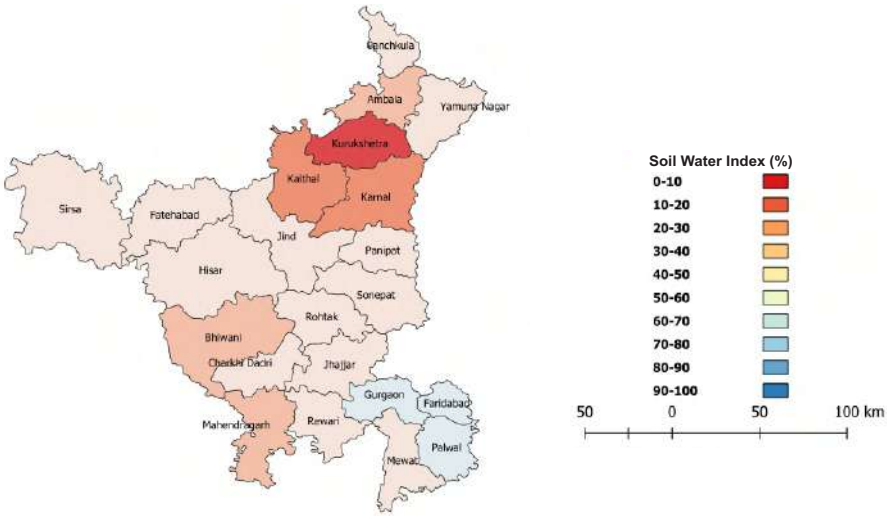
Reservoir Storage Status

Not Available

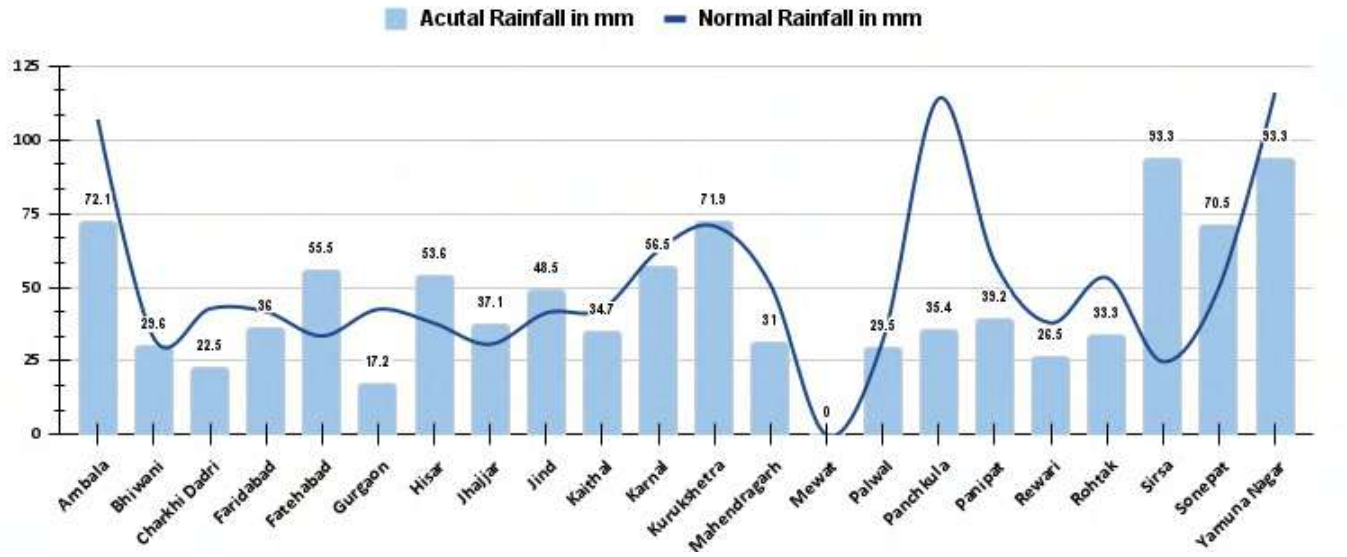
Smoothed Normalized Difference Vegetation Index (SMN)

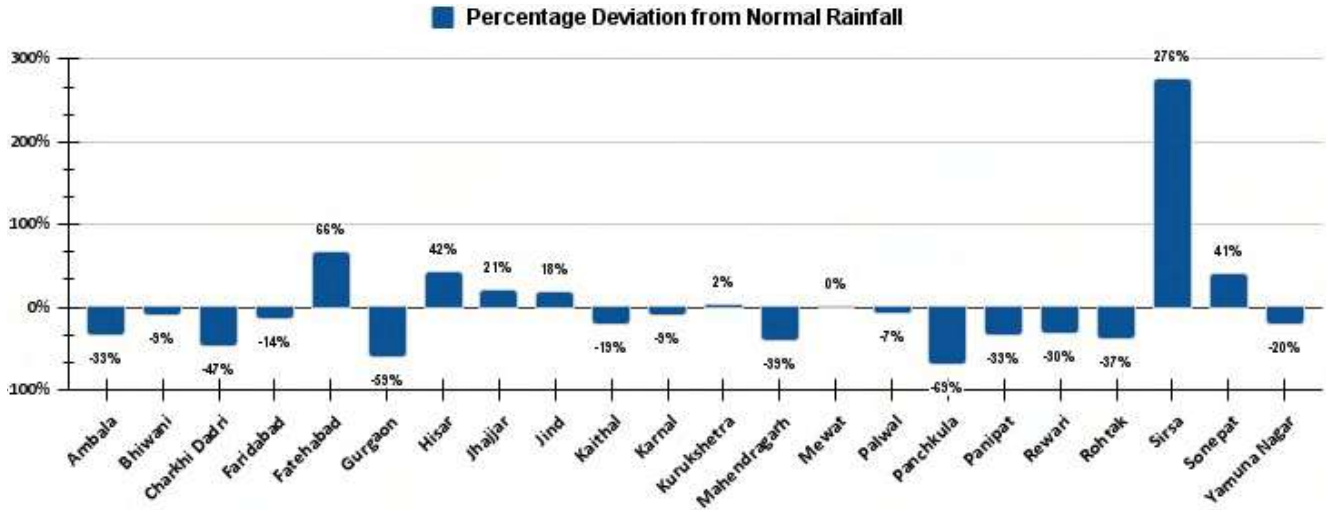


Soil Water Index



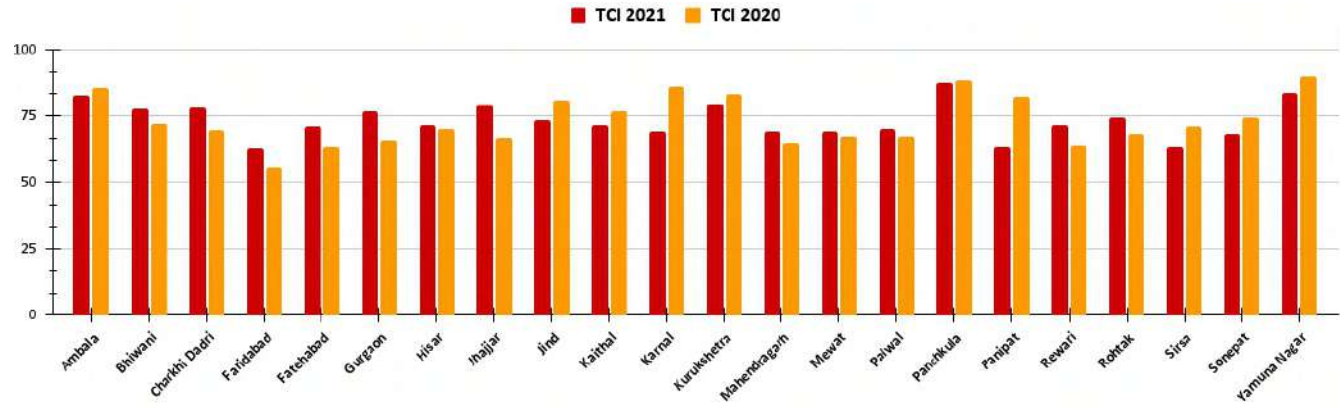
Rainfall





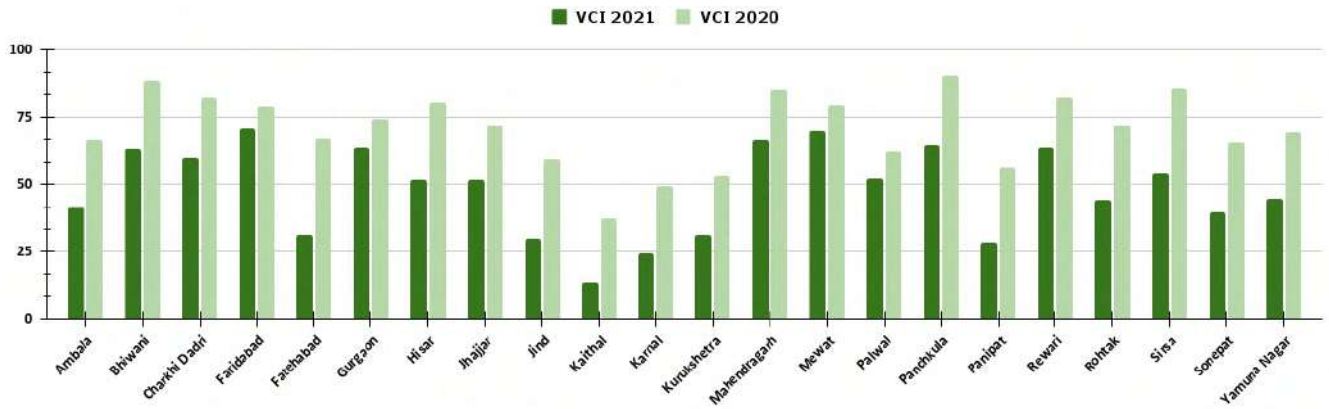
CATEGORY	% DEPARTURES OF RAINFALL	Colour Code
Large Excess (LE or L. Excess)	= 60%	
Excess (E)	= 20% and = 59%	
Normal (N)	= - 19% and = + 19%	
Deficient (D)	= - 59% and = - 20%	
Large Deficient (L. Deficient)	= - 99% and = - 60%	
No Rain (NR)	= - 100%	
No Data (*)	Data Not Available	

Temperature Condition Index (TCI)



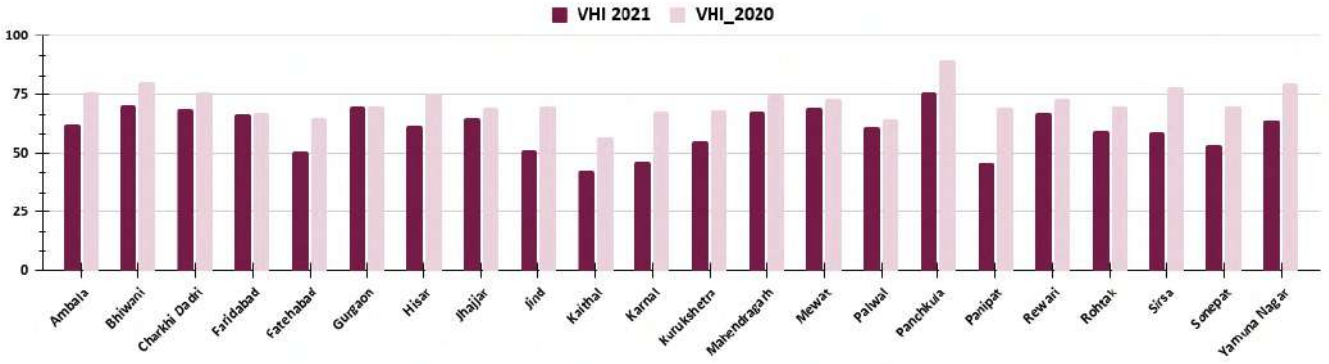
(TCI <40 indicates thermal stress; TCI >60: favorable condition)

Vegetation Condition Index (VCI)



(VCI <40 indicates moisture stress; VCI >60: favorable condition)

Vegetation Health Index (VHI)



(VHI <40 indicates vegetation stress; VHI >60: favorable condition)
(VHI>65 indicates good vegetation condition)
(VHI>85 indicates very good vegetation condition)

For Drought : (VHI<15 indicates drought from severe-to-exceptional intensity)
(VHI<35 indicates drought from moderate-to-exceptional intensity)

KARNATAKA

The cultivable area of the state is 66.1%. This includes the net sown area (55.1%). The state has 1.3 million ha under paddy cultivation which is both irrigated and rainfed.

Kharif Major Crops

Maize, Jowar, Great millet, Bajra, Green gram, Groundnut, Cotton and Soybean are the major crops grown in Kharif season.

Agro-climatic Zones of Karnataka

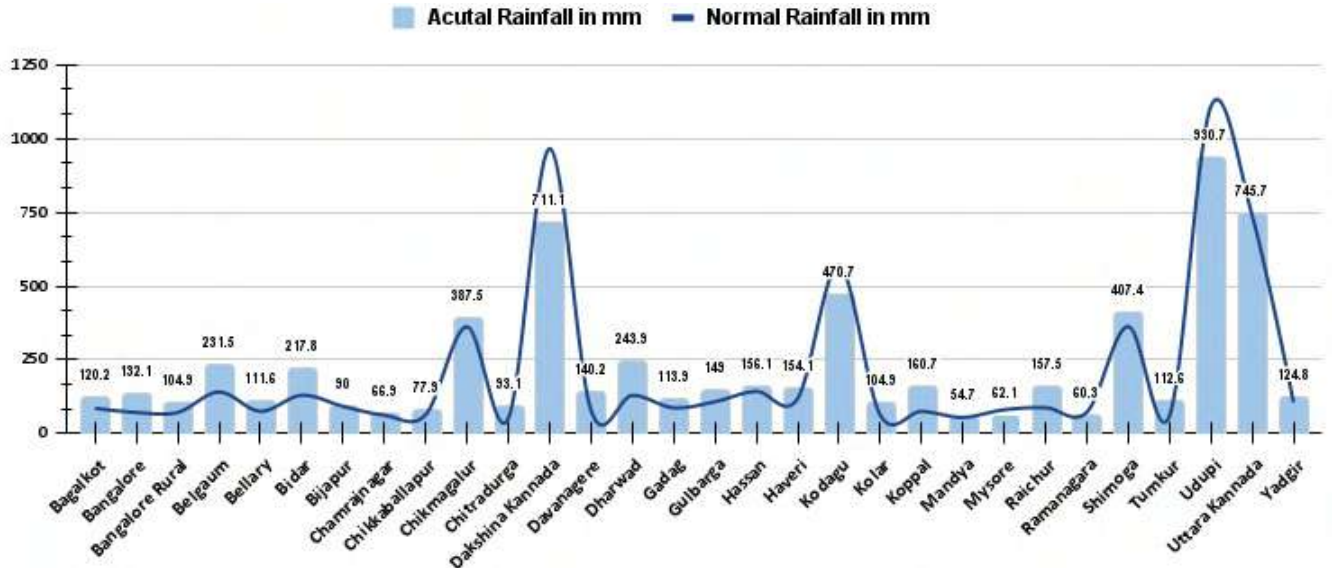
Sr. No	Agro-Climatic zone	Districts
1	Central Dry Zone	Tumkuru, Davanagere, Chitradurga, Chikkamagaluru
2	Coastal Zone	Udupi, Dakshina Kannada
3	Eastern Dry Zone	Kolara, Chikkaballapur, Bengaluru Urban, Bengaluru Rural
4	Hill Zone	Shivamogga, Kodagu, Uttara Kannada
5	North East Transition Zone	Bidar
6	North Eastern Dry Zone	Yadgir, Raichur, Gulbarga
7	Northern Dry Zone	Bellari, Koppala, Gadag, Dharwad, Vijaypura, Belagavi, Bagalkot
8	Northern Transition Zone	Haveri
9	Southern Dry Zone	Mysuru, Mandya, Hassan
10	Southern Transition Zone	Ramanagar, Chamarajanagar

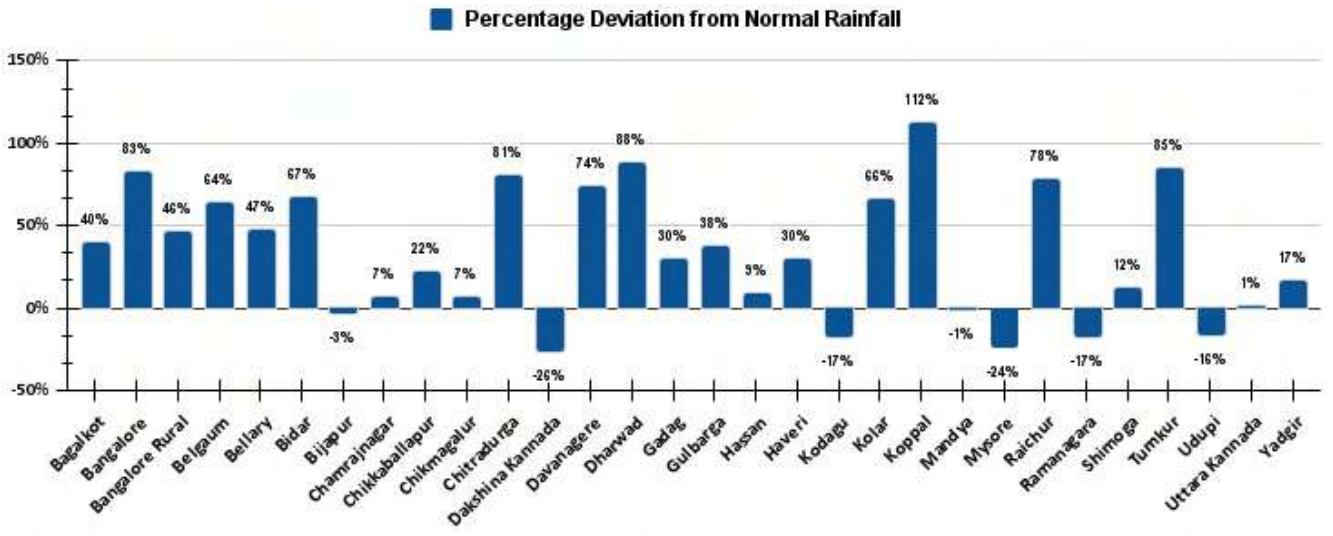
Reservoir Storage Status

NAME OF RESERVOIR	FRL (MTS	LIVE CAP. AT FRL (BCM)	THIS SEASON		LAST SEASON	
			LEVEL (MTS)	LIVE STORAGE (BCM)	LEVEL (MTS)	LIVE STORAGE (BCM)
KRISHNARAJA SAGARA	752.5	1.163	739.91	0.227	742.71	0.374
TUNGABHADRA	497.74	3.276	484.72	0.285	482.86	0.174
GHATAPRABHA(HIDKAL)	662.95	1.391	637.51	0.084	639.76	0.207
BHADRA	657.76	1.785	644.96	0.601	642.09	0.421
LINGANAMAKKI	554.43	4.294	542.32	1.512	536.34	0.773
NARAYANPUR	492.25	0.863	488.71	0.350	488.80	0.358
MALAPRABHA(RENUKA)	633.83	0.972	624.84	0.183	625.99	0.244
KABINI	696.66	0.444	690.93	0.179	689.48	0.121
HEMAVATHY	890.63	0.927	878.24	0.251	877.93	0.240
HARANGI	871.42	0.22	862.39	0.082	863.57	0.087
SUPA	564	4.12	536.40	1.506	530.11	1.101
VANI VILAS SAGAR	652.28	0.802	642.82	0.253	640.58	0.183
ALMATTI	519.6	3.105	508.95	0.366	511.00	0.647
GERUSOPPA	55	0.13	50.25	0.103	49.16	0.098
MANI DAM	594.36	0.884	570.52	0.071	572.14	0.098
TATTIHALLA	468.3	0.249	452.90	0.017	450.50	0.004

LAST YEAR STORAGE AS % OF LIVE CAP AT FRL	% OF THIS YR STORAGE TO LAST
32	61
5	164
15	41
24	143
18	196
41	98
25	75
27	148
26	105
40	94
27	137
23	138
21	57
75	105
11	72
2	425

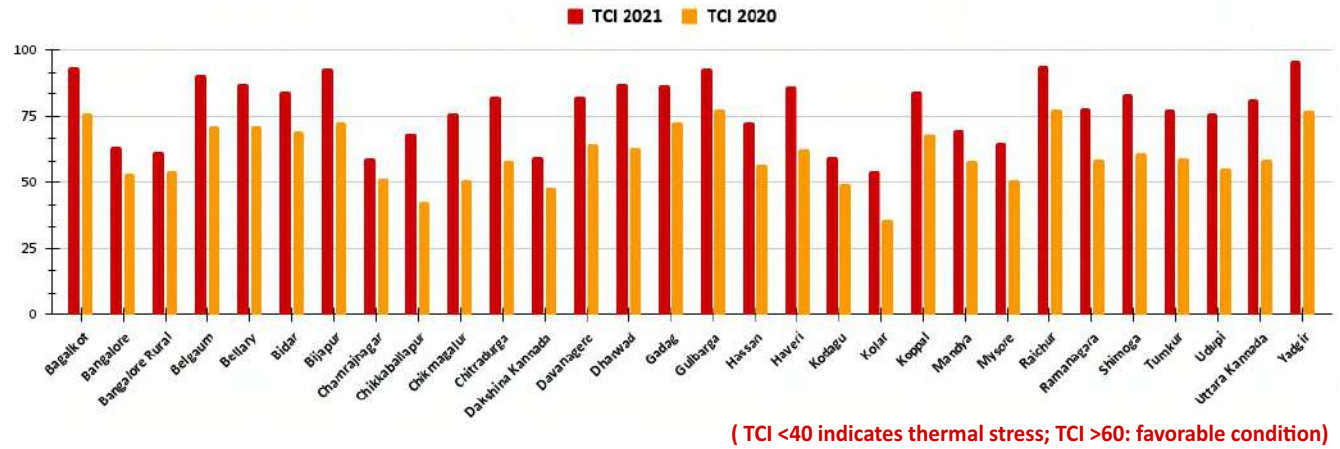
Rainfall





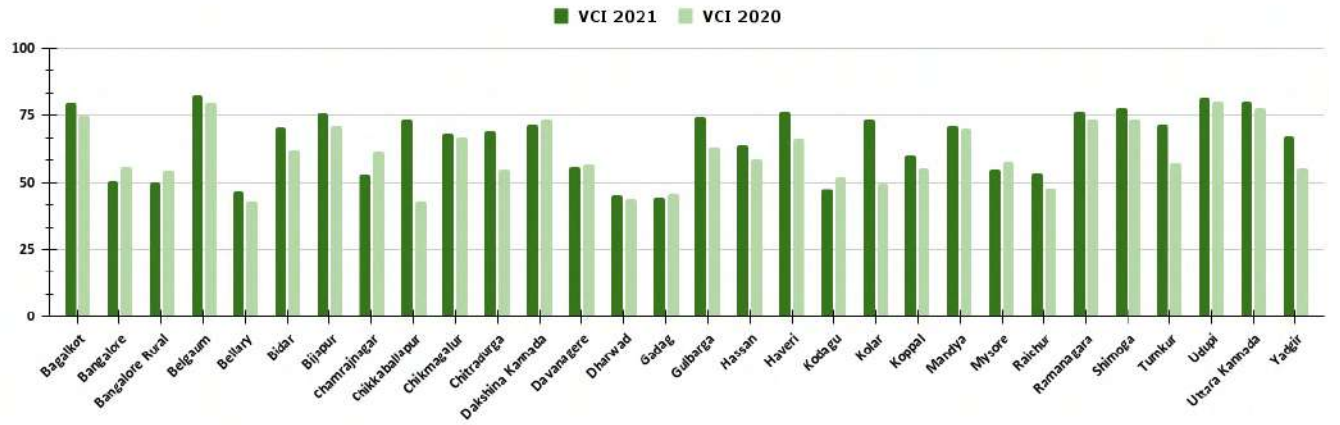
CATEGORY	% DEPARTURES OF RAINFALL	Colour Code
Large Excess (LE or L. Excess)	= 60%	
Excess (E)	= 20% and = 59%	
Normal (N)	= - 19% and = + 19%	
Deficient (D)	= - 59% and = - 20%	
Large Deficient (L. Deficient)	= - 99% and = - 60%	
No Rain (NR)	= - 100%	
No Data (*)	Data Not Available	

Temperature Condition Index (TCI)



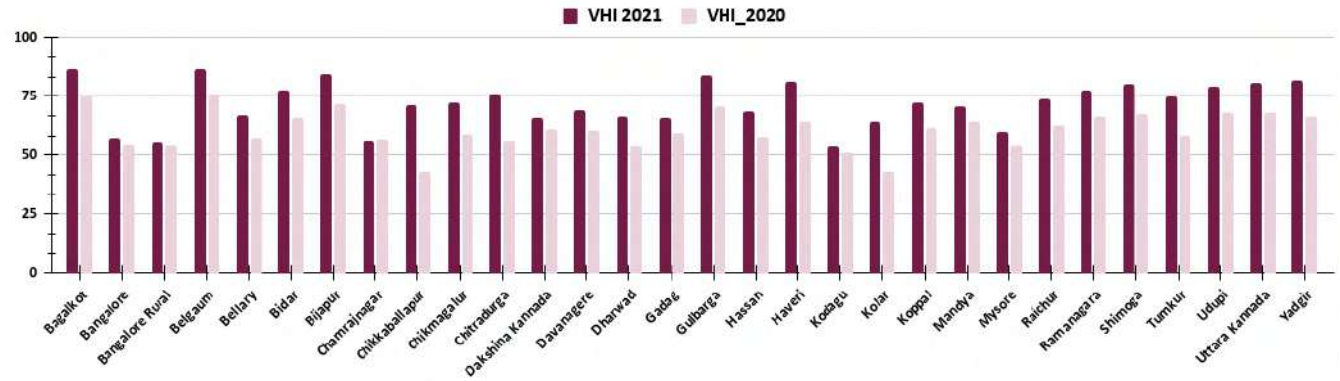
(TCI <40 indicates thermal stress; TCI >60: favorable condition)

Vegetation Condition Index (VCI)



(VCI <40 indicates moisture stress; VCI >60: favorable condition)

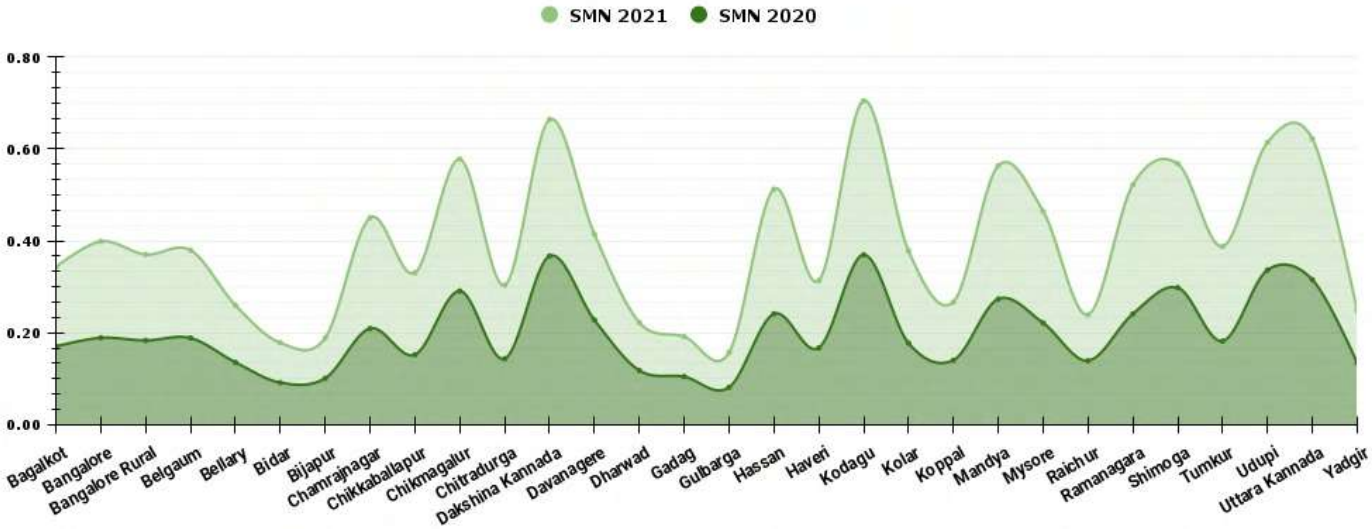
Vegetation Health Index (VHI)



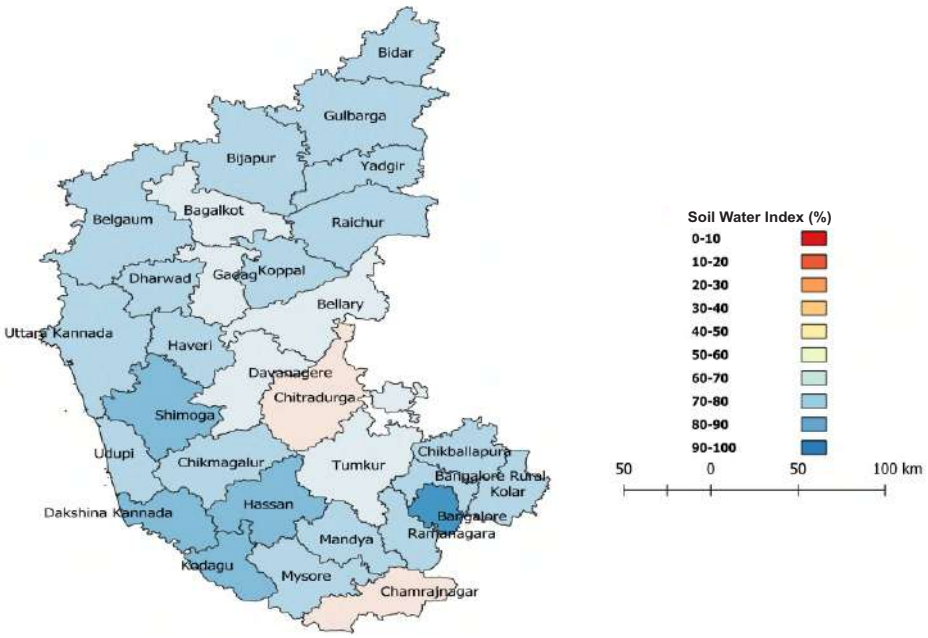
(VHI <40 indicates vegetation stress; VHI >60: favorable condition)
(VHI>65 indicates good vegetation condition)
(VHI>85 indicates very good vegetation condition)

For Drought : (VHI<15 indicates drought from severe-to-exceptional intensity)
(VHI<35 indicates drought from moderate-to-exceptional intensity)

Smoothed Normalized Difference Vegetation Index (SMN)



Soil Water Index



RAJASTHAN

The cultivable area is 74.9%of total geographical area and the net sown area is 17.096 million hectare. The percentage of net irrigated sown area is 30.6%.

Kharif Major Crops

The Kharif crops include bajra, pulses, jowar, maize and groundnut. The regions that are highly irrigated or receive abundant water supply are utilized for the cultivation of improved high-yielding varieties of rice. Some places of Rajasthan that has black soil nurture the growth of major cash crops like cotton.

Agro-Climatic Zones of Rajasthan

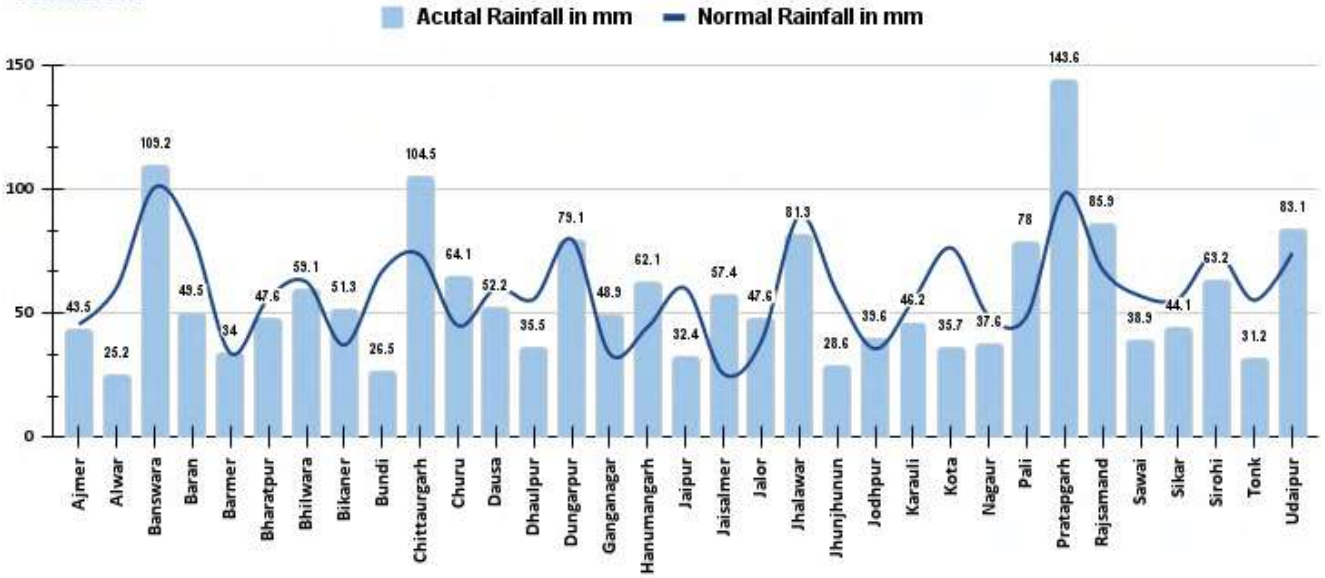
Sr. No.	Agro-Climatic Regions	Districts
1	Arid western plain	Barmer & part of Jodhpur
2	Irrigated north western plain	Sri Ganganagar, Hanumangarh
3	Hyper arid partial irrigated zone	Bikaner, Jaisalmer, Churu
4	Internal drainage dry zone	Nagaur, Sikar, Jhunjhunu, Part of Churu
5	Transitional plain of Luni basin	Jalore, Pali, Part of Sirohi, Jodhpur
6	Semi-arid eastern plains	Jaipur, Ajmer, Dausa, Tonk
7	Flood prone eastern plain	Alwar, Dholpur, Bharatpur, Karauli, Sawai Madhopur
8	Sub-humid southern plains	Bhilwara, Udaipur, Chittorgarh, Rajsamand, Pratapgarh
9	Humid southern plains	Dungarpur, Udaipur, Banswara, Chittorgarh
10	Humid south eastern plain	Kota, Jhalawar, Bundi, Baran

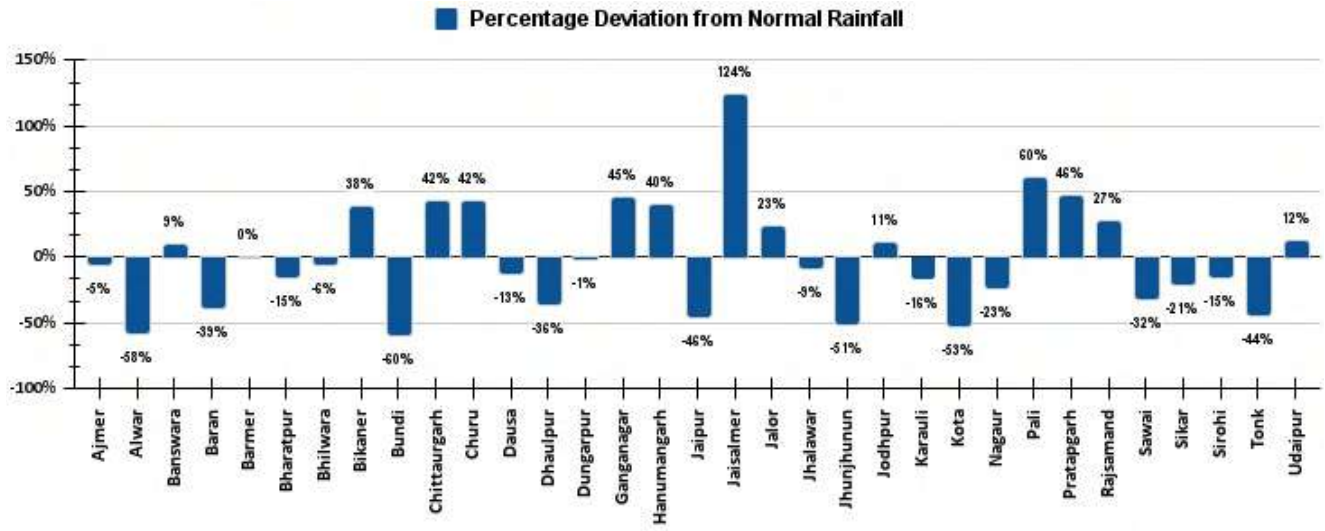
Reservoir Storage Status

NAME OF RESERVOIR	FRL (MTS)	LIVE CAP. AT FRL (BCM)	THIS SEASON		LAST SEASON	
			LEVEL (MTS)	LIVE STORAGE (BCM)	LEVEL (MTS)	LIVE STORAGE (BCM)
MAHI BAJAJ SAGAR	280.75	1.711	269.15	0.528	270.00	0.599
JHAKAM	359.5	0.132	344.75	0.029	346.35	0.036
RANA PRATAP SAGAR	352.81	1.436	348.30	0.623	348.27	0.618
BISALPUR	315.5	1.076	309.94	0.301	312.95	0.629

LAST YEAR STORAGE AS %	% OF THIS YR STORAGE TO LAST
35	88
27	81
43	101
58	48

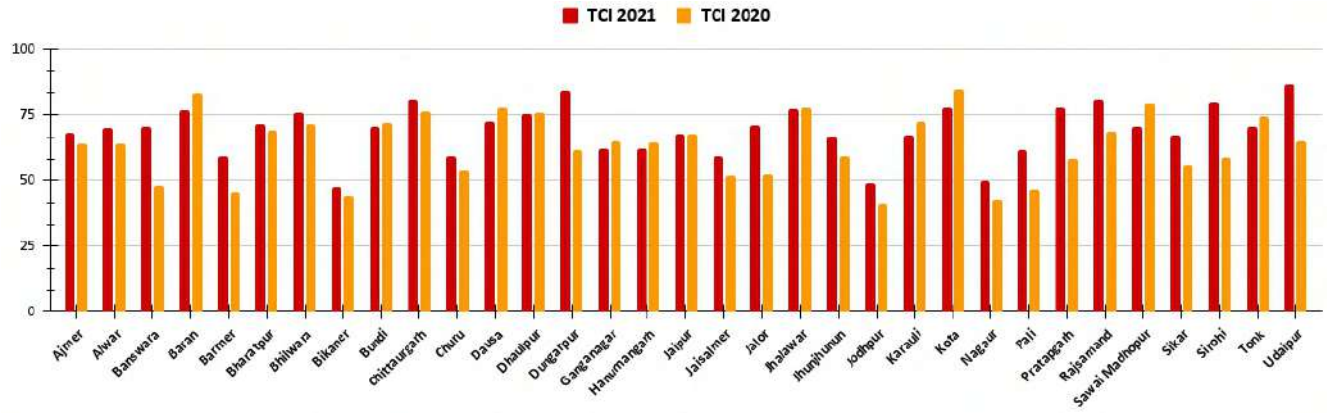
Rainfall





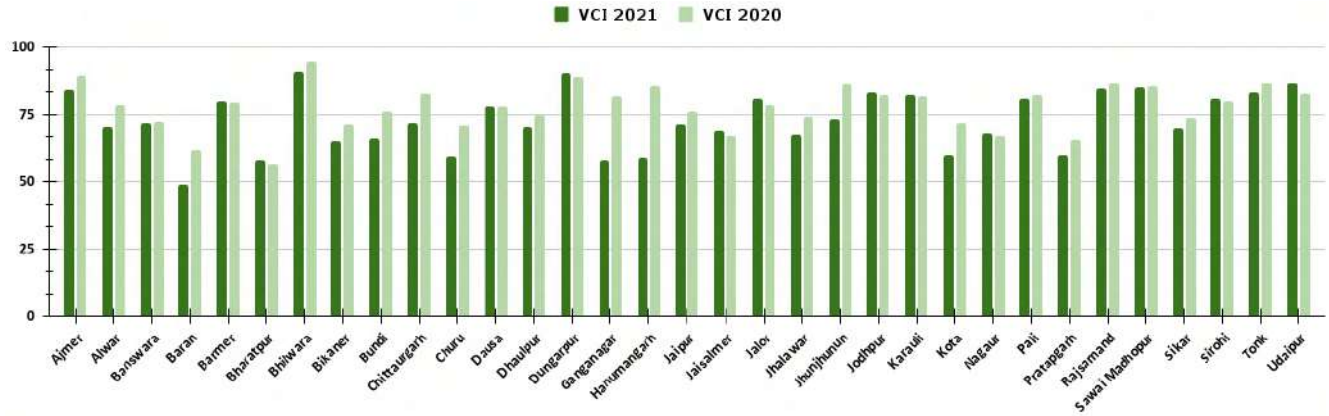
CATEGORY	% DEPARTURES OF RAINFALL	Colour Code
Large Excess (LE or L. Excess)	= 60%	
Excess (E)	= 20% and = 59%	
Normal (N)	= - 19% and = + 19%	
Deficient (D)	= - 59% and = - 20%	
Large Deficient (L. Deficient)	= - 99% and = - 60%	
No Rain (NR)	= - 100%	
No Data (*)	Data Not Available	

Temperature Condition Index (TCI)



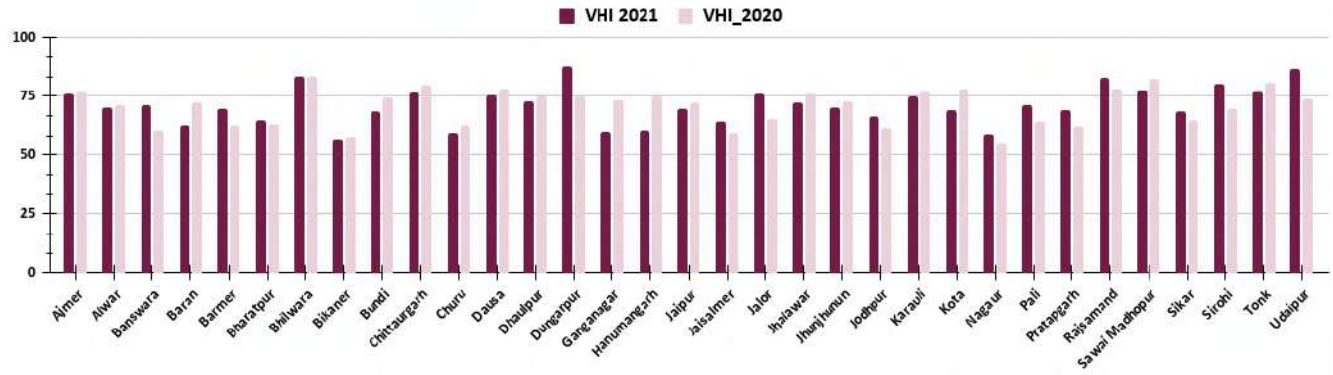
(TCI <40 indicates thermal stress; TCI >60: favorable condition)

Vegetation Condition Index (VCI)



(VCI <40 indicates moisture stress; VCI >60: favorable condition)

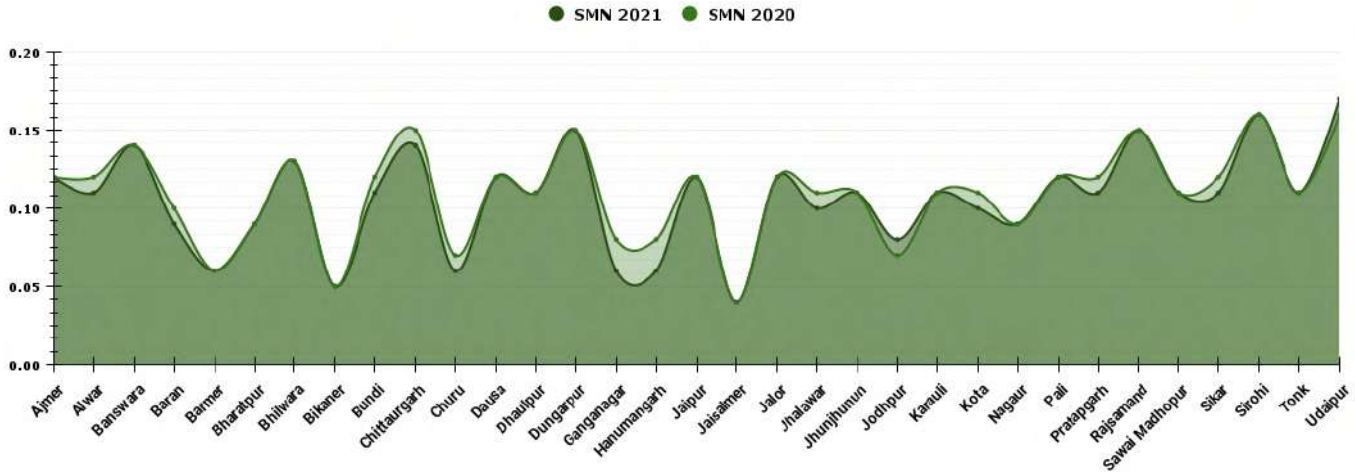
Vegetation Health Index (VHI)



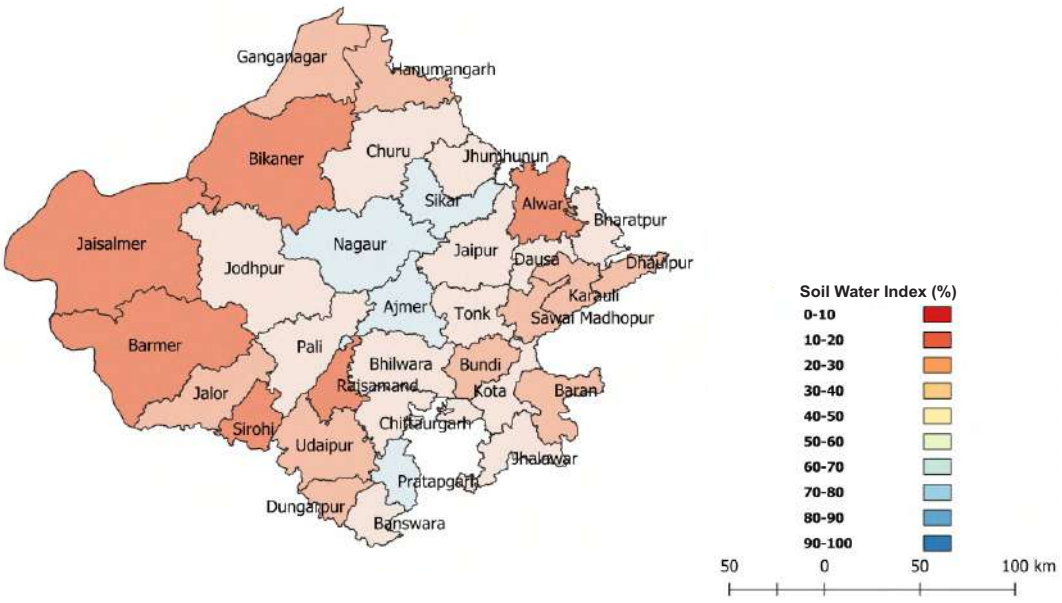
(VHI <40 indicates vegetation stress; VHI >60: favorable condition)
(VHI>65 indicates good vegetation condition)
(VHI>85 indicates very good vegetation condition)

For Drought : (VHI<15 indicates drought from severe-to-exceptional intensity)
(VHI<35 indicates drought from moderate-to-exceptional intensity)

Smoothed Normalized Difference Vegetation Index (SMN)



Soil Water Index



MAHARASHTRA

Out of total cultivable land in Maharashtra about 60% land is under food grain crop.

Kharif Major Crops

Major crops in the state are Paddy, Wheat, Gram, Lentil, Nagali, Jowar, Niger, Groundnut, Bajra, Urad, Soyabean and Cotton.

Agro-Climatic Zones of Maharashtra

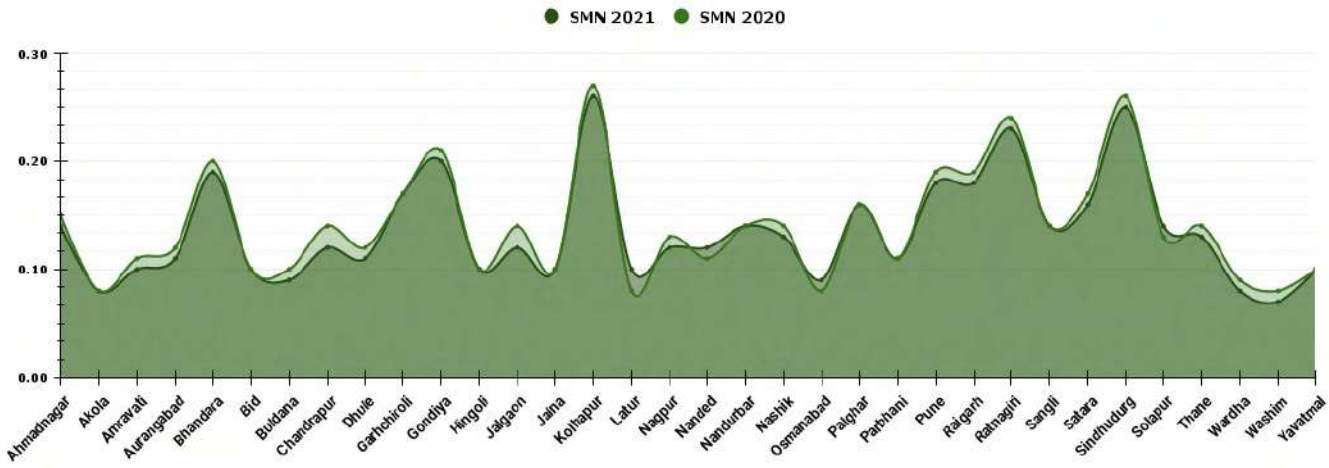
Sr.No.	Agro-Climatic Regions	Districts
1	South Konkan	Ratnagiri, Sindhudurg
2	North Konkan	Thane, Raigad
3	Western Ghat zone	Kolhapur, Satara, Pune, Ahmednagar, Nasik, Sindhudurg
4	Sub. Montane zone	Nasik, Pune, Satara, Sangli, Kolhapur
5	Western Maharashtra plain zone	Dhule, Ahmednagar, Sangli, Nasik, Pune, Satara, Kolhapur
6	Western Maharashtra scarcity zone	Nasik, Pune, Satara, Kolhapur
7	Central Maharashtra plateau zone	Aurangabad, Jalna, Beed, Osmanabad, Parbhani, Nanded, Buldana, Akola, Amravati, Jalgaon, Dhule, Solapur
8	Central Vidarbha zone	Wardha, Nagpur, Yavatmal, Chandrapur, Aurangabad, Jalna, Parbhani, Nanded,
9	Eastern Vidarbha zone	Bhandara, Gadchiroli, Chandrapur, Nagpur, Gondia

Reservoir Storage Status

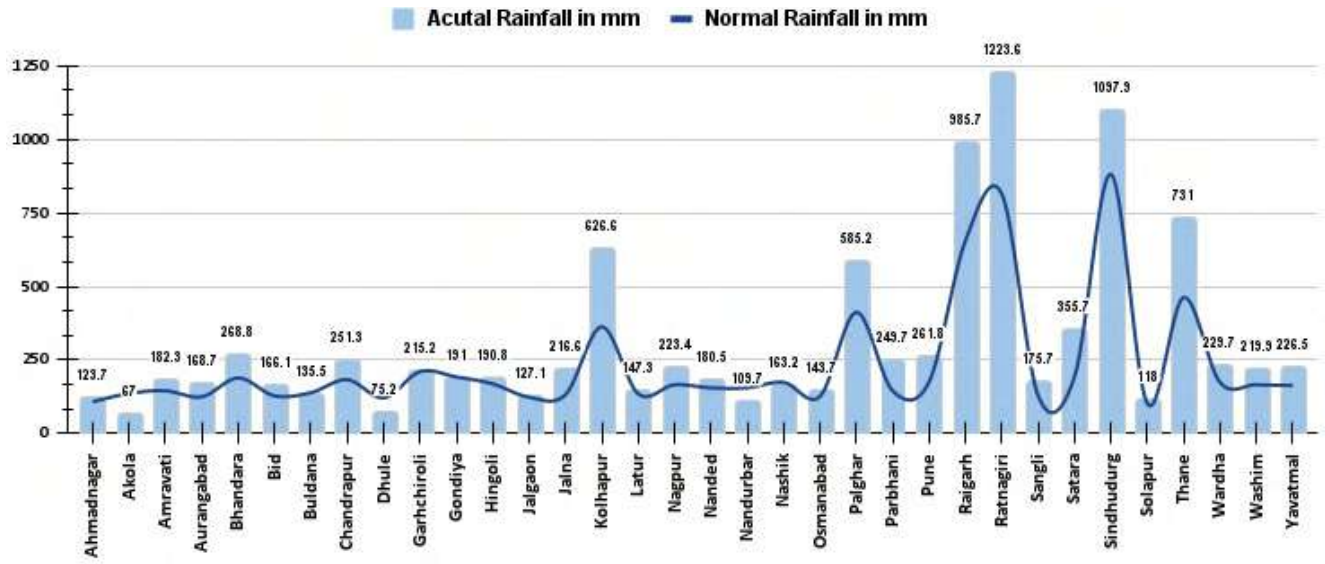
NAME OF RESERVOIR	FRL (MTS)	LIVE CAP. AT FRL (BCM)	THIS SEASON		LAST SEASON	
			LEVEL (MTS)	LIVE STORAGE (BCM)	LEVEL (MTS)	LIVE STORAGE (BCM)
JAYAKWADI(PAITHAN)	463.91	2.171	459.33	0.729	459.63	0.803
KOYANA	657.9	2.652	633.88	0.752	634.59	0.789
BHIMA(UJJANI)	496.83	1.517	489.63	0.000	489.14	0.000
ISAPUR	441	0.965	434.87	0.441	433.41	0.349
MULA	552.3	0.609	539.22	0.107	537.30	0.063
YELDARI	461.77	0.809	457.75	0.445	458.26	0.484
GIRNA	398.07	0.524	389.10	0.170	389.42	0.179
KHADAKVASLA	582.47	0.056	580.31	0.029	580.67	0.033
UPPER VAITARNA	603.5	0.331	593.34	0.066	594.89	0.089
UPPER TAPI	214	0.255	209.70	0.052	209.70	0.052
PENCH(TOTLADOH)	490	1.091	484.23	0.625	486.43	0.760
UPPER WARDHA	342.5	0.564	338.34	0.253	338.86	0.285
BHATSA	142.07	0.942	110.68	0.302	111.08	0.307
DHOM	747.7	0.331	734.55	0.090	735.55	0.105
DUDHGANGA	646	0.664	627.55	0.192	626.71	0.178
MANIKDOH	711.25	0.288	686.57	0.014	687.00	0.016
BHANDARDARA	744.91	0.304	732.84	0.140	726.30	0.089
URMODI	696	0.273	687.96	0.158	687.58	0.153
BHATGHAR	623.28	0.673	597.83	0.047	605.72	0.176
NIRA DEOGHAR	667.1	0.332	633.70	0.020	640.00	0.057
THOKARWADI	667.14	0.353	652.58	0.065	657.09	0.128
KANHER	690.78	0.272	672.97	0.051	672.44	0.047
MULSHI	607.1	0.572	591.21	0.027	591.80	0.042
SURYA	118.6	0.276	101.55	0.070	103.95	0.091
TILLARI	113.2	0.447	100.25	0.261	97.80	0.231

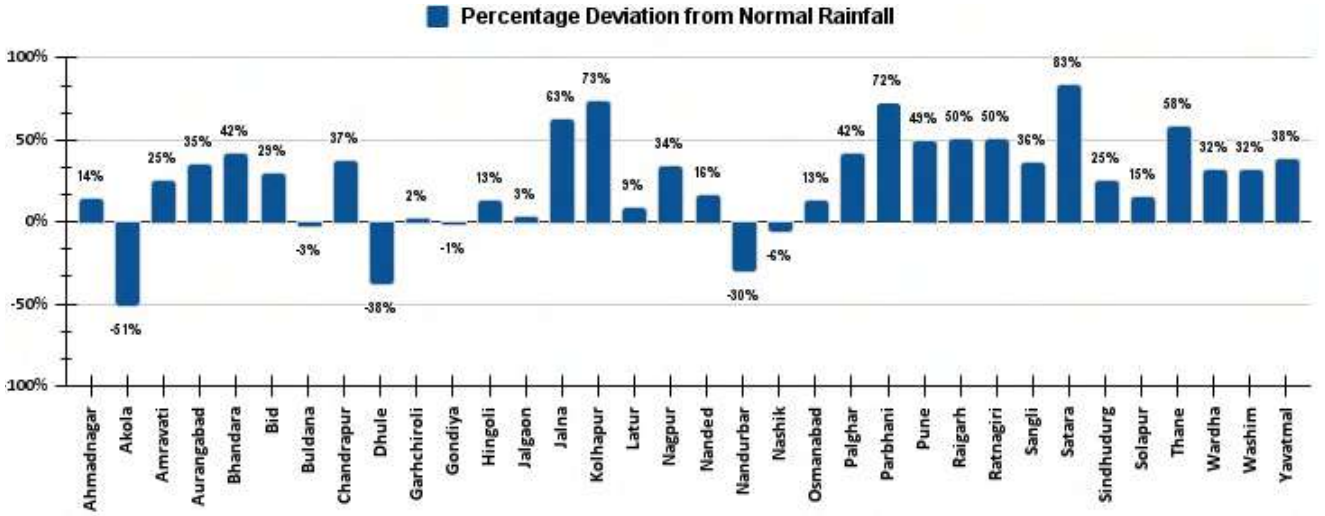
LAST YEAR STORAGE AS % OF LIVE CAP AT FRL	% OF THIS YR STORAGE TO LAST
37	91
30	95
0	0
36	126
10	170
60	92
34	95
59	88
27	74
20	100
70	82
51	89
33	98
32	86
27	108
6	88
29	157
56	103
26	27
17	35
36	51
17	109
7	64
33	77
52	113

Smoothed Normalized Difference Vegetation Index (SMN)



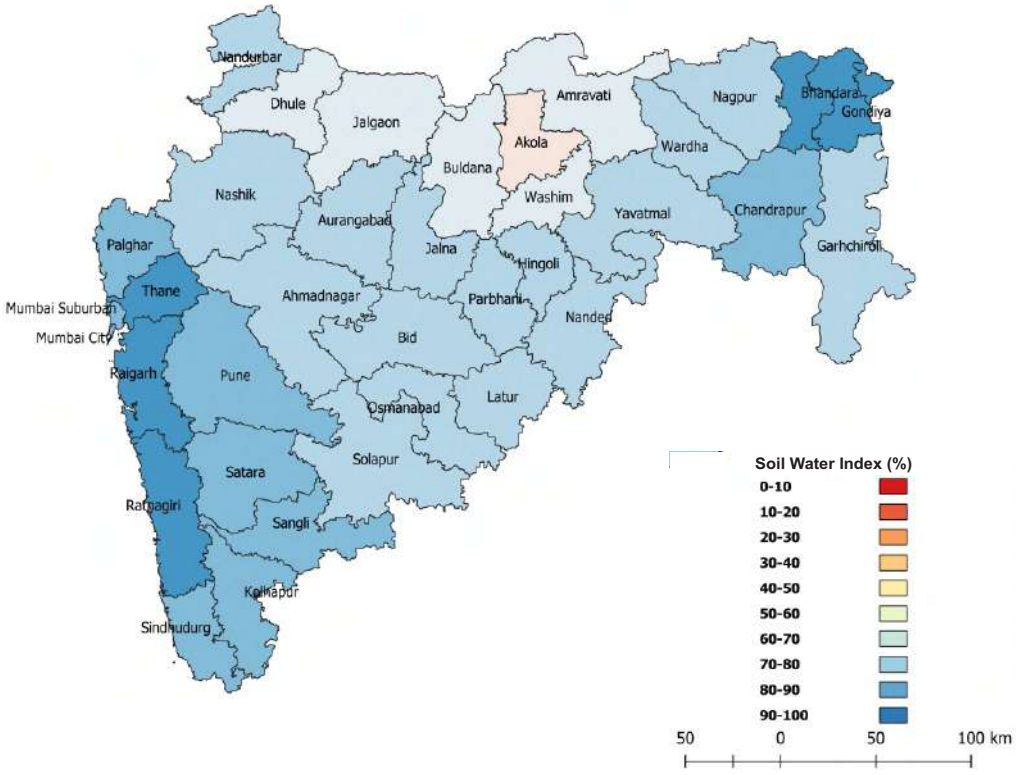
Rainfall



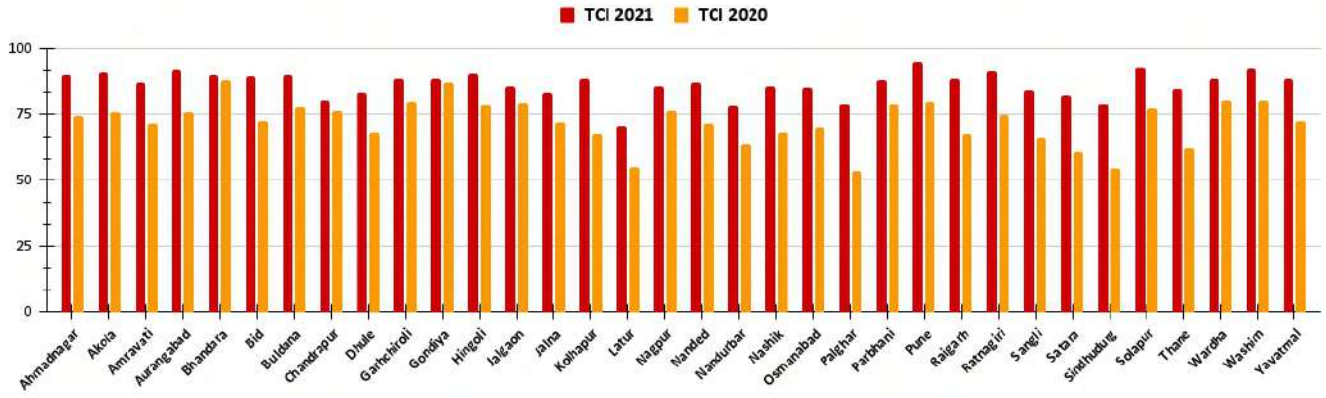


CATEGORY	% DEPARTURES OF RAINFALL	Colour Code
Large Excess (LE or L. Excess)	= 60%	
Excess (E)	= 20% and = 59%	
Normal (N)	= - 19% and = + 19%	
Deficient (D)	= - 59% and = - 20%	
Large Deficient (L. Deficient)	= - 99% and = - 60%	
No Rain (NR)	= - 100%	
No Data (*)	Data Not Available	

Soil Water Index

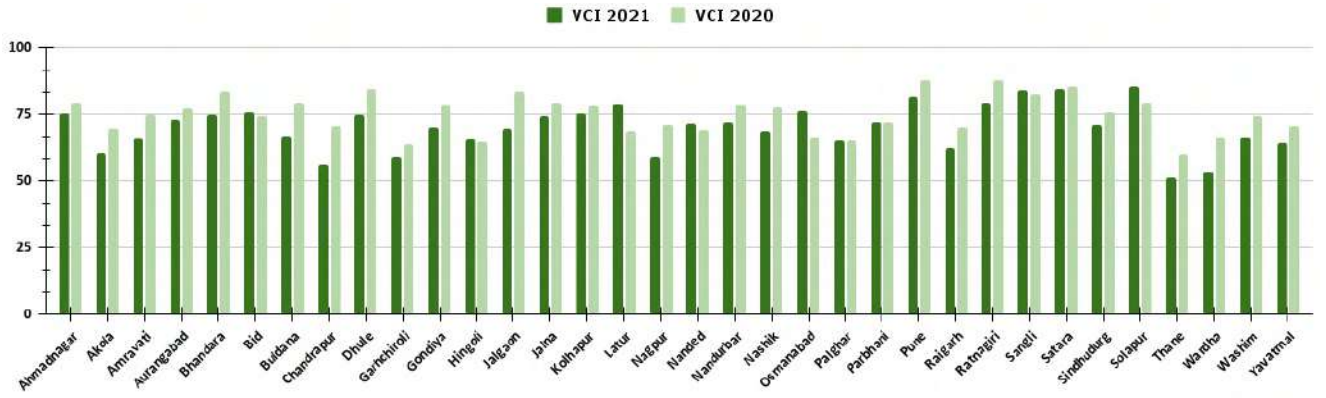


Temperature Condition Index (TCI)



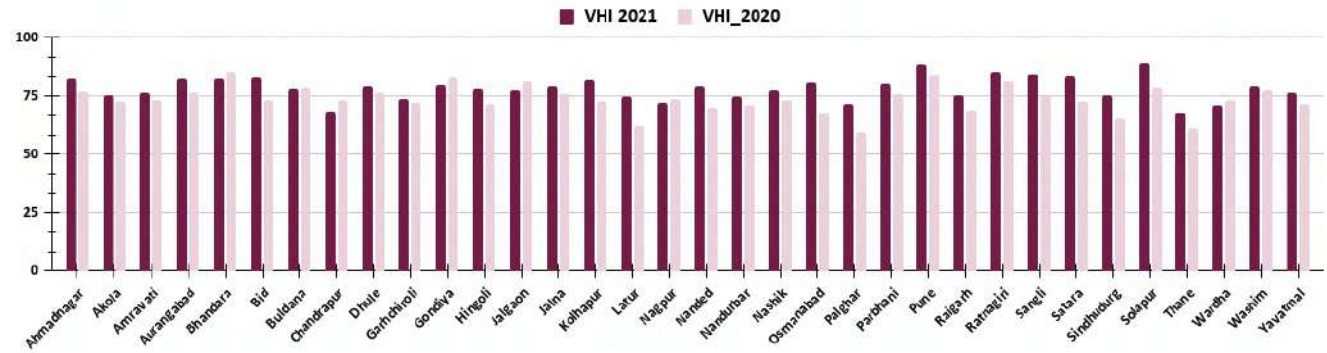
(TCI <40 indicates thermal stress; TCI >60: favorable condition)

Vegetation Condition Index (VCI)



(VCI <40 indicates moisture stress; VCI >60: favorable condition)

Vegetation Health Index (VHI)



(VHI <40 indicates vegetation stress; VHI >60: favorable condition)
(VHI>65 indicates good vegetation condition)
(VHI>85 indicates very good vegetation condition)

For Drought : (VHI<15 indicates drought from severe-to-exceptional intensity)
(VHI<35 indicates drought from moderate-to-exceptional intensity)

UTTAR PRADESH

The cultivable area is 82.1% of total geographical area and the net area sown is 68.5% of cultivable area. The percentage of net irrigated sown area is 80.3%. Traditionally rain fed and irrigated agriculture is common.

Kharif Major Crops

The main crops grown are rice, maize, pigeon pea, sorghum, pearl millet, moong beans during Kharif season. The important cash crops of the region are sugarcane, potato, tobacco, chillies, turmeric and coriander with supplemental irrigation. Rice–wheat cropping system is more predominant.

Agro-Climatic Zones of Uttar Pradesh

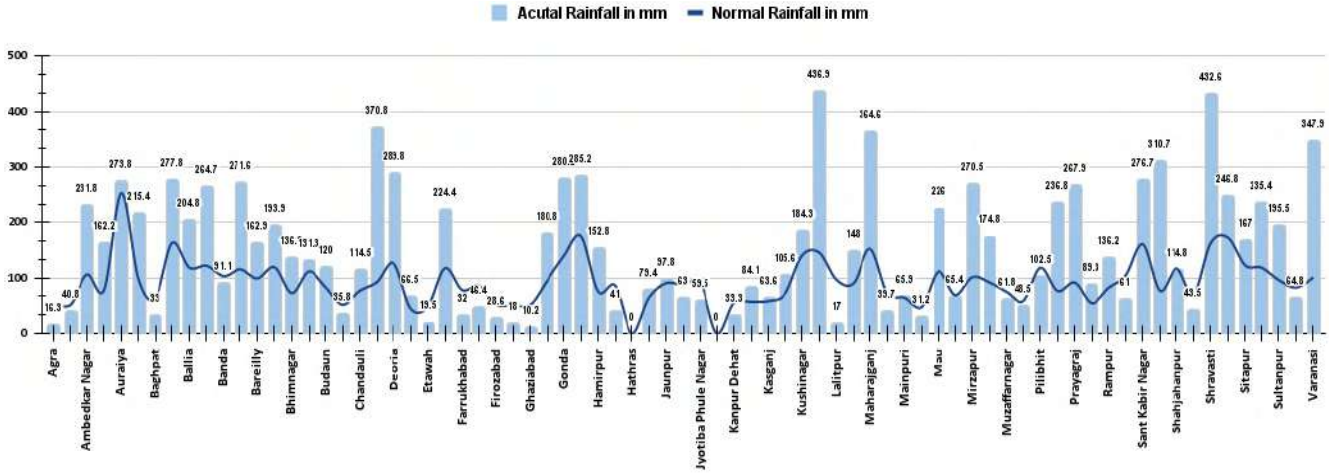
Sr.No.	Agro-Climatic Regions	Districts
1	Bhawar and plain, Tarai plain	Pilibhit, Sambhal (Bhim Nagar), Bareilly, Rampur, Moradabad, Shahjahanpur, Budaun and Jyotibaphule Nagar
2	Western Plain Zone	Saharanpur, Muzaffarnagar, and Baghpat
3	Mid-western plain zone	Bijnor, Moradabad, Amroha, Rampur, Bareilly, Badaun, Pilibhit and Shahjahanpur
4	Western sub-tropical zone	Aligarh, Mahamaya Nagar, Mathura, Agra, Firozabad, Etah, and Mainpuri
5	Mid plain zone	Farrukhabad, Kannauj, Etawah, Kanpur Nagar, Kanpur Dehat, Unnao, Hardoi, Kheri, Sitapur, Lucknow, Raebareli, Fatehpur, Pratapgarh and Allahabad
6	Bundelkhand Zone	Lalitpur, Jhansi, Jalaun, Hamirpur, Banda and Chitrakoot, Mahoba
7	North Eastern Plain Zone	Bahraich, Balrampur, Gonda, Siddharth Nagar, Basti, Maharajganj, Kushinagar and Deoria
8	Eastern Plain Zone	Barabanki, Faziabad, Sultanpur, Jaunpur, Azamgarh, Amethi, Mau, Ballia, Ghazipur, Varanasi and Sant Ravidasnagar
9	Bindhya Zone	Mirzapur and Sonbhadra

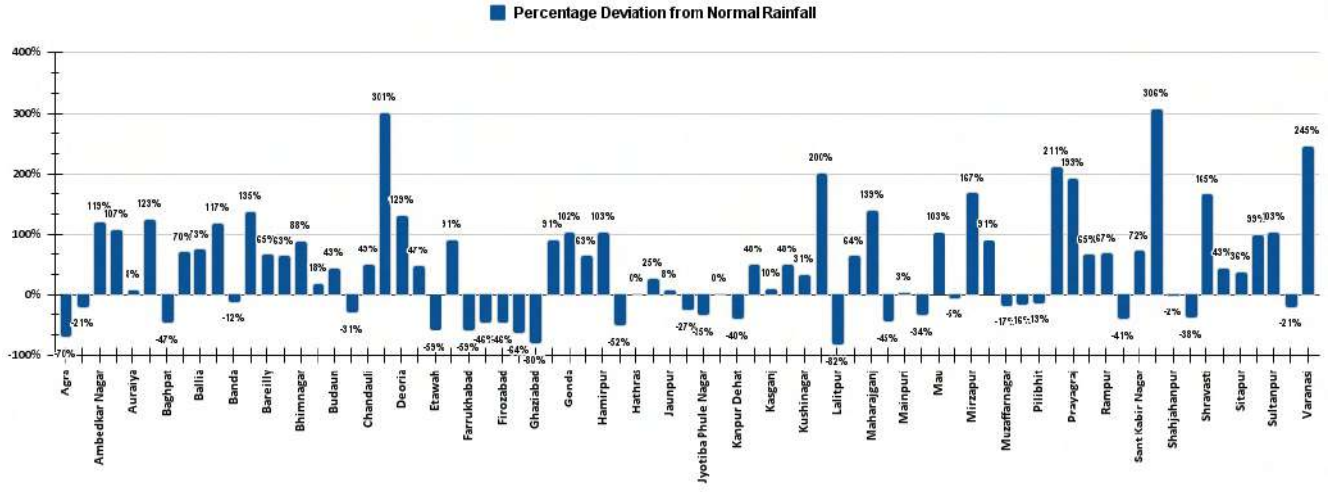
Reservoir Storage Status

NAME OF RESERVOIR	FRL (MTS)	LIVE CAP. AT FRL (BCM)	THIS SEASON		LAST SEASON	
			LEVEL (MTS)	LIVE STORAGE (BCM)	LEVEL (MTS)	LIVE STORAGE (BCM)
MATATILA	308.46	0.707	301.33	0.073	301.75	0.093
RIHAND	268.22	5.649	256.18	0.900	256.00	0.847
SHARDA SAGAR	190.5	0.33	188.70	0.305	187.30	0.234
SIRSI	217.93	0.19	209.50	0.009	215.00	0.099
MAUDAHA	147.8	0.179	141.30	0.016	144.10	0.065
JIRGO	98.2	0.147	92.31	0.042	94.70	0.074
RANGAWAN	233.17	0.155	220.58	0.002	227.32	0.053
MEJA	178	0.299	162.00	0.046	153.28	0.001

LAST YEAR STORAGE AS % OF LIVE CAP AT FRL	% OF THIS YR STORAGE TO LAST
13	78
15	106
71	130
52	9
36	25
50	57
34	4
0	4600

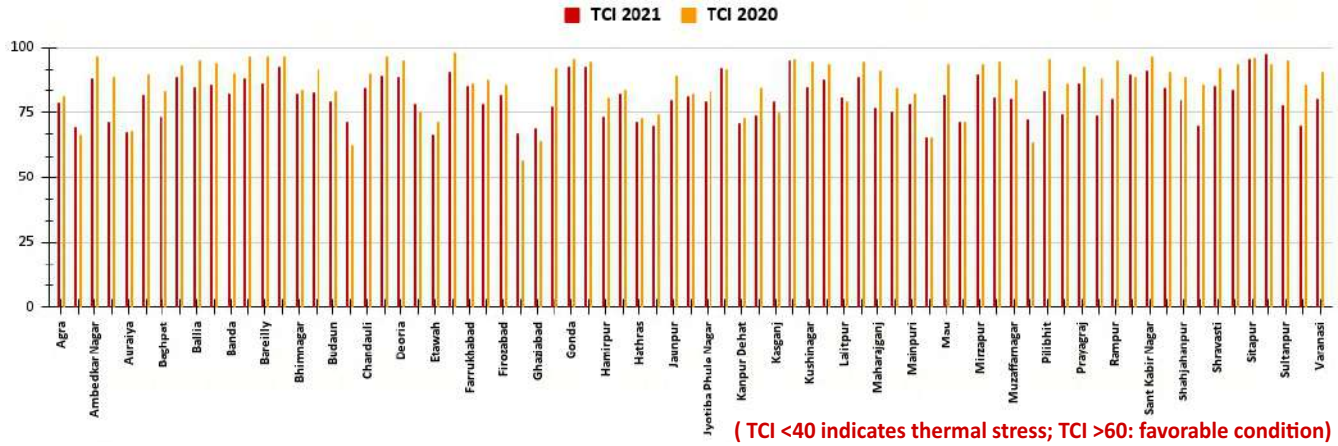
Rainfall





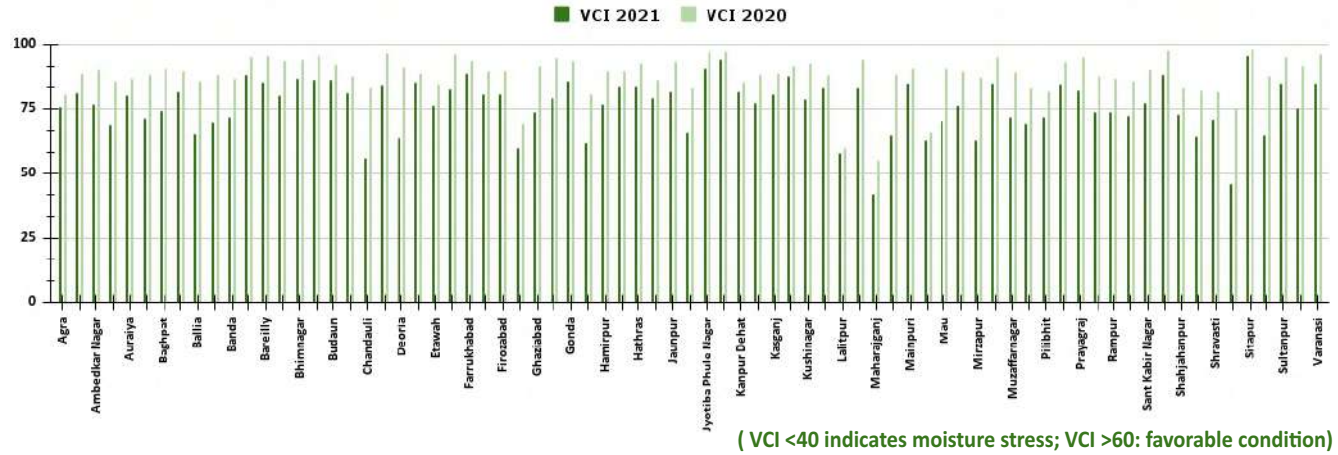
CATEGORY	% DEPARTURES OF RAINFALL	Colour Code
Large Excess (LE or L. Excess)	= 60%	
Excess (E)	= 20% and = 59%	
Normal (N)	= - 19% and = + 19%	
Deficient (D)	= - 59% and = - 20%	
Large Deficient (L. Deficient)	= - 99% and = - 60%	
No Rain (NR)	= - 100%	
No Data (*)	Data Not Available	

Temperature Condition Index (TCI)



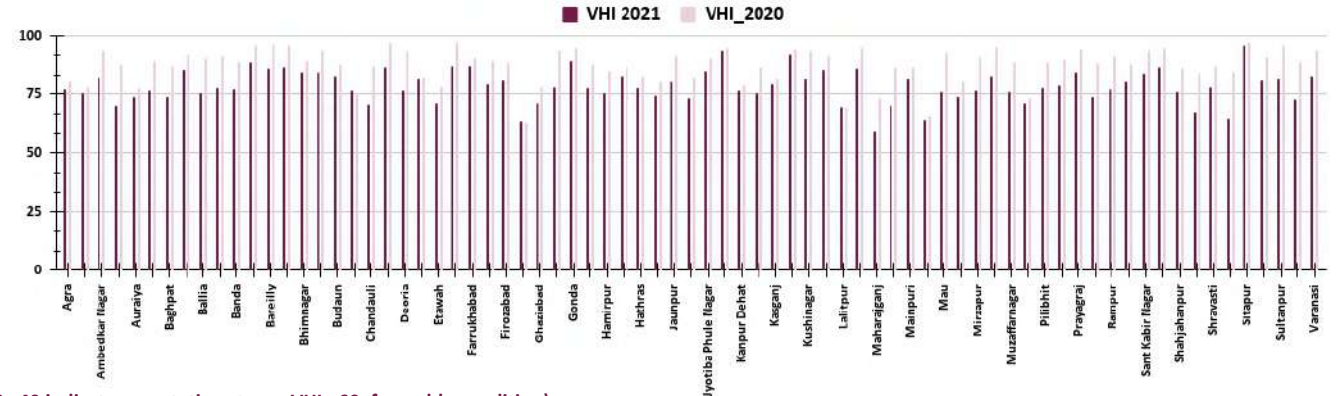
(TCI <40 indicates thermal stress; TCI >60: favorable condition)

Vegetation Condition Index (VCI)



(VCI <40 indicates moisture stress; VCI >60: favorable condition)

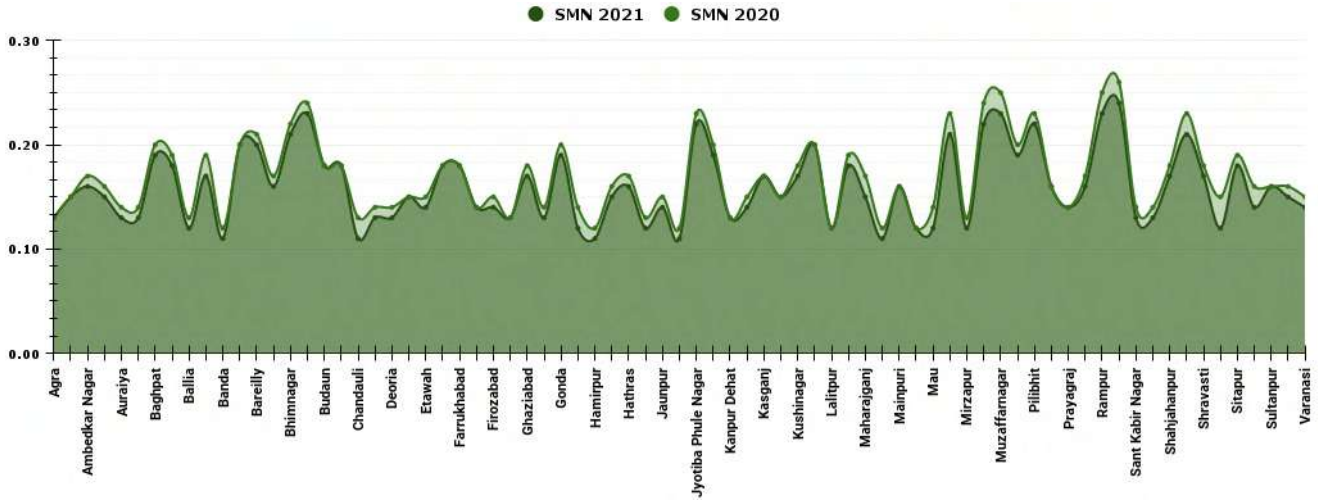
Vegetation Health Index (VHI)



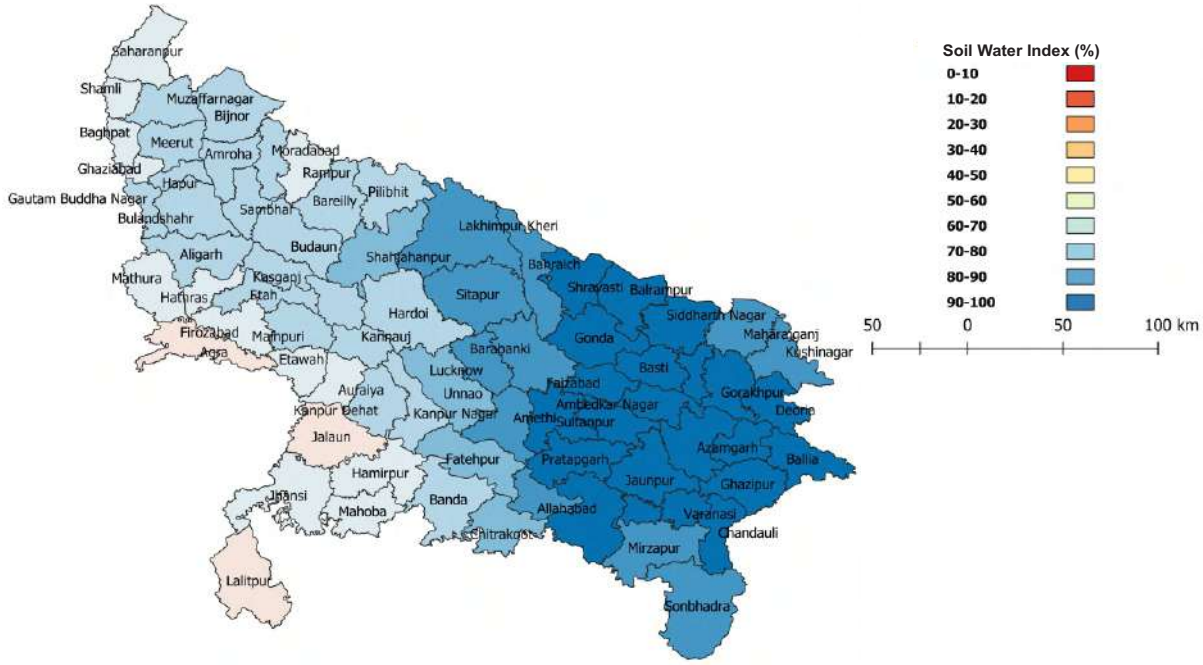
(VHI <40 indicates vegetation stress; VHI >60: favorable condition)
(VHI>65 indicates good vegetation condition)
(VHI>85 indicates very good vegetation condition)

For Drought : (VHI<15 indicates drought from severe-to-exceptional intensity)
(VHI<35 indicates drought from moderate-to-exceptional intensity)

Smoothed Normalized Difference Vegetation Index (SMN)



Soil Water Index



ODISHA

The state has around 4.5 million ha under paddy cultivation, which covers both irrigated and rainfed areas.

Kharif Major Crops

Maize and Ragi are the important coarse cereal crops. Jowar, Bajra and small millets are also grown in the state to a lesser extent. Arhar, mung, kulthi, biri, gram, fieldpea, cowpea and lentil are the pulse crops grown in the State. Pulses are grown mainly in uplands during Kharif season predominantly in inland districts.

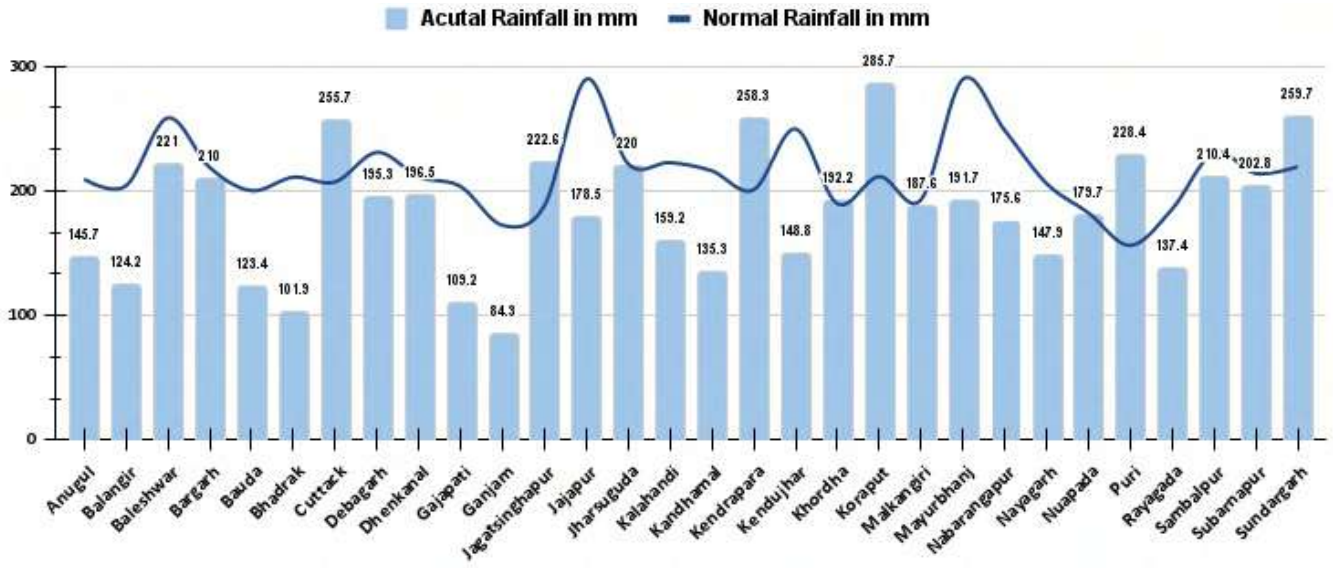
Agro-Climatic Zones of Odisha

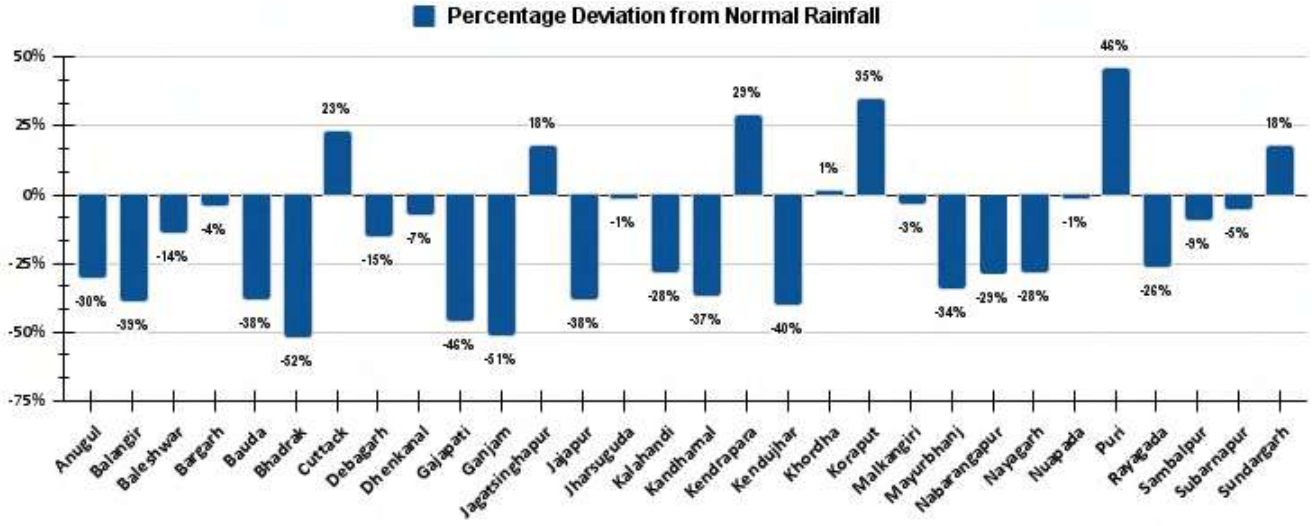
Sr. No.	Agro-Climatic zone	Districts
1	East & South East Coastal Plain	Puri, Nayagarh, Khordha, Kendrapada, Jagatsinghpur, Cuttack
2	Eastern Ghat High Land	Nabarangpur, Koraput
3	Mid Central Table Land Zone	Dhenkanal, Angul
4	North Central Plateau	Mayurbhanj, Keonjhar
5	North Eastern Coastal Plain	Jajpur, Bhadrak, Baleshwar
6	North Eastern Ghat	Rayagada, Kandhamal, Ganjam, Gajapati
7	North Western Plateau Zone	Sundargarh, Deogarh
8	South Eastern Ghat	Malkangiri
9	West Undulating Zone	Nuapada, Kalahandi
10	Western Central Table Land Zone	Subarnapur, Sambalpur, Jharsuguda, Boudh, Bargarh, Balangir

Reservoir Storage Status

NAME OF RESERVOIR	FRL (MTS)	LIVE CAP. AT FRL (BCM)	THIS SEASON		LAST SEASON		LAST YEAR STORAGE AS % OF LIVE CAP AT FRL	% OF THIS YR STORAGE TO LAST
			LEVEL (MTS)	LIVE STORAGE (BCM)	LEVEL (MTS)	LIVE STORAGE (BCM)		
HIRAKUD	192.02	5.378	182.88	0.698	185.27	1.439	27	49
BALIMELA	462.08	2.676	466.29	0.577	446.04	0.556	21	104
SALANADI	82.3	0.558	70.95	0.236	74.15	0.313	56	75
RENGALI	123.5	3.432	112.20	0.414	111.38	0.264	8	157
MACHKUND(JALAPUT)	838.16	0.893	828.42	0.274	828.87	0.292	33	94
UPPER KOLAB	858	0.935	846.32	0.097	849.06	0.231	25	42
UPPER INDRAVATI	642	1.456	630.41	0.368	632.12	0.509	35	72
SAPUA	168.5	0.006	167.61	0.006	168.50	0.006	100	100
HARIHARJHOR	147.5	0.059	141.00	0.000	144.54	0.035	59	0
MANDIRA DAM	210.31	0.309	206.80	0.188	208.64	0.255	83	74

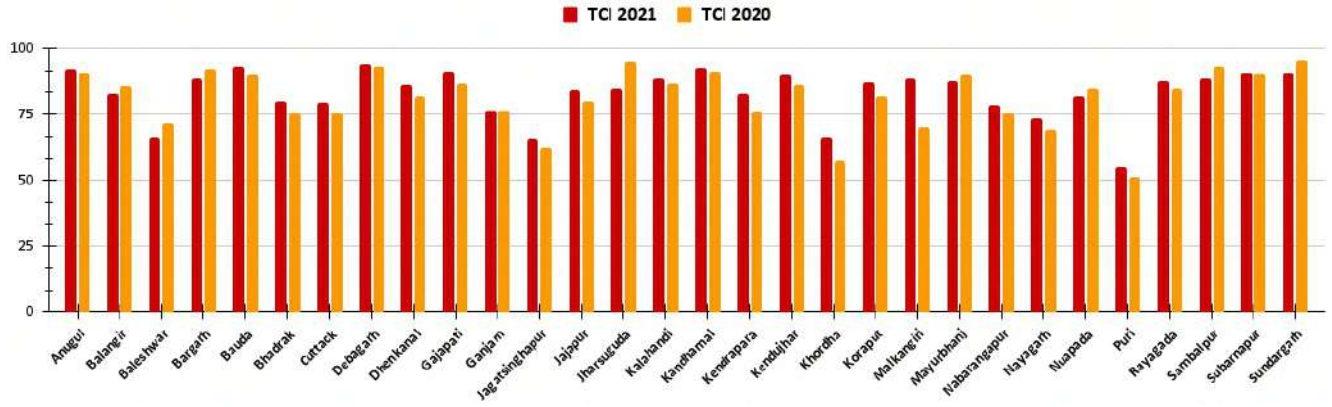
Rainfall





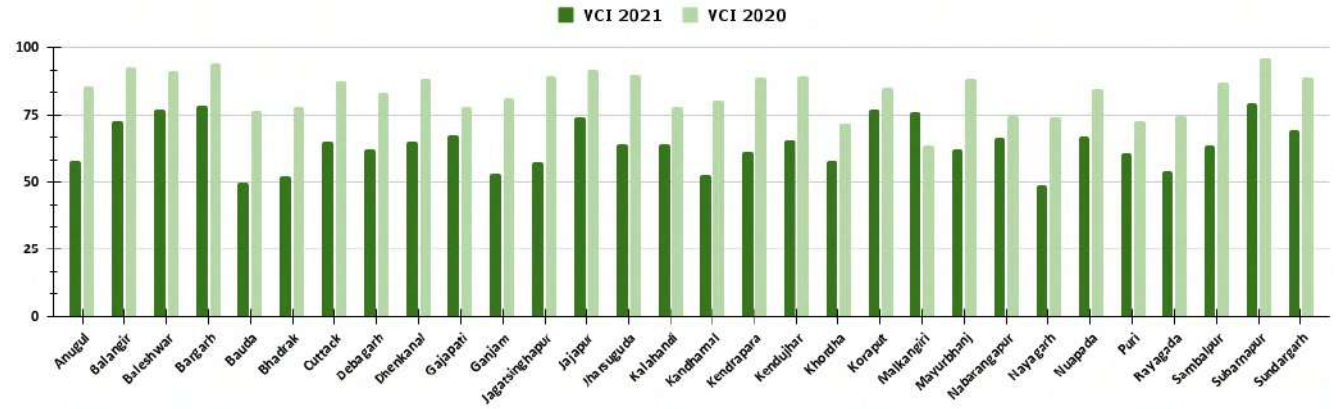
CATEGORY	% DEPARTURES OF RAINFALL	Colour Code
Large Excess (LE or L. Excess)	= 60%	
Excess (E)	= 20% and = 59%	
Normal (N)	= - 19% and = + 19%	
Deficient (D)	= - 59% and = - 20%	
Large Deficient (L. Deficient)	= - 99% and = - 60%	
No Rain (NR)	= - 100%	
No Data (*)	Data Not Available	

Temperature Condition Index (TCI)



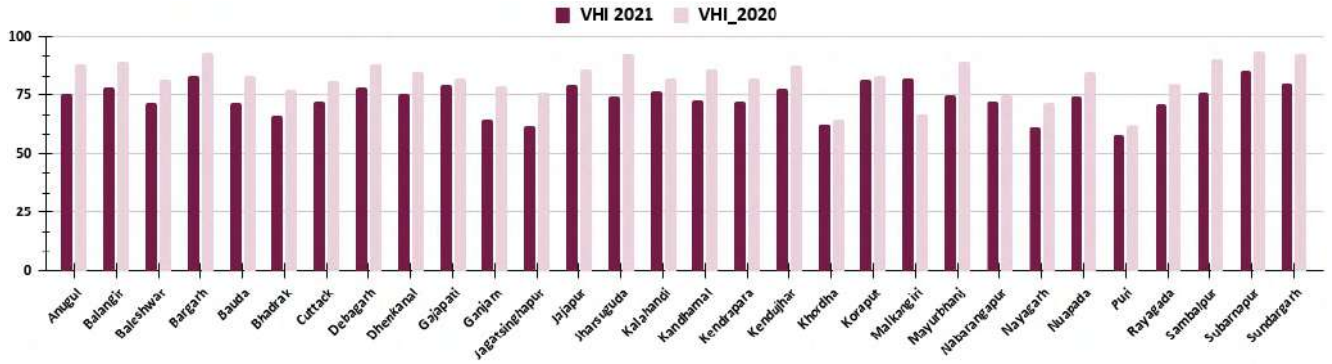
(TCI <40 indicates thermal stress; TCI >60: favorable condition)

Vegetation Condition Index (VCI)



(VCI <40 indicates moisture stress; VCI >60: favorable condition)

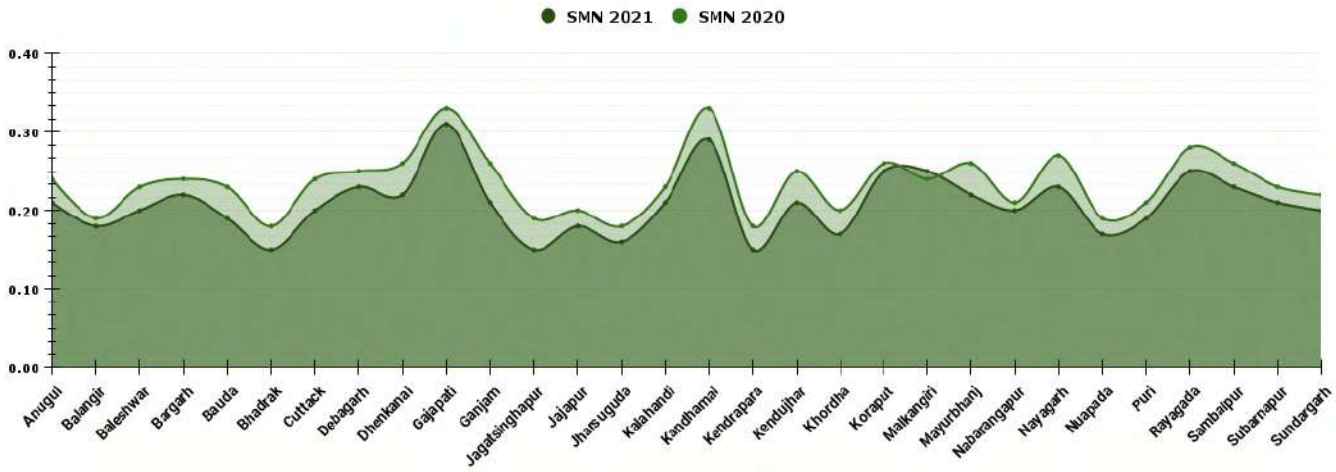
Vegetation Health Index (VHI)



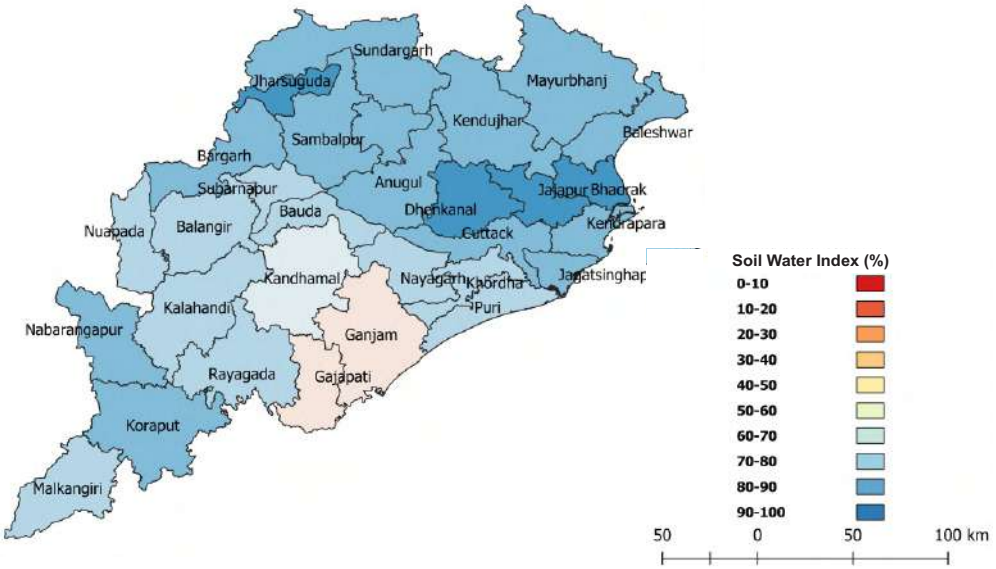
(VHI <40 indicates vegetation stress; VHI >60: favorable condition)
(VHI>65 indicates good vegetation condition)
(VHI>85 indicates very good vegetation condition)

For Drought : (VHI<15 indicates drought from severe-to-exceptional intensity)
(VHI<35 indicates drought from moderate-to-exceptional intensity)

Smoothed Normalized Difference Vegetation Index (SMN)



Soil Water Index



West Bengal

The cultivated area of the state is 5.5 million ha comprising 62% of the total geographical area. About 54% of cultivated area is irrigated and the cropping intensity is high at 176%.

Kharif Major Crops

Rice is the most important kharif crop, which presently accounts for 77% of the total rice area and 68% of total area under food grains in the State. In addition, wheat, pulses, mustard, groundnut, jute, sugarcane, potato, fruits, vegetables and flowers are cultivated.

Agro-Climatic Zones of West Bengal

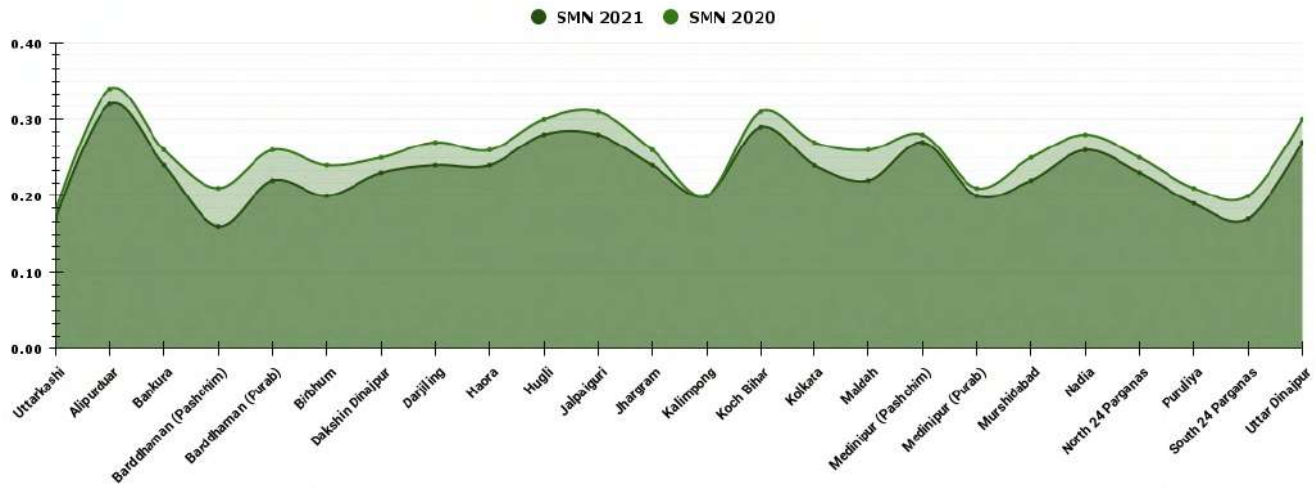
Sr No.	Agro-Climatic Regions	District
1	Northan Hill Zone (Eastern Himalayan Region)	Part of Darjeeling & Jalpaiguri
2	Teesta-Tarai Alluvial Zone (Eastern Himalayan Region)	Koch Bihar, Part of Darjeeling, Jalpaiguri & Uttar Dinajpur
3	Gangetic Alluvial Zone (Lower Gangetic Plain Region)	Dakshin Dinajpur, Malda, Nadia, Part of Uttar Dinajpur, Murshidabad,North 24 Paranganas, South 24 Paranganas, Howrah, Hoogly & Birbhum
4	Vindhyan Alluvial Zone (Lower Gangetic Plain Region)	Part of Murshidabad, Howrah, Hoogly, Burdwan, Birbhum, Bankura, Paschim & Purba Medinipur
5	Coastal Saline Zone (Lower Gangetic Plain Region)	Part of North 24 Paranganas, South 24 Paranganas, Howrah & Purba Medinipur
6	Red & Laterite Zone (Eastern Plateau & Hill Region)	Puruliya, Part of Burdwan, Birbhum, Bankura & Paschim Medinipur

Reservoir Storage Status

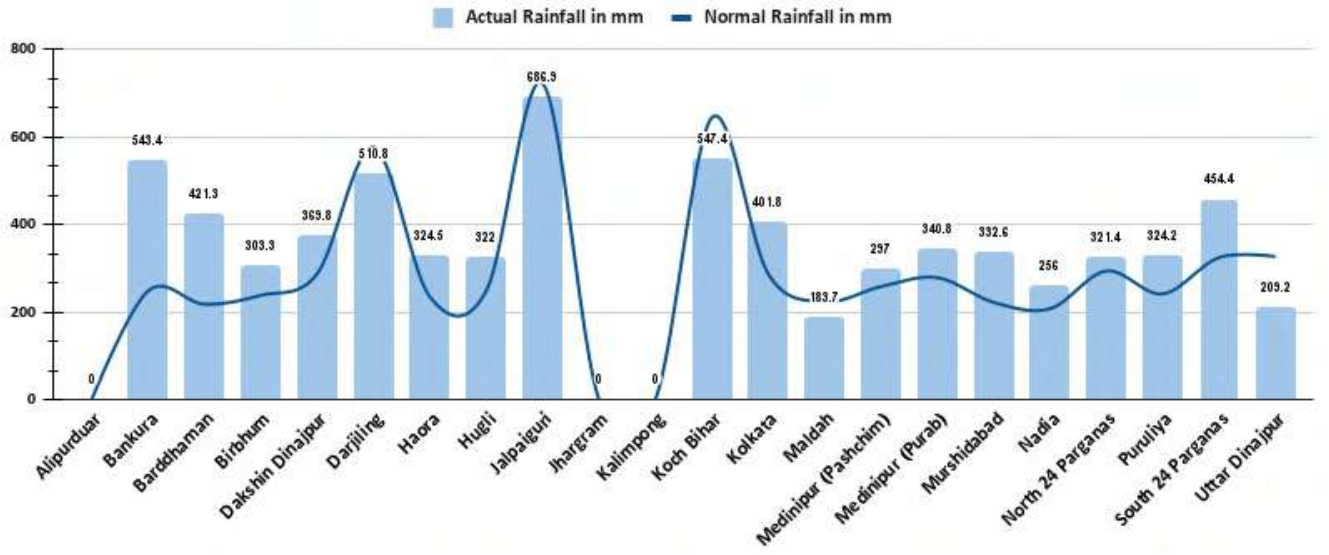
NAME OF RESERVOIR	FRL (MTS)	LIVE CAP. AT FRL (BCM)	THIS SEASON		LAST SEASON	
			LEVEL (MTS)	LIVE STORAGE (BCM)	LEVEL (MTS)	LIVE STORAGE (BCM)
MAYURAKSHI	121.31	0.48	112.24	0.128	114.16	0.180
KANGSABATI	134.14	0.914	125.93	0.317	128.06	0.434

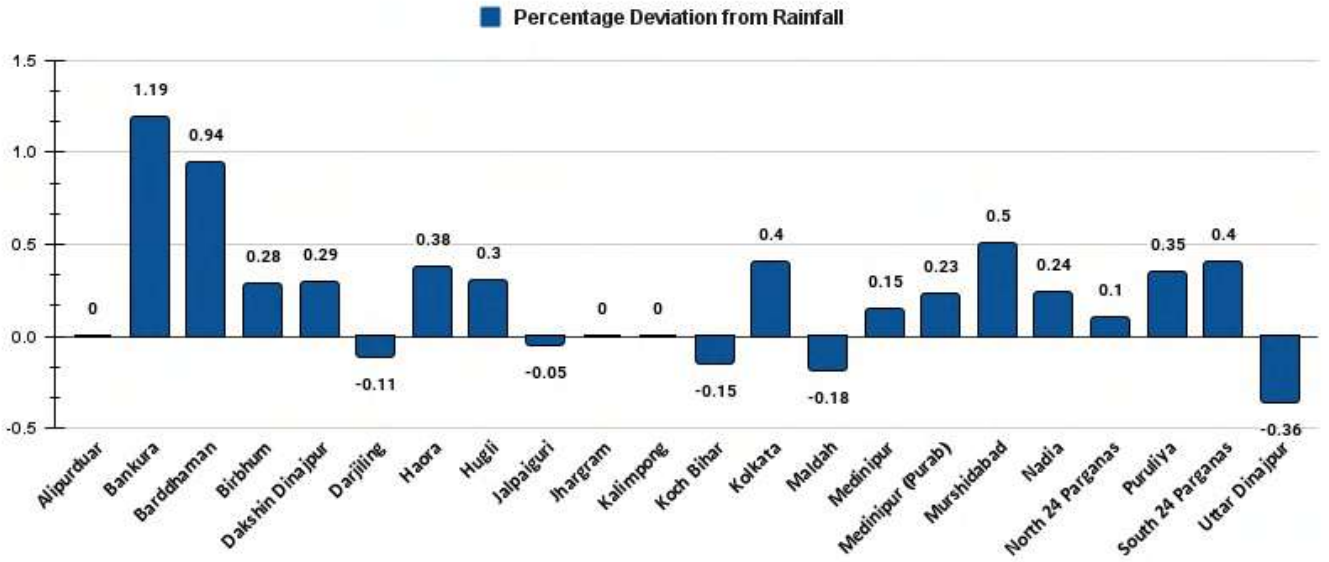
LAST YEAR STORAGE AS % OF LIVE CAP AT FRL	% OF THIS YR STORAGE TO LAST
38	71
47	73

Smoothed Normalized Difference Vegetation Index (SMN)



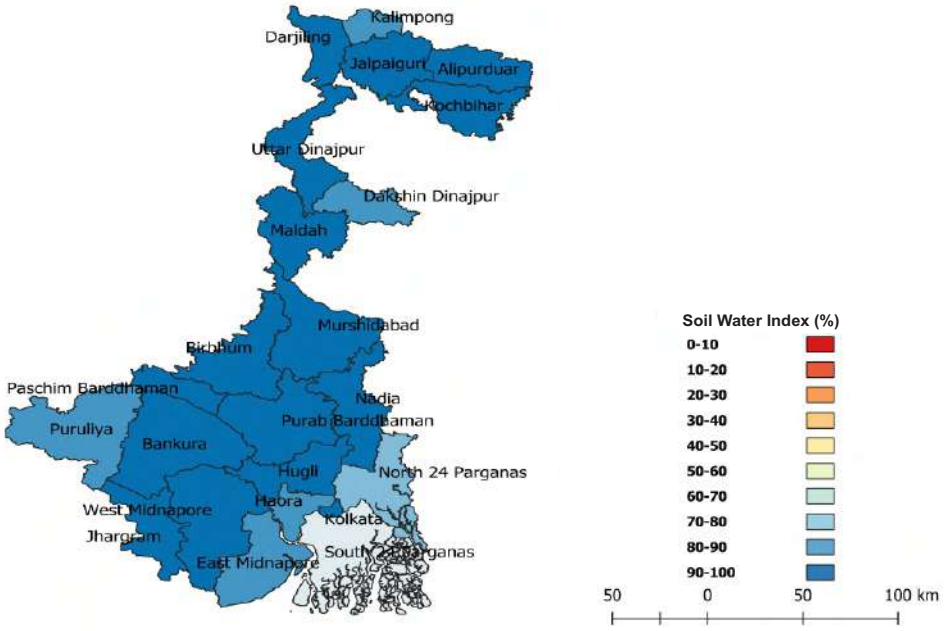
Rainfall



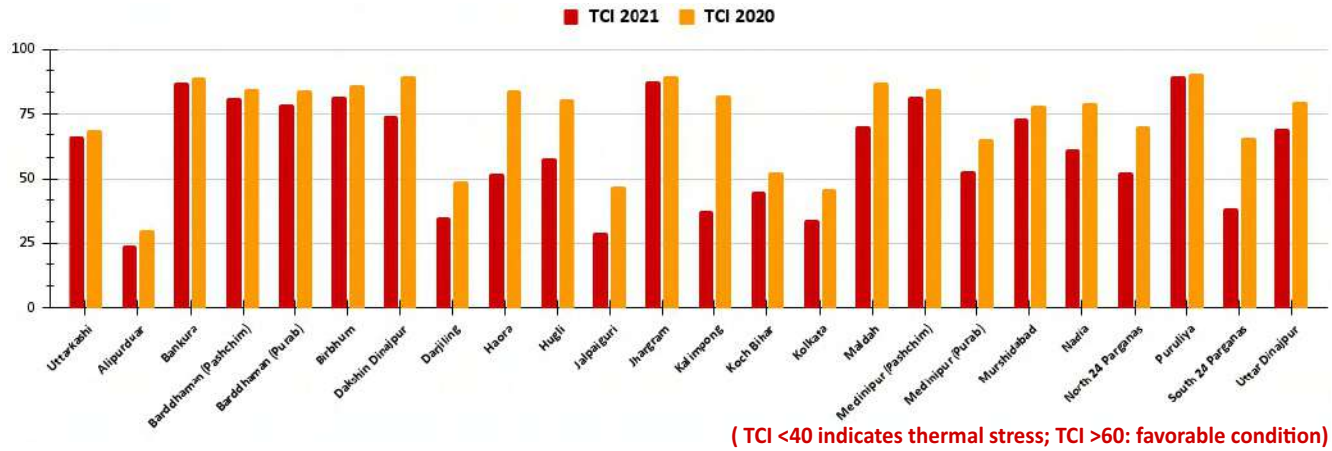


CATEGORY	% DEPARTURES OF RAINFALL	Colour Code
Large Excess (LE or L. Excess)	= 60%	
Excess (E)	= 20% and = 59%	
Normal (N)	= - 19% and = + 19%	
Deficient (D)	= - 59% and = - 20%	
Large Deficient (L. Deficient)	= - 99% and = - 60%	
No Rain (NR)	= - 100%	
No Data (*)	Data Not Available	

Soil Water Index

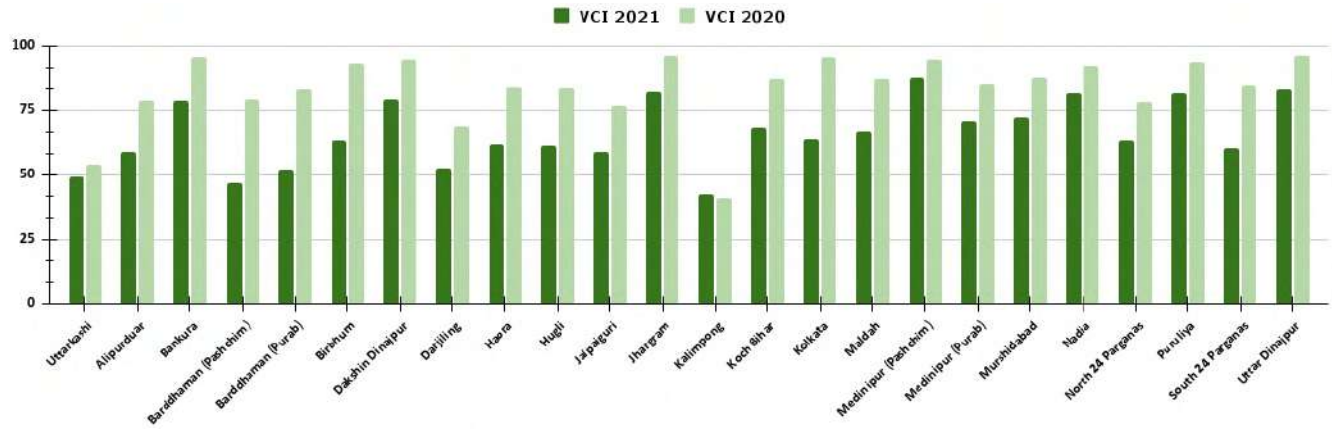


Temperature Condition Index (TCI)



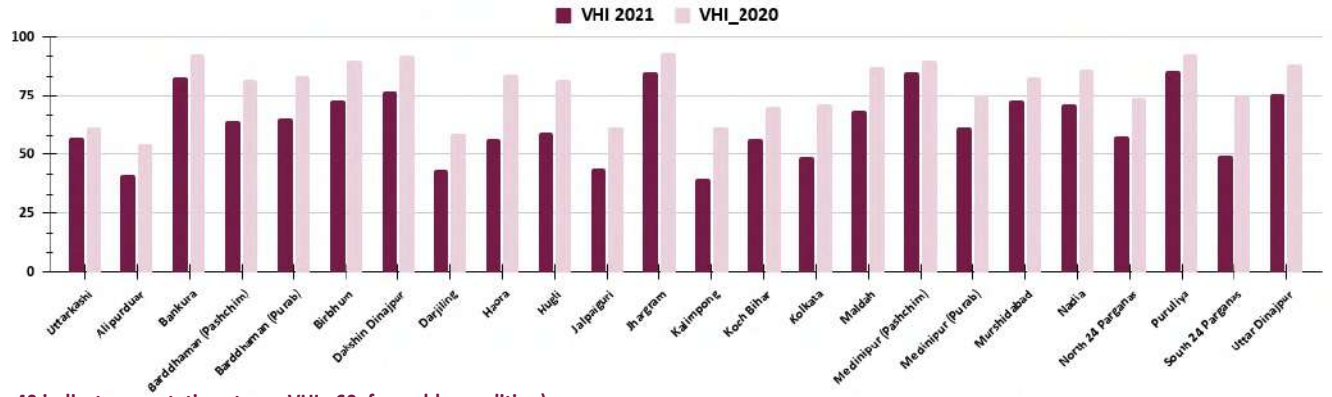
(TCI <40 indicates thermal stress; TCI >60: favorable condition)

Vegetation Condition Index (VCI)



(VCI <40 indicates moisture stress; VCI >60: favorable condition)

Vegetation Health Index (VHI)



(VHI <40 indicates vegetation stress; VHI >60: favorable condition)
(VHI>65 indicates good vegetation condition)
(VHI>85 indicates very good vegetation condition)

For Drought : (VHI<15 indicates drought from severe-to-exceptional intensity)
(VHI<35 indicates drought from moderate-to-exceptional intensity)

Uttarakhand

The net area sown is 76,5150 hectare. The percentage of net irrigated sown area is 45.1%.

Kharif Major Crops

The main crops are wheat, paddy, maize, manduwa and sanwa in food grains, urad, gram, pea, masoor & rajma in pulses and mustard, soybean, groundnut in oil seeds. The influence of the monsoon on the cropping pattern is very dominant; with the result of the total cropped area about 70 to 75% is under 'Kharif' season crops. The highest sown area is under wheat crop (34.79%) followed by rice with 24.3%. Mandua, a traditional millet crop has 15.1% sown area, while the area under pulses is 4.61%. Rest of the area is under other millets including koni, jhangora, jowar, bajara, maize and oilseeds.

Agro-Climatic Zones of Uttarakhand

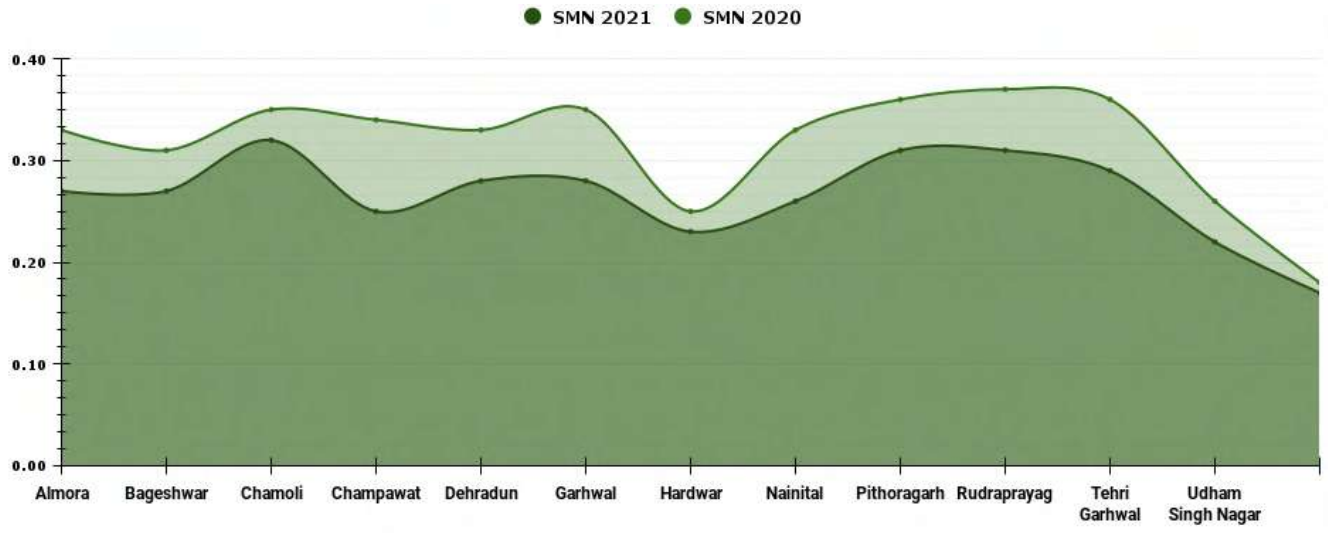
Sr. No.	Agro-Climatic Regions	District
1	Zone A up to 1000 M	U.S. Nagar, Haridwar
		Nainital, Dehradun and Pauri Garhwal
		Champawat, Pauri Garhwal, Dehradun, Nainital, Tehri Garhwal
		Champawat, Nainital, Pauri Garhwal, Dehradun, Tehri Garhwal, Bageshwar
2	Zone B 1000-1500M	Champawat, Nainital, Almora, Dehradun, Tehri Garhwal, Bageshwar
3	Zone C 1500-2400M	Pithoragarh, Almora, Chamoli, Bageshwar
4	Zone D>2400 M	Pithoragarh, Chamoli and Uttarkashi

Reservoir Storage Status

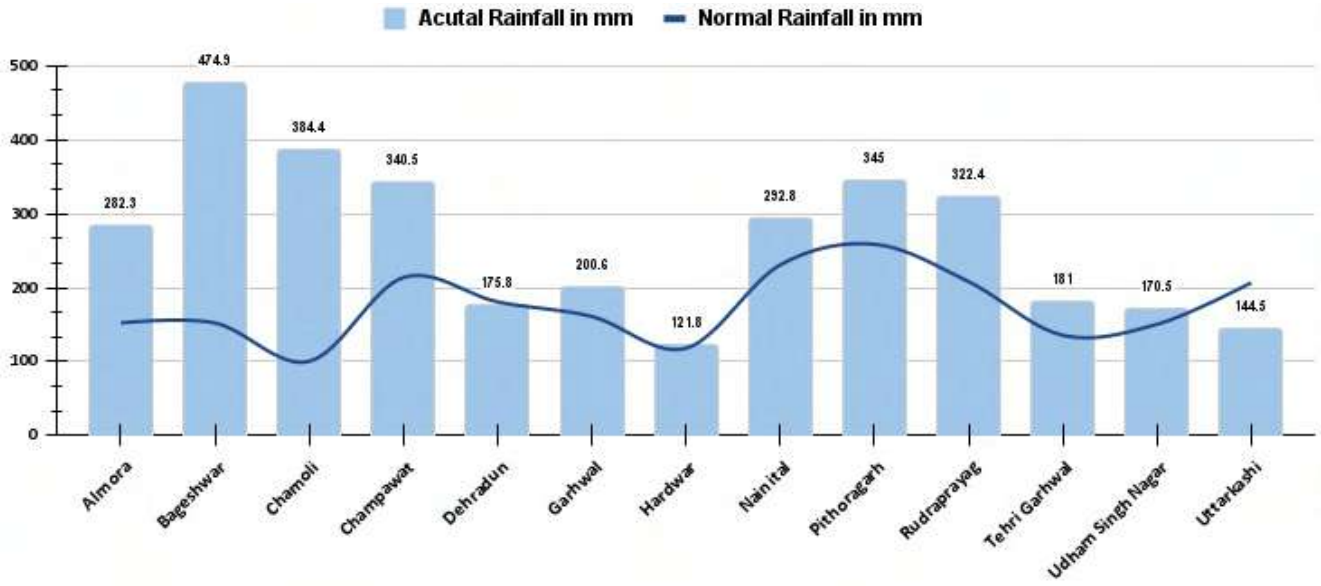
NAME OF RESERVOIR	FRL (MTS)	LIVE CAP. AT FRL (BCM)	THIS SEASON		LAST SEASON	
			LEVEL (MTS)	LIVE STORAGE (BCM)	LEVEL (MTS)	LIVE STORAGE (BCM)
RAMGANGA	365.3	2.196	337.53	0.615	349.78	1.165
TEHRI	830	2.615	745.90	0.103	746.33	0.111

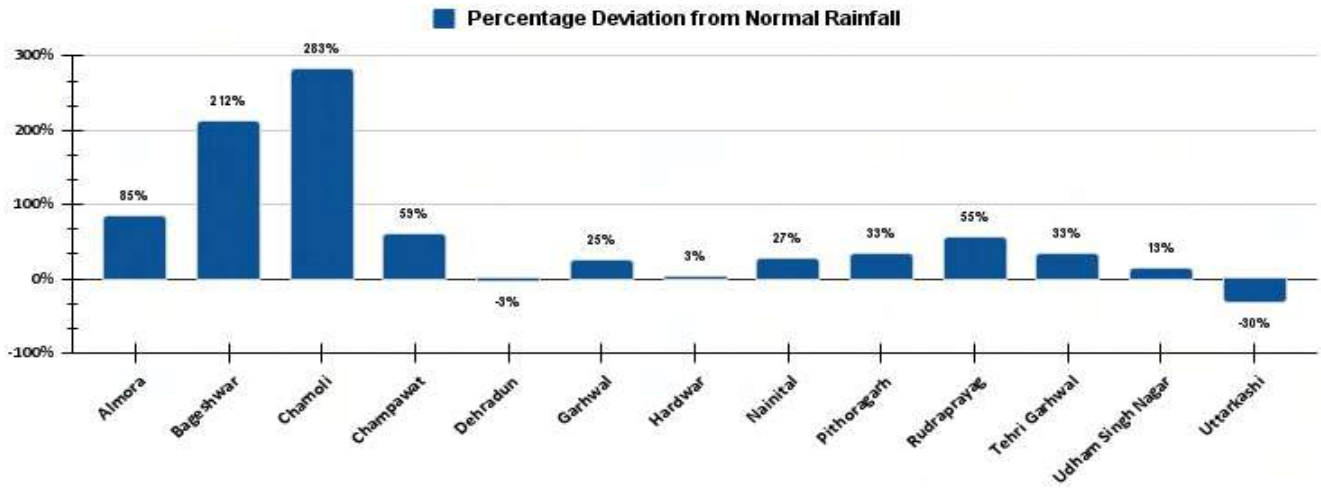
LAST YEAR STORAGE AS % OF LIVE CAP AT FRL	% OF THIS YR STORAGE TO LAST
53	53
4	93

Smoothed Normalized Difference Vegetation Index (SMN)



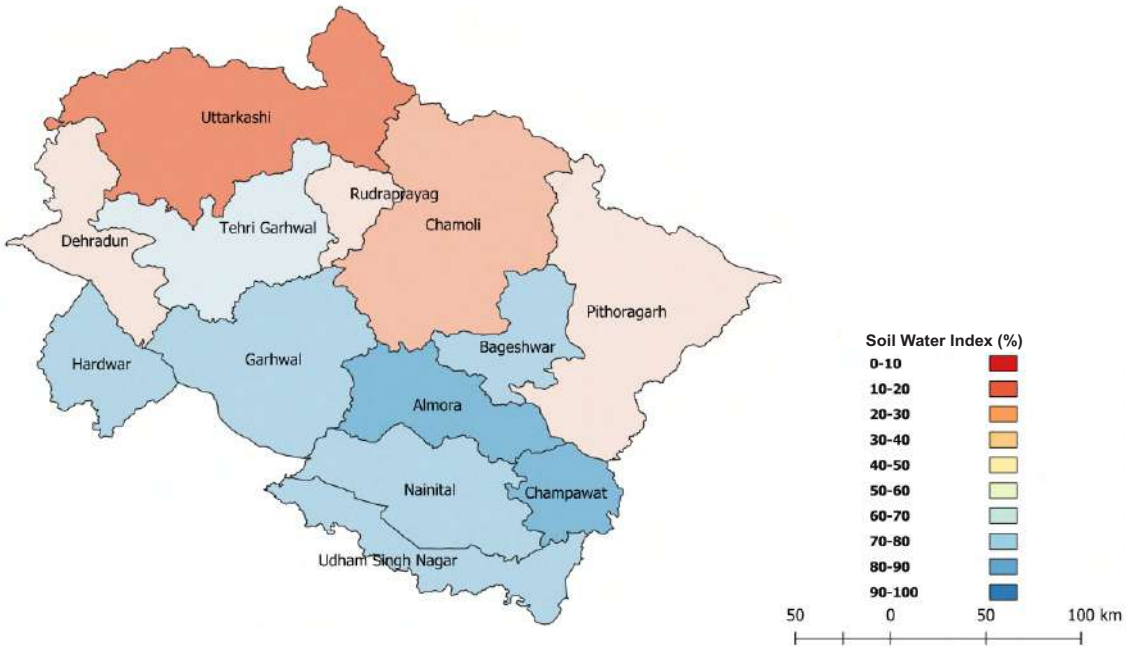
Rainfall



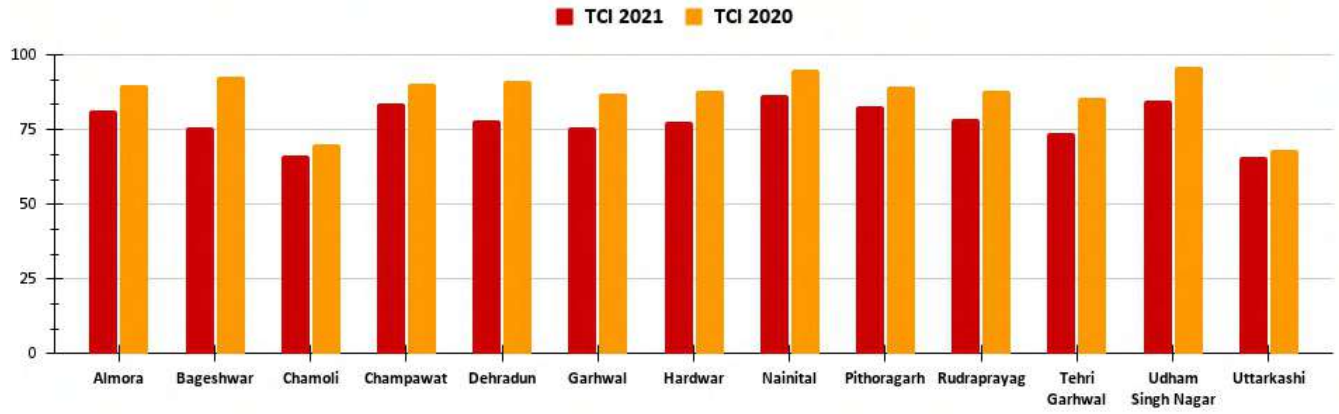


CATEGORY	% DEPARTURES OF RAINFALL	Colour Code
Large Excess (LE or L. Excess)	= 60%	
Excess (E)	= 20% and = 59%	
Normal (N)	= - 19% and = + 19%	
Deficient (D)	= - 59% and = - 20%	
Large Deficient (L. Deficient)	= - 99% and = - 60%	
No Rain (NR)	= - 100%	
No Data (*)	Data Not Available	

Soil Water Index

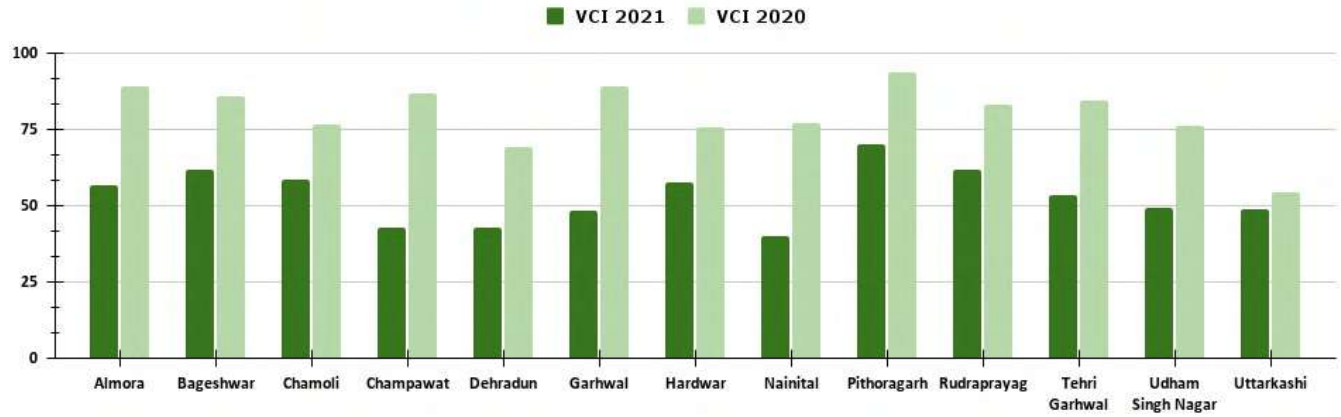


Temperature Condition Index (TCI)



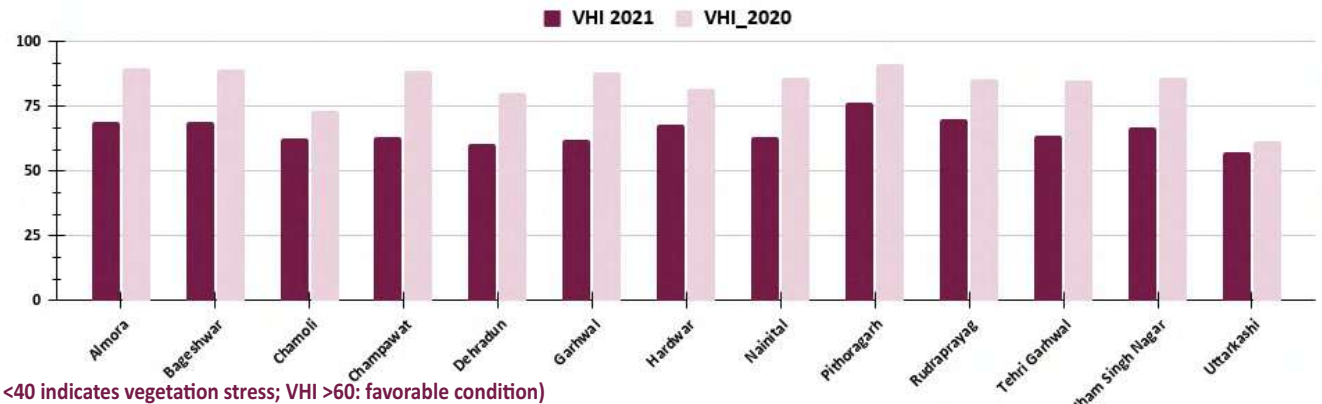
(TCI <40 indicates thermal stress; TCI >60: favorable condition)

Vegetation Condition Index (VCI)



(VCI <40 indicates moisture stress; VCI >60: favorable condition)

Vegetation Health Index (VHI)

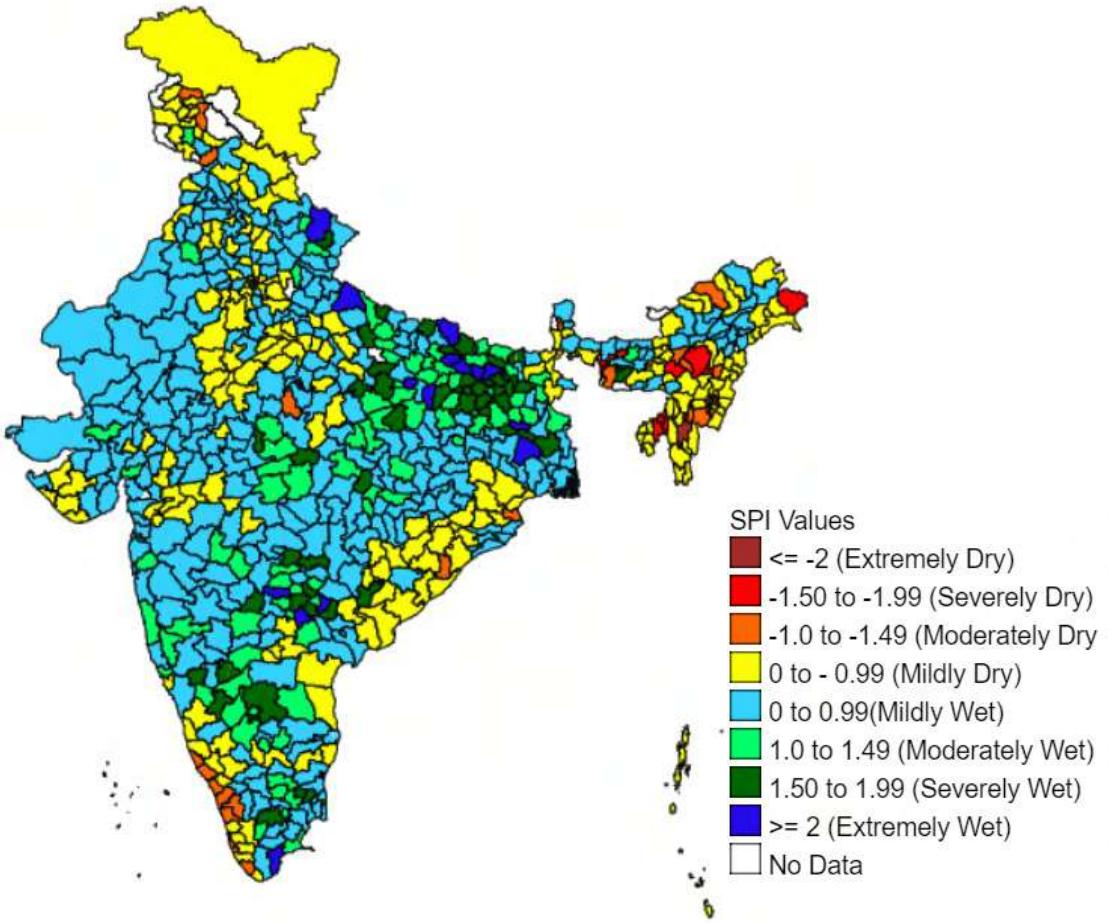


(VHI <40 indicates vegetation stress; VHI >60: favorable condition)
(VHI>65 indicates good vegetation condition)
(VHI>85 indicates very good vegetation condition)

For Drought : (VHI<15 indicates drought from severe-to-exceptional intensity)
(VHI<35 indicates drought from moderate-to-exceptional intensity)

Standardised Precipitation Index (SPI)

The SPI is an index developed by McKee et al. (1993) based on the probability of rainfall for the time scale of interest and is relatively less complex to compute. SPI is the most useful drought monitoring index because of its versatility in covering all three forms of drought viz., meteorological, agricultural and hydrological.



Sources

Reservoir Status: CWC (Central Water Commission), India | FRL: Full Reservoir Level; BCM: Billion Cubic Meter
Rainfall: India Meteorological Department (IMD)
Standardised Precipitation Index (SPI) : India Meteorological Department (IMD)
Soil Water Index (SWI): Copernicus Data
Smooth Normalized Vegetation Index (SMN): National Oceanic and Atmospheric Administration (NOAA)
Temperature Condition Index (TCI): National Oceanic and Atmospheric Administration (NOAA)
Vegetation Condition Index (VCI): National Oceanic and Atmospheric Administration (NOAA)
Vegetation Health Index (VHI): National Oceanic and Atmospheric Administration (NOAA)

Krishi Care & Management Services Pvt.Ltd.

501, Atlanta Estate, Nr Virvani Industrial Estate,
Off Link Road, Goregaon (E), Mumbai - 400063, Maharashtra