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MONTHLY WEATHER SUMMARY FOR TAMILNADU, PUDUCHERRY AND KARAIKAL June 2022

Chief synoptic features during June 2022:

Southwest monsoon covered the entire Tamilnadu by 15.06.2022. Monsoon was vigorous over Tamilnadu on 16th.

A cyclonic circulation lay over north Tamil Nadu & neighbourhood at 3.1 km above mean sea level on 16th & 17th; over southwest Bay of Bengal off Tamilnadu coast between 3.1 km & 5.8 km above mean sea level on 18th June 2022.

East-west shear zone ran roughly along Lat. 10°N across south peninsular India between 3.1 km & 4.5 km above mean sea level on 01st & 02nd June 2022

A northeast-southwest trough ran from a cyclonic circulation over Eastcentral and adjoining Southeast Bay of Bengal to Southwest Bay of Bengal at 3.1 km above mean sea level on 04th; extended upto Comorin area across Sri Lanka on 05th; ran upto south Sri Lanka on 06th; from Eastcentral Bay of Bengal to Southwest Bay of Bengal off Tamilnadu coast between 3.1 km & 4.5 km above mean sea level on 07th & 08th June 2022; from northeast Bay of Bengal to Sri Lanka across central Bay of Bengal on 09th; from northeast Bay of Bengal to southwest Bay of Bengal across central Bay of Bengal between 3.1 km & 4.5 km above mean sea level on 11th June 2022.

A north-south trough ran from South Interior Karnataka to Comorin area across interior Tamilnadu at 1.5 km above mean sea level on 15th; from Rayalaseema to Comorin area at 0.9 km above mean sea level 16th; from North Interior Karnataka to south Tamilnadu and extended upto 1.5 km above mean sea level on 17th; from North Interior Karnataka to interior Tamilnadu and extended upto 1.5 km above mean sea level on 18th; from Vidarbha to south Tamil Nadu across interior Tamilnadu and extended upto 1.5 km above mean sea level on 19th; from south Chhattisgarh to south Coastal Andhra Pradesh at 0.9 km above mean sea level on 20th; across interior Tamilnadu in the lower tropospheric levels on 21st; over South Coastal Andhra Pradesh to South Tamilnadu coast extending upto 0.9km above mean sea level on 22nd from north interior Tamilnadu to Comorin area extending upto 0.9 km above mean sea level on 23rd; across interior Tamilnadu upto 0.9 km above mean sea level on 24th June 2022.

Large scale features:

During June 2022, ENSO-neutral conditions prevailed over the Equatorial Pacific Ocean. IOD over the Indian Ocean was initially neutral and gradually entered into negative phase during the month. The Madden Julian Oscillation (MJO) Index was in phase 7,8 & 1 during the first half of the month and in phase 1-3 during the second half of the month.

Realised weather:

(i) Temperature

The highest maximum temperature recorded during June 2022 was **41.3°C** at Vellore on 06th. The following stations recorded maximum temperatures $\geq 40^\circ\text{C}$ during June 2022 on the dates mentioned against each:

Station	Recorded maximum temperature ($^\circ\text{C}$) $\geq 40^\circ\text{C}$ in the past 24 hours ending 0830 IST of dates mentioned against each during June 2022					
Chennai (NBK)	02: 40.0	03: 40.1				
Chennai (MBK)	02: 40.1	03: 40.1	06: 40.3	09: 40.1	13: 40.1	
Cuddalore	15: 40.0					
Karur Paramathi	05: 41.0	06: 41.0	13: 40.0			
Tiruttani	03: 40.0	04: 40.6	05: 40.7	06: 40.6		
Vellore	04: 40.5	05: 41.1	06: 41.3			

(ii) Rainfall:

(a) Subdivisional rainfall: During June 2022, over Tamilnadu subdivision (including Puducherry & Karaikal), *light to moderate* rainfall occurred at *many* places on 16th, at *a few* places on 06th, 07th, 15th, 17th-22nd and at *one or two* places on all the other days. The subdivisional daily rainfall is depicted in Fig.1.

The cumulative rainfall for the Tamil Nadu subdivision for the month of June 2022 was 79.1 mm against the normal of 50.7 mm which comes under *excess* category (+**56%**) (Table -1a)

(b) District rainfall scenario: Out of 40 districts (including Puducherry & Karaikal), 23 districts received *large excess* rainfall, 5 districts – *excess* rainfall, 5 districts – *normal* rainfall, 2 districts – *deficient* rainfall and 5 districts – *largely deficient* rainfall. (Table-1b).

Nilgiris, Coimbatore, Krishnagiri, Salem, Tirupattur, Vellore, Ranipet, Tiruvallur, Chennai, Perambalur & Sivaganga districts received *large excess* rainfall by more than +100% and Kanyakumari, Tirunelveli, Tenkasi, Nagapattinam districts & Karaikal became *largely deficient* during the month (Fig.2a).

(c) Heavy rainfall occurrences: *Isolated very heavy* rain occurred over Chengalpattu district on 20th and *isolated heavy* rain occurred on 01st, 06th, 07th, 10th, 13th, 15th-22nd, 25th, 28th & 29th June 2022 as listed in Table-2.

(d) Station-wise cumulative rainfall: Cumulative rainfall over various stations in Tamilnadu, Puducherry & Karaikal during June 2022 is presented in Fig.3.

The following stations recorded more than 30 cm of rainfall during the month:

Nilgiris district- Devala: **51** cm

Coimbatore district - Chinnakalar – **49** cm, Sholayar – **53** cm, Valparai PTO – **43** cm,

Valparai Taluk Office – **36** cm

Krishnagiri district- Uthangarai – **34** cm

(*Note*: Realised rainfall and temperature descriptions given above are based on the observations during the past 24 hours ending 08:30 IST of dates mentioned therein.)

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Table-1a: Realised rainfall over Tamil Nadu subdivision during June 2022:

Rainfall during June 2022	Actual (mm)	Normal (mm)	Percentage departure from normal (PDN, %)
Tamil Nadu subdivision	79.1	50.7	+56%
Puducherry & Karaikal	45.9	70.3	-35%
Tamil Nadu State	79.3	50.7	+56%

Table-1b: District-wise monthly rainfall during June 2022

District	Actual (mm)	Normal (mm)	PDN (%)
ARIYALUR	86.1	39.0	121
CHENGALPATTU	51.8	55.7	-7
CHENNAI	171.4	64.6	165
COIMBATORE	158.7	172.0	-8
CUDDALORE	41.6	45.7	-9
DHARMAPURI	89.2	54.3	64
DINDIGUL	87.7	41.0	114
ERODE	76.5	46.1	66
KALLAKURICHI	52.6	50.6	4
KANCHEEPURAM	96.2	66.5	45
KANYAKUMARI	49.1	175.0	-72
KARAIKAL	9.5	52.0	-82
KARUR	83.4	20.5	307
KRISHNAGIRI	114.3	47.6	140
MADURAI	63.6	39.4	61
MAYILADUTHURAI	27.0	39.5	-32
NAGAPATTINAM	3.7	34.4	-89
NAMAKKAL	87.0	39.4	121
NILGIRIS	181.6	195.7	-7
PERAMBALUR	118.3	33.4	254
PUDUCHERRY	65.8	50.7	30
PUDUKKOTTAI	87.6	38.7	126
RAMANATHAPURAM	24.2	15.2	59
RANIPET	176.4	69.6	153
SALEM	104.8	57.2	83
SIVAGANGA	111.8	45.4	146
TENKASI	6.6	47.3	-86
THANJAVUR	72.0	34.0	112
THENI	55.0	31.2	76
TIRUNELVELI	7.4	22.9	-68
TIRUPATTUR	138.0	63.7	117
TIRUPPUR	51.3	20.5	150
TIRUVALLUR	143.2	71.8	99
TIRUVANNAMALAI	95.3	60.4	58
TIRUVARUR	17.6	34.5	-49
TOOTHUKUDI	10.5	6.1	72
TRICHY	99.7	28.5	250
VELLORE	119.1	64.9	83
VILLUPURAM	67.1	52.7	27
VIRUDHUNAGAR	51.9	20.2	157

Largely Deficient	Deficient	Normal	Excess	Large Excess
≤ -60%	-20% to -59%	-19% to +19%	+20% to +59%	≥ +60%

Table-2: List of heavy rainfall events during June 2022

District	Date, Station and 24-hr accumulated rainfall (in cm) for the month of June 2022 (ending 0830 IST of the specified date)
Namakkal	01st :Rasipuram- 09
Perambalur	06th : Perambalur- 07 , 15th : Perambalur- 11 , 16th :Labbaikudikadu- 07 , Veppanthattai- 07
Thanjavur	06th : Adirampatnam- 07 , Vallam- 09
K. Paramathi	06th :Mayilampatti- 07 ; 18th : K.paramathi- 07
Pudukkottai	07th : Annavasal- 07 , Perungalur- 07 , 16th :Annavasal- 08 , Kudumianmalai- 07 , Karaiyur- 07 ; 17th : Nagudi- 08 , Arantangi- 07 , Arimalam- 07 , Pudukottai- 07 , Kudumianmalai- 07
Ramanathapuram	07th : Tondi- 07 ; 16th :Paramakudi- 10
Tirupattur	07th : Ambur- 07 ; 15th :Vaniyambadi ARG- 07 ; 16th : Yelagiri arg- 07 ; 17th : Tirupattur- 08 ; 18th : Tirupattur pto- 08 , Tirupattur- 07
Tiruvannamalai	07th :Tiruvannamalai- 07 ; 16th : Keelpennathur- 09
Tiruchirapalli	07th :Ponmalai- 07 , Tiruchirapalli- 07 ; 16th : Kallakudi- 09 ;
Madurai	10th :Kallandri- 07
Thiruvallur	13th :R.K.Pet- 07 ; 20th : Koratur- 11 , Ponamallee- 09 , Thiruvalangadu- 08 , Uthukottai- 08 , Ambathur- 08 ; 21st : Pondi- 07 , Red Hills- 08 , Thiruvalangadu- 07 , Goodwill School, Villivakkam ARG – 07 ; 22nd : Ambathur- 08 , Goodwill School, Villivakkam ARG – 07
Kallakurichi	15th : Moongilthuraipattu- 07 ; 17th : Rshivandhiyam- 07
Ariyalur	16th :Thirumanur- 07
Ranipet	16th : Kalavai aws- 11 , Kaveripakkam- 09 , Kalavai PWD- 08 ; 20th : Arakonam- 07 ; 21st : Arakonam- 07
Sivaganga	16th : Tirupuvanam- 08 ; 17th : Tirupuvanam- 10 , Sivaganga- 07
Villupuram	16th : Mugaiyur- 09 , Kedar- 08 ,Soorapattu- 07 ; 17th : Valathy- 07 21st : Marakkanam- 07
Dharmapuri	17th :Marandahalli- 08 , Palacode- 08
Dindigul	17th : Natham- 09
Krishnagiri	17th : Shoolagiri- 08 , Uthangarai- 12 ; 18th : Uthangarai- 08
Coimbatore	17th : Cincona - 07 ; 18th :Sholayar- 07 ; 25th : Chinnakalar- 07 , Valparai Taluk Office- 07 , Valparai PAP- 07

Tiruppur	17 th :Tiruppur PWD-08; 19 th : Tiruppur PWD - 08
Toothukudi	19 th :Kadambur-07
Chengalpattu	20 th :West Tambaram ARG-13, Tambaram-09; 21 st : Tambaram-07
Chennai	20 th : Taramani ARG-11, Alandur-09, Anna University-09, Chennai AP-09, Mylapore DGP Office-09, Chennai (NBK)-08, Sholinganallur-07; 22 nd :MGR Nagar-07, Perambur-07, Tondaiarpur-07, Collectorate Building, Chennai – 07
Kancheepuram	20 th : KVK Kattukuppam ARG-09, Sri Perumbudur-09, ACS Medical College ARG-08
Vellore	21 st : Ponnai dam-07
Nilgiris	21 st :Pandalur Taluk office – 07; 28 th : Taluk office Pandalur-08, Harisan Estate- 08; 29 th : Taluk office Pandalur-07, Barwood-07

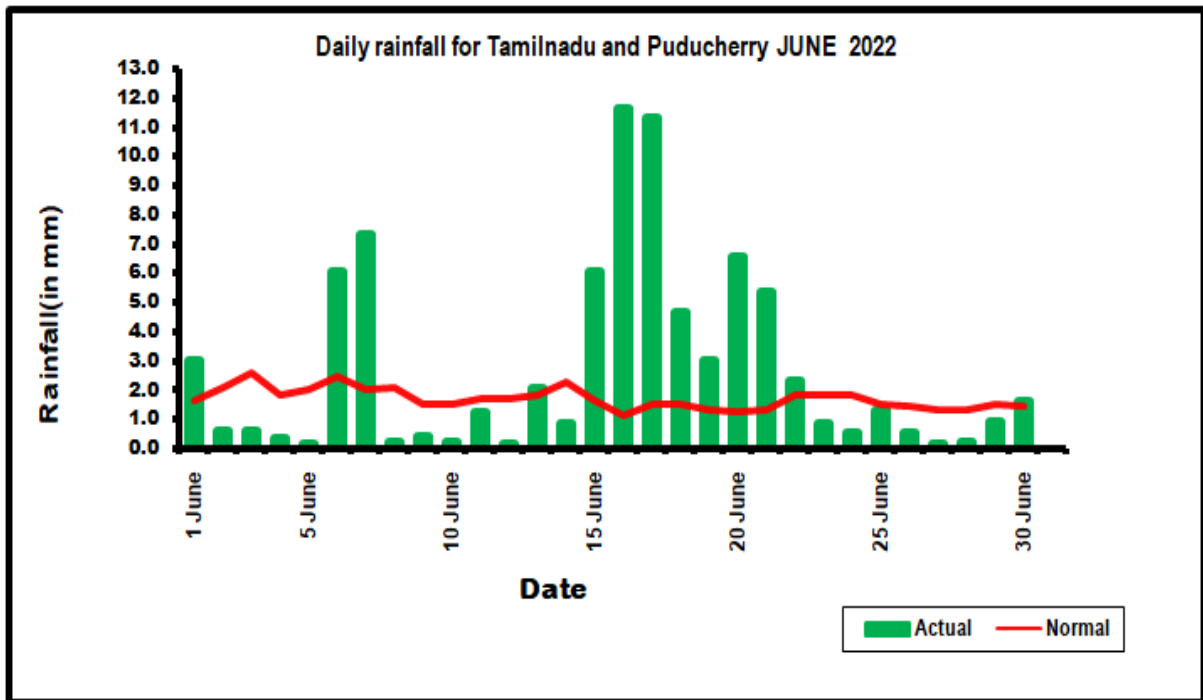


Fig.1: Daily rainfall over the Tamil Nadu subdivision during 01st- 30th June 2022

LEGEND:

Spatial rainfall distribution:

% Stations reporting Rainfall	Category
76-100	Widespread (WS/ most places)
51-75	Fairly Widespread (FWS/ many places)
26-50	Scattered (SCT/ few places)
1 -25	Isolated (ISOL/ one or two places)
No Rain	Dry

Rainfall intensity:

24-hr accumulated rainfall (cm/day)	Category
Upto 1	Light rain
2-6	Moderate rain
7-11	Heavy rain
12-20	Very heavy rain
≥ 21	Extremely heavy rain

Description of rainfall with respect to normal:

Rainfall percentage departure from normal	Category
≥ +60%	Large excess
+20% to +59%	Excess
-19% to +19%	Normal
-20% to -59%	Deficient
≤ -60%	Largely deficient

Description of monsoon activity:

Active: Active monsoon conditions (FWS to WS rainfall over the subdivision with rainfall amount 1½ to 4 times the normal and atleast 2 stations reporting 5cm or more along the west coast or 3cm or more elsewhere)

Vigorous: Vigorous monsoon conditions (FWS to WS rainfall over the subdivision with rainfall amount more than 4 times the normal and atleast 2 stations reporting 8cm or more along the west coast or 5cm or more elsewhere).