

India Meteorological Department FDP STORM Bulletin No. 62 (07-05-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC INFERENCE (0300UTC of the Day):

•The Western Disturbance as a cyclonic circulation over Jammu & Kashmir and adjoining Himachal Pradesh at 3.1 km above mean sea level has moved away east-northeast words.

♦ The other Western Disturbance as an upper air cyclonic circulation now lies over north Pakistan & neighbourhood at 3.1 km above mean sea level with the trough aloft an its axis at 5.8 km above mean sea level now runs roughly along Long 70°E to the north of La 30°N.

A cyclonic circulation lies over west Haryana & neighbourhood at 1.5 km above mean sea level.

• The trough at mean sea level from West Rajasthan to north Chhattisgarh now runs from northwest Rajasthan to central Madhya Pradesh across northeast Rajasthan at 0.9 km above mean sea level.

• The cyclonic circulation extending upto 0.9 km above mean sea level over Sub-Himalayan West Bengal & Sikkim and neighbourhood persists.

♦ A cyclonic circulation lies over east Assam & neighbourhood and extends upto 0.9 km above mean sea level.

♦ A north-south trough runs from North Interior Karnataka to south interior Tamilnadu across South Interior Karnataka extending upto 0.9 km above mean sea level.

• The cyclonic circulation over Maldives-Lakshadweep area extending upto 3.1 km above mean sea level now lies over southeast Arabian Sea extending upto 3.1 km above mean sea level.

• The north-south trough at 1.5 km above mean sea level now runs roughly along Long 88°E to the north of Lat 24°N.

♦ A cyclonic circulation lies over south Madhya Maharashtra adjoining North Interior Karnataka & Marathawada between 1.5 km & 2.1 km above mean sea level.

SATELLITE OBSERVATIONS during past 24 hrs and current observation:

Current Observation (based on 0600UTC imagery of INSAT 3D):

Western Disturbance (WD):

Scattered multi-layered clouds with embedded moderate to intense convection seen over extreme northeast Pakistan and Jammu & Kashmir in association with Western Disturbance over the area.

Clouds descriptions within India:

Broken low/medium clouds with embedded moderate to intense convection seen over Manipur, Mizoram, Tripura, Southeast Assam and East Meghalaya. Broken low/medium clouds with embedded isolated moderate to intense convection seen over Coastal Tamilnadu. Scattered

low/medium clouds with embedded moderate to intense convection seen over Jammu & Kashmir, Himachal Pradesh and North Uttarakhand. Broken low/medium clouds with embedded isolated weak to moderate convection seen over Nicobar Islands. Scattered low/medium clouds with embedded isolated weak to moderate convection seen over Northeasthra, South Vidarbha, South Marathawada and rest Northeastern States. Scattered low/medium clouds seen over Northeast Haryana, South Chhattisgarh, Coastal Odisha, South Gangetic West Bengal, and rest parts of South India except Kerala. Isolated low/medium clouds seen over Punjab.

Arabian Sea:-

Scattered low/medium clouds with embedded moderate to intense convection seen over Arabian Sea between lat 5.0deg N to 12.5deg N, long 63.0deg E to 68.0deg E.

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded moderate to intense convective seen over Southwest Bay, extreme South Andaman Sea & North Arakan Coast.

Past Weather:

Convection (during last 24 hrs):

Moderate to Intense convection was observed over J&K Himachal Pradesh North Uttarakhand south-central Uttar Pradesh Karnataka Kerala west Tamilnadu Jharkhand South Orissa South Konkan adjoining Goa North East States and Weak to Moderate convection observed over Marathawada South Madhya Maharashtra North Orissa North Punjab (.).

OLR: - .

Up-to 230 wm⁻² observed over J&K Himachal Pradesh North Uttarakhand Arunachal Pradesh South Assam Manipur Mizoram Tripura.

Synoptic Features:

Westerly Trough & Jet Stream: roughly along Longitude 68.0E & North of Latitude 30.0N.

Dynamic Features:

Up to 30-80 knots Wind Shear is observed over North India, Central India & North-East India and 05-15 knots over south peninsula India.

Negative shear tendency observed over J&K Manipur Mizoram Tripura (.)

Positive Vorticity (850 hPa) is observed over Kerala Tamilnadu Telengana Vidarbha Chhattisgarh Jharkhand Uttar Pradesh Arunachal Pradesh Nagaland Assam Gujrat West Rajasthan (.)

Negative Low Level Convergence observed over Himachal Pradesh Uttarakhand and Positive Low Level Convergence is observed over rest India.

Precipitation:

IMR:-

Rainfall up to 90-150 mm observed over Tripura and South East Assam adjoining Manipur.

Rainfall up to 50-90 mm observed over Manipur Rest Mizoram Meghalaya South Kerala NW Parts of North Interior Karnataka and

Rainfall up to 1-50 mm observed over Jammu and Kashmir Himachal Pradesh North Punjab North Uttarakhand Rest Karnataka North East Orissa South East Jharkhand bay islands Tamilnadu Arunachal Pradesh Nagaland and Lakshadweep.

DWR and RAPID Observations:

Multiple Strong multiple echoes (dBZ >55 and height >5km) are seen on DWR Kolkata domain at around 1500IST. Light to Moderate isolated/multiple echoes are also seen in DWR Agartala, Hyderabad, Kochi, Srinagar, Patiala and Lucknow DWR domains at around 1500 IST.

RAPID RGB Satellite imagery at 1430 IST indicated significant convection over Jammu & Kashmir, North Himachal Pradesh, North Uttarakhand, Manipur, Mizoram, South Kerala and South Tamilnadu.

Environmental Condition (dust etc) and its Forecast based on 00UTC of date:

Higher Dust concentration was observed over northern Africa, Arab countries and western part of India. Dust concentration is expected to decrease for next few days over IGP and north India.

Particulate matter concentration is expected to remain in moderate category for next 2 days in Delhi.

Delhi – SAFAR analysis & Forecast	07.05.2018	08.05.2018
PM10 (micro-g/m ³)	214	193
PM2.5 (micro-g/m ³)	76	69

2. NWP MODEL GUIDANCE:

NCMRWF (NCUM forecast based on 00UTC the day):

1. Weather Systems:

Low level Cycirs, Troughs: 00 & 12UTC of Day 1-2: 850 hPa weak CYCIR over NW India 00UTC of Day 3-5: 925 hPa Trough over Bihar and WB

Confluence & Wind Discontinuity Regions:

12 UTC of Day 0-3: 925 hPa N-S discontinuity over Southern Peninsular India and SW-NE discontinuity over Maharashtra-Chhattisgarh region **Synoptic Systems:**

00 UTC of Day 1: WD as a weak trough over J & K, Fresh WD approaching J&K on Day-1 and become strong on Day-2-Day-3.

2. Location of jet and jet core (>60kt) at 500hPa:

12UTC of Day-1: over Rajasthan.

3. Convergence at 850 hPa:

Day/Index: Subdivisions with Lower Level Convergence > 15 x 10^-5 /s

Day0: Assam Meghalaya, NE NMMT, West RJ, East RJ, Odisha, East MP, Madhya Maharashtra, TN Puducherry, SI Karnataka,

Day1: Assam Meghalaya, NE NMMT, Gangetic WB, Jharkhand, East UP, West UP, Haryana, Chandigarh, Delhi, Punjab, Jammu Kashmir, West RJ,

East RJ, West MP, Madhya Maharashtra, NI Karnataka,

Day2: Arunachal Pradesh, Assam Meghalaya, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Odisha, West MP, East MP, Madhya Maharashtra, Chhattisgarh, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day3: Jharkhand, Odisha, Madhya Maharashtra, NI Karnataka,

Day4: Gangetic WB, Jharkhand, Odisha, Madhya Maharashtra, NI Karnataka.

4. Low level Vorticity:-Positive Vorticity:

Day/Index: Subdivisions with Lower Level Vortex > 15 x 10^-5 /s

Day0: Assam Meghalaya, Sub Himalayan WB, Bihar, Uttarakhand, Odisha, Coastal AP,

Day1: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, East UP, West UP, Punjab, Jammu Kashmir, West RJ, TN Puducherry,

Day2: Arunachal Pradesh, Assam Meghalaya, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh,

Day3: Arunachal Pradesh, Assam Meghalaya, Himachal Pradesh, Madhya Maharashtra,

Day4: Sub Himalayan WB, Gangetic WB, Jharkhand, Himachal Pradesh, Odisha, Madhya Maharashtra, TN Puducherry,

5. Showalter Index: -3 to -4[Very unstable]:

Day/Index : Subdivisions with Showalter Index < -4

- Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Coastal AP, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,
- Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, Konkan Goa, Coastal AP, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

- Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Jammu Kashmir, Odisha, Konkan Goa, Chhattisgarh, Coastal AP, Telangana, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,
- Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,
- Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Coastal AP, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala.

6. Spatial distribution of TTI: TTI >50 [Scattered Thunderstorms few severe]:

Day/Index : Subdivision with Total Totals Index > 52

- Day0: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha,
- Day1: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, West MP, Rayalaseema,
- Day2: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, West MP, East MP, Chhattisgarh, Coastal AP, Telangana,
- Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Coastal AP, Telangana, Coastal Karnataka, NI Karnataka,
- Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Coastal AP, Coastal Karnataka, NI Karnataka

7. K-Index :> 35[Very Unstable thunderstorm likely]:

Day/Index: Subdivisions with K Index > 40

- Day0: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, West RJ, Odisha, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,
- Day1: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Gangetic WB, East UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, West RJ, East RJ, Odisha, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,
- Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Odisha, East MP, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,
- Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Uttarakhand, Himachal Pradesh, Odisha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,
- Day4: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka

8. Rainfall and thunder storm activity:

Day/Index: Subdivisions with Precipitation > 2 cm

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Jammu Kashmir, Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Punjab, Himachal Pradesh, Jammu Kashmir, Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Kerala, Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Day5: Arunachal Pradesh, Gangetic WB.

IMD GFS (T1534) based on 00UTC the day:-

1. Synoptic Systems:

The analysis based on 00 UTC indicates a cyclonic circulation over Haryana and adjoining areas in lower troposphere at 850 hPa level. The forecast shows this circulation will move eastward across west and east Uttar Pradesh up to Bihar till day3. The analysis indicates An east-west trough from North West Rajasthan to central Madhya Pradesh across North East Rajasthan. The forecast shows the trough will persist till day3 with slight south-eastward shift. A cyclonic circulation is seen in the analysis over SHWB and Sikkim. The forecasts show that the cyclonic circulation will persist till day3 with slight eastward movement. The analysis also indicates another cyclonic circulation over East Assam and adjoining areas. The forecast shows it will persist till day2. The north- south Trough from North Interior Karnataka to south Tamil Nadu across south Interior Karnataka is seen at 925 hPa which persists for next 2 days.

2. Location of Jet and Jet Core (>60kt) at 500hPa: Although the presence of strong westerlies is found over Eastern and North Eastern parts of India but no jet core over the Indian region for the next 3 days.

3. Low Level Vorticity {850hPa Positive Vorticity (>12 x 10⁻¹/s)}: Low level Positive Vorticity is seen mostly along the Trough, around the cyclonic circulations, along the Foothills of Himalaya and NE states during next 3 days; Low level Positive Vorticity is also seen over parts of Punjab, adjoining North West Rajasthan, Haryana, Delhi and adjoining northern parts of Madhya Pradesh and West Uttar Pradesh on day 1 and 2; over parts of Vidarbha, Himachal Pradesh, Uttarakhand, northern parts of Uttar Pradesh and Haryana and adjoining areas up to north Bihar have Positive Vorticity during all 3 days.

4. Spatial distribution of T-storm Initiation Index, Lifted Index, Total Index, CAPE, CIN and Sweat Index [High potential for thunderstorm]:

T-Storm Initiation Index (> 3): In day 1 and 2 is seen over Gangetic Plains covering the areas from Rajasthan, Punjab, Haryana, Delhi, Uttarakhand, Uttar Pradesh, extending up to Bihar, Gangetic West Bengal, SHWB, Orissa, Jharkhand; coastal areas of Gujarat, Maharashtra, Konkan & Goa, coastal and Interior Karnataka, Telangana, coastal Andhra Pradesh, Assam, Tripura and adjoining areas, along east and west coast of India over coastal; In day 3, It remains over the same region along east and west coast but disappears over northern part of Haryana, Uttarakhand and adjoining west Uttar Pradesh. It again appears over Punjab and west Rajasthan and adjoining areas. During all three days, significant zone lies over south west Rajasthan, Eastern parts of the country; and north-eastern states.

Lifted Index (< -2): Similar to T-storm Index in day 1 and 2 it lies over northwest India, J&K, Punjab, Haryana, Delhi, Rajasthan, West Uttar Pradesh, Himachal Pradesh, Uttarakhand and Gangetic plains and along east and west coast of India with an extension over Interior Karnataka and Telangana but in day 3 it disappears over northwest India and coverage over coastal belts also decreases. Significant zone with maximum negative value is found over GWB, Bihar, SHWB, Sikkim and North-eastern states.

Total Total Index (> 50): Is seen over parts of J&K, Himachal Pradesh, Uttarakhand, Rajasthan, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Jharkhand, GWB, Orissa, Chhattisgarh, NE states and along foothills of Himalaya. During all 3 days; It is also seen over some parts of North west Madhya Pradesh, Vidarbha and adjoining Telangana in day 1 and 2; which moves over coastal Andhra Pradesh, Rayalaseema, and adjoining interior Karnataka in day 3.

Sweat Index (> 300): Is seen over the sub-divisions along east and west coast and some areas along foothills of Himalayas and NE states. The maximum value of the index is seen over parts of SHWB, GWB, Jharkhand and adjoining Bihar on all 3 days

CAPE (> 1000): Mostly seen over southern peninsular India, along west coast and east coast, GWB, Orissa, Bihar, Jharkhand, East Uttar Pradesh, Andhra Pradesh, Rayalaseema, Tamil Nadu, Kerala, Karnataka, Konkan and Goa, coastal Maharashtra and Gujarat; NE states over Sikkim, Assam, Meghalaya, Tripura and adjoining areas during next 3 days; over parts of Rajasthan from day 1 and pats of Punjab and adjoining areas on day 2.

CIN (50-150): Over sub-divisions along east and west coast of India except extreme south over Kerala and south Tamilnadu. The zone of significance extends over Bihar and Jharkhand along foothills of Himalayas in the north. The value of the index lies in the above range over most of the parts of the country except South Madhya Maharashtra and Marathawada, East Madhya Pradesh and adjoining North Chhattisgarh during next 3 days.

5. Rainfall Activity:

70-130 mm Rainfall: over some parts of Assam, Meghalaya, Tripura and adjoining areas on day 3.

40-70 mm Rainfall: over parts of Sikkim and adjoining areas on day 1; over Parts of Assam and adjoining areas during next 3 days; over parts of Arunachal Pradesh on day 2 and 3; over parts of Bihar, Jharkhand, Meghalaya, Mizoram, Tripura and adjoining areas on day 3.

10-40 mm Rainfall: over parts of J&K, Himachal Pradesh, Uttarakhand, Sikkim, NE states, Kerala, Karnataka and Tamil Nadu during next 3 days; over parts of North Interior Karnataka on day 1; over parts of Bihar, Jharkhand, SHWB and adjoining areas on day 3.

Up to 10 mm rainfall: Over rest parts of J&K, Himachal Pradesh, Uttarakhand, Punjab, north Haryana, SHWB & Sikkim and NE states, Bihar, Jharkhand, GWB, Orissa, Chhattisgarh, parts of Kerala, Interior Karnataka, Konkan & Goa, south Tamil Nadu, Telangana, Rayalaseema, and Andhra Pradesh during next 3 days; over most of the parts of Rajasthan, Haryana, Delhi, Uttar Pradesh on day 1 and 2; over parts of North West Madhya Pradesh on day 2; over parts of South Marathawada and Vidarbha on day 1.

Summary and Conclusions:

- Synoptic analysis indicates that the Western Disturbance as a cyclonic circulation over Jammu & Kashmir and adjoining Himachal has moved away east-northeast words. With this system, the J&K, Himachal Pradesh and Uttarakhand may get thunderstorm with hail on Day-1. However, the intensity will be reduced on Day-2 over the same area. The thunderstorm with gusty winds may occur over Punjab, Haryana and West UP on Day-1.
- A cyclonic circulation lies over east Assam & neighbourhood. This will give rise to the thunderstorm with gusty winds along with heavy rainfall over Assam, Meghalaya and NMMT on Day-1.
- A northsouth trough runs from North Interior Karnataka to south interior Tamilnadu across South Interior Karnataka. This will be resulting to thunderstorm with gusty winds activity over Tamilnadu, Kerala, North interior Karnataka and Telangana on Day-1.

Day-1 & Day-2:

24 hour Advisory for IOP:	48 hour Advisory for IOP:
Rainfall:	Rainfall:
Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura	Tamilnadu, Kerala
Thunderstorm with squall or gusty winds:	Thunderstorm with squall or gusty winds:
Punjab, Haryana, Chandigarh, Delhi, West Uttar Pradesh,	Jammu & Kashmir, Punjab, Haryana, Chandigarh, Delhi, Uttar
Sub-Himalayan West Bengal, Gangetic West Bengal, Sikkim, Bihar,	Pradesh, East Rajasthan
Jharkhand, Odisha	West Madhya Pradesh
Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura	Sub-Himalayan West Bengal, Gangetic West Bengal, Sikkim,
North Interior Karnataka, Telangana, Tamilnadu, Kerala	Bihar, Jharkhand
	Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura
	Coastal and South Interior Karnataka, Tamilnadu, Kerala
Thunderstorm with squall and hail	
Jammu & Kashmir, Himachal Pradesh, Uttarakhand	Thunderstorm with squall and hail
	Himachal Pradesh, Uttarakhand
Thunderstorm and/or Duststorm:	
Rajasthan, West Madhya Pradesh	



Graphical Presentation of Potential Areas for Severe Weather:













Past 24 hours DWR Report:

Radar Station name	Date	Time interval of observati on (UTC)	Organization of the cells (Isolated single cells/multiple cells/ convective regions/ squall lines) with height of 20 dBZ echo top and maximum reflectivity.	Formation w.r.t radar station and Direction of movement.	Remarks	Associated severe weather if any	Districts affected
Patiala (42101)	07-05-18	060300 - 060600	MULTIPLE CELLS DBZ 46.0 HT. 08-09 KM	NW, NE SECTORS. MOVMENT TOWARDS E- WARDS.		RA/DZ	Jalandhar, Ludhiana, Patiala, Chandigarh, Amritsar, Nahan, Solan, Kapurthala, Ropar, Nalagarh and Adj. Area
		060600 - 060900	MULTIPLE CELLS DBZ 46.5 HT. 09-10 KM	NW, NE SECTORS. MOVMENT TOWARDS E- WARDS.		RA/TS	Ludhiana, Jalandhar, Patiala, Roopnager, Halwara, Khanna, Nalagah, Chandigarh, Solan, Shimla, Sundernager and Adj. Areas.
		060900- 062100	NO ECHO				
		062100- 070000	MULTIPLE CELLS DBZ 42.0 HT. 08-12 KM	NW SECTORS. MOVMENT TOWARDS NE WARDS.		RA/TS	Amritsar, Kapurthala, Jalandhar, Gershanker, Hosiarpur, Mukerianand Adj. Areas.
		070000- 070252	MULTIPLE CELLS DBZ 45.5 HT. 09-11 KM	NW, NE, SECTORS. MOVMENT TOWARDS E- WARDS.		RA/TS	Ludhiana, Jalandhar, Hosiarpur, Nawasher, Dasua, Mukerian, Palampur, Sundernager, Mandi, Shimla, Solan, Nahan and Adj. Areas.
Visakhapatnam	07-05-18	061200	Isolated cb cells out of which with maximum reflectivity of 60 dbz with height of 13 kms	NNE (237 kms) moving E ly	Isolated cb cells started forming from 0921 UTC developing matured at 1021 UTC and dissipating	NIL	NIL
		061500	Isolated cb cells from W to NE out of which has max reflectivity 53dbz and height 13kms.	188kms(NE) and moving SE ly.	Observation at 12:21UTC.	-	KANDHAMAL (ODISSA)
		061800	Convection region over the sea(bay of Bengal) with reflectivity 45dbz	81kms(SSE) and moving NE	Formed at 15:11UTC.	-	Over the sea.

DWR Station	Date	Time interval of observation	Organization of the cells (isolated single cell/multiple cells convective regions/squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t. radar station & direction of movement	Remarks	Associated severe weather, if any	Districts affected
Lucknow	07-05-18	061245	Radar Shut down due to	for preventive mainter	nance.		
		061245UTC TO 0601702 UTC	Multiple cells formed over 150 Km South of SW at 1245UTC with height 11 Km (50 dBZ echo top scale) and maximum reflectivity was 55 dBZ.	Multiple cell system moved along East of SE w.r.t. the station with average speed 50Km/h.	Multiple cells start Weakened and dissipated around at 1702 UTC over 200 Km South of SE from station.	TS/SQ with Heavy rain	Agra, Mathura Aligarh, Firozabad, Mainpuri, Etawah Jalaun, Kanpur, Ftaehpur, Raibareilly, Sultanpur, Faizabad Allahabad, Shant Ravidasnagar, Mirzapur, Varanasi
		061702- 070300	NIL	NIL	NIL	NIL	NIL
Jaipur	07-05-18	060300- 070300	* Radar Shutdown due to Rad	ar Antenna & Radar Com	nputer Technical Prol	olem. (Hang Pr	oblem)

Radar Station Name	Date	Time Interval of Observati on (UTC)	Organisation of cells (Isolated single cells /multiple cells/ convective regions /squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t. radar station and Direction of movement	Remarks	Associated Severe Weather if any	Districts affected
		060301- 060931	NIL	NIL	NOSIG ECHO	NIL	NIL
		060941- 061151	Isolated single cell with maximum reflectivity of 65.0 dBz at 1051 UTC and maximum height more than 18 Km at 1101 UTC	Coming from W. Moving in ESE-ward direction	Isolated single cell coming from W at 0941 UTC. Matured and dissipated at 1141 UTC in WNW at a distance of 152.3 Km from Radar.	Thunderstorm /Rain/Hail	N/A
Kolkata	07-05-18		Isolated single cell with maximum reflectivity of 64.5 dBz at 1011 UTC and maximum height more than 16.93 Km at 1011 UTC	Coming from W. Moving in ESE-ward direction	Isolated single cell coming from W at 0951 UTC. Matured and dissipated at 1131 UTC in W at a distance of 177.1 Km from Radar.	Thunderstorm /Rain/Hail	N/A
		061201- 061701	Multicelled system with maximum reflectivity of 64.0 dBz at 1241 UTC and maximum height more than 18 Km at 1231 UTC	Coming from W. Moving in ESE-ward direction	Multi celled system coming from W (248.4 km) at 1201 UTC. Matured, dissipated at 1701 UTC in SW at a distance of 121.2 Km from Radar.	Thunderstorm /Rain/Hail	N/A
			Multicelled system with	Coming from	Multi celled system coming	Thunderstorm	N/A
			maximum reflectivity of	WSW, Moving,	from WSW (247 km) at 1541	/Rain	
		061541-	55.5 dBz at 1551 UIC and	IN ESE-ward	of 1801 LITC in SW at a		
		061801	at 1551 LITC	direction	di 1801 UTC III SW di d distance of 165 7 Km from		
					Radar.		
			Isolated cells with	Coming from	Isolated cells formed in NNW	Thunderstorm	N/A
			maximum reflectivity of	NNW, Moving	(199.2 km) at 1541 UTC.	/Rain/Hail	
		061541-	61.5 dBz at 1611 UTC and	in ESE-ward	Matured and dissipated at		
		001/11	maximum height of 14.15	direction	1711 UTC in N at a distance		
			Km at 1611 UTC		of 186.5 Km from Radar.	-	
		061811- 070301	NIL	NIL	NOSIG ECHO	NIL	NIL

Radar Station Name	Date	Time Interval Of Observation (UTC)	Organisation Of The Cells(Isolated Single Cells/ Multiple Cells/ Convective Regions/ Squall Lines) With Height Of 20 dbZ echo top and maximum reflectivity	Formation w.r.t. radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
Patna	07-05-18	060300	NIL	N/A	N/A	N/A	N/A
		061102 061102 - 061122	Single Cell Lat-26.40N Long-87.40E Maximum Reflectivity: 43.0 dBZ Echo Top: 13 KM	Range: 246.7KM from DWR Patna in NE direction Movement: towards NW	Warning issued	THUNDERSTORM	ARARIA
		061122 - 061402	NIL	N/A	N/A	N/A	N/A
		061402 - 061422	Single Cell Lat-26.83N Long-85.37E Maximum Reflectivity: 53.5 dBZ Echo Top: 11 KM	Range: 142.4KM from DWR Patna in NE direction Movement: towards NW	Warning issued	THUNDERSTORM	SITAMARHI
		061422 - 062002	NIL	N/A	N/A	N/A	N/A
		062002 - 062132	Single Cell Lat-27.73N Long-84.89E Maximum Reflectivity:43 dBZ Echo Top: 7.5 KM	Range: 96.2KM from DWR Patna in SW direction Movement: towards NW	Warning issued	THUNDERSTORM WITH RAIN	GAYA
		062132 - 070300	NIL	N/A	N/A	N/A	N/A

Realised past 24hrs TS/SQ/HS Data:

Realised TS/HS/SQ during past 24hours ending at 0300UTC of today (received from RMCs/MCs)						
Name of Station Reporting	Region	State/Sub Division	Weather Event (TS/Hail/Squall)	Date	Time of Commencement (IST)	Time of end (IST)
Srinagar	Northwest India	Jammu & Kashmir	Thunderstorm	06-05-18	1425	1450
Qazigund	Northwest India	Jammu & Kashmir	Thunderstorm	06-05-18	1255 1500	1315 1520
Pahalgam	Northwest India	Jammu & Kashmir	Thunderstorm	06-05-18	1430	1515
Kupwara	Northwest India	Jammu & Kashmir	Thunderstorm	06-05-18	1330	1500
Kukernag	Northwest India	Jammu & Kashmir	Thunderstorm	06-05-18	2005	2040
Jammu	Northwest India	Jammu & Kashmir	Thunderstorm	06-05-18	1900 1920	1910 2110
Banihal	Northwest India	Jammu & Kashmir	Thunderstorm	06-05-18	1450 1915	1600 1940
Batote	Northwest India	Jammu & Kashmir	Thunderstorm	06/07-05-18	061500 061900 070400	061600 062000 070700
Katra	Northwest India	Jammu & Kashmir	Thunderstorm	07-05-18	0120	0210
Bhaderwah	Northwest India	Jammu & Kashmir	Thunderstorm	06/07-05-18	061400 070230	062030 070730
Sundernagar	Northwest India	Himachal Pradesh	Thunderstorm	07-05-18	0415 0609	0548 0614
Shimla	Northwest India	Himachal Pradesh	Thunderstorm	06/07-05-18	061547 070810	061625 070830
Dehradun	Northwest India	Uttarakhand	Thunderstorm	06/07-05-18	061225 070705	061250 070715
Tehri	Northwest India	Uttarakhand	Thunderstorm	06-05-18	1420	1510
Ambala	Northwest India	Haryana	Thunderstorm	06-05-18	0945	1015
Amritsar	Northwest India	Punjab	Thunderstorm	07-05-18	0200	0350
Ludhiana	Northwest India	Punjab	Thunderstorm	06/07-05-18	0830 1300	1000 1320
Chandigarh	Northwest India	Chandigarh	Thunderstorm	06/07-05-18	061415 070637	061445
Ballia	Northwest India	East Uttar Pradesh	Thunderstorm	07-05-18	0010	0050
Kanpur(IAF)	Northwest India	East Uttar Pradesh	Thunderstorm	06-05-18	1830	2100
Kanpur(City)	Northwest India	East Uttar Pradesh	Thunderstorm	06-05-18	1900	2000
Orai	Northwest India	West Uttar Pradesh	Thunderstorm	06-05-18	1600	1630
Agra(IAF)	Northwest India	West Uttar Pradesh	Thunderstorm	06-05-18	1500	1730

Bramhapuri	Central India	Vidarbha	Thunderstorm	06-05-18	1710	1740
Ambikapur	Central India	Chhattisgarh	Thunderstorm	06-05-18	1515	1545
Passighat	Northeast India	Arunachal Pradesh	Thunderstorm	06-05-18	1715	1930
Silchar	Northeast India	Assam	Thunderstorm	06/07-05-18	060830, 061530	061000, 070600
Dibrugarh	Northeast India	Assam	Thunderstorm	06-05-18	1403	1455
N/Lakhimpur	Northeast India	Assam	Thunderstorm	06-05-18	1145	1240
Guwahati	Northeast India	Assam	Thunderstorm	06-05-18	1040, 1750	1145, 2340
Barapani	Northeast India	Meghalaya	Thunderstorm	06-05-18	1515	1700
Shillong	Northeast India	Meghalaya	Thunderstorm	06-05-18	1800	2100
Imphal	Northeast India	Manipur	Thunderstorm	06-05-18	0830	0930
Lengpui	Northeast India	Mizoram	Thunderstorm	07-05-18	0030	0810
Agartala	Northeast India	Tripura	Thunderstorm	07-05-18	0030	0620
Agartala	Northeast India	Tripura	Squall from NW with max wind 45Kts	07-05-18	0452	0454
Gaya	East India	Bihar	Thunderstorm	07-05-18	0030	0315
Jamshedpur	East India	Jharkhand	Thunderstorm	06-05-18	1750	1915
Balasore	East India	Odisha	Thunderstorm	06-05-18	2040	2110
Keonjhargarh	East India	Odisha	Thunderstorm	06-05-18	2206	2215
Shirali	South India	Karnataka (CK)	Thunderstorm	06-05-18	2345	0045
Belagavi AP	South India	Karnataka (NIK)	Thunderstorm	06-05-18	1415	1650
Chitradurga	South India	Karnataka (SIK)	Thunderstorm	06-05-18	1850	1930
Alappuzha	South India	Kerala	Thunderstorm	06-05-18	1805	1930
Thiruvananthapuram	South India	Kerala	Thunderstorm	06-05-18	1830 1920 2100 2150 0305	1920 2100 2150 2350 0450

IMPORTANT LINKS:

For NCMRWF NWP products:(<u>http://www.ncmrwf.gov.in/HomePage/NEPS-prod-1.php</u>)
For IMD NWP products: (http://nwp.imd.gov.in/diagpro_new.php)
For Synoptic plotted data and charts
http://amssdelhi.gov.in/
http://www.amsskolkata.gov.in/
For RANDHRA PRADESHID tool:
http://rAndhra Pradeshid.imd.gov.in/
Low Level Winds
http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/LLW/MAR_2017/?C=M;O=D
Upper level winds
http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/HLW/MAR_2017/?C=M;O=D
Past24hourHEMandIMRrainfall(upto03UTCoftoday)
IMR: http://satellite.imd.gov.in/img/3Ddaily_imr.jpg
HEM: http://satellite.imd.gov.in/img/3Ddaily_he.jpg
ForRadarimagesofthepast24hoursincludingmosaicofimages:
http://ddgmui.imd.gov.in/dwr_img/
Satellite sounder based T- Phigram
http://satellite.imd.gov.in/mAndhra Pradesh skm2.html

WEATHER SYMBOLS:



∞	haze					
	smoke					
8	dust or sand storm					
≡	fog					
,	drizzle					
•	rain					
*	SNOW					
	showers					
	hail					
স	thunderstorm					
We	Weather Symbols					