

1. CURRENT SYNOPTIC SITUATION:

NWFC INFERENCE (0300UTC of the Day):

♦ The Western Disturbance as a trough in mid & upper tropospheric westerlies from Lat 35°N/Long 94°E to Lat 25°N/Long.87°E now runs from west Arunachal Pradesh to southeast Madhya Pradesh across west Bihar & southeast Uttar Pradesh with its axis at 7.6 km above mean sea level.

- The core of Subtropical westerly Jet stream is embedded in the above trough over Eastern Indian region.
- The other Western Disturbance as a trough in mid & upper tropospheric westerlies roughly along Long.42°E to the north of Lat. 28°N persists.
- A cyclonic circulation lies over northeast Madhya Pradesh & neighbourhood and extends upto 1.5 km above mean sea level.
- A trough runs from the above cyclonic circulation to Comorin area across west Vidarbha, interior Karnataka & interior Tamilnadu and extends upto 0.9 km above mean sea level.
- A cyclonic circulation lies over East Bangladesh & neighbourhood at 1.5 km above mean sea level.
- A cyclonic circulation lies over Comorin area & neighbourhood at 1.5 km above mean sea level.

SATELLITE OBSERVATIONS during past 24hrs and current observation:

Current Observation (based on 0300UTC imagery of INSAT 3D):

Convective Activity: Nil

Western Disturbance (WD):

Scattered multi-layered clouds seen over Iran adjoining Afghanistan and neighbourhood in association with WD over the area.

Clouds description within India:

Scattered low/medium clouds with embedded weak to moderate convection seen over North Chhattisgarh, Assam, Meghalaya, Manipur and East Madhya Pradesh. Scattered low/medium clouds with embedded isolated weak to moderate convection seen over extreme Southeast Uttar Pradesh. Scattered low/medium clouds seen over Jammu & Kashmir, South Chhattisgarh, Odisha, Gangetic West Bengal, North Bihar, rest Northeast states, Konkan, East Vidarbha, Telangana, Andhra Pradesh, South Interior Karnataka, Kerala, Northeast Tamilnadu and Andaman Islands. Scattered low/medium clouds with embedded moderate to intense convection seen over Nicobar Islands.

Arabian Sea:

Scattered low/medium clouds with embedded weak to moderate convection seen over west central adjoining Northwest Arabian Sea between Lat 16.0N° to 22.0°N, Long 66.0°E.

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded moderate to intense convection seen over South Bay adjoining Indian ocean between Equator to Lat 8.0N° East of Long 83.0°E and South Andaman Sea.

Past Weather:

Convection (during last 24 hrs):

Moderate to intense convection was observed over Sikkim North-East States Jharkhand West Bengal Odisha Chhattisgarh Telangana Andhra Pradesh South Interior Karnataka Tamilnadu and week to moderate convection observed over Uttarakhand Uttar Pradesh Bihar East Madhya Pradesh Maharashtra North Interior Karnataka Kerala.

OLR:-

Upto 230 wm⁻² was observed over J&K North Himachal Pradesh North Uttarakhand Sikkim Gangetic West Bengal North-East States Odisha South Chhattisgarh Coastal Andhra Pradesh South Interior Karnataka North Tamilnadu.

Synoptic Features:

Trough in Westerlies runs from west Arunachal Pradesh to south-east Madhya Pradesh across west Bihar & southeast Uttar Pradesh.

Dynamic Features:-

Low to Medium wind shear is observed over India.

Negative shear tendency is observed over J&K Bihar adjoining areas and positive shear tendency over rest India.

A positive Vorticity field is observed over North-West Gujarat, North-East Rajasthan, East Madhya Pradesh, Jharkhand & North Interior Karnataka. Positive Low Level Convergence is observed over India.

Precipitation:

IMR:

Rainfall upto 30-50 mm observed over South Gangetic West Bengal adjoining North Coastal Odisha and Rainfall upto 10-20 mm observed over South Odisha South parts of South Interior Karnataka North Tamilnadu and Rainfall upto 1-10 mm observed over North-East J&K Sikkim North-East States North Gangetic West Bengal rest North Odisha East Jharkhand North-East Madhya Pradesh South Chhattisgarh East Telangana Andhra Pradesh.

HEM:

Rainfall upto 20-30 mm observed over North Coastal Odisha South parts of South Interior Karnataka North Tamilnadu and Rainfall upto 14-20 mm observed over South Gangetic West Bengal South Chhattisgarh South Odisha and Rainfall upto 0.1-7 mm observed over North-East States North Gangetic West Bengal North-East Madhya Pradesh Coastal Andhra Pradesh East Telangana

Convective Activity (past 24hrs):

CELL	DATE/TIME	AREA/ LOCATION	MINIMUM CTBT	MOVEMENT/ REMARKS
NO.	(UTC)		(MINUS DEG C)	
1	31/0800	CHTGH S ORS	47	DEVELOPING
	0900	CHTGH S ORS ADJ N COTL AP	60	
	1000	CHTGH S ORS ADJ N COTL AP E TLNGN	65	
	1100	DO	64	
	1200	S CHTGH ORS ADJ N COTL AP E TLNGN	66	E-WARDS
	1300	DO	64	
	1400	DO	64	
	1500	DO	65	
	1600	DO	63	
	1700	DO	62	
	2130	-	-	DISSIPTED
2	31/0800	SW GWB ADJ NE ORS ADJ JHRKND	58	DEVELOPING
	0900	GWB ADJ NE ORS ADJ JHRKND	64	
	1000	GWB ADJ NE ORS SE JHRKND	70	
	1100	DO	71	
	1200	DO	71	E-WARDS
	1300	DO	70	
	1400	DO	67	
	1500	DO	67	
	1600	DO	62	
	1700	DO	58	
	2130	-	-	DISSIPTED
3	31/0900	S SIK N TN	56	DEVELOPING
	1000	S SIK N TN ADJ AP	60	
	1100	DO	64	
	1200	DO	69	E-WARDS
	1300	DO	63	
	1400	DO	64	
	1500	DO	64	
	1600	DO	62	
	1700	DO	60	
	2130	-	-	DISSIPTED

RADAR and RAPID RGB Observation:

Moderate isolated/multiple echoes were seen on DWR Cherrapunjee and Agartala (dBZ >50 and height >10km) domains at around 1300 IST. Light to Moderate isolated/multiple echoes were also seen on DWR Thiruvananthapuram at around 1300 IST.

RAPID RGB Satellite imagery at 1200IST indicates significant convection over East Meghalaya and North Chhattisgarh.

Environmental condition (dust etc) and its forecast based on 00UTC of date:

Higher Dust concentration was observed over Arab countries and western part of India. Dust concentration is expected to increase over northwestern part of India in next few days. PM10 concentration is expected to increase over IGP in next five days. Particulate matter concentration is expected to remain in moderate to poor category for next 2 days in Delhi.

Delhi – SAFAR analysis & Forecast	01.04.2018	02.04.2018	
PM10 (micro-g/m ³)	199	179	
PM2.5 (micro-g/m ³)	93	83	

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

Low level CYCIRS, Troughs:

12 UTC of Day 0-2: Trough at 700 hPa over eastern UP in Day-0, shifting SE wards to over head Bay of Bengal in Day-1 and 2.

Confluence & Wind Discontinuity Regions:

12 UTC of Day 0-4: at 925 hPa S-N wind discontinuity over interior peninsula extending SW-NE over Chhattisgarh, Jharkhand and WB region

Synoptic Systems:

12 UTC of Day 0-2: At 500 hPa westerly trough over eastern UP in Day-1 to Day-2 and to over head Bay of Bengal in Day-2-3. The trough is rather deep extending to parts of AP and Odisha Coast.

2. Location of jet and jet core (>60kt) at 500hPa: 12UTC Day-0 to 5: Weak over UP and Bihar regions.

3. Convergence at 850 hPa:

Day0: East Rajasthan, Odisha, East MP, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, NI Karnataka, SI Karnataka, Day1: Odisha, Madhya Maharashtra, Marathwada, Chhattisgarh, Coastal AP, Rayalaseema, NI Karnataka, SI Karnataka, Day2: NE NMMT, East Rajasthan, West MP, East MP, Madhya Maharashtra, Chhattisgarh, NI Karnataka, SI Karnataka, Day3: Jammu Kashmir, East Rajasthan, West MP, East MP, Madhya Maharashtra, Tamilnadu, Puducherry, NI Karnataka, SI Karnataka, Kerala, Day4: Jharkhand, Jammu Kashmir, East Rajasthan, West MP, East MP, East MP, Madhya Maharashtra, Marathwada, Chhattisgarh, Tamilnadu, Puducherry, NI Karnataka, SI Karnataka, Puducherry, NI Karnataka, SI Karnataka, Kerala, Day4: Jharkhand, Jammu Kashmir, East Rajasthan, West MP, East MP, Madhya Maharashtra, Marathwada, Chhattisgarh, Tamilnadu, Puducherry, NI Karnataka, SI Karnataka,

4. Low level Vorticity:-Positive Vorticity: Day/Index Subdivisions with Lower Level Vorticity > 15 x 10^-5 /s

- Day0: Odisha, East MP, Chhattisgarh, Coastal AP,
- Day1: Madhya Maharashtra, NI Karnataka,
- Day2: NE NMMT, Madhya Maharashtra,
- Day3: NE NMMT, Himachal Pradesh, Jammu Kashmir, Madhya Maharashtra,
- Day4: Assam Meghalaya, NE NMMT, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Madhya Maharashtra,

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, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, East MP, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, Tamilnadu, Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Tamilnadu, Puducherry, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Tamilnadu, Puducherry, Kerala,

Day3: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Jammu Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Tamilnadu, Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Gangetic WB, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Madhya Maharashtra, Chhattisgarh, Coastal AP, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

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

Day/Index: Subdivisions with K Index > 40

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Jammu Kashmir, Odisha, West MP, East MP, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, Tamilnadu, Puducherry,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, East Rajasthan, Odisha, Vidarbha, Chhattisgarh, Coastal AP, Telangana,

Day3: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, Odisha, Vidarbha, Chhattisgarh, Telangana,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, Odisha, East MP, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Coastal Karnataka, NI Karnataka,

7. K-Index :> 35[Very Unstable thunderstorm likely]: Day/Index Subdivisions with K Index > 40

Day0: Jharkhand, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, East MP, Chhattisgarh, Coastal AP, Telangana,

Rayalaseema, Tamilnadu, Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Gangetic WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Coastal AP, Telangana, Rayalaseema, Tamilnadu, Puducherry, SI Karnataka,

Day2: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Chhattisgarh, Coastal AP, Tamilnadu, Puducherry,

Day3: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Uttarakhand, Jammu Kashmir, Odisha, Vidarbha, Chhattisgarh, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Odisha, Vidarbha, Chhattisgarh, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

8. Rainfall and thunder storm activity: Day/IndexSubdivisions with Precipitation > 2 cm

Day1: Jharkhand, Odisha, Chhattisgarh, Coastal AP, Telangana, Kerala, Day2: Jammu Kashmir, Odisha, Day3: Tamilnadu, Puducherry, Day4: Sub Himalayan WB, Andaman Nicobar, Day5:

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day-1 & Day-2:

- From the synoptic analysis, a cyclonic circulation lies over northeast Madhya Pradesh & neighbourhood and extends upto 1.5 km above mean sea level and one more cyclonic circulation lies over East Bangladesh & neighbourhood at 1.5 km above mean sea level. Due to these, there is possibility of convection developing over Chhattisgarh, Orissa, Bihar, GWB and parts of south coastal Andhra Pradesh which resulting to thunderstorms with gusty winds on Day-1. On Day-2, these activity will be continue over GWB and Orissa. On Day-1, Assam Meghalaya and NMMT will also experience thunderstorm activities.
- Another trough runs from the above cyclonic circulation to Comorin area across west Vidarbha, interior Karnataka & interior Tamilnadu. This will give thunderstorm activities over Kerala, Telangana, North interior Karnataka and Tamilnadu on Day-1.

24 hour Advisory for IOP:	48 hour Advisory for IOP:		
Rainfall:	Rainfall:		
Nil	Nil		
Thunderstorm with associated phenomenon:	Thunderstorm with associated phenomenon:		
Assam and Meghalaya, Nagaland, Manipur, Mizoram and Tripura	Assam and Meghalaya, Nagaland, Manipur, Mizoram and Tripura		
Sub Himalayan West Bengal, Gangetic West Bengal	Gangetic West Bengal, Odisha, South Chhattisgarh,		
Extreme Southeast Uttar Pradesh, Bihar, Jharkhand, Odisha,	North Interior & Coastal Karnataka,		
East Madhya Pradesh, Chhattisgarh, Vidarbha,	Rayalaseema, Coastal Andhra Pradesh, Telangana		
North Interior & Coastal Karnataka,			
Rayalaseema, Coastal Andhra Pradesh, Telangana, Kerala, Tamilnadu			

Graphical Presentation of Potential Areas for Severe Weather:













Past 24 hours DWR Report:

DWR Station Name	Date of Report	Time Interval of Observation (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	Associate d Severe Weather if any	Districts affected
Lucknow	01-04-18	310300-010300	Nil	Nil	Nil	Nil	Nil
Jaipur	01-04-18	310300-010300	Nil	Nil	Nil	Nil	Nil
Patiala	01-04-18	310300-010300	Nil	Nil	Nil	Nil	Nil
Patna	01-04-18	310300-010300	Nil	Nil	Nil	Nil	Nil
Visakhapatnam	01-04-18	310300-310600	Isolated single cell of max. reflectivity of 40dBz with height of 10kms	N(150 km) moving Sly	Isolated Single cell formed at 0541UTC and start developing.	NIL	Rayagada Dist of Orissa
		310600-310900	Isolated single cells of max. reflectivity of 60dBz with height of 11kms NW ly.	Sly	Isolated Single cell formed at 0651UTC and start developing. It is at 80kms.	NIL	Koraput and Markangiri Dist of Orissa
		310900-311200	Multiple strong Cb cells with max reflectivity 64dbz NW ly with height 14kms.	Forming since last observation and moving S ly.	Formation since 09.01UTC and developed and dissipating at 11.51UTC.	Gusty winds .	Malkangiri and koraput districts of Odisha state.
		311200-311500	Multiple strong Cb cells with max reflectivity 60dbz with height 10kms.	NW(132kms)mo ving SE ly	Formation since 1201UTC and developed and dissipating at 1451UTC.	Gusty winds.	Nuapada and Ganjamt districts of Odisha state.
		311500-311800	Multiple strong Cb cells with max reflectivity 55dbz with height 10kms.	NW(132kms)mo ving SE ly	Formation since 1501UTC and developed and dissipating at 1651UTC.	Gusty winds.	Ganjamt district of Odisha state.
		311800-010000	Convective cell with max reflectivity 56dbz with height 5kms.	E(153kms)movi ng SW ly	Convective cell formed 2241UTC and developed at 2251 UTC dissipated at 2341UTC.	NIL	Ganjam district of Odisha state.
Agartala	01-04-18	310300-010300	Multiple Cells found over Meghalaya Hills at 010122z, about 11kms, 40dbz (Radar Was Non-Operational due to no Power from 301052z To 311002z	About 200 kms North-North- East, 30 KMPH , E-ly	Persists over Meghalaya hills with decaying state at 010302Z	Not Known.	Agartala

IMPORTANT LINKS:

For NCMRWF NWP products:(http://www.ncmrwf.gov.in/HomePage/NEPS-prod-1.php) 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:



