

# Ministry of Earth Sciences India Meteorological Department Cyclone Warning Division, New Delhi

# Tropical Cyclone Forecast Programme Report Dated 20<sup>th</sup> October 2025

Time of Issue: 1100 UTC

# Synoptic features (based on 0300 UTC analysis):

- ➤ Yesterday's Well marked Low Pressure area over southeast Arabian Sea & Lakshadweep area off Kerala-Karnataka coasts moved westwards and lay over southeast Arabian Sea at 0830 hrs IST of today, 20th October 2025.
- ➤ Yesterday's upper air cyclonic circulation over Gulf of Mannar & neighbourhood lay over Southeast Arabian Sea off Kerala coast extending upto 1.5 km above mean sea level at 0000 UTC of 20<sup>th</sup> October 2025.
- ➤ Yesterday's upper air cyclonic circulation over south Andaman Sea & adjoining southeast Bay of Bengal extending upto 1.5 km above mean sea level persisted over the same region at 0300 UTC of today, the 20<sup>th</sup> October. Under its influence, a low pressure area is likely to form over southeast Bay of Bengal around 21st October. It is likely to move west-northwestwards and intensify further into a depression over central parts of south Bay of Bengal and adjoining westcentral Bay of Bengal during subsequent 48 hours.
- ➤ A trough runs from the cyclonic circulation associated with well marked Low-Pressure area over southeast Arabian Sea to south Andaman Sea across cyclonic circulation over southeast Arabian Sea off Kerala coast at 0.9 km above mean sea level.

# **Environmental Features based on 0300 UTC:**

Environmental Features based on 0300 UTC:						
Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)				
Sea Surface Temperature (SST) °C	<ul> <li>➢ Around 28-30°C over northwest and westcentral BoB along west Bengal coast to Andhra Pradesh coast,</li> <li>➢ 30°C over rest of the BoB.</li> </ul>	<ul> <li>➢ Around 28 - 30°C over eastcentral Arabian Sea, Lakshadweep Island, Maldives, Comorin areas, along and off Kerala, south Karnataka coast, parts of northwest Arabian Sea.</li> <li>➢ 26-28°C over rest of the Arabian Sea.</li> </ul>				
Tropical Cyclone Heat Potential (TCHP) kJ/cm2	<ul> <li>100-130 over northeast BoB, eastcentral BoB, south Andaman Sea and southern parts of south BoB.</li> <li>80-90 over rest of BoB.</li> </ul>	➤ 90-110 over southeast AS,  Lakshadweep Islands,  Maldivos islands and				
Cyclonic Relative - vorticity (X10 <sup>-6</sup> s <sup>-1</sup> )	<ul> <li>▶60-70 over southwest BoB to southeast of Sri Lanka coast.</li> <li>▶ Positive low level vorticity at 850 hPa is about 60-80 X 10<sup>-6</sup> s<sup>-1</sup> over southeast BoB South and adjoining Andaman Sea.</li> </ul>	➤ 50-70 over southeast AS, Lakshadweep, Maldives, Comorin areas, extending upto 500 hPa.				

Low-Level convergence (X10-6 s-1)	<ul> <li>05-10 over         Southeast BoB and adjoining south Andaman Sea.     </li> <li>05-10 over southwest BoB and adjoining Tamil Nadu-Sri Lanka coast.</li> </ul>	05-10 over southeast AS, Lakshadweep, Maldives areas.		
Upper-Level divergence (X10-6 s-1)	➤ 05-10 over the South BoB, south Andaman Sea and adjoining Equatorial Indian Ocean ➤ 5 over eastcentral BoB off Myanmar coast	BoB extending upto westcentral		
Vertical Wind Shear (VWS knots) Low: 05-10 knots Moderate: 10-20 knots High: >20 knots	Low to moderate over south BoB, south Andaman Sea and over system area.			
Wind Shear Tendency (knots)	Decreasing over system area and along expected path	No trend over the system area.		
Upper tropospheric Ridge	➤ At 13 <sup>0</sup> N.	➤ At 17 <sup>0</sup> N.		

### Over the BoB & Andaman Sea:

Scattered to broken low and medium clouds with embedded intense to very intense convection lay over central & south Arabian Sea, Lakshadweep Islands, Maldives and Comorin area. The multi-satellite winds indicate stronger winds in southwest sector.

### Over the Arabian Sea:

As per INSAT 3D imagery at 0300 UTC, vortex over southeast Arabian Sea & neighbourhood centered within half a degree of 9.8 N/67.2 E. Intensity T1.0. Associated scattered to broken low and medium clouds with embedded intense to very intense convection lay over south & adjoining central Arabian Sea between latitude 6.0N to 17.0 N and longitude 58.0 E to 73.0 E. Scattered to broken low and medium clouds with embedded intense to very intense convection lay over central & south Arabian Sea, Lakshadweep Islands, Maldives and Comorin area. The multi-satellite winds indicate stronger winds in southwest sector.

#### Outside India:

### **South Indian Ocean:**

Vortex (CHENGE) over South Indian Ocean (AREA E60 ADJ D40) centered near 8.3S / 67.7E. Intensity T3.0/3.0. Maximum sustained winds 34-47 Kts. Associated scattered to broken low/medium clouds with embedded intense to very intense convection over area between latitudes 3.0S TO 16.0S longitudes 59.0E TO 72.0E.

#### South China Sea:

Vortex (FENGSHEN) over South China Sea (Area F05) centered near 18.2N / 116.7E. Intensity T3.0/3.0 (.) Maximum sustained winds 34-47 Kts. Associated scattered to broken low/medium clouds with embedded intense to very intense convection over area between latitudes 13.0N TO 22.0N longitudes111.0E TO 122.0E Philippines Taiwan. Scattered low/medium clouds with embedded moderate to intense convection over Sri Lanka Palk Strait, Gulf of Mannar, Maldives, Tibet, China, Yellow Sea, East China Sea, Taiwan,

Myanmar, Thailand, Gulf of Thailand, Cambodia, Laos Vietnam, Sumatra Strait of Malacca, Malaysia, Borneo, South China Sea, Java Islands & Sea, Celebes Islands & Sea, Philippines Sulu Sea, Madagascar and over Indian Ocean between latitudes 5.0N to 20.0S longitudes 50.0E to 120.0E.

#### M.J.O. Index:

The guidance from ECMM model indicates that Madden Julian Oscillation (MJO) index is likely to be in phase 3 on 20th October and would enter phase 4 during 20<sup>th</sup> to 28th October with amplitude more than 1. Thereafter, it is likely to move across phase 5 with amplitude becoming less than 1. Thus, MJO would support enhancement of convective activity over the Arabian Sea during on 20<sup>th</sup> and over the Bay of Bengal from 20th onwards.

# **Equatorial waves guidance:**

Guidance from NCICS model indicates enhanced cross equatorial flow on 20<sup>th</sup> October onwards leading to westerly wind burst over southern parts of Arabian Sea and Bay of Bengal and adjoining equatorial Indian Ocean during 20<sup>th</sup> to 26<sup>th</sup> October. The Model indicates prevalence of equatorial Rossby wave (ERW) Kelvin wave (KW), MJO, Low frequency Background wave (LW), enhanced westerly wind Anomaly (>9mps) over the region during 20th to 26th October. The model is also indicating setting in of easterly winds anomaly (5-7 mps) over central and adjoining south Bay of Bengal during 20th to 26th October. It is indicating weak easterly wind anomaly (1-3 mps) over southeast Arabian Sea during 19th-20th October and slightly higher easterly wind anomaly (5-7 mps) during 21<sup>st</sup> to 23<sup>rd</sup> October over central Arabian Sea. These features indicate a favourable environment for cyclogenesis (formation of Depression) over Arabian Sea during 20<sup>th</sup> to 21<sup>st</sup> and over the Bay of Bengal during 22<sup>nd</sup> – 24<sup>th</sup> October.

# **NWP Guidance for FDP Cyclone:**

MODEL	Bay of Bengal (BoB)	Arabian Sea (AS)
GUIDANCE		
IMD-GFS	LPA over southwest Bay of Bengal (11.5/84.2). Intensifying into depression on 24/00 UTC over southwest Bay of Bengal (13.0/82.5). Moving west-northwerstwards (WNW) and reaching north Tamil Nadu coast as a cyclonic storm (CS) on 25/00 UTC. Thereafter, it is indicating movement along the coast with gradual weakening and crossing over Andhra Pradesh coast to the south of Machhlipatanam (`15.5/80.2) around 26/00 UTC as a deep depression (DD). Thereafter, it is indicated to emerge in the eastcentral BoB, move north-northeastwards (NNE) and cross Bangladesh coast as an LPA on 30/00 UTC.	LPA over southeast AS (10/69) on 20/00 UTC. Depression over southeast and adjoining southwest AS (11/66) on 21/00 UTC. To move towards Somalia coast as a depression till 26/00 UTC.
IMD-GEFS	LPA over southeast BoB on	LPA over southeast AS (10/69) on 20/00
	21/12 UTC. Intensifying into depression over southeast and	UTC. Depression over southeast and
	adjoining southwest BoB on	adjoining southwest AS (11/65) on 21/00

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	22/12 UTC. Reaching near Tamil Nadu coast as a deep depression on 25/12 UTC. Thereafter, NNE movement along the coast during 26/12 UTC to 27/12 UTC.	while weakening till 25/00 UTC.		
IMD-WRF	LPA over southeast & adjoining south Andaman Sea on 20/00. LPA over southwest BoB on 21/00. WML over westcentral & adjoining southwest BoB on 22/00. Depression over westcentral BoB on 23/00.	with westwards movement and intensification into depression over southeast & adjoining southwest AS on		
BFS	LPA over southwest BoB on 21/00 UTC. Depression over southwest BoB on 22/12 UTC (11.5/84.5). Thereafter, model is indicating weakening and persistence o9f LPA over north Andhra Pradesh (AP) south Odisha coasts during 23/00 UTC and 24/00 UTC.	LPA over southeast AS (10/70) on 20/00 UTC. Depression over southeast and adjoining southwest AS (11/66) on 21/00 UTC. To move towards Somalia coast as a depression till 26/00 UTC.		
NCMRWF- NCUM(G)	The model indicates no significant system over BoB till 27/00			
NCMRWF- NCUM(R)	The model indicates no significant system over BoB till 27/00.	Extended low on 20/00 over southeast AS.		
NEPS	LPA over southwest Bay of Bengal (BoB) during 20/00-23/00 UTC off Tamil Nadu coast, becoming less marked thereafter.	WML over southeast AS on 20/00. Depression over southeast AS (10/65) on 21/00. Moving towards Somalia as depression till 26/00. Thereafter slow west-northwestwards movement towards central AS. Another WML over eastcentral AS on 25/00. Depression over central AS on 26/00. Moving west-southwestwards towards central AS. Merger of both the systems on 29/00 over central AS.		
ECMWF	LPA over southwest BoB on 21/00 UTC. Depression over southwest BoB (14.5/81.4) on 22/21 UTC. Further it is indicating NNW ward movement till 22/21 UTC with gradual intensification and slow NNE movement along the coast. It is indicating crossing over Odisha coast as a WML on 23/18 UTC near 16.2/81.5. Thereafter, it is indicated to persist over the coast till 24/06 UTC.	LPA over southeast AS (9.7/69.5) on 20/00 UTC, becoming depression over southeast AS (9.9/68.2) on 21/18 UTC. Thereafter, it is moving slowly ENE wards while weakening till 25/18 UTC.		

NCEP-GFS	LPA over southwest BoB (10.1/85.8) on 21/06 UTC. Depression over southwest BoB on 22/12 (12.7/84.4). The model is indicating intensification into a CS and WNW ward movement till 24/00 UTC. Thereafter, it is indicating NNE ward movement with weakening trend and crossing north AP – south Odisha coast (17.7/83.2) as a DD on 27/06 UTC.	LPA over southeast AS (10/70) on 20/00 UTC. Depression over southeast and AS (10.1/68.2) on 22/00 UTC. To move towards Somalia coast and intensify into a DD over southeast and adjoining southwest AS on 22/18 UTC. To move, northwest wards as a DD till 27/00 UTC towards westcentral AS (12/60.9). To move northeastwards thereafter.
EC-AIFS	LPA over southwest BoB on 22/00. A fresh LPA over southeast BoB on 27/00 UTC. Depression on 29/06 UTC over southwest BoB and crossing Odisha coast as a low pressure area on 30/06	Well marked low pressure area over southeast AS (9.8/69.3). Depression over southeast AS (9.2/66.9). Persisting over the same region till 23/00. Thereafter moving north-northeastwards as a low pressure area and movement along the west coast of India with gradual intensification into a depression around 26/06.

# Summary:

# (a) Bay of Bengal:

Most of the numerical models (NCEP, ECMWF, ECAI, IMD GFS, GEFS, BFS) are indicating low pressure area over southwest & adjoining southeast BoB during 21<sup>st</sup>-22<sup>nd</sup> October and depression over southwest BoB during 22<sup>nd</sup> – 24<sup>th</sup> October. GFS group is indicating higher intensification upto cyclonic storm stage. ECMWF group is indicating intensification upto depression/ deep depression stages only. GFS group is indicating crossing over Andhra Pradesh coast. ECMWF is indicating movement towards Andhra Pradesh coast till 22/21 UTC with north-northeastwards movement thereafter and crossing over Odisha coast as a Well marked low pressure area. NCEP GFS is indicating crossing to the north of Machhillipatnam and IMD GFS to its south as a deep depression.

### (b) Arabian Sea

Most of the models (IMD-GFS, GEFS, ECMWF, NCUM, CMC) indicate west-northwestwards movement of system towards Somalia coast. Regarding intensification majority of models are indicating peak intensification in the range of 20-28 kt. IMD MME is also indicating near westwards movement of system till 28<sup>th</sup> October towards Somalia coast as a depression only.

Current conditions indicate development of twin cyclonic systems on either side of the equator and over both the AS and BoB basins. Interactions among these systems and varied role of convectively coupled equatorial waves over the region are causing inconsistencies in model forecast wrt genesis and movement.

### Inference:

Considering various large-scale environmental features and model guidance, it is inferred that

(a) The Well-marked low-pressure area over southeast Arabian Sea is likely to move nearly westwards and intensify into a depression during next 24 hours. Hence, moderate to high

probability is assigned to cyclogenesis (formation of depression) during 20<sup>th</sup> to 21<sup>st</sup> October.

- (i) Confidence level in forecast of intensification (formation of Depression): High
- (ii) Confidence level in forecast of location of Depression: High
- (b)Under the influence of upper air cyclonic circulation over south Andaman Sea & adjoining southeast Bay of Bengal, a low pressure area is likely to form over southeast Bay of Bengal during next 24 hours. It is likely to move west-northwestwards and intensify further into a depression over central parts of south Bay of Bengal and adjoining westcentral Bay of Bengal during subsequent 48 hours. Hence, moderate to high probability is assigned to cyclogenesis (formation of depression) around 22<sup>nd</sup> October.
  - (i) Confidence level in forecast of formation of Low: High
  - (ii) Confidence level in forecast of location area of Low: High
  - (iii) Confidence level in forecast of intensification (formation of Depression): High
  - (iv) Confidence level in forecast of location of Depression: Moderate

Both the systems are under continuous watch.

# <u>Probability of cyclogenesis (formation of depression and above intensity systems) over the Bay of Bengal during next 168 hours:</u>

24	24-48	48-72	72-96	96-120	120-144	144-168
HOURS	HOURS	HOURS	HOURS	HOURS	HOURS	HOURS
NIL	NIL	LOW	MOD	HIGH	1	-

# <u>Probability of cyclogenesis (formation of depression and above intensity systems) over the Arabian Sea during next 168 hours:</u>

24	24-48	48-72	72-96	96-120	120-144	144-168
HOURS	HOURS	HOURS	HOURS	HOURS	HOURS	HOURS
MOD	HIGH	-	NIL	NIL	NIL	NIL

<sup>&</sup>quot;- "indicates genesis has already occurred.

Probability is indicated as NIL for 0%, LOW for 1-33%, MOD for 34-67% and High for 68-100%.

Every 24 hrs forecast ends at the 0300 UTC of date.

**Intense Observation Period (IOP):** IOP for Kerala, Karnataka, south Tamil Nadu and West Sri Lanka coasts during 20<sup>th</sup> to 22<sup>nd</sup> October.

### Warnings in association with system over Arabian Sea:

### i. Wind warning:

Squally weather with wind speed reaching 35-45 gusting to 55 kmph is likely to prevail over Southeast and adjoining Southwest & Eastcentral Arabian Sea, Lakshadweep & Comorin Area and along & off Karnataka, Kerala and adjoining South Tamil Nadu coasts till 24<sup>th</sup> October. It is likely to increase becoming squally wind with speed reaching 40-50 kmph gusting to 60 kmph over Southeast and adjoining Southwest & Eastcentral Arabian Sea from evening of today, the 20<sup>th</sup> October, over central parts of south & adjoining central Arabian sea on 21<sup>st</sup> October and over southwest & adjoining westcentral Arabian Sea on 22<sup>nd</sup> & 23<sup>rd</sup> October.

### ii. Sea condition:

Sea condition is moderate to rough over Southeast and adjoining southwest & Eastcentral Arabian Sea, Lakshadweep & Comorin Area and along & off Karnataka, Kerala and adjoining South Tamil Nadu coasts. It would become rough to very rough over Southeast & adjoining southwest & Eastcentral Arabian Sea from evening of today, the 20<sup>th</sup> October, over central parts of south and adjoining central Arabian Sea from on 21<sup>st</sup> October and over southwest and adjoining westcentral Arabian Sea on 22<sup>nd</sup> & 23<sup>rd</sup> October 2025.

# iii. Fishermen warnings:

Fishermen are advised not to venture into Southeast & adjoining Eastcentral Arabian Sea, Lakshadweep & Comorin Area and along & off Karnataka, Kerala and adjoining South Tamil Nadu coasts till 21st October and over southwest and adjoining southeast & west central Arabian Sea during 22nd to 23rd October 2025.

# iv. Impact Expected and Action Suggested due to heavy rain and strong winds (Lakshadweep Islands & Kerala)

### Impact expected:

- Breaking of tree branches. Strong wind and heavy rain may damage plantation, horticulture and standing crops.
- Minor damage to kutcha houses/walls, huts and roads due to strong winds and heavy rain.
- Road and rail traffic may be affected due to heavy rain.
- There could be localised flash floods, landslides, mudslides, landslips, water logging, inundation and flooding over low lying areas.
- Occasional reduction in visibility due to heavy rainfall.
- Surface & Helicopter services may be regulated.
- Small ships & country boats would be affected due to strong wind and heavy rain.

### Action suggested:

- People are advised to keep a watch on the weather for worsening conditions and be ready to move to safer places accordingly.
- Take safe shelters; do not take shelter under trees, as there could be lightning.
- In case of expected lightning, unplug electrical/ electronic appliances, immediately, get out of water bodies and keep away from all the objects that conduct electricity.
- Tourism and recreational activities to be regulated.
- Surface transport and helicopter services to be regulated.

# Warnings in association with expected system over Bay of Bengal:

### i. Wind warning:

- ➤ Squally weather with wind speed reaching 35-45 gusting to 55 kmph is likely to prevail over South Bay of Bengal and Andaman Sea during 20<sup>th</sup> to 24<sup>th</sup> October. Squally wind with speed reaching 40-50 kmph gusting to 60 kmph likely to prevail over central parts of south Bay of Bengal and adjoining areas of central Bay of Bengal on 22<sup>nd</sup>, and becoming 45-55 kmph gusting to 65 kmph over Southwest and adjoining Westcentral Bay of Bengal during 23<sup>rd</sup> to 25<sup>th</sup> October.
- ➤ Squally wind with speed reaching 35-45 kmph gusting to 55 kmph is likely to prevail along & off Tamil Nadu coast on 20<sup>th</sup> & 21<sup>st</sup> October, becoming 40-50 kmph gusting to 60 kmph on 22<sup>nd</sup> and 45-55 kmph gusting to 65 kmph during 23<sup>rd</sup> to 25<sup>th</sup> October.
- ➤ Squally wind with speed reaching 35-45 kmph gusting to 55 kmph is likely to prevail along & off south Andhra Pradesh coasts on 22<sup>nd</sup>, becoming 40-50 kmph gusting to 60 kmph on 23<sup>rd</sup> October, and 45-55 kmph gusting to 65 kmph on 24<sup>th</sup> & 25<sup>th</sup> October.

#### ii. Sea conditions:

- ➤ Sea condition is likely to be moderate to rough over South Bay of Bengal and Andaman Sea during 20<sup>th</sup> to 24<sup>th</sup> October.
- ➤ Sea condition is likely to be become rough to very rough over central parts of south Bay of Bengal and adjoining areas of central Bay of Bengal on 23<sup>rd</sup>, and over Southwest and adjoining Westcentral Bay of Bengal on 24<sup>th</sup> & 25<sup>th</sup> October.
- ➤ Sea condition is likely to be moderate to rough along & off Tamil Nadu & south Andhra Pradesh coasts till 21<sup>st</sup> and rough to very rough from 22<sup>nd</sup> to 25<sup>th</sup> October.

### iii. Fishermen Warning:

Fishermen are advised not to venture into South and adjoining central Bay of Bengal from today, the 20<sup>th</sup> October afternoon onwards. Those fishermen out at sea should return to coast.

# iv. Impact Expected and Action Suggested due to heavy rain and strong winds (Tamil Nadu and Andhra Pradesh)

### Impact expected:

- Breaking of tree branches. Strong wind and heavy rain may damage plantation, horticulture and standing crops.
- Minor damage to kutcha houses/walls, huts and roads due to strong winds and heavy rain.
- Road and rail traffic may be affected due to heavy rain.
- There could be localised flash floods, landslides, mudslides, landslips, water logging, inundation and flooding over low lying areas.
- Occasional reduction in visibility due to heavy rainfall.
- Surface & Helicopter services may be regulated.
- Small ships & country boats would be affected due to strong wind and heavy rain.

### Action suggested:

- People are advised to keep a watch on the weather for worsening conditions and be ready to move to safer places accordingly.
- Take safe shelters; do not take shelter under trees, as there could be lightning.
- In case of expected lightning, unplug electrical/ electronic appliances, immediately, get out of water bodies and keep away from all the objects that conduct electricity.
- Tourism and recreational activities to be regulated.
- Surface transport and helicopter services to be regulated.

ANNEXURE























