



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

FDP (Cyclone) NOC Report Dated 15th October, 2021

Time of Issue: 1200 UTC

Synoptic features (based on 0900 UTC analysis):

- Under the influence of the cyclonic circulation over east-central Bay of Bengal & neighbourhood, a low pressure area (LPA) formed over the same region at 0000 UTC of 14th October 2021. At 0900 UTC of today, the 15th October, it lay over West-central & adjoining areas of Northwest BoB and coastal areas of north Andhra Pradesh & south Odisha with the associated cyclonic circulation extending upto 5.8 km above mean sea level tilting southwestwards with height.
- An east-west trough between 1.5 km & 5.8 km above mean sea level runs from Gulf of Martaban adjoining North Andaman Sea to the cyclonic circulation associated with the above Low Pressure Area.
- Under the influence of the cyclonic circulation over east-central Arabian Sea (AS) off Karnataka coast, a low pressure area formed over east-central & adjoining southeast AS off Lakshadweep area at 0000 UTC of 14th. At 0900 UTC of today, the 15th October, it lay over southeast AS and adjoining Lakshadweep area off Kerala coast with the associated cyclonic circulation extending upto 3.6 km above mean sea level.
- An east-west trough between 4.5 km & 5.8 km above mean sea level now runs roughly along 14°N across South Peninsular India.

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)			
Sea Surface Temperature	29-30°C over major parts of	27-29°C over eastern parts			
(SST) ⁰C	ВоВ	and central parts of AS			
Tropical Cyclone Heat	60-80 over entire BoB. More	70-80 over eastern parts and			
Potential (TCHP) kJ/cm ²	than 100 at some pockets	central parts of AS. Less			
	over the westcentral BoB off	than 50 over western parts of			
	south Odisha and south	AS.			
	Andhra Pradesh coasts.				
Relative vorticity (X10 ⁻⁶ s ⁻¹)	70-80 over westcentral and	80-90 over southeast &			
	adjoining northwest BoB.	adjoining east-central AS			
	Another zone of positive	and adjoining Lakshadweep			
	vorticity (50-60) over	area			
	eastcentral BoB and				
	adjoining Myanmar				
Low Level convergence	A circular area of 5-10 over	A circular region of positive			
(X10 ⁻⁵ s ⁻¹)	westcentral and adjoining	convergence 5 over			
	northwest BoB.	Lakshadweep region and			

Dynamical and thermodynamical features

	Another zone of positive	another range of negitive			
	Another zone of positive	another zone of positive			
	convergence (5-10) over	convergence 5 over			
	eastcentral BoB and	southeast AS			
	adjoining Myanmar				
Upper Level divergence	Elongated zone of positive	A circular region of positive			
(X10 ⁻⁵ s ⁻¹)	value ranging 5-10 over	divergence 5-10 over			
	westcentral and adjoining	southeast AS and adjoining			
	north Andhra Pradesh	Lakshadweep region			
	Another zone of positive				
	divergence (10-20) over				
	eastcentral BoB and				
	adjoining Myanmar.				
Vertical Wind Shear (VWS	Moderate (10-20) over major	Moderate (15-20) over east-			
Knots)	parts central and north BoB	central and adjoining			
		southeast AS			
Wind Shear Tendency	Decreasing tendency (5-10)	Decreasing tendency over			
(knots)	over entire BoB	southeast AS			
Upper tropospheric Ridge	Around 25°N over the BoB	Around 19.5°N over the AS			

Satellite observations based on INSAT imagery (0900 UTC):

Bay of Bengal & Andaman Sea:-

At 0900 UTC, scattered to broken low/med clouds with embedded intense to very intense convection over west-central & northwest BoB and adjoining north coastal Andhra Pradesh, Odisha and neighbourhood in association with low pressure area. Minimum cloud top temperature is minus 90 deg C.

Arabian Sea:-

At 0900 UTC, scattered to broken low/med clouds with embedded intense to very intense convection over southeast AS and adjoining Lakshadweep areas and neighbourhood in association with low pressure area of the southeast AS and adjoining Lakshadweep.

M.J.O. Index:

MJO index is in Phase 6 with amplitude slightly less than 1. It is likely to move into Phase 2, after 3 days with much subdued amplitude and retrace into Phase 1 with gradual increase in amplitude for the subsequent period. Thus the Phase of MJO may not contribute to Cyclogenesis over NIO during next 7 days.

Storms and Depression over South China Sea/ South Indian Ocean:

No Storm or Depression prevails over South China Sea & South Indian Ocean as on today.

NWP Input for FDP Cyclone based on 0000 UTC for the next 7 days

Model	ВоВ	AS
IMD-GFS	LPA over west-central & adjoining northwest BoB on 15 th and weakening on 16 th . No fresh genesis predicted.	LPA over Lakshadweep area on and weakening on 16 th . No fresh genesis predicted.

IMD-GEFS	An extended LPA over west- central BoB off north Andhra Pradesh coasts on 15 th and weakening on 16 th . No fresh genesis predicted.	LPA over Lakshadweep area on and weakening on 16 th . No fresh genesis predicted.		
IMD-WRF	LPA over west-central BoB on 15 th , its persistence over the same region off north Andhra Pradesh coast on 16 th and weakening on 17 th .	A well marked LPA over Lakshadweep area on and weakening on 15 th & 16 th and weakening on 17 th .		
NCMRWF-NCUM	LPA over west-central & adjoining northwest BoB on 15 th and weakening on 16 th . No fresh genesis predicted.	LPA over west-central 8 adjoining northwest BoB or 15 th and weakening on 16 th No fresh genesis predicted.		
NCMRWF-NEPS	-do-	-do-		
NCMRWF-UM (Regional)	-do-	-do-		
ECMWF	LPA over west-central & adjoining northwest BoB on 15 th and weakening on 16 th . No fresh genesis predicted.	LPA over Lakshadweep area on and weakening on 16 th . No fresh genesis predicted.		
ECMWF-EPS	Shows 10-20% strike probability for West Bengal coast on 18 th .	Shows NIL probability		
NCEP-GFS	Weakening of the present LPA over west-central BoB and moving inland during next 24 hours, a fresh LPA over Gulf of Martaban on 16 th and its moving northwestwards with marginal intensification over northeast & north BoB on 18 th & 19 th over to West Bengal coast on 20 th . No fresh genesis predicted.	LPA over Lakshadweep area on and weakening on 16 th . No fresh genesis predicted.		
IMD-GPP	Potential zone over west- central BoB on 15 th , over Gulf of Oman and adjoining Myanmar coast on 16 th , an elongated area over northeast BoB on 17 th & 18 th , shifting over to Bangladesh coast on 21 st .	A small potential zone over southeast AS off Kerala coast on 16 th alone.		

GPP- Genesis Potential Parameter based on Dynamical Statistical model developed by IMD.

Summary and Conclusion:

Most of the models are indicating that the present Low pressure Area over west-central & adjoining areas of northwest BoB and coastal areas of north Andhra Pradesh & south Odisha would weaken into a trough of Low by 16th October. Also the other Low Pressure area over southeast AS and adjoining Lakshadweep area off Kerala coast would weaken gradually during next 48 hours. No significant Low pressure system development is indicated during the next 7 days.

It may thus be concluded that,

Fresh cyclogenesis over the north Indian Ocean is un-likely during the forecast period.

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

	<u></u>	40.70	== ==		400 444	4 4 4 4 9 9
24	24-48	48-72	72-96	96-120	120-144	144-168
HOURS	HOURS	HOURS	HOURS	HOURS	HOURS	HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

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

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

Advisory:

Watch has to be maintained w.r.t. the current Low pressure areas, (i) over west-central & adjoining areas of northwest BoB and coastal areas of north Andhra Pradesh & south Odisha and (ii) over southeast AS and adjoining Lakshadweep area off Kerala coast during next 24 hours

No IOP is suggested.

Annexure-I





90E 95E

51 EG 55 10S + 40E 45E 50E 55E 60E 65E

(Background does not depict political bo

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25 20 15 110E

IMD:GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (00 HR) based on 00 UTC of 15-10-2021 valid for 00 UTC of 15-10-2021

40

30

20

95E

6



35 30

25

20

15

60 40

30

20

1101

IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (24 HR) based on 00 UTC of 15-10-2021 valid for 00 UTC of 16-10-2021 50N 451 40N 35N 30N 100 25N 80 20N 60 15N 50 10N 40 5) EX 53 the second 108 FEFEELE

95E 100 105E 110

65E 601 65E

(Background does not depict political boundary)

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