



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL WEATHER OUTLOOK**

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 29.11.2016

TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 72 HOURS ISSUED AT 1500 UTC OF 29.11.2016 BASED ON 1200 UTC OF 29.11.2016.

LATEST OBSERVATIONS & SATELLITE IMAGERY INDICATE THAT A DEPRESSION HAS FORMED OVER SOUTHEAST BAY OF BENGAL AND LAY CENTRED AT 1200 UTC OF TODAY, THE 29TH NOVEMBER, 2016 NEAR LATITUDE 6.5°N AND LONGITUDE 87.5°E, ABOUT 1070 KM EAST-SOUTHEAST OF CHENNAI(43279), 1030 KM EAST-SOUTHEAST OF PUDUCHERRY(43331) AND 720 KM EAST-SOUTHEAST OF TRINCOMALEE(43418). THE SYSTEM IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS, INTENSIFY INTO A DEEP DEPRESSION DURING NEXT 24 HRS AND INTO A CYCLONIC STORM IN SUBSEQUENT 24 HRS. IT IS VERY LIKELY TO CROSS NORTH TAMIL NADU COAST BETWEEN VEDARANNIYAM(43349) AND CHENNAI(43279) BY 2ND DECEMBER MORNING.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 1.5. THE SYSTEM SHOWS SHEAR PATTERN. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION LIE OVER SOUTH BAY OF BERNGL & ADJOINING INDIAN OCEAN BETWEEN 4.0°N TO 11.0°N AND 83.5°E TO 89.5°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -85°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 25 KNOTS GUSTING TO 35 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS ROUGH TO VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1004 HPA.

A BUOY LOCATED NEAR LATITUDE 6.5°N AND LONGITUDE 88.2°E REPORTED MAXIMUM SUSTAINED WIND SPEED (MSW) OF 180°/31 KNOTS. A SHIP LOCATED NEAR LATITUDE 5.5°N AND LONGITUDE 84.0°E REPORTED MEAN SEA LEVEL PRESSURE 1009.0 HPA AND MSW 320°/22 KNOTS

REMARKS:

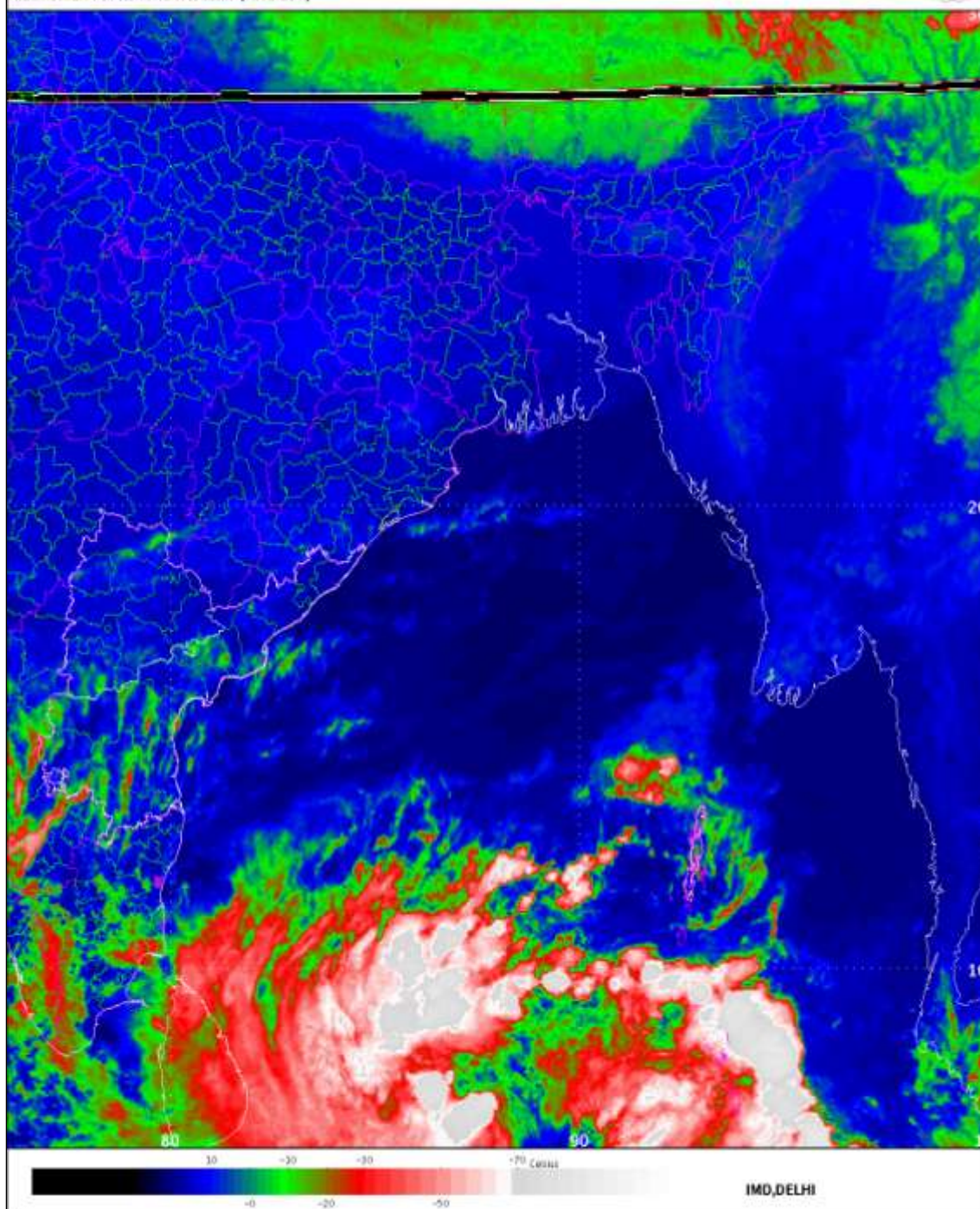
THE SEA SURFACE TEMPERATURE IS AROUND 29-30°C, OCEAN THERMAL ENERGY IS ABOUT 100-120 KJ/CM² AND DECREASES TOWARDS SOUTHWEST BAY OF BENGAL AND NEAR SRI LANKA AND NORTH TAMIL NADU COAST. THE LOW LEVEL CONVERGENCE IS ABOUT 60X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF DEPRESSION. THE UPPER LEVEL DIVERGENCE HAS INCREASED IN PAST 12 HOURS AND IS AROUND 60X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF DEPRESSION. THE LOW LEVEL RELATIVE VORTICITY HAS ALSO INCREASED IN PAST 12 HOURS AND IS ABOUT 150X10⁻⁶ SECOND⁻¹ IN SOUTHWEST SECTOR OF DEPRESSION. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (15-20 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST BAY OF BENGAL NEAR SRI LANKA & NORTH TAMIL NADU COAST. THE MADDEN JULIAN OSCILLATION INDEX LIES IN PHASE 3 WITH AMPLITUDE >1. IT WILL CONTINUE IN PHASE 3 FOR NEXT 3-4 DAYS WITH DECREASING AMPLITUDE. PHASE 3 IS FAVOURABLE FOR GENESIS OF DEPRESSION OVER BAY OF BENGAL. THE ASSOCIATED CONVECTIVE CLUD IS DEEPENING GRADUALLY WITH OLR VALUE OF LESS THAN 150 W/M². ALL THE ABOVE ENVIRONMENTAL PARAMETERS ARE FAVOURABLE FOR FURTHER INTENSIFICATION. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 14°N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF DEPRESSION IN MIDDLE AND UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE DEPRESSION WEST-NORTHWESTWARDS. MAJORITY OF MODELS SUGGEST FURTHER INTENSIFICATION INTO A CYCLONIC STORM AND WEST-NORTHWESTWARDS MOVEMENT, CROSSING NORTH TAMIL NADU COAST ON 02ND MORNING. DYNAMICAL STATISTICAL MODEL OF IMD ALSO SUGGESTS INTENSIFICATION INTO A CYCLONIC STORM DURING NEXT 48 HRS.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 30 NOVEMBER 2016.

(NARESH KUMAR)
SCIENTIST 'D', RSMC, NEW DELHI

SAT :INSAT-3D
IMG_TIR1_TEMP 10.8 um
SECTOR BAYOFBENGAL Mercator (NHC LUT)

29-11-2016/14:30 GMT
29-11-2016/20:00 IST





**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL WEATHER OUTLOOK**

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 30.11.2016

TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 72 HOURS ISSUED AT 0300 UTC OF 30.11.2016 BASED ON 0000 UTC OF 30.11.2016.

THE DEPRESSION OVER SOUTHEAST BAY OF BENGAL MOVED WEST-NORTHWESTERWARDS FOR THE PAST SIX HOURS WITH A SPEED ABOUT 15 KMPH, INTENSIFIED INTO A DEEP DEPRESSION AND LAY CENTRED AT 0000 UTC OF TODAY, THE 30TH NOVEMBER, 2016 NEAR LATITUDE 7.8°N AND LONGITUDE 85.7°E, ABOUT 830 KM SOUTHEAST OF CHENNAI(43279), 780 KM EAST-SOUTHEAST OF PUDUCHERRY(43331) AND 490 KM EAST-SOUTHEAST OF TRINCOMALEE (43418). THE SYSTEM IS VERY LIKELY TO CONTINUE TO MOVE WEST-NORTHWESTWARD AND INTENSIFY FURTHER INTO A CYCLONIC STORM DURING NEXT 12 HRS. IT IS VERY LIKELY TO CROSS NORTH TAMIL NADU COAST BETWEEN VEDARANNIYAM(43349) AND CHENNAI, CLOSE TO CUDDALORE(43329) BY EARLY HOURS OF 2ND DECEMBER.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
30-11-2016/0000	7.8/85.7	50-60 GUSTING TO 70	DEEP DEPRESSION
30-11-2016/0600	8.4/84.9	60-70 GUSTING TO 80	CYCLONIC STORM
30-11-2016/1200	9.0/84.1	65-75 GUSTING TO 85	CYCLONIC STORM
30-11-2016/1800	9.6/83.3	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/0000	10.1/82.5	75-85 GUSTING TO 95	CYCLONIC STORM
01-12-2016/1200	10.9/80.9	75-85 GUSTING TO 95	CYCLONIC STORM
02-12-2016/0000	11.6/79.3	60-70 GUSTING TO 80	CYCLONIC STORM
02-12-2016/1200	12.0/78.0	40-50 GUSTING TO 60	DEPRESSION

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.0. THE SYSTEM HAS FURTHER ORGANISED AND SHOWS BANDING PATTERN. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION LIE OVER SOUTH BAY OF BERNGAL BETWEEN 5.0°N TO 11.0°N AND 82.0°E TO 87.5°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -85°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING TO 40 OTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1002 HPA.

A BUOY LOCATED NEAR LATITUDE 6.5°N AND LONGITUDE 88.2°E REPORTED MEAN SEA LEVEL PRESSURE 1008.7 HPA AND MAXIMUM SUSTAINED WIND SPEED (MSW) OF 220°/18 KNOTS.

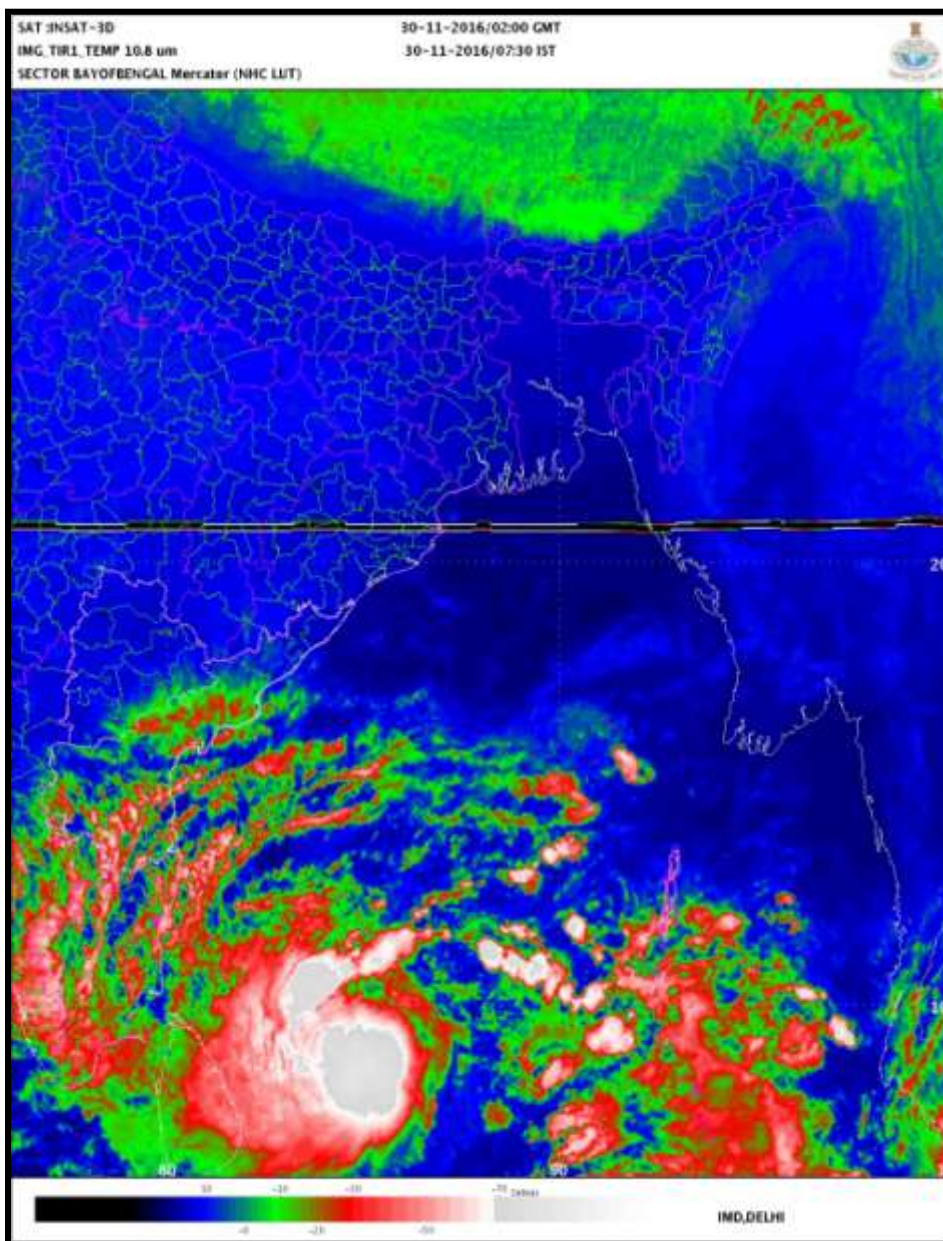
REMARKS:

THE SEA SURFACE TEMPERATURE IS AROUND 29°C NEAR THE SYSTEM CENTRE AND 28°C NEAR NORTH TAMIL NADU COAST, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM² AROUND SYSTEM CENTRE AND DECREASES TOWARDS SOUTHWEST BAY OF BENGAL BECOMING LESS THAN 50 KJ/CM² NEAR NORTH TAMIL NADU COAST. THE LOW LEVEL CONVERGENCE IS ABOUT 50X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE DEEP DEPRESSION. THE UPPER LEVEL DIVERGENCE IS AROUND 40X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE DEEP DEPRESSION. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 150X10⁻⁶ SECOND⁻¹ NEAR THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS

MODERATE (10-20 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST BAY OF BENGAL NEAR SRI LANKA & NORTH TAMIL NADU COAST. THE MADDEN JULIAN OSCILLATION INDEX LIES IN PHASE 3 WITH AMPLITUDE <1. IT WILL CONTINUE IN PHASE 3 AND THEN IN PHASE 2 FOR NEXT 3-4 DAYS. ALL THE ABOVE ENVIRONMENTAL PARAMETERS ARE FAVOURABLE FOR FURTHER INTENSIFICATION. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 14⁰N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF DEEP DEPRESSION IN MIDDLE AND UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS. MAJORITY OF MODELS SUGGEST FURTHER INTENSIFICATION INTO A CYCLONIC STORM AND WEST-NORTHWESTWARDS MOVEMENT, CROSSING NORTH TAMIL NADU COAST BY EARLY HOURS OF 2ND DECEMBER. DYNAMICAL STATISTICAL MODEL OF IMD ALSO SUGGESTS INTENSIFICATION INTO A CYCLONIC STORM DURING NEXT 48 HRS.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 30 NOVEMBER 2016.

**(NARESH KUMAR)
SCIENTIST 'D', RSMC, NEW DELHI**





**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN**

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI
TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)

TROPICAL CYCLONE ADVISORY
RSMC – TROPICAL CYCLONES, NEW DELHI

**TROPICAL STORM ‘NADA’ ADVISORY NUMBER ONE ISSUED AT 0600 UTC OF 30 NOVEMBER 2016
BASED ON 0300 UTC CHARTS OF 30 NOVEMBER 2016**

THE DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL MOVED NORTHWESTWARDS DURING PAST SIX HOURS WITH A SPEED ABOUT 25 KMPH, INTENSIFIED INTO A CYCLONIC STORM “**NADA**” OVER SOUTHWEST & ADJOINING SOUTHEAST BAY OF BENGAL AND LAY CENTRED AT 0300 UTC OF TODAY, THE 30TH NOVEMBER, 2016 NEAR LATITUDE 8.2°N AND LONGITUDE 85.3°E, ABOUT 770 KM SOUTHEAST OF CHENNAI(43279), 730 KM EAST-SOUTHEAST OF PUDUCHERRY(43331) AND 450 KM EAST-SOUTHEAST OF TRINCOMALEE (43418). THE SYSTEM IS VERY LIKELY TO MOVE WEST-NORTHWESTWARD, INTENSIFY FURTHER AND CROSS NORTH TAMIL NADU COAST BETWEEN VEDARANNIYAM(43349) AND PUDUCHERRY(43331), CLOSE TO CUDDALORE(43329) BY EARLY HOURS OF 2ND DECEMBER.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
30-11-2016/0300	8.2/85.3	60-70 GUSTING TO 80	CYCLONIC STORM
30-11-2016/0600	8.4/84.9	60-70 GUSTING TO 80	CYCLONIC STORM
30-11-2016/1200	9.0/84.1	65-75 GUSTING TO 85	CYCLONIC STORM
30-11-2016/1800	9.6/83.3	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/0000	10.1/82.5	75-85 GUSTING TO 95	CYCLONIC STORM
01-12-2016/1200	10.9/80.9	75-85 GUSTING TO 95	CYCLONIC STORM
02-12-2016/0000	11.6/79.3	60-70 GUSTING TO 80	CYCLONIC STORM
02-12-2016/1200	12.0/78.0	40-50 GUSTING TO 60	DEPRESSION

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.5. THE SYSTEM SHOWS CURVED BAND PATTERN. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION LIE OVER SOUTH BAY OF BERNGAL BETWEEN 6.4°N TO 12.0°N AND 80.0°E TO 86.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 35 KNOTS GUSTING TO 45 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

Contact: Phone: (91) 11-24652484 FAX: (91) 11-24623220 e-mail :cwdhq2008@gmail.com

A BUOY LOCATED NEAR LATITUDE 14.0°N AND LONGITUDE 87.0°E REPORTED MEAN SEA LEVEL PRESSURE 1012.9 HPA AND MAXIMUM SUSTAINED WIND SPEED (MSW) OF 50°/16 KNOTS. ANOTHER BUOY LOCATED NEAR LATITUDE 13.5°N AND LONGITUDE 84.0°E REPORTED MEAN SEA LEVEL PRESSURE 1013.3 HPA AND MSW 30°/19 KNOTS

REMARKS:

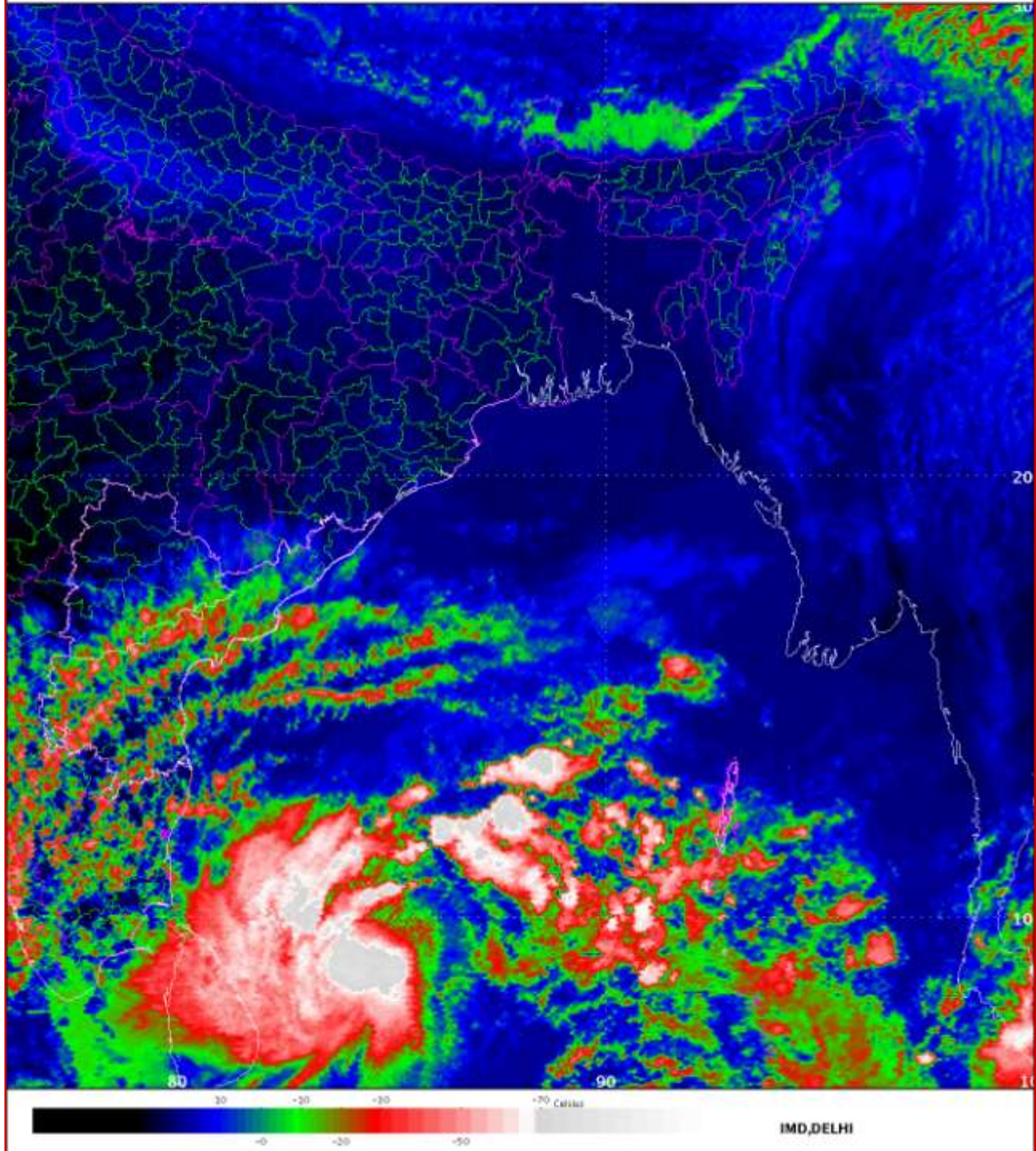
THE SEA SURFACE TEMPERATURE IS AROUND 29°C NEAR THE SYSTEM CENTRE AND 28°C NEAR NORTH TAMIL NADU COAST, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM² AROUND SYSTEM CENTRE AND DECREASES TOWARDS SOUTHWEST BAY OF BENGAL BECOMING LESS THAN 50 KJ/CM² NEAR NORTH TAMIL NADU COAST. THE LOW LEVEL CONVERGENCE IS ABOUT 50X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE IS AROUND 40X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 150X10⁻⁶ SECOND⁻¹ NEAR THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-20 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST BAY OF BENGAL NEAR SRI LANKA & NORTH TAMIL NADU COAST. THE MADDEN JULIAN OSCILLATION INDEX LIES IN PHASE 3 WITH AMPLITUDE <1. IT WILL CONTINUE IN PHASE 3 AND THEN IN PHASE 2 FOR NEXT 3-4 DAYS. ALL THE ABOVE ENVIRONMENTAL PARAMETERS ARE FAVOURABLE FOR FURTHER INTENSIFICATION. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 14°N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF CYCLONIC STORM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS. MAJORITY OF MODELS SUGGEST FURTHER SLIGHT INTENSIFICATION AND WEST-NORTHWESTWARDS MOVEMENT, CROSSING NORTH TAMIL NADU COAST BY EARLY HOURS OF 2ND DECEMBER.

THE NEXT BULLETIN WILL BE ISSUED AT 0900 UTC OF 30 NOVEMBER 2016.

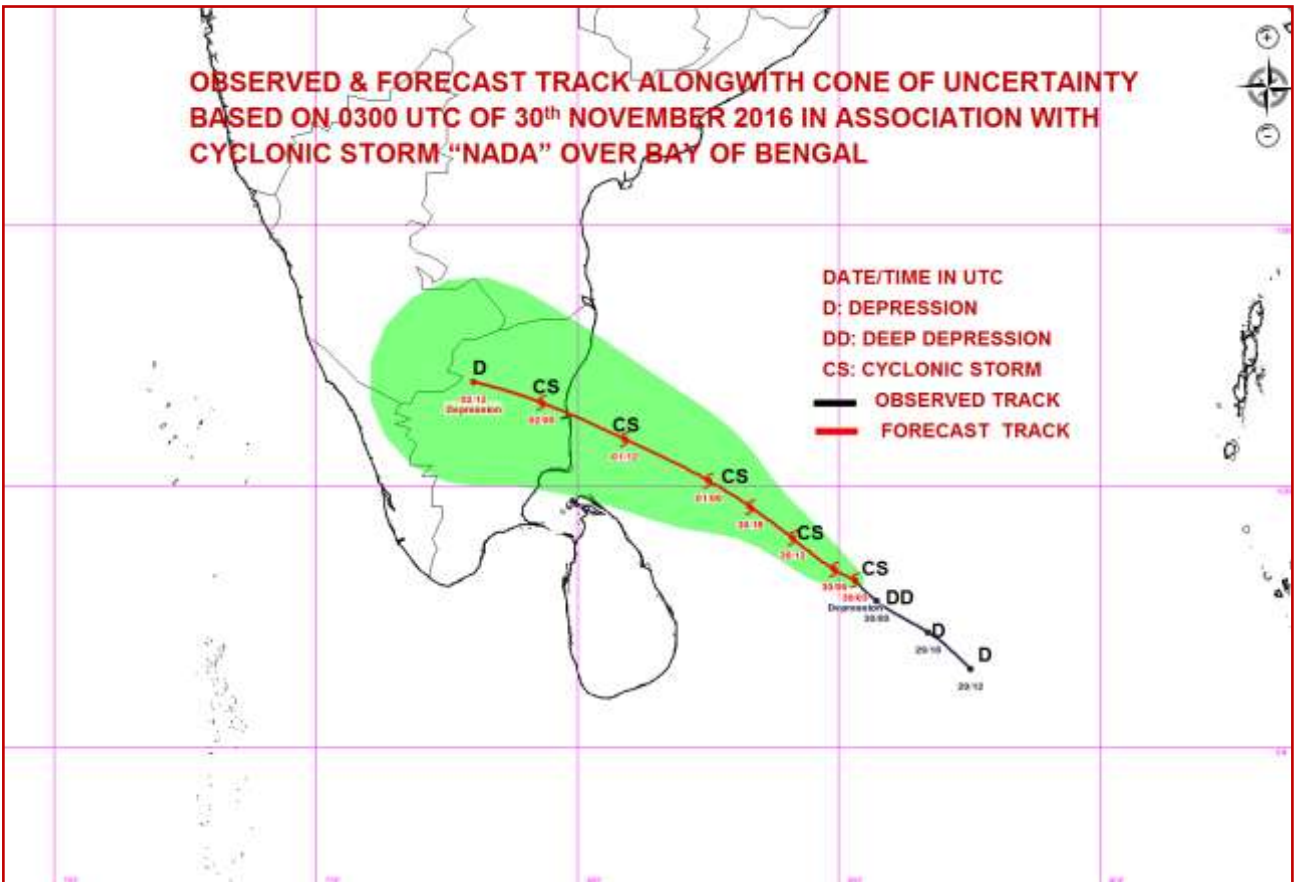
**(NARESH KUMAR)
SCIENTIST 'D', RSMC, NEW DELHI**

SAT :INSAT-3D
IMG_TIR1_TEMP 10.8 um
SECTOR BAYOFBENGAL Mercator (NHC LUT)

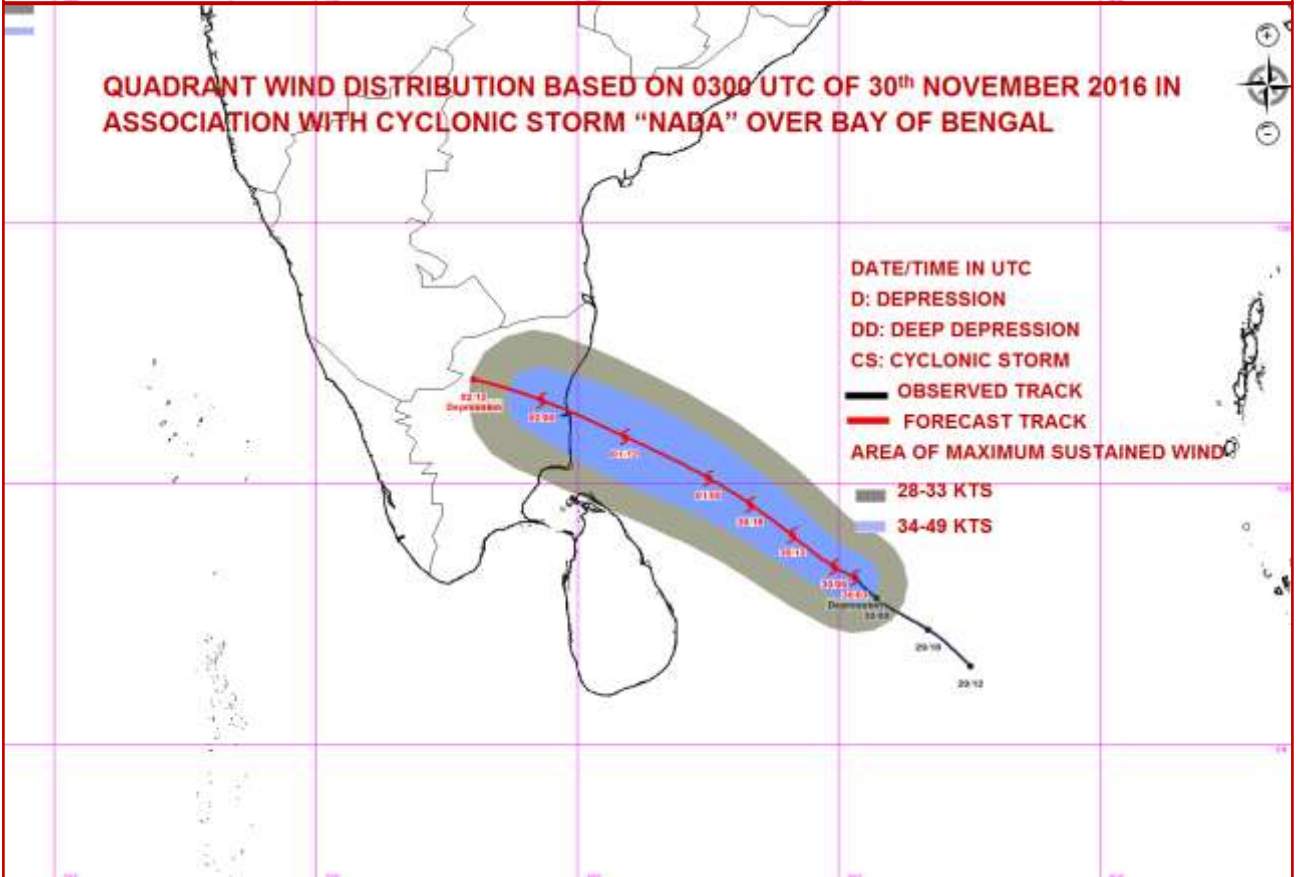
30-11-2016/05:00 GMT
30-11-2016/10:30 IST



**OBSERVED & FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY
BASED ON 0300 UTC OF 30th NOVEMBER 2016 IN ASSOCIATION WITH
CYCLONIC STORM "NADA" OVER BAY OF BENGAL**



**QUADRANT WIND DISTRIBUTION BASED ON 0300 UTC OF 30th NOVEMBER 2016 IN
ASSOCIATION WITH CYCLONIC STORM "NADA" OVER BAY OF BENGAL**





**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN**

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI
TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)

TROPICAL CYCLONE ADVISORY
RSMC – TROPICAL CYCLONES, NEW DELHI

**TROPICAL STORM ‘NADA’ ADVISORY NUMBER TWO ISSUED AT 0900 UTC OF 30 NOVEMBER 2016
BASED ON 0600 UTC CHARTS OF 30 NOVEMBER 2016**

THE CYCLONIC STORM “NADA” OVER SOUTHWEST & ADJOINING SOUTHEAST BAY OF BENGAL MOVED NEARLY NORTHWESTWARDS DURING PAST SIX HOURS WITH A SPEED ABOUT 21 KMPH AND LAY CENTRED AT 0600 UTC OF TODAY, THE 30TH NOVEMBER, 2016 NEAR LATITUDE 8.7°N AND LONGITUDE 85.0°E, ABOUT 710 KM SOUTHEAST OF CHENNAI(43279), 670 KM EAST-SOUTHEAST OF PUDUCHERRY(43331) AND 410 KM EAST OF TRINCOMALEE (43418). THE SYSTEM IS VERY LIKELY TO MOVE WEST-NORTHWESTWARD, INTENSIFY FURTHER AND CROSS NORTH TAMIL NADU COAST BETWEEN VEDARANNIYAM(43349) AND PUDUCHERRY(43331), CLOSE TO CUDDALORE(43329) BY EARLY HOURS OF 2ND DECEMBER.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
30-11-2016/0600	8.7/85.0	60-70 GUSTING TO 80	CYCLONIC STORM
30-11-2016/1200	9.2/84.2	65-75 GUSTING TO 85	CYCLONIC STORM
30-11-2016/1800	9.7/83.3	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/0000	10.1/82.5	75-85 GUSTING TO 95	CYCLONIC STORM
01-12-2016/0600	10.5/81.7	75-85 GUSTING TO 95	CYCLONIC STORM
01-12-2016/1800	11.3/79.9	70-80 GUSTING TO 90	CYCLONIC STORM
02-12-2016/0600	11.8/78.6	40-50 GUSTING TO 60	DEPRESSION
02-12-2016/1800	12.0/77.4	20-30 GUSTING TO 40	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.5. THE SYSTEM SHOWS CURVED BAND PATTERN. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION LIE OVER SOUTH BAY OF BERNGAL BETWEEN 6.4°N TO 12.0°N AND 80.0°E TO 86.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 35 KNOTS GUSTING TO 45 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

Contact: Phone: (91) 11-24652484 FAX: (91) 11-24623220 e-mail :cwdhq2008@gmail.com

REMARKS:

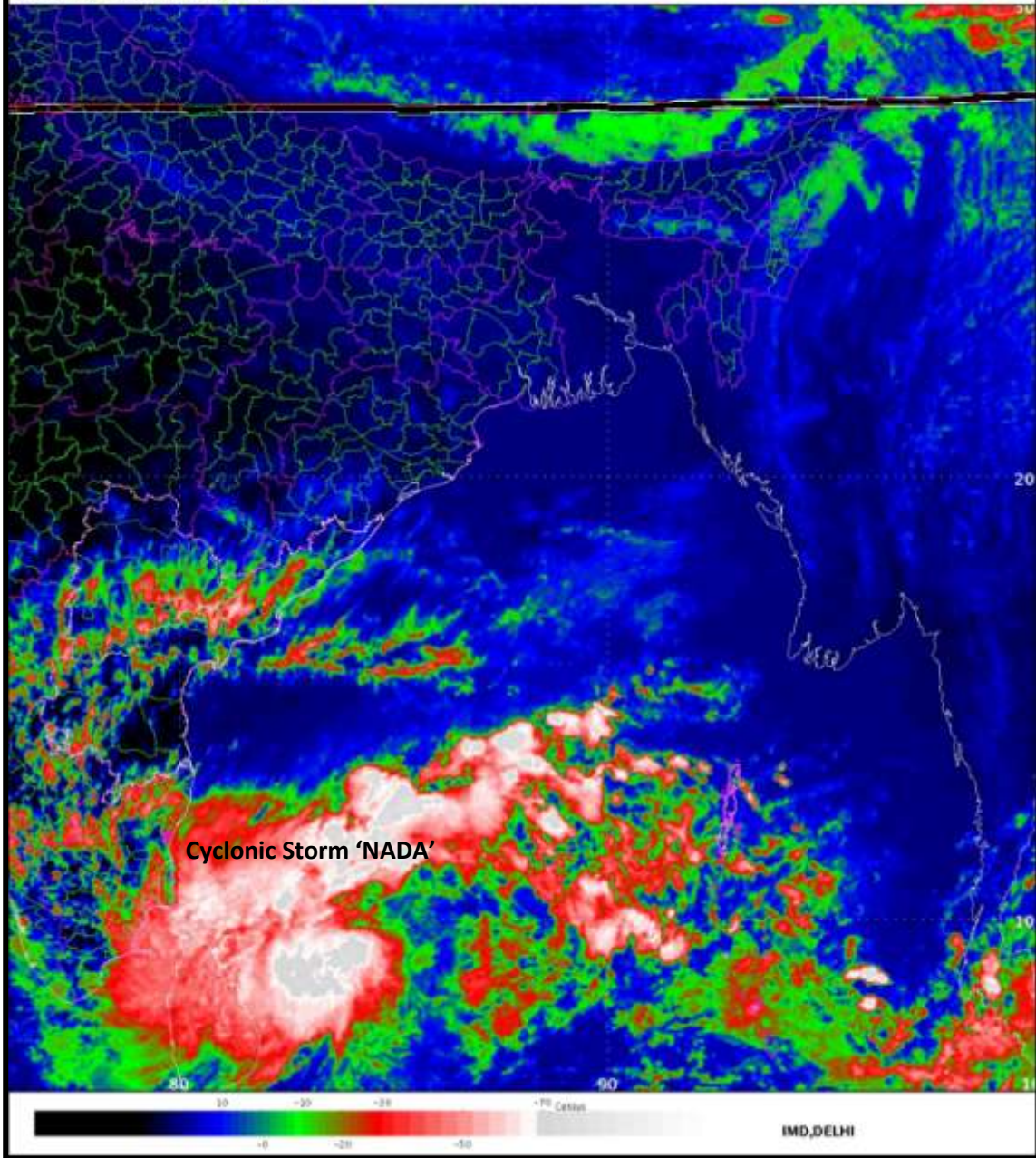
THE SEA SURFACE TEMPERATURE IS AROUND 29°C NEAR THE SYSTEM CENTRE AND 28°C NEAR NORTH TAMIL NADU COAST, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM² AROUND SYSTEM CENTRE AND DECREASES TOWARDS SOUTHWEST BAY OF BENGAL BECOMING LESS THAN 50 KJ/CM² NEAR NORTH TAMIL NADU COAST. THE LOW LEVEL CONVERGENCE IS ABOUT 50X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE IS AROUND 40X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 150X10⁻⁶ SECOND⁻¹ NEAR THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-20 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST BAY OF BENGAL NEAR SRI LANKA & NORTH TAMIL NADU COAST. THE MADDEN JULIAN OSCILLATION INDEX LIES IN PHASE 3 WITH AMPLITUDE <1. IT WILL CONTINUE IN PHASE 3 AND THEN IN PHASE 2 FOR NEXT 3-4 DAYS. ALL THE ABOVE ENVIRONMENTAL PARAMETERS ARE FAVOURABLE FOR FURTHER INTENSIFICATION. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 14⁰N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF CYCLONIC STORM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS. MAJORITY OF MODELS SUGGEST FURTHER SLIGHT INTENSIFICATION AND WEST-NORTHWESTWARDS MOVEMENT, CROSSING NORTH TAMIL NADU COAST BY EARLY HOURS OF 2ND DECEMBER.

THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 30 NOVEMBER 2016.

**(NARESH KUMAR)
SCIENTIST 'D', RSMC, NEW DELHI**

SAT INSAT-3D
IMG_TIR1_TEMP 10.8 um
SECTOR BAYOFBENGAL Mercator (NHC LUT)

30-11-2016/08:00 GMT
30-11-2016/13:30 IST





**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-
TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN**

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI
TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)

TROPICAL CYCLONE ADVISORY
RSMC – TROPICAL CYCLONES, NEW DELHI

TROPICAL STORM ‘NADA’ ADVISORY NUMBER THREE ISSUED AT 1200 UTC OF 30 NOVEMBER 2016 BASED ON 0900 UTC CHARTS OF 30 NOVEMBER 2016

THE CYCLONIC STORM “NADA” OVER SOUTHWEST & ADJOINING SOUTHEAST BAY OF BENGAL MOVED NEARLY NORTHWESTWARDS DURING PAST SIX HOURS WITH A SPEED ABOUT 30 KMPH AND LAY CENTRED AT 0900 UTC OF TODAY, THE 30TH NOVEMBER, 2016 NEAR LATITUDE 9.5°N AND LONGITUDE 84.3°E OVER SOUTHWEST BAY OF BENGAL, ABOUT 590 KM SOUTHEAST OF CHENNAI(43279), 560 KM EAST-SOUTHEAST OF PUDUCHERRY AND 350 KM EAST-NORTHEAST OF TRINCOMALEE(43418). THE SYSTEM IS VERY LIKELY TO MOVE WEST-NORTHWESTWARD, INTENSIFY FURTHER AND CROSS NORTH TAMIL NADU COAST BETWEEN VEDARANNIYAM(43349) AND PUDUCHERRY(43331), CLOSE TO CUDDALORE(43329) BY EARLY HOURS OF 2ND DECEMBER.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
30-11-2016/0900	9.5/84.3	60-70 GUSTING TO 80	CYCLONIC STORM
30-11-2016/1200	9.7/84.0	65-75 GUSTING TO 85	CYCLONIC STORM
30-11-2016/1800	9.9/83.3	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/0000	10.1/82.5	75-85 GUSTING TO 95	CYCLONIC STORM
01-12-2016/0600	10.5/81.7	75-85 GUSTING TO 95	CYCLONIC STORM
01-12-2016/1800	11.3/79.9	70-80 GUSTING TO 90	CYCLONIC STORM
02-12-2016/0600	11.8/78.6	40-50 GUSTING TO 60	DEPRESSION
02-12-2016/1800	12.0/77.4	20-30 GUSTING TO 40	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.5. THE SYSTEM SHOWS CURVED BAND PATTERN. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION LIE OVER SOUTH BAY OF BERNGAL BETWEEN 6.4°N TO 12.0°N AND 80.0°E TO 86.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 35 KNOTS GUSTING TO 45 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

Contact: Phone: (91) 11-24652484 FAX: (91) 11-24623220 e-mail :cwdhq2008@gmail.com

REMARKS:

THE SEA SURFACE TEMPERATURE IS AROUND 29°C NEAR THE SYSTEM CENTRE AND 28°C NEAR NORTH TAMIL NADU COAST, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM² AROUND SYSTEM CENTRE AND DECREASES TOWARDS SOUTHWEST BAY OF BENGAL BECOMING LESS THAN 50 KJ/CM² NEAR NORTH TAMIL NADU COAST. THE LOW LEVEL CONVERGENCE IS ABOUT 50X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE IS AROUND 40X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 150X10⁻⁶ SECOND⁻¹ NEAR THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-20 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST BAY OF BENGAL NEAR SRI LANKA & NORTH TAMIL NADU COAST. THE MADDEN JULIAN OSCILLATION INDEX LIES IN PHASE 3 WITH AMPLITUDE <1. IT WILL CONTINUE IN PHASE 3 AND THEN IN PHASE 2 FOR NEXT 3-4 DAYS. ALL THE ABOVE ENVIRONMENTAL PARAMETERS ARE FAVOURABLE FOR FURTHER INTENSIFICATION. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 14⁰N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF CYCLONIC STORM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS. MAJORITY OF MODELS SUGGEST FURTHER SLIGHT INTENSIFICATION AND WEST-NORTHWESTWARDS MOVEMENT, CROSSING NORTH TAMIL NADU COAST BY EARLY HOURS OF 2ND DECEMBER.

(NARESH KUMAR)
SCIENTIST 'D', RSMC, NEW DELHI



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN**

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI
TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)

TROPICAL CYCLONE ADVISORY
RSMC – TROPICAL CYCLONES, NEW DELHI

**TROPICAL STORM ‘NADA’ ADVISORY NUMBER FIVE ISSUED AT 1700 UTC OF 30 NOVEMBER 2016
BASED ON 1500 UTC CHARTS OF 30 NOVEMBER 2016**

THE CYCLONIC STORM “NADA” OVER SOUTHWEST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS DURING PAST SIX HOURS WITH A SPEED OF ABOUT 17 KMPH AND LAY CENTRED AT 1500 UTC OF TODAY, THE 30TH NOVEMBER, 2016 NEAR LATITUDE 10.0°N AND LONGITUDE 83.5°E OVER SOUTHWEST BAY OF BENGAL, ABOUT 490 KM SOUTHEAST OF CHENNAI (43279), 460 KM EAST-SOUTHEAST OF PUDUCHERRY (43331) AND 290 KM NORTHEAST OF TRINCOMALEE (43418). THE SYSTEM IS VERY LIKELY TO MOVE WEST-NORTHWESTWARD AND CROSS NORTH TAMIL NADU COAST BETWEEN VEDARANNIYAM AND PUDUCHERRY, CLOSE TO CUDDALORE (43329) BY EARLY HOURS OF 2ND DECEMBER.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
30-11-2016/1500	10.0/83.5	70-80 GUSTING TO 90	CYCLONIC STORM
30-11-2016/1800	10.4/83.2	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/0000	10.8/82.4	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/0600	11.0/81.7	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/1200	11.2/81.0	65-75 GUSTING TO 85	CYCLONIC STORM
02-12-2016/0000	11.4/79.5	55-65 GUSTING TO 75	DEEP DEPRESSION
02-12-2016/1200	11.5/77.9	25-35 GUSTING TO 45	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.5. THE SYSTEM SHOWS CURVED BAND PATTERN. HOWEVER, THE CLOUD MASS SHOWS SLIGHT DISORGANISATION. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER COASTAL TAMIL NADU, PALK STRAIT, SRILANKA AND OVER BAY OF BENGAL BETWEEN LATITUDE 8.0°N TO 11.5°N AND TO WEST OF LONGITUDE 84.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -78°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 40 KNOTS GUSTING TO 50 KNOTS

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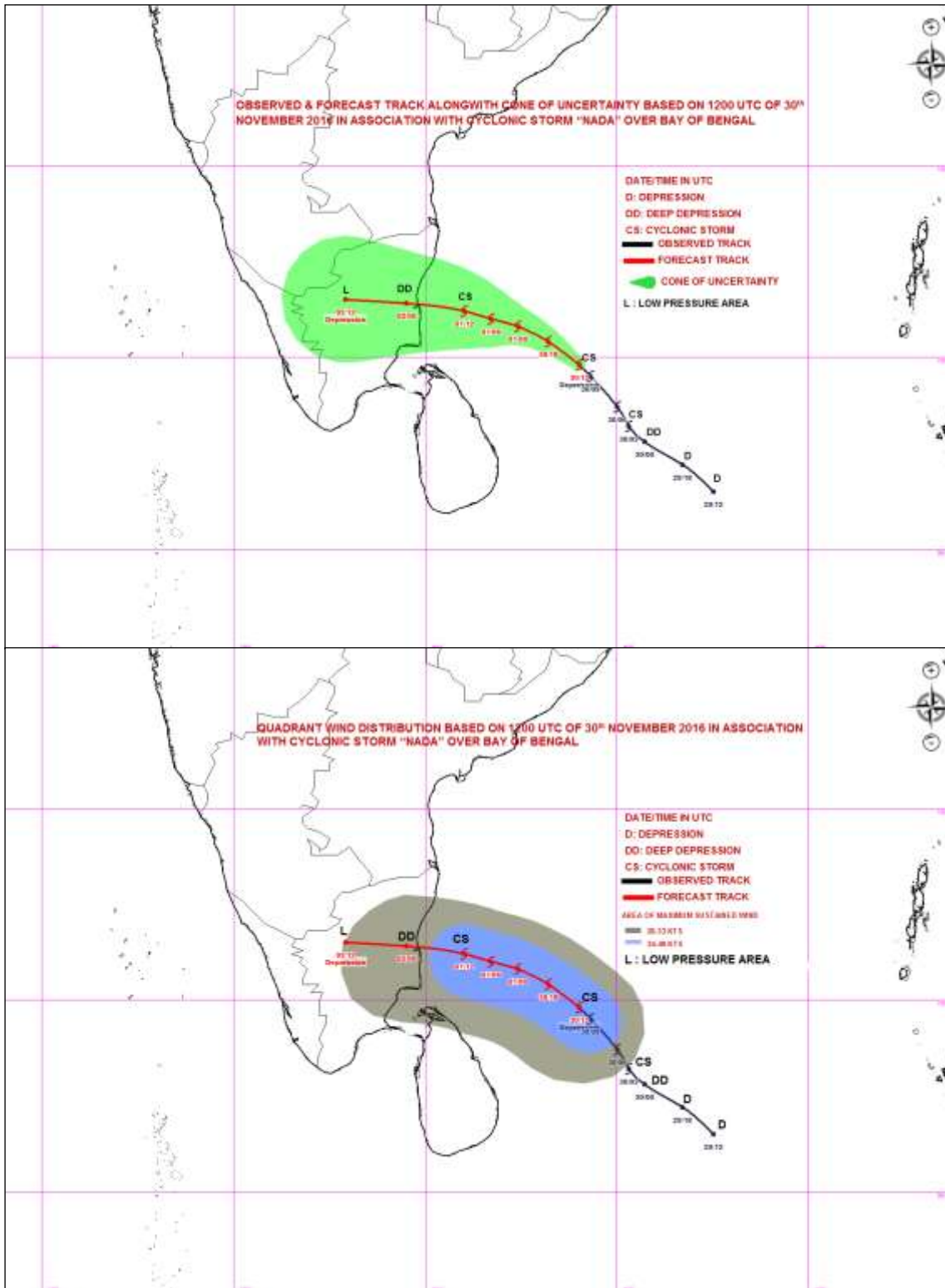
AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

A BUOY LOCATED NEAR LATITUDE 14.0°N AND LONGITUDE 87.0°E REPORTED MEAN SEA LEVEL PRESSURE 1012.0 HPA AND MAXIMUM SUSTAINED WIND SPEED (MSW) OF 90°/16 KNOTS. ANOTHER BUOY LOCATED NEAR LATITUDE 13.5°N AND LONGITUDE 84.0°E REPORTED MEAN SEA LEVEL PRESSURE 1011.2 HPA AND MSW 40°/24 KNOTS

REMARKS:

THE SEA SURFACE TEMPERATURE IS AROUND 29°C NEAR THE SYSTEM CENTRE AND 28°C NEAR NORTH TAMIL NADU COAST, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM² AROUND SYSTEM CENTRE AND DECREASES TOWARDS SOUTHWEST BAY OF BENGAL BECOMING LESS THAN 50 KJ/CM² NEAR NORTH TAMIL NADU COAST. THE LOW LEVEL CONVERGENCE IS ABOUT 50X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE IS AROUND 40X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE LOW LEVEL RELATIVE VORTICITY HAS INCREASED IN PAST SIX HOURS AND IS ABOUT 200X10⁻⁶ SECOND⁻¹ NEAR THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (15-20 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST BAY OF BENGAL NEAR SRI LANKA & NORTH TAMIL NADU COAST. THE MADDEN JULIAN OSCILLATION INDEX LIES IN PHASE 3 WITH AMPLITUDE <1. IT WILL CONTINUE IN PHASE 3 AND THEN IN PHASE 2 FOR NEXT 3-4 DAYS. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 14°N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF CYCLONIC STORM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS. MAJORITY OF MODELS SUGGEST WEST-NORTHWESTWARDS MOVEMENT, CROSSING NORTH TAMIL NADU COAST BY EARLY HOURS OF 2ND DECEMBER. HOWEVER, AS THE SYSTEM MOVES CLOSER TO NORTH TAMIL NADU COAST, IT WILL EXPERIENCE INCREASE IN VERTICAL WIND SHEAR AND RELATIVELY COLDER SEA AND LOWER OCEAN HEAT CONTENT, WHICH WILL LIMIT THE INTENSIFICATION OF THE SYSTEM.

**(SHAMBU RAVINDREN)
SCIENTIST 'B', NWFC, NEW DELHI**





**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN**

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI
TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)

TROPICAL CYCLONE ADVISORY
RSMC – TROPICAL CYCLONES, NEW DELHI

**TROPICAL STORM ‘NADA’ ADVISORY NUMBER SIX ISSUED AT 2100 UTC OF 30 NOVEMBER 2016
BASED ON 1800 UTC CHARTS OF 30 NOVEMBER 2016**

THE CYCLONIC STORM “NADA” OVER SOUTHWEST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS DURING PAST SIX HOURS WITH A SPEED OF ABOUT 20 KMPH AND LAY CENTRED AT 1800 UTC OF TODAY, THE 30TH NOVEMBER, 2016 NEAR LATITUDE 10.3°N AND LONGITUDE 83.0°E OVER SOUTHWEST BAY OF BENGAL, ABOUT 430 KM SOUTHEAST OF CHENNAI (43279), 390 KM EAST-SOUTHEAST OF PUDUCHERRY (43331) AND 270 KM NORTHEAST OF TRINCOMALEE (43418). THE SYSTEM IS VERY LIKELY TO MOVE WEST-NORTHWESTWARD AND CROSS NORTH TAMIL NADU COAST BETWEEN VEDARANNIYAM AND PUDUCHERRY, CLOSE TO CUDDALORE (43329) BY EARLY HOURS OF 2ND DECEMBER.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
30-11-2016/1800	10.3/83.0	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/0000	10.6/82.4	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/0600	11.0/81.7	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/1200	11.2/81.0	65-75 GUSTING TO 85	CYCLONIC STORM
01-12-2016/1800	11.3/80.3	65-75 GUSTING TO 85	CYCLONIC STORM
02-12-2016/0600	11.4 /78.8	40-50 GUSTING TO 60	DEPRESSION
02-12-2016/1800	11.5/77.4	20-30 GUSTING TO 40	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.5. THE SYSTEM SHOWS CURVED BAND PATTERN. HOWEVER, THE CLOUD MASS SHOWS SLIGHT DISORGANISATION. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LIE OVER COASTAL TAMIL NADU, PALK STRAIT, SRILANKA AND OVER BAY OF BENGAL BETWEEN LATITUDE 8.0°N TO 11.5°N AND TO WEST OF LONGITUDE

Contact: Phone: (91) 11-24652484 FAX: (91) 11-24623220 e-mail :cwdhq2008@gmail.com

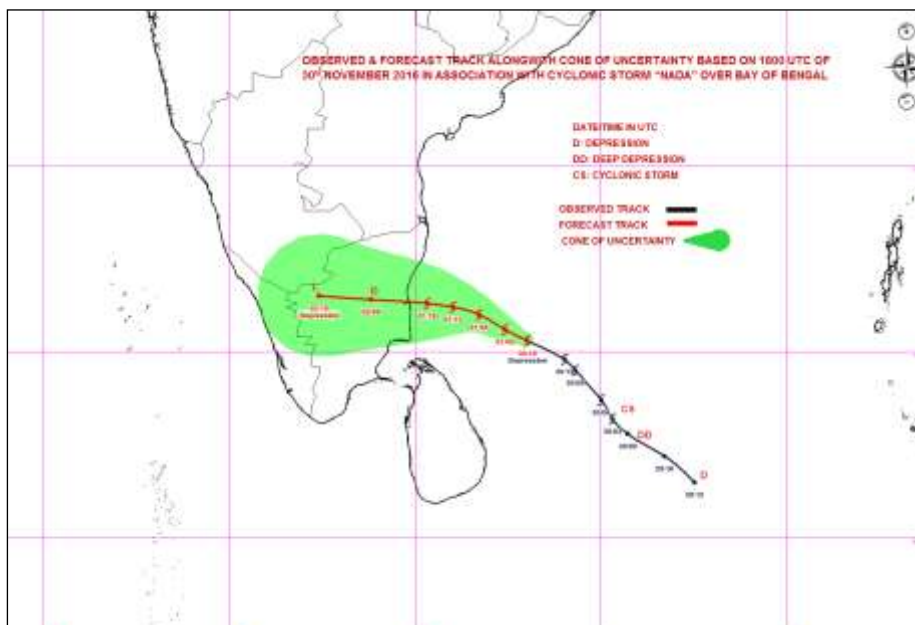
83.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -66°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 40 KNOTS GUSTING TO 50 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

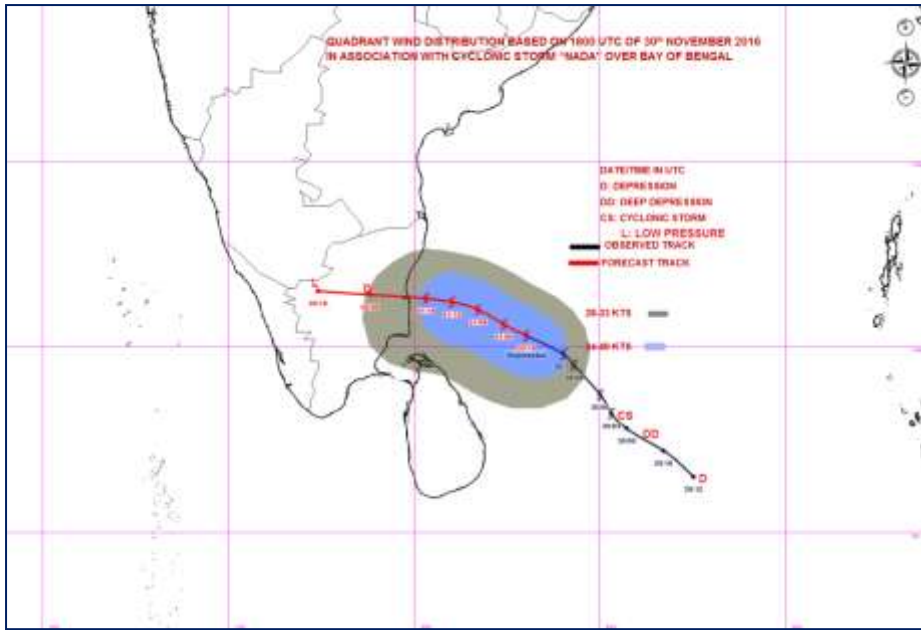
A BUOY LOCATED NEAR LATITUDE 9.5°N AND LONGITUDE 87.7°E REPORTED MEAN SEA LEVEL PRESSURE 1012.0 HPA AND MAXIMUM SUSTAINED WIND SPEED (MSW) OF 180°/17 KNOTS. ANOTHER BUOY LOCATED NEAR LATITUDE 13.5°N AND LONGITUDE 84.0°E REPORTED MEAN SEA LEVEL PRESSURE 1011.2 HPA AND MSW 50°/19 KNOTS

REMARKS:

THE SEA SURFACE TEMPERATURE IS AROUND 29°C NEAR THE SYSTEM CENTRE AND 28°C NEAR NORTH TAMIL NADU COAST, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM² AROUND SYSTEM CENTRE AND DECREASES TOWARDS SOUTHWEST BAY OF BENGAL BECOMING LESS THAN 50 KJ/CM² NEAR NORTH TAMIL NADU COAST. THE LOW LEVEL CONVERGENCE IS ABOUT 50X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE IS AROUND 40X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE LOW LEVEL RELATIVE VORTICITY HAS INCREASED IN PAST SIX HOURS AND IS ABOUT 200X10⁻⁶ SECOND⁻¹ NEAR THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (15-20 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST BAY OF BENGAL NEAR SRI LANKA & NORTH TAMIL NADU COAST. THE MADDEN JULIAN OSCILLATION INDEX LIES IN PHASE 3 WITH AMPLITUDE <1. IT WILL CONTINUE IN PHASE 3 AND THEN IN PHASE 2 FOR NEXT 3-4 DAYS. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 14°N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF CYCLONIC STORM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS. MAJORITY OF MODELS SUGGEST WEST-NORTHWESTWARDS MOVEMENT, CROSSING NORTH TAMIL NADU COAST BY EARLY HOURS OF 2ND DECEMBER. HOWEVER, AS THE SYSTEM MOVES CLOSER TO NORTH TAMIL NADU COAST, IT WILL EXPERIENCE INCREASE IN VERTICAL WIND SHEAR AND RELATIVELY COLDER SEA AND LOWER OCEAN HEAT CONTENT, WHICH WILL LIMIT THE INTENSIFICATION OF THE SYSTEM.

**(SHAMBU RAVINDREN)
SCIENTIST 'B', NWFC, NEW DELHI**







**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN**

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI
TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)

TROPICAL CYCLONE ADVISORY
RSMC – TROPICAL CYCLONES, NEW DELHI

**TROPICAL STORM ‘NADA’ ADVISORY NUMBER SEVEN ISSUED AT 0100 UTC OF 1ST DECEMBER
2016 BASED ON 2100 UTC CHARTS OF 30 NOVEMBER 2016**

THE CYCLONIC STORM “NADA” OVER SOUTHWEST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS DURING PAST SIX HOURS WITH A SPEED OF ABOUT 28 KMPH AND LAY CENTRED AT 2100 UTC OF YESTERDAY, THE 30TH NOVEMBER, 2016 NEAR LATITUDE 10.4°N AND LONGITUDE 82.0°E OVER SOUTHWEST BAY OF BENGAL, ABOUT 350 KM SOUTH-SOUTHEAST OF CHENNAI (43279), 290 KM SOUTHEAST OF PUDUCHERRY (43331) AND 210 KM NORTH-NORTHEAST OF TRINCOMALEE (43418). THE SYSTEM IS VERY LIKELY TO MOVE WEST-NORTHWESTWARD AND CROSS NORTH TAMIL NADU COAST BETWEEN VEDARANNIYAM AND PUDUCHERRY, SOUTH OF CUDDALORE (43329) BY EARLY HOURS OF 2ND DECEMBER. THERE IS POSSIBILITY OF SLIGHT WEAKENING OF THE SYSTEM BEFORE LANDFALL DUE TO HIGH VERTICAL WIND SHEAR.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
30-11-2016/2100	10.4/82.0	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/0000	10.5/81.6	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/0600	10.7/81.2	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/1200	10.9/80.6	65-75 GUSTING TO 85	CYCLONIC STORM
01-12-2016/1800	11.1 /80.0	60-70 GUSTING TO 80	CYCLONIC STORM
02-12-2016/0600	11.2/78.8	40-50 GUSTING TO 60	DEPRESSION
02-12-2016/1800	11.3/77.4	20-30 GUSTING TO 40	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.5. THE SYSTEM SHOWS CURVED BAND PATTERN. HOWEVER, THE CLOUD MASS SHOWS SLIGHT DISORGANISATION. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LIE OVER TAMIL NADU, PALK STRAIT, SRILANKA AND

Contact: Phone: (91) 11-24652484 FAX: (91) 11-24623220 e-mail :cwdhq2008@gmail.com

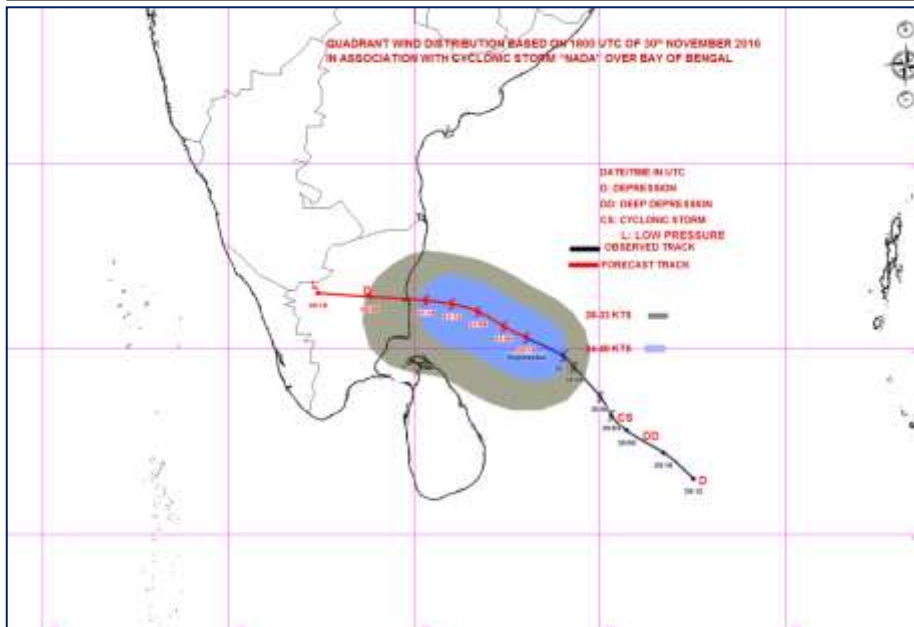
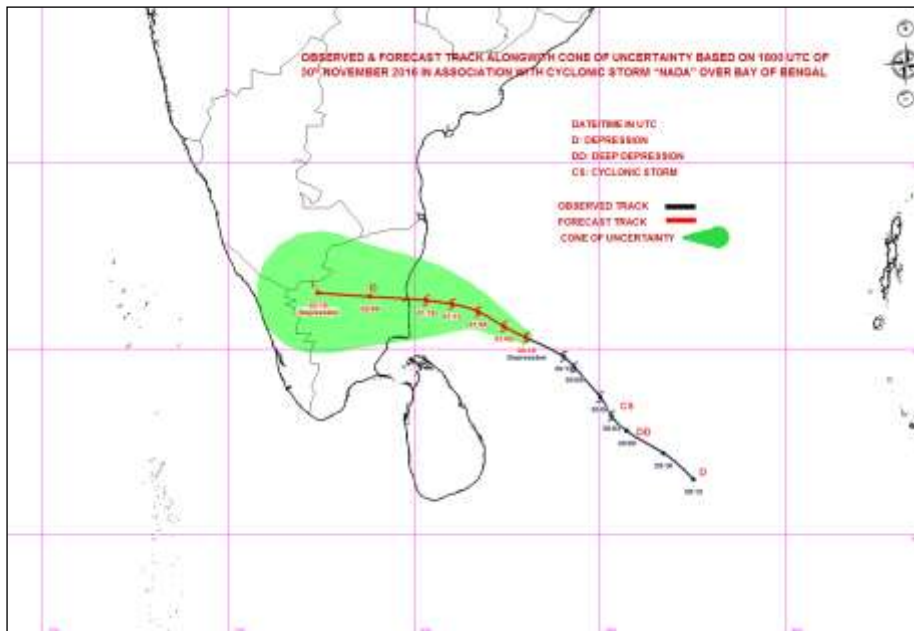
OVER BAY OF BENGAL BETWEEN LATITUDE 8.0°N TO 12.0°N AND TO WEST OF LONGITUDE 82.5°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -64°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 40 KNOTS GUSTING TO 50 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

A BUOY LOCATED NEAR LATITUDE 6.5°N AND LONGITUDE 88.2°E REPORTED MEAN SEA LEVEL PRESSURE 1010.5 HPA AND MAXIMUM SUSTAINED WIND SPEED (MSW) OF 150°/04 KNOTS. ANOTHER BUOY LOCATED NEAR LATITUDE 13.5°N AND LONGITUDE 84.0°E REPORTED MEAN SEA LEVEL PRESSURE 1009.0 HPA AND MSW 70°/16 KNOTS

REMARKS:

THE SEA SURFACE TEMPERATURE IS AROUND 29°C NEAR THE SYSTEM CENTRE AND 28°C NEAR NORTH TAMIL NADU COAST, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM² AROUND SYSTEM CENTRE AND DECREASES TOWARDS SOUTHWEST BAY OF BENGAL BECOMING LESS THAN 50 KJ/CM² NEAR NORTH TAMIL NADU COAST. THE LOW LEVEL CONVERGENCE IS ABOUT 50X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE IS AROUND 40X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE LOW LEVEL RELATIVE VORTICITY HAS INCREASED IN PAST SIX HOURS AND IS ABOUT 200X10⁻⁶ SECOND⁻¹ NEAR THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (15-20 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST BAY OF BENGAL NEAR SRI LANKA & NORTH TAMIL NADU COAST. THE MADDEN JULIAN OSCILLATION INDEX LIES IN PHASE 3 WITH AMPLITUDE <1. IT WILL CONTINUE IN PHASE 3 AND THEN IN PHASE 2 FOR NEXT 3-4 DAYS. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 14°N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF CYCLONIC STORM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS. MAJORITY OF MODELS SUGGEST WEST-NORTHWESTWARDS MOVEMENT, CROSSING NORTH TAMIL NADU COAST BY EARLY HOURS OF 2ND DECEMBER. HOWEVER, AS THE SYSTEM MOVES CLOSER TO NORTH TAMIL NADU COAST, IT WILL EXPERIENCE INCREASE IN VERTICAL WIND SHEAR AND RELATIVELY COLDER SEA AND LOWER OCEAN HEAT CONTENT, WHICH WILL LIMIT THE INTENSIFICATION OF THE SYSTEM.

(SHAMBU RAVINDREN)
SCIENTIST 'B', NWFC, NEW DELHI





**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN**

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI
TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)

TROPICAL CYCLONE ADVISORY
RSMC – TROPICAL CYCLONES, NEW DELHI

**TROPICAL STORM ‘NADA’ ADVISORY NUMBER SEVEN ISSUED AT 0300 UTC OF 1ST DECEMBER
2016 BASED ON 0000 UTC CHARTS OF 01 DECEMBER 2016**

THE CYCLONIC STORM “NADA” OVER SOUTHWEST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS DURING PAST SIX HOURS WITH A SPEED OF ABOUT 22 KMPH AND LAY CENTRED AT 0000 UTC OF TODAY, THE 01ST DECEMBER, 2016 NEAR LATITUDE 10.4°N AND LONGITUDE 81.8°E OVER SOUTHWEST BAY OF BENGAL, ABOUT 330 KM SOUTH-SOUTHEAST OF CHENNAI (43279), 270 KM SOUTHEAST OF PUDUCHERRY (43331) AND 210 KM NORTH-NORTHEAST OF TRINCOMALEE (43418). THE SYSTEM IS VERY LIKELY TO MOVE WEST-NORTHWESTWARD, WEAKEN GRADUALLY INTO A DEEP DEPRESSION DURING NEXT 12 HOURS AND CROSS NORTH TAMIL NADU COAST BETWEEN VEDARANNIYAM AND PUDUCHERRY, SOUTH OF CUDDALORE (43329) BY EARLY HOURS OF 2ND DECEMBER.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
01-12-2016/0000	10.4/81.8	70-80 GUSTING TO 90	CYCLONIC STORM
01-12-2016/0600	10.6/81.1	60-70 GUSTING TO 80	CYCLONIC STORM
01-12-2016/1200	10.8/80.4	55-65 GUSTING TO 75	DEEP DEPRESSION
01-12-2016/1800	11.0 /79.8	50-60 GUSTING TO 70	DEEP DEPRESSION
02-12-2016/0000	11.2/79.1	40-50 GUSTING TO 60	DEPRESSION
02-12-2016/1200	11.3/77.7	20-30 GUSTING TO 40	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS CI 2.5. THE SYSTEM SHOWS SHEAR PATTERN. HOWEVER, THE CLOUD MASS SHOWS FURTHER DISORGANISATION. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LIES OVER TAMIL NADU, PALK STRAIT, SRILANKA AND OVER BAY OF BENGAL BETWEEN LATITUDE 8.0°N TO 12.5°N AND TO WEST OF LONGITUDE 82.5°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -65°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 40 KNOTS GUSTING TO 50 KNOTS AROUND THE SYSTEM CENTRE. IT IS MAINLY BASED ON THE SCATTEROMETER AND SATELLITE BASED WIND OBSERVATIONS. THE STATE OF THE SEA IS HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1002 HPA.

Contact: Phone: (91) 11-24652484 FAX: (91) 11-24623220 e-mail :cwdhq2008@gmail.com

A SHIP LOCATED NEAR LATITUDE 6.0°N AND LONGITUDE 89.3°E REPORTED MEAN SEA LEVEL PRESSURE 1011.7 HPA AND MAXIMUM SUSTAINED WIND SPEED (MSW) OF 180°/10 KNOTS. A BUOY LOCATED NEAR LATITUDE 13.5°N AND LONGITUDE 84.0°E REPORTED MEAN SEA LEVEL PRESSURE 1009.8 HPA AND MSW 60°/14 KNOTS

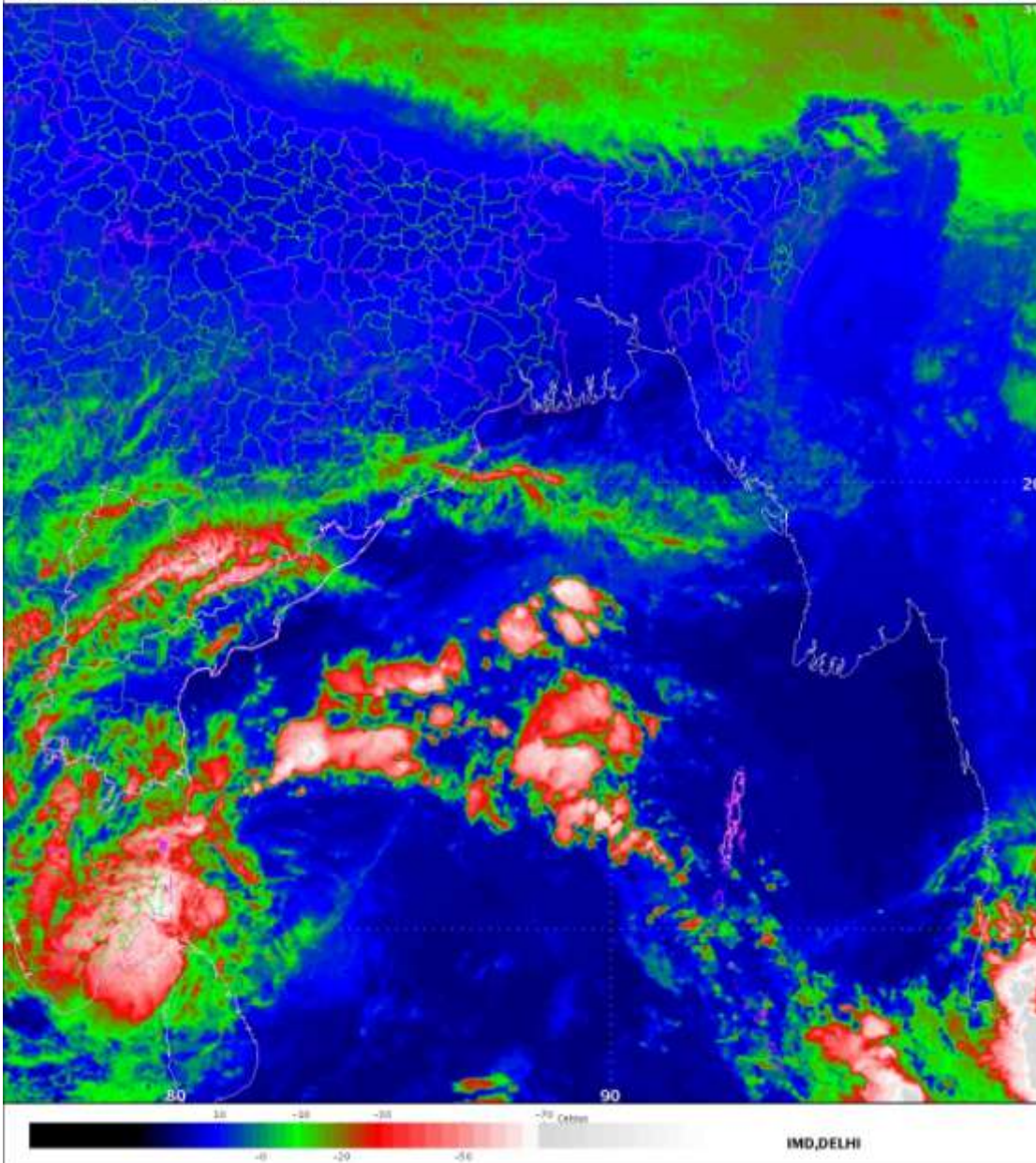
REMARKS:

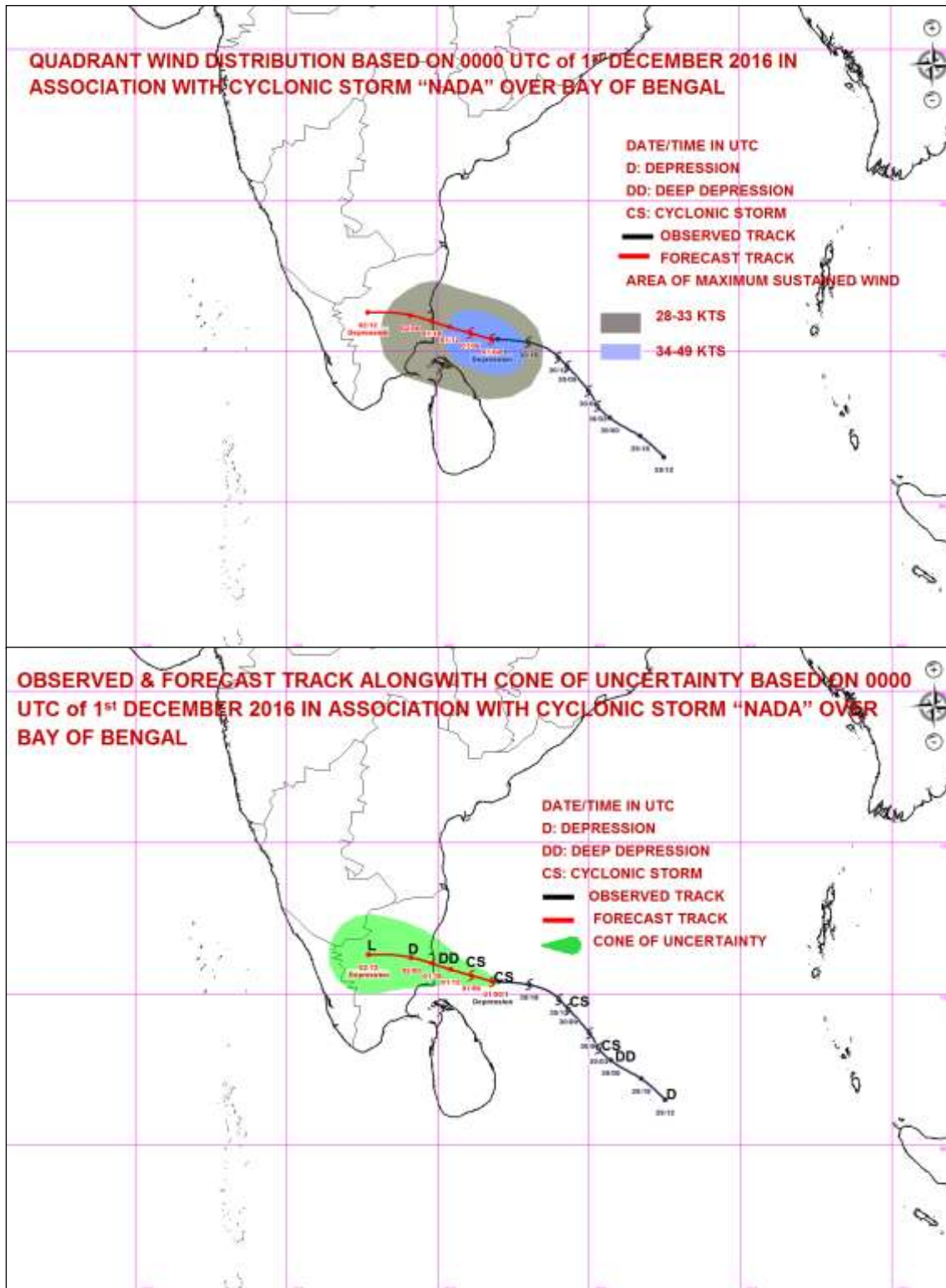
THE SEA SURFACE TEMPERATURE IS AROUND 29°C NEAR THE SYSTEM CENTRE AND 28°C NEAR NORTH TAMIL NADU COAST, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM² AROUND SYSTEM CENTRE AND DECREASES TOWARDS SOUTHWEST BAY OF BENGAL BECOMING LESS THAN 50 KJ/CM² NEAR NORTH TAMIL NADU COAST. THE LOW LEVEL CONVERGENCE HAS DECREASED IN PAST SIX HOUR AND IS ABOUT 20X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE HAS ALSO DECREASED IN PAST SIX HOUR AND IS AROUND 20X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 200X10⁻⁶ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND HAS INCREASED AND IS MODERATE TO HIGH (20-25 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES FURTHER TOWARDS SOUTHWEST BAY OF BENGAL NEAR SRI LANKA & NORTH TAMIL NADU COAST. THE MADDEN JULIAN OSCILLATION INDEX LIES IN PHASE 3 WITH AMPLITUDE <1. IT WILL CONTINUE IN PHASE 3 AND THEN IN PHASE 2 FOR NEXT 3-4 DAYS. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 16°N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF CYCLONIC STORM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS. MAJORITY OF MODELS SUGGEST WEST-NORTHWESTWARDS MOVEMENT, CROSSING NORTH TAMIL NADU COAST BY EARLY HOURS OF 2ND DECEMBER. HOWEVER, AS THE SYSTEM MOVES CLOSER TO NORTH TAMIL NADU COAST, IT WILL EXPERIENCE FURTHER INCREASE IN VERTICAL WIND SHEAR AND RELATIVELY COLDER SEA AND LOWER OCEAN HEAT CONTENT, WHICH WILL LEAD TO GRADUAL WEAKENING OF THE SYSTEM.

**(KRISHNA MISHRA)
SCIENTIST 'B', NWFC, NEW DELHI**

SAT :INSAT-3D
IMG_TIR1_TEMP 10.8 um
SECTOR BAYOFBENGAL Mercator (NHC LUT)

30-11-2016/23:30 GMT
01-12-2016/05:00 IST







**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN**

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI
TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)

TROPICAL CYCLONE ADVISORY
RSMC – TROPICAL CYCLONES, NEW DELHI

**TROPICAL STORM ‘NADA’ ADVISORY NUMBER EIGHT ISSUED AT 0600 UTC OF 1ST DECEMBER
2016 BASED ON 0300 UTC CHARTS OF 1ST DECEMBER 2016**

THE CYCLONIC STORM “NADA” OVER SOUTHWEST BAY OF BENGAL MOVED WESTWARDS DURING PAST SIX HOURS WITH A SPEED OF ABOUT 5 KMPH AND LAY CENTRED AT 0300 UTC OF TODAY, THE 1ST DECEMBER, 2016 NEAR LATITUDE 10.4°N AND LONGITUDE 81.7°E OVER SOUTHWEST BAY OF BENGAL, ABOUT 330 KM SOUTH-SOUTHEAST OF CHENNAI(43279), 270 KM SOUTHEAST OF PUDUCHERRY(43331) AND 210 KM NORTH-NORTHEAST OF TRINCOMALEE(43418). THE SYSTEM IS VERY LIKELY TO MOVE WEST-NORTHWESTWARD, WEAKEN GRADUALLY INTO A DEEP DEPRESSION DURING NEXT 12 HOURS AND CROSS NORTH TAMIL NADU COAST BETWEEN VEDARANNIYAM(43349) AND PUDUCHERRY, SOUTH OF CUDDALORE(43329) BY EARLY HOURS OF 2ND DECEMBER.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
01-12-2016/0300	10.4/81.7	65-75 GUSTING TO 85	CYCLONIC STORM
01-12-2016/0600	10.6/81.1	60-70 GUSTING TO 80	CYCLONIC STORM
01-12-2016/1200	10.8/80.4	55-65 GUSTING TO 75	DEEP DEPRESSION
01-12-2016/1800	11.0 /79.8	50-60 GUSTING TO 70	DEEP DEPRESSION
02-12-2016/0000	11.2/79.1	40-50 GUSTING TO 60	DEPRESSION
02-12-2016/1200	11.3/77.7	20-30 GUSTING TO 40	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS CI 2.5. THE SYSTEM SHOWS SHEAR PATTERN. HOWEVER, THE CLOUD MASS SHOWS FURTHER DISORGANISATION. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LIES OVER TAMIL NADU, PALK STRAIT, SRILANKA AND OVER BAY OF BENGAL BETWEEN LATITUDE 8.0°N TO 12.5°N AND TO WEST OF LONGITUDE 82.5°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -65°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 40 KNOTS GUSTING TO 50 KNOTS AROUND THE SYSTEM CENTRE. IT IS MAINLY BASED ON THE SCATTEROMETER AND SATELLITE BASED WIND OBSERVATIONS. DOPPLER WEATHER RADAR OF KARAİKAL OBSERVATIONS SUGGESTS SURFACE WIND SPEED OF ABOUT 35 KNOTS AT 0300 UTC OF TODAY. THE STATE OF THE SEA

Contact: Phone: (91) 11-24652484 FAX: (91) 11-24623220 e-mail :cwdhq2008@gmail.com

IS HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1002 HPA.

P₂₄ MAXIMUM 24 HOURS PRESSURE FALL IS OF -3.8 HPA AT PUDUCHERRY FOLLOWED BY NAGAPATTINAM (-3.3 HPA), CUDDALORE (-2.6 HPA) AND KARAIKAL (-2.5 HPA). LOWEST MEAN SEA LEVEL PRESSURE (MSLP) IS OF 1010.1 HPA OVER NAGAPATTINAM FOLLOWED BY PUDUCHERRY (1010.3 HPA), KARAIKAL (1010.4 HPA) AND CUDDALORE (1010.5 HPA). THE PRESSURE ALONG TAMIL NADU AND EAST SRI LANKA COAST HAS INCREASED BY ABOUT 2-3 HPA DURING PAST 3 HOURS.

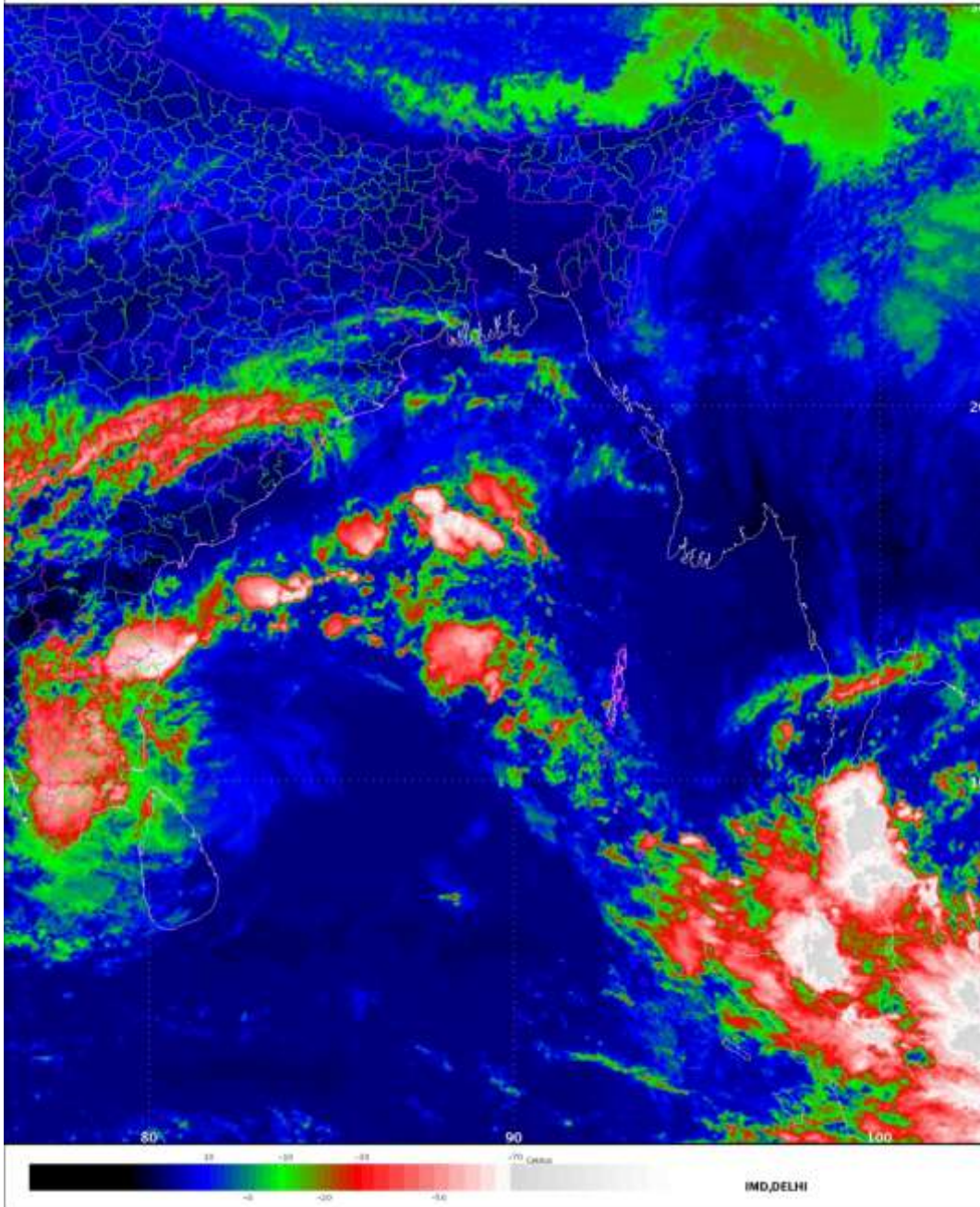
REMARKS:

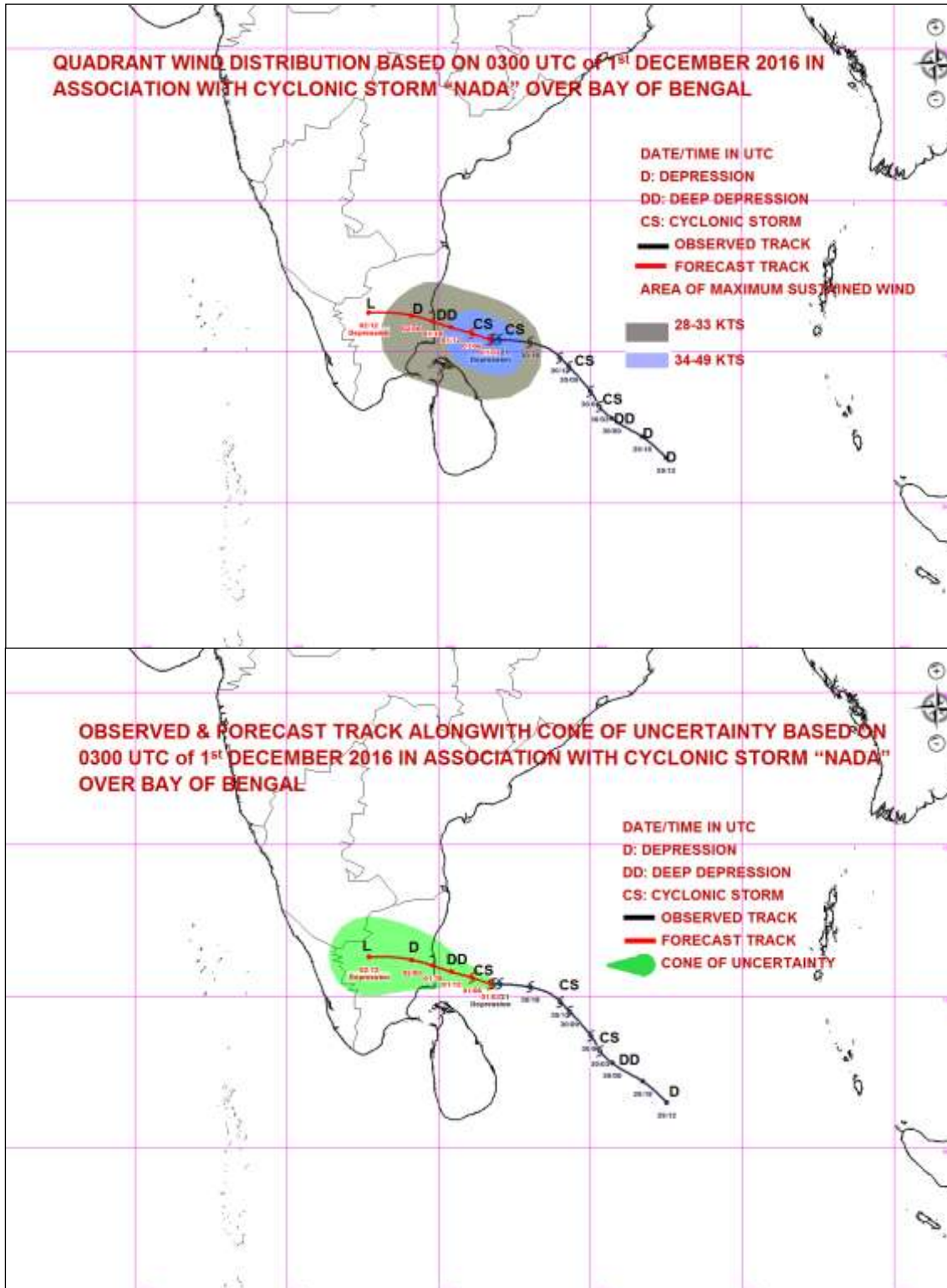
THE SEA SURFACE TEMPERATURE IS AROUND 29°C NEAR THE SYSTEM CENTRE AND 28°C NEAR NORTH TAMIL NADU COAST, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM² AROUND SYSTEM CENTRE AND DECREASES TOWARDS SOUTHWEST BAY OF BENGAL BECOMING LESS THAN 50 KJ/CM² NEAR NORTH TAMIL NADU COAST. THE LOW LEVEL CONVERGENCE IS ABOUT 20X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE IS ALSO AROUND 20X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 200X10⁻⁶ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (15-20 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES FURTHER TOWARDS SOUTHWEST BAY OF BENGAL NEAR SRI LANKA & NORTH TAMIL NADU COAST. THE MADDEN JULIAN OSCILLATION INDEX LIES IN PHASE 3 WITH AMPLITUDE <1. IT WILL CONTINUE IN PHASE 3 AND THEN IN PHASE 2 FOR NEXT 3-4 DAYS. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 16⁰N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF CYCLONIC STORM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS. MAJORITY OF MODELS SUGGEST WEST-NORTHWESTWARDS MOVEMENT, CROSSING NORTH TAMIL NADU COAST BY EARLY HOURS OF 2ND DECEMBER. HOWEVER, AS THE SYSTEM MOVES CLOSER TO NORTH TAMIL NADU COAST, IT WILL EXPERIENCE FURTHER INCREASE IN VERTICAL WIND SHEAR AND RELATIVELY COLDER SEA AND LOWER OCEAN HEAT CONTENT, WHICH WILL LEAD TO GRADUAL WEAKENING OF THE SYSTEM.

(NARESH KUMAR)
SCIENTIST 'D', RSMC, NEW DELHI

SAT INSAT-3D
IMC TIR1_TEMP 10.8 um
SECTOR BAYOFBENGAL Mercator (NHC LUT)

01-12-2016/0400 GMT
01-12-2016/09:30 IST







**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL WEATHER OUTLOOK**

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 01.12.2016

TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 72 HOURS ISSUED AT 0900 UTC OF 01.12.2016 BASED ON 0600 UTC OF 01.12.2016.

THE CYCLONIC STORM "NADA" OVER SOUTHWEST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS DURING PAST SIX HOURS WITH A SPEED OF ABOUT 12 KMPH, WEAKENED INTO A DEEP DEPRESSION AND LAY CENTRED AT 0600 UTC OF TODAY, THE 1ST DECEMBER, 2016 NEAR LATITUDE 10.6°N AND LONGITUDE 81.2°E OVER SOUTHWEST BAY OF BENGAL, ABOUT 290 KM SOUTH-SOUTHEAST OF CHENNAI(43279), 210 KM SOUTHEAST OF PUDUCHERRY(43331) AND 220 KM NORTH OF TRINCOMALEE(43418). THE SYSTEM IS VERY LIKELY TO CONTINUE TO MOVE WEST-NORTHWESTWARD, WEAKEN FURTHER GRADUALLY INTO A DEPRESSION DURING NEXT 24 HOURS AND CROSS NORTH TAMIL NADU COAST BETWEEN VEDARANNIYAM(43349) AND PUDUCHERRY, SOUTH OF CUDDALORE(43329) BY EARLY HOURS OF 2ND DECEMBER.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
01-12-2016/0600	10.6/81.2	55-65 GUSTING TO 75	DEEP DEPRESSION
01-12-2016/1200	10.8/80.4	55-65 GUSTING TO 75	DEEP DEPRESSION
01-12-2016/1800	11.0 /79.8	50-60 GUSTING TO 70	DEEP DEPRESSION
02-12-2016/0000	11.2/79.1	40-50 GUSTING TO 60	DEPRESSION
02-12-2016/0600	11.3/78.3	20-30 GUSTING TO 40	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T-1.5. THE SYSTEM SHOWS CURVED BAND PATTERN. HOWEVER, THE CLOUD MASS SHOWS DISORGANISATION. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LIES OVER TAMIL NADU, PALK STRAIT, SRILANKA AND OVER BAY OF BENGAL BETWEEN LATITUDE 8.5°N TO 14.0°N AND TO WEST OF LONGITUDE 83.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -65°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING TO 40 KNOTS AROUND THE SYSTEM CENTRE. IT IS MAINLY BASED ON THE SCATTEROMETER AND SATELLITE BASED WIND OBSERVATIONS. DOPPLER WEATHER RADAR OF KARAİKAL OBSERVATIONS SUGGESTS SURFACE WIND SPEED OF ABOUT 30 KNOTS AT 0600 UTC OF TODAY. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1003 HPA.

MAXIMUM 24 HOURS PRESSURE FALL IS OF -4.0 HPA AT NAGAPATTINAM. LOWEST MEAN SEA LEVEL PRESSURE (MSLP) IS OF 1008.6 HPA ALSO OVER NAGAPATTINAM.

REMARKS:

THE SEA SURFACE TEMPERATURE IS AROUND 29°C NEAR THE SYSTEM CENTRE AND 28°C NEAR NORTH TAMIL NADU COAST, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM² AROUND SYSTEM CENTRE AND DECREASES TOWARDS SOUTHWEST BAY OF BENGAL BECOMING LESS THAN 50 KJ/CM² NEAR NORTH TAMIL NADU COAST. THE LOW LEVEL CONVERGENCE IS ABOUT 20X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE IS ALSO AROUND 20X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF

Contact: Phone: (91) 11-24652484 FAX: (91) 11-24623220 e-mail :cwdhq2008@gmail.com

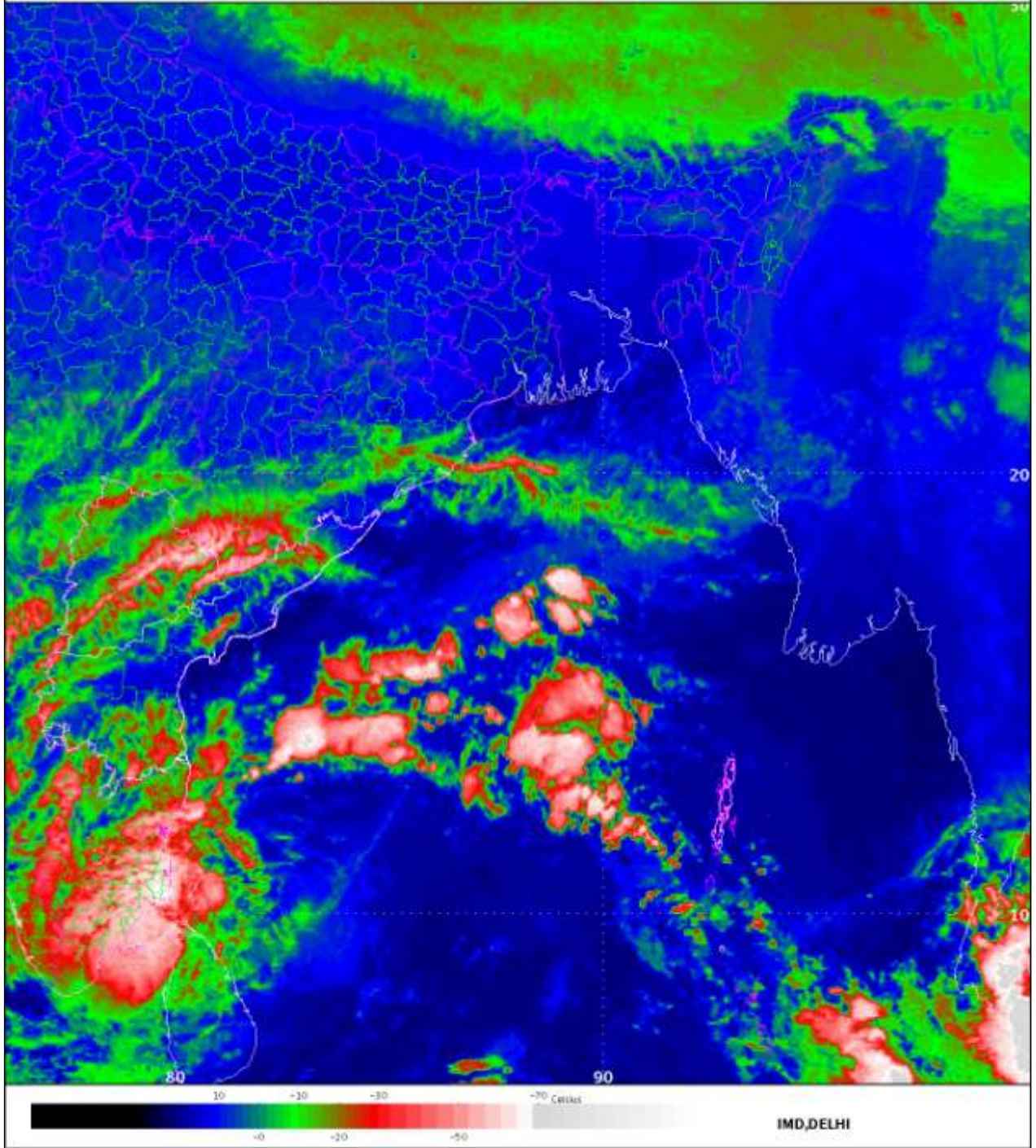
THE SYSTEM. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 200×10^{-6} SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (15-20 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES FURTHER TOWARDS SOUTHWEST BAY OF BENGAL NEAR SRI LANKA & NORTH TAMIL NADU COAST. THE MADDEN JULIAN OSCILLATION INDEX LIES IN PHASE 3 WITH AMPLITUDE <1. IT WILL CONTINUE IN PHASE 3 AND THEN IN PHASE 2 FOR NEXT 3-4 DAYS. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 16°N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF CYCLONIC STORM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS. MAJORITY OF MODELS SUGGEST WEST-NORTHWESTWARDS MOVEMENT, CROSSING NORTH TAMIL NADU COAST BY EARLY HOURS OF 2ND DECEMBER. HOWEVER, AS THE SYSTEM MOVES CLOSER TO NORTH TAMIL NADU COAST, THE SYSTEM EXPERIENCES INCREASE IN VERTICAL WIND SHEAR AND RELATIVELY COLDER SEA AND LOWER OCEAN HEAT CONTENT, WHICH LED TO GRADUAL WEAKENING OF THE SYSTEM INTO A DEEP DEPRESSION. SIMILAR CONDITIONS WILL CONTINUE FOR NEXT 24 HOURS.

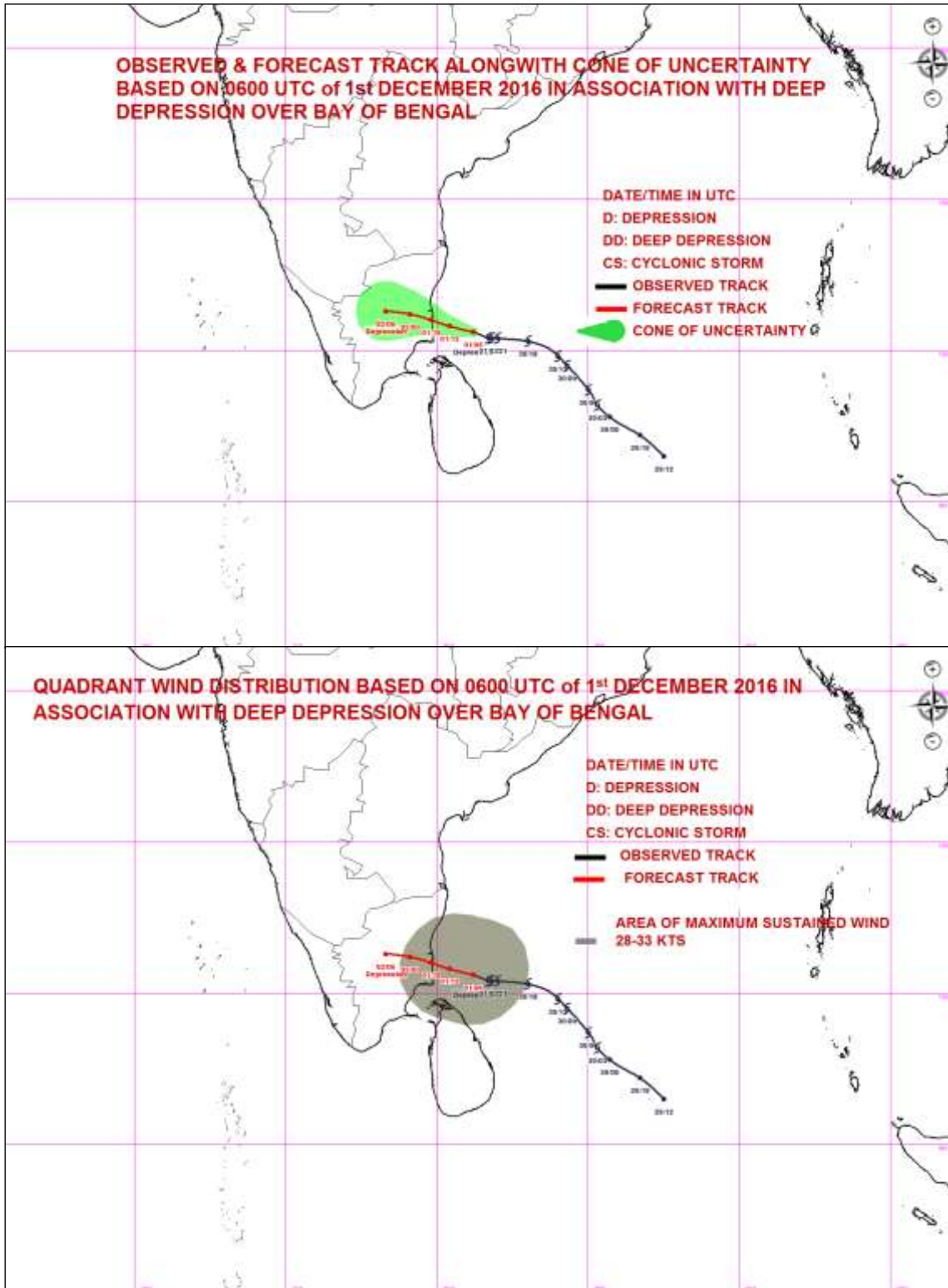
THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 01 DECEMBER 2016.

**(NARESH KUMAR)
SCIENTIST 'D', RSMC, NEW DELHI**

SAT :INSAT-3D
IMG_TIR1_TEMP 10.8 um
SECTOR BAYOFBENGAL Mercator (NHC LUT)

30-11-2016/23:30 GMT
01-12-2016/05:00 IST







**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL WEATHER OUTLOOK**

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 01.12.2016

TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 72 HOURS ISSUED AT 1500 UTC OF 01.12.2016 BASED ON 1200 UTC OF 01.12.2016.

THE DEEP DEPRESSION OVER SOUTHWEST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS DURING PAST SIX HOURS WITH A SPEED OF ABOUT 10 KMPH AND LAY CENTRED AT 1200 UTC OF TODAY, THE 1ST DECEMBER, 2016 OVER SOUTHWEST BAY OF BENGAL NEAR LATITUDE 10.7°N AND LONGITUDE 80.7°E, ABOUT 90 KM EAST-SOUTHEAST OF KARAİKAL(43436) AND 150 KM SOUTHEAST OF CUDDALORE(43329). THE SYSTEM IS VERY LIKELY TO CONTINUE TO MOVE WEST-NORTHWESTWARD AND CROSS NORTH TAMIL NADU COAST TO THE SOUTH OF CUDDALORE, CLOSE TO KARAİKAL BY EARLY HOURS OF 2ND DECEMBER. IT IS VERY LIKELY TO WEAKEN FURTHER INTO A DEPRESSION DURING NEXT 12 HOURS.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
01-12-2016/1200	10.7/80.7	55-65 GUSTING TO 75	DEEP DEPRESSION
01-12-2016/1800	10.9 /80.0	50-60 GUSTING TO 70	DEEP DEPRESSION
02-12-2016/0000	11.1/79.3	40-50 GUSTING TO 60	DEPRESSION
02-12-2016/0600	11.2/78.6	20-30 GUSTING TO 40	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS CI 2.0. THE SYSTEM SHOWS CURVED BAND PATTERN. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LIES OVER TAMIL NADU, KERALA AND OVER BAY OF BENGAL BETWEEN LATITUDE 9.0°N TO 13.4°N AND LONGITUDE 74.4 TO 77.4°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -65°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING TO 40 KNOTS AROUND THE SYSTEM CENTRE. IT IS MAINLY BASED ON THE SCATTEROMETER AND SATELLITE BASED WIND OBSERVATIONS. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1003 HPA.

REMARKS:

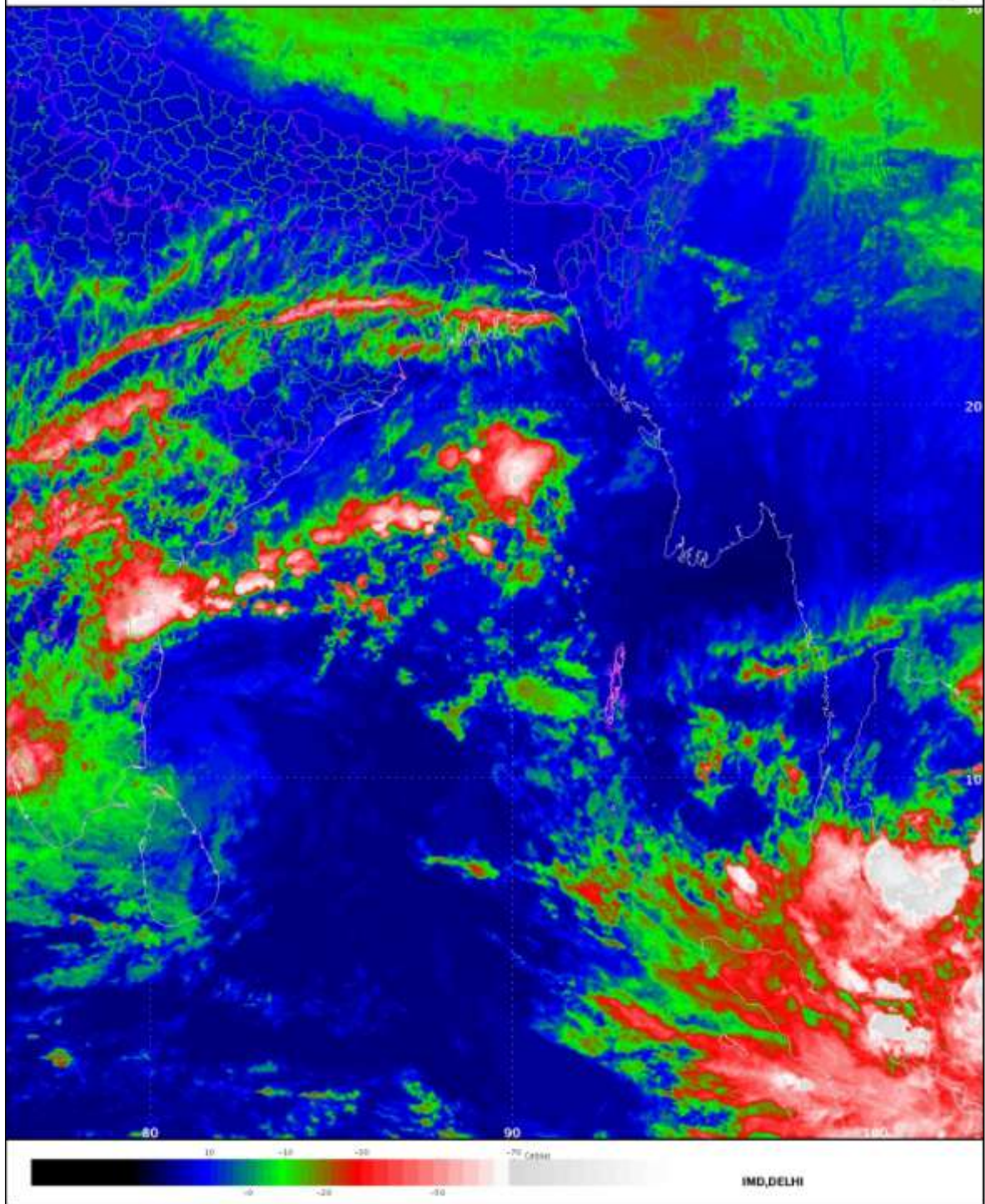
THE SEA SURFACE TEMPERATURE IS AROUND 28°C NEAR THE SYSTEM CENTRE, OCEAN THERMAL ENERGY IS ABOUT 50 KJ/CM² AROUND SYSTEM CENTRE. THE LOW LEVEL CONVERGENCE IS ABOUT 20X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE HAS DECREASED AND IS AROUND 10X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE LOW LEVEL RELATIVE VORTICITY HAS DECREASED IN PAST SIX HOURS AND IS ABOUT 150X10⁻⁶ SECOND⁻¹ IN SOUTH OF THE SYSTEM. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE TO HIGH (15-25 KNOTS) AROUND THE SYSTEM CENTRE. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 16°N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF CYCLONIC STORM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS.

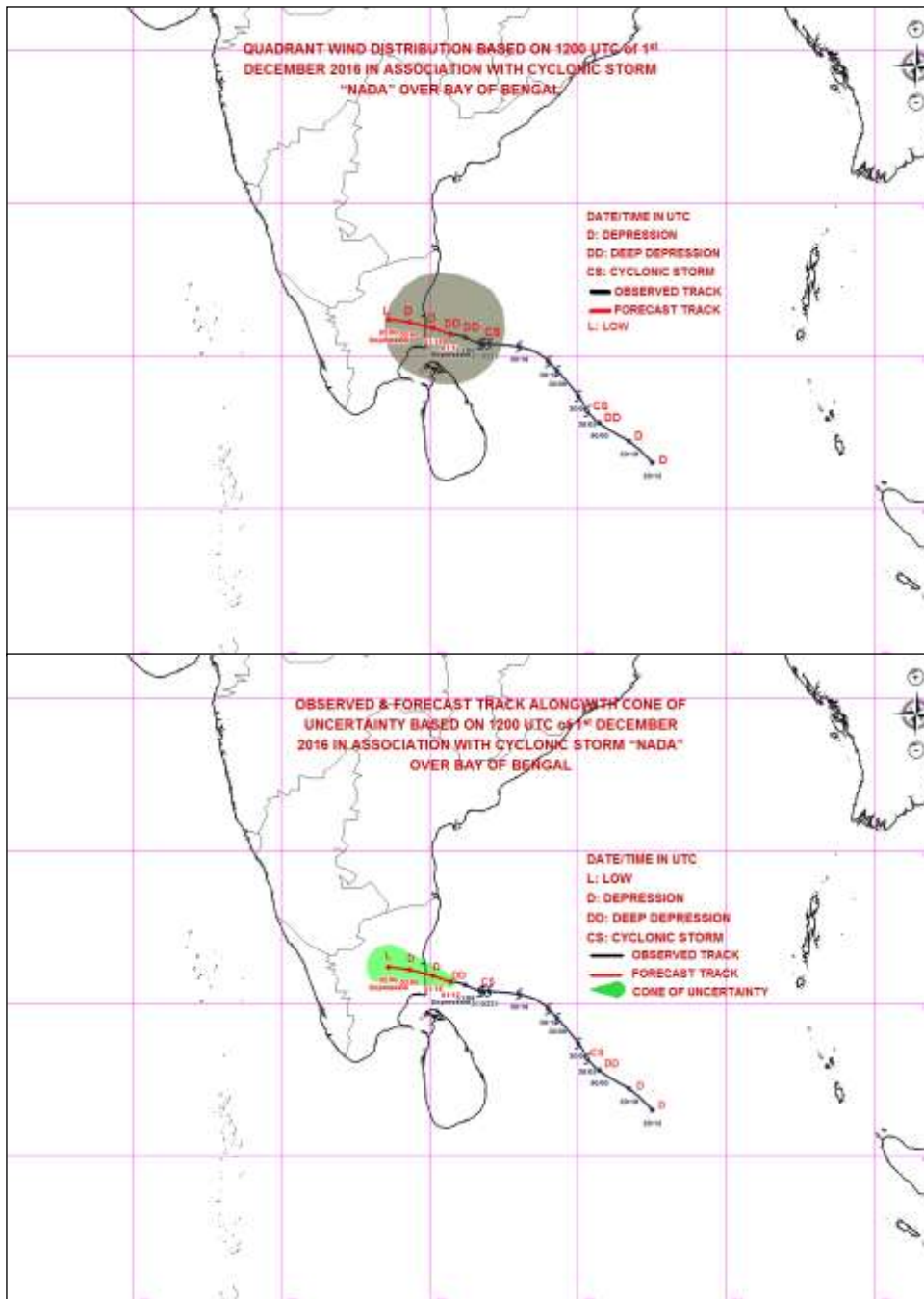
THE NEXT BULLETIN WILL BE ISSUED AT 2100 UTC OF 01 DECEMBER 2016.

**(D. R. Pattanaik)
Scientist-E, IMD, New Delhi**

SAT INSAT-3D
IMG_TIR1_TEMP 10.8 um
SECTOR BAYOFBENGAL Mercator (NHC LUT)

01-12-2016/12:00 GMT
01-12-2016/17:30 IST







**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL WEATHER OUTLOOK**

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 01.12.2016

TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 72 HOURS ISSUED AT 2100 UTC OF 01.12.2016 BASED ON 1800 UTC OF 01.12.2016.

THE DEEP DEPRESSION OVER SOUTHWEST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS DURING PAST SIX HOURS WITH A SPEED OF ABOUT 10 KMPH, WEAKENED INTO A DEPRESSION AND LAY CENTRED AT 1800 HRS UTC OF THE 1ST DECEMBER, 2016 OVER SOUTHWEST BAY OF BENGAL NEAR LATITUDE 10.8°N AND LONGITUDE 80.2°E, ABOUT 40 KM EAST-SOUTHEAST OF KARAIKAL (43436). THE SYSTEM IS VERY LIKELY TO CONTINUE TO MOVE WEST-NORTHWESTWARD AND CROSS NORTH TAMIL NADU COAST, CLOSE TO SOUTH OF KARAIKAL WITHIN A FEW HOURS.

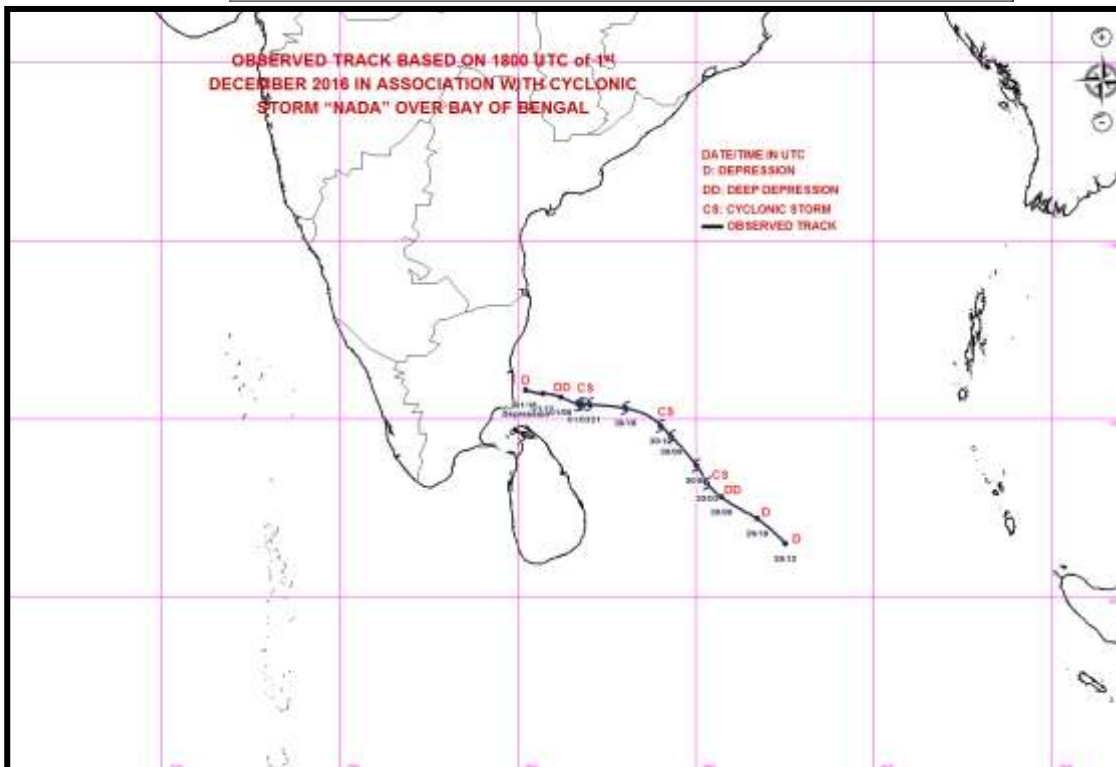
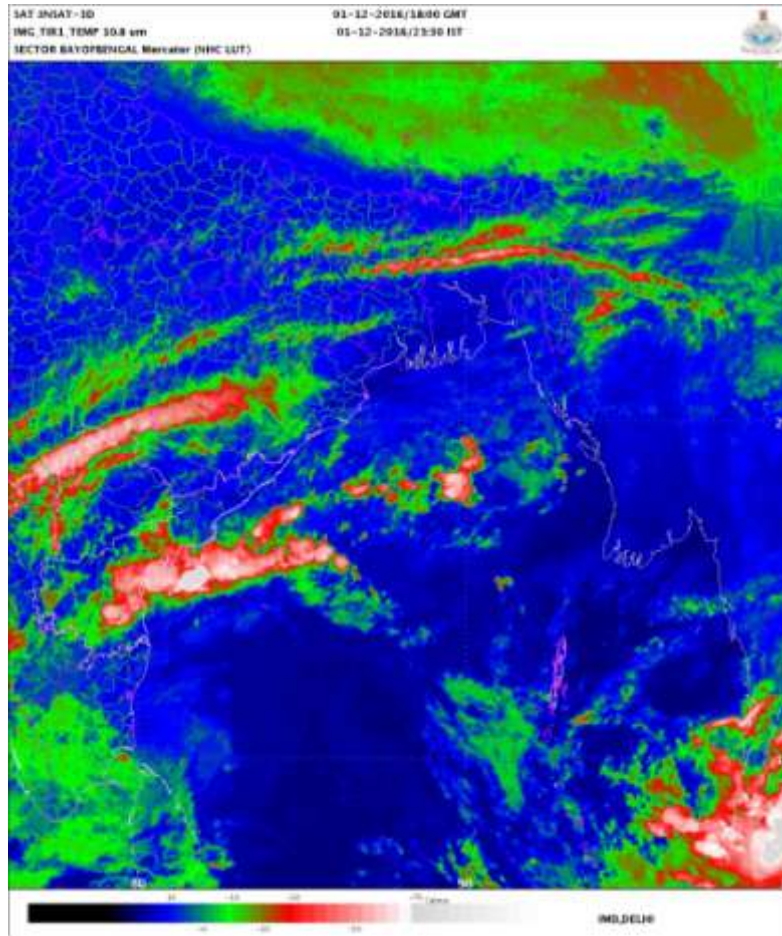
ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS CI 1.5. THE SYSTEM SHOWS CURVED BAND PATTERN. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LIES OVER TAMIL NADU, KERALA AND OVER BAY OF BENGAL BETWEEN LATITUDE 9.0°N TO 13.4°N AND LONGITUDE 74.4 TO 77.4°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -52°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 25 KNOTS GUSTING TO 35 KNOTS AROUND THE SYSTEM CENTRE. IT IS MAINLY BASED ON THE SCATTEROMETER AND SATELLITE BASED WIND OBSERVATIONS. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1006 HPA.

REMARKS:

THE SEA SURFACE TEMPERATURE IS AROUND 28°C NEAR THE SYSTEM CENTRE, OCEAN THERMAL ENERGY IS ABOUT 40-50 KJ/CM² AROUND SYSTEM CENTRE. THE LOW LEVEL CONVERGENCE HAS DECREASED AND IS ABOUT 15X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE HAS DECREASED AND IS AROUND 5X10⁻⁵ SECOND⁻¹ IN SOUTHWEST SECTOR OF THE SYSTEM. THE LOW LEVEL RELATIVE VORTICITY HAS DECREASED IN PAST SIX HOURS AND IS ABOUT 100X10⁻⁶ SECOND⁻¹ IN SOUTH OF THE SYSTEM. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE TO HIGH (20-25 KNOTS) AROUND THE SYSTEM CENTRE. THE UPPER TROPOSPHERIC RIDGE LIES ALONG 16°N AND HENCE THE EAST-SOUTHEASTERLY WINDS PREVAIL OVER THE REGION OF CYCLONIC STORM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT WOULD STEER THE SYSTEM WEST-NORTHWESTWARDS.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 02 DECEMBER 2016.

**(D. R. Pattanaik)
Scientist-E, IMD, New Delhi**





**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL WEATHER OUTLOOK**

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 02.12.2016

TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 72 HOURS ISSUED AT 0200 UTC OF 02.12.2016 BASED ON 0000 UTC OF 02.12.2016.

THE DEPRESSION OVER SOUTHWEST BAY OF BENGAL MOVED WESTWARDS DURING PAST SIX HOURS WITH A SPEED OF ABOUT 10 KMPH, CROSSED NORTH TAMIL NADU COAST NEAR NAGAPATTINAM (ABOUT 20 KM SOUTH OF KARAİKAL) BETWEEN 2230 AND 2330 UTC OF 1ST DECEMBER AND LAY CENTRED AT 0000 UTC OF THE 2ND DECEMBER, 2016 OVER NORTH TAMIL NADU NEAR LATITUDE 10.8°N AND LONGITUDE 79.7°E, ABOUT 15 KM WEST OF NAGAPATTINAM AND 20 KM SOUTHWEST OF KARAİKAL. IT IS VERY LIKELY TO MOVE NEARLY WESTWARD AND WEAKEN INTO A WELL MARKED LOW PRESSURE AREA DURING NEXT 12 HOURS.

ACCORDING TO SATELLITE IMAGERIES, ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED ISOLATED WEAK TO MODERATE CONVECTION LIES OVER TAMIL NADU, KERALA, and SRILANKA. THE CONVECTION IS SHEARED TO THE WEST OF THE SYSTEM CENTRE AND HAS DECREASED SIGNIFICANTLY DURING PAST SIX HOURS.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 02 DECEMBER 2016.

**(D. R. Pattanaik)
Scientist-E, IMD, New Delhi**

