



#### DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 21.10.2016

#### SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 24 HOURS ISSUED AT 0300 UTC OF 21 OCTOBER, 2016 BASED ON 0000 UTC OF 21 OCTOBER, 2016.

YESTERDAY'S WELL MARKED LOW PRESSURE AREA OVER EASTCENTRAL AND ADJOINING SOUTHEAST BAY OF BENGAL CONCENTRATED INTO A **DEPRESSION** AND LAY CENTERED AT 0000 UTC OF TODAY, THE 21<sup>ST</sup> OCTOBER, 2016 NEAR LATITUDE 13.5<sup>0</sup>N AND LONGITUDE 88.5<sup>0</sup>E, ABOUT 500 KM WEST-NORTHWEST OF PORT BLAIR (43333) AND 900 KM WEST-SOUTHWEST OF YANGOON (48097). THE SYSTEM IS LIKELY TO MOVE EAST-NORTHEASTWARDS TOWARDS MYANMAR COAST AND INTENSIFY INTO A DEEP DEPRESSION DURING NEXT 24 HOURS.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 1.5. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION LIE OVER CENTRAL AND ADJOINING SOUTH BAY OF BERNGAL AROUND THE SYSTEM CENTRE. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -75<sup>°</sup> 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 1002 HPA.

THE SHIP LOCATED NERA  $12.8^{\circ}$  N and  $90.2^{\circ}$  E reported mean sea level pressure (MSLP) of 1004.0 HPA and maximum sustained wind (MSW) of 200/31 knots. A buoy located near  $14.0^{\circ}$ N & 87.0° E reported MSW of 340/19 knots. Another buoy located near  $15.0^{\circ}$ N and  $89.0^{\circ}$  E reported MSLP of 1003.3 HPA.

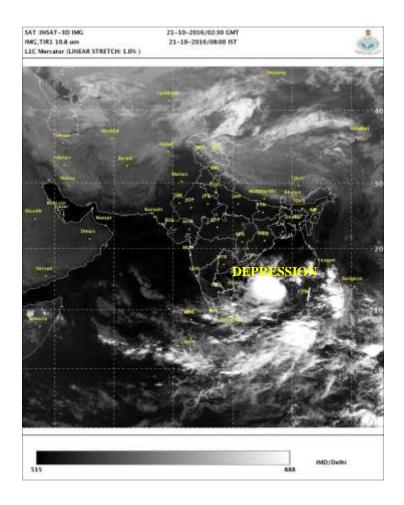
#### **REMARKS**:

THE SEA SURFACE TEMPERATURE IS 29-30°C, OCEAN THERMAL ENERGY IS ABOUT 60-80 KJ/CM<sup>2</sup>. IT INCREASES TOWARDS NORTHEAST SECTOR. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE HAS INCREASED DURING PAST 24 HOURS AND IS ABOUT 15 X 10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE HAS ALSO INCREASED OVER THE AREA DURING PAST 24 HOURS AND IS ABOUT 20 X10<sup>-5</sup> SECOND<sup>-1</sup>. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 100X10<sup>-6</sup> SECOND<sup>-1</sup>. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE TO HIGH (15-25 KNOTS) AROUND THE SYSTEM CENTRE AND IT DECREASES TOWARDS NORTHEAST BECOMING 5-10 KNOTS NEAR ARAKAN COAST. UPPER TROPOSPHERIC RIDGE RUNS ALONG 19.0<sup>0</sup>°N. THE MADDEN-JULIAN OSCILLATION (MJO) LIES IN PHASE-7 AND IS EXPECTED TO MOVE TO PHASE 8 DURING NEXT 3 DAYS.THE AMPLITUDE IS VERY LESS. THOUGH PAHSE 7 OF MJO IS NOT FAVOURABLE, THE VERY LESS AMPLITUDE IN THIS PHASE WILL NOT INHIBIT THE INTENSIFICATION OF THE SYSTEM.

MAJORITY OF NUMERICAL MODELS INDICATE STEADY INTENSIFICATION OF THE SYSTEM AND MOVEMENT TOWARDS MYANMAR COAST DURING NEXT 72 HOURS. THE GENESIS POTENTIAL PARAMETERS ALSO SUGGEST INTENSIFICATION OF THE SYSTEM. CONSIDERING ABOVE SYNOPTIC AND ENVIRONMENTAL CONDITIONS AS WELL AS NUMERICAL WEATHER PREDICTION MODELS GUIDANCE, THE DEPRESSION WOULD MOVE EAST-NORTHEASTWARDS AND INTENSIFY INTO A DEEP DEPRESSION DURING NEXT 24 HOURS.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 21 OCTOBER 2016.

(M. MOHAPATRA) HEAD RSMC, NEW DELHI







DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 21.10.2016

#### SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 24 HOURS ISSUED AT 0600 UTC OF 21 OCTOBER, 2016 BASED ON 0300 UTC OF 21 OCTOBER, 2016.

THE DEPRESSION OVER EASTCENTRAL & ADJOINING SOUTHEAST BAY OF BENGAL REMAINED PRACTICALLY STATIONARY AND LAY CENTERED AT 0300 UTC OF TODAY, THE 21<sup>ST</sup> OCTOBER, 2016 NEAR LATITUDE 13.5<sup>0</sup>N AND LONGITUDE 88.5<sup>0</sup>E, ABOUT 500 KM WEST-NORTHWEST OF PORT BLAIR (43333) AND 900 KM WEST-SOUTHWEST OF YANGOON (48097). THE SYSTEM IS VERY LIKELY TO MOVE EAST-NORTHEASTWARDS AND REACH NEAR MYANMAR COAST ON 23RD OCTOBER. THE SYSTEM IS MOST LIKELY TO INTENSIFY INTO A DEEP DEPRESSION DURING NEXT 24 HOURS AND INTO A CYCLONIC STORM DURING SUBSEQUENT 24 HOURS.

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW SHEAR PATTERN. THE INTENSITY OF THE SYSTEM IS T 1.5. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION LIE OVER BAY OF BENGAL BETWEEN 11.0N TO 16.0N AND LONGITUDE 83.0E TO 89.0E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -75<sup>0</sup> C. THE CONVECTIVE CLOUDS SHOW CONTINUOUS ORGANISATION AND CONVECTIVE CLUSTERS ARE COMING TOGETHER. HOWEVER, THERE ARE THREE CLUSTERS CLOSE TO EACH OTHER IN ASSOCIATION WITH THE SYSTEM. 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 1002 HPA.

THE SHIP LOCATED NERA  $13.2^{\circ}$  N AND89.5° E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1004.6 HPA AND MAXIMUM SUSTAINED WIND (MSW) OF 210/27 KNOTS. A BUOY LOCATED NEAR  $14.0^{\circ}$ N & 87.0° E REPORTED MSLP of 1004.7HPA AND MSW OF 350/25 KNOTS. ANOTHER BUOY LOCATED NEAR  $16.5^{\circ}$ N AND 88.0° E REPORTED MSLP OF 1007.0 HPA AND MSW OF 030/10 KNOTS.

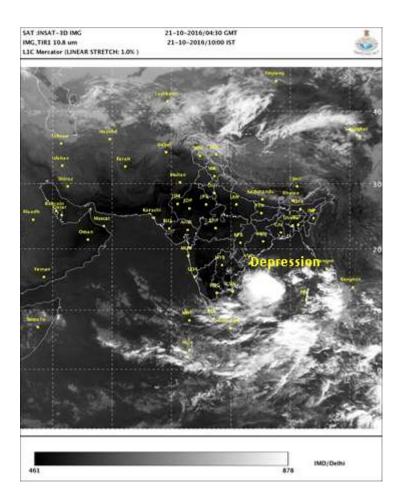
#### **REMARKS**:

THE SEA SURFACE TEMPERATURE IS 29-30°C, OCEAN THERMAL ENERGY IS ABOUT 60-80 KJ/CM<sup>2</sup>. IT INCREASES TOWARDS NORTHEAST SECTOR. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE HAS INCREASED DURING PAST 24 HOURS AND IS ABOUT 15 X 10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE HAS ALSO INCREASED OVER THE AREA DURING PAST 24 HOURS AND IS ABOUT 20 X10<sup>-5</sup> SECOND<sup>-1</sup>. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 100X10<sup>-6</sup> SECOND<sup>-1</sup>. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE TO HIGH (15-25 KNOTS) AROUND THE SYSTEM CENTRE AND IT DECREASES TOWARDS NORTHEAST BECOMING 5-10 KNOTS NEAR ARAKAN COAST. UPPER TROPOSPHERIC RIDGE RUNS ALONG 19.0<sup>0</sup>°N. THE MADDEN-JULIAN OSCILLATION (MJO) LIES IN PHASE-7 AND IS EXPECTED TO MOVE TO PHASE 8 DURING NEXT 3 DAYS.THE AMPLITUDE IS VERY LESS. THOUGH PAHSE 7 OF MJO IS NOT FAVOURABLE, THE VERY LESS AMPLITUDE IN THIS PHASE WILL NOT INHIBIT THE INTENSIFICATION OF THE SYSTEM. THE SYSTEM IS EXPECTED TO MOVE EAST-NORTHEASTWARDS AS IT IS BEING STEERED BY THE LOW TO MIDDLE LEVEL WINDS AND THE SYSTEM IS EMBEDDED IN THE WESTERLIES IN THE LOWER AND MIDDLE LEVELS.

MAJORITY OF NUMERICAL MODELS INDICATE STEADY INTENSIFICATION OF THE SYSTEM AND MOVEMENT TOWARDS MYANMAR COAST DURING NEXT 72 HOURS. THE GENESIS POTENTIAL PARAMETERS ALSO SUGGEST INTENSIFICATION OF THE SYSTEM. CONSIDERING ABOVE SYNOPTIC AND ENVIRONMENTAL CONDITIONS AS WELL AS NUMERICAL WEATHER PREDICTION MODELS GUIDANCE, THE DEPRESSION WOULD MOVE EAST-NORTHEASTWARDS AND INTENSIFY INTO A DEEP DEPRESSION DURING NEXT 24 HOURS.

THE NEXT BULLETIN WILL BE ISSUED AT 0900 UTC OF 21 OCTOBER 2016.

(M. MOHAPATRA) HEAD RSMC, NEW DELHI







# DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 22.10.2016

# SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 24 HOURS ISSUED AT 0600 UTC OF 22 OCTOBER, 2016 BASED ON 0300 UTC OF 22 OCTOBER, 2016.

THE DEPRESSION OVER EASTCENTRAL & ADJOINING SOUTHEAST BAY OF BENGAL MOVED EAST-NORTHEASTWARDS WITH SPEED OF 8 KMPH DURING PAST 6 HRS AND LAY CENTRED AT 0300 UTC OF TODAY, THE 22<sup>ND</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 14.0° N AND LONGITUDE 90.5° E, ABOUT 350 KM NORTHWEST OF PORT BLAIR (43333) AND 680 KM SOUTHWEST OF YANGON(48097). THE SYSTEM IS MOST LIKELY TO INTENSIFY INTO A DEEP DEPRESSION DURING NEXT 24 HOURS AND INTO A CYCLONIC STORM DURING SUBSEQUENT 24 HOURS. IT WILL MOVE EAST-NORTHEASTWARDS AND REACH EASTCENTRAL BAY OF BENGAL OFF NORTH MYANMAR COAST ON 23RD OCTOBER EVENING/NIGHT. THEREAFTER, IT WILL RECURVE INITIALLY NORTH-NORTHWESTWARDS SKIPPING MYANMAR COAST AND THEN NORTHWESTWARDS TOWARDS NORTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL.

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW SHEAR PATTERN. CONVECTIVE CLOUDS ARE SHEARED TOWARDS SOUTHWEST. THE INTENSITY OF THE SYSTEM IS T 1.5. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION LIE OVER BAY OF BENGAL BETWEEN 12.0°N TO 17.0°N AND LONGITUDE 84.5°E TO 90.5°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80° C. THE CONVECTIVE CLUSTERS ARE MERGED WITH EACH OTHER. 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 1002 HPA.

THE SHIP LOCATED NEAR 12.4<sup>°</sup> N AND 84.1<sup>°</sup> E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1010.9 HPA AND MAXIMUM SUSTAINED WIND (MSW) OF 310/14 KNOTS. ANOTHER SHIP LOCATED NEAR 14.7<sup>°</sup> N AND 89.0<sup>°</sup> E REPORTED MSLP OF 1007.1 HPA AND MSW OF 160/33 KNOTS. OBSERVATION OF ANDAMAN ISLANDS REPORTED WIND SPEED OF 14 KNOTS.

# **REMARKS**:

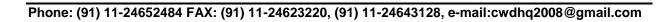
THE SEA SURFACE TEMPERATURE IS 29-30°C, OCEAN THERMAL ENERGY IS ABOUT 60-80 KJ/CM<sup>2.</sup> IT INCREASES TOWARDS NORTHEAST SECTOR. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE REMAINED SAME DURING PAST SIX HOURS AND IS ABOUT 10 X  $10^{-5}$  SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE ALSO

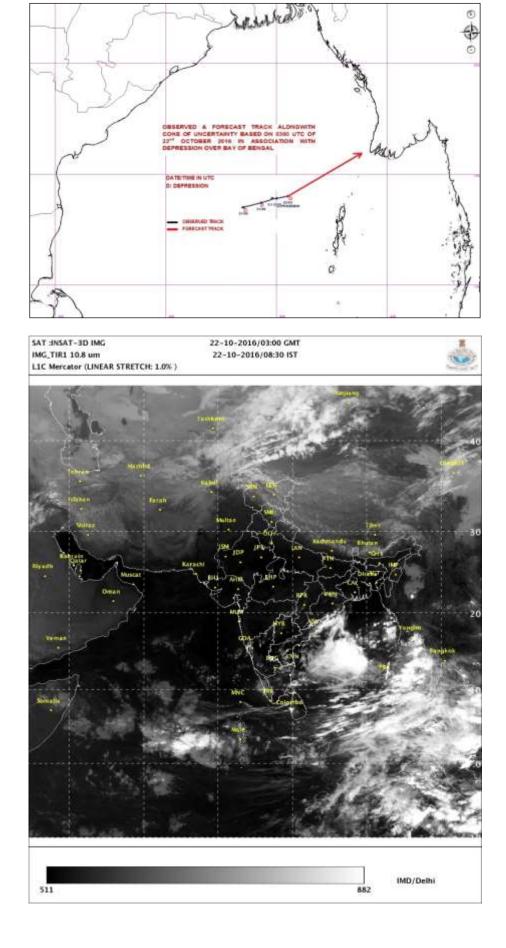
REMAINED SAME OVER THE AREA DURING PAST SIX HOURS AND IS ABOUT 20 X10<sup>-5</sup> SECOND<sup>-1</sup>. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 150X10<sup>-6</sup> SECOND<sup>-1</sup> AND VORTICITY CENTRE LIES TO THE EAST-NORTHEAST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE TO HIGH (15-20 KNOTS) AROUND THE SYSTEM CENTRE AND IT DECREASES TOWARDS NORTHEAST BECOMING 5-10 KNOTS NEAR ARAKAN & ADJOING TENASSERIM COAST. UPPER TROPOSPHERIC RIDGE RUNS ALONG 19.0<sup>0°</sup>N. THE MADDEN-JULIAN OSCILLATION (MJO) LIES IN PHASE 1 AND IS EXPECTED TO MOVE TO PHASE 8 DURING NEXT 3 DAYS. THE AMPLITUDE IS VERY LESS. THOUGH PAHSE 1 and 8 OF MJO are NOT FAVOURABLE, THE VERY LESS AMPLITUDE IN THIS PHASE WILL NOT INHIBITS THE INTENSIFICATION OF THE SYSTEM. THE SYSTEM IS BEING STEERED TO MOVE EAST-NORTHEASTWARDS UNDER THE INFLUENCE OF LOW TO MIDDLE LEVEL WINDS IN WESTERLIES.

MAJORITY OF NUMERICAL MODELS INDICATE STEADY INTENSIFICATION OF THE SYSTEM AND MOVEMENT TOWARDS MYANMAR COAST DURING NEXT 48 HOURS. THEREAFTER, MANY MODELS SUGGEST THE RECURVATURE OF THE SYSTEM INITIALLY TOWARDS NORTH-NORTHWESTWARDS SKIPPING MYANMAR COAST AND THEN NORTHWESTWARDS TOWARDS NORTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL. THE GENESIS POTENTIAL PARAMETERS ALSO SUGGEST INTENSIFICATION OF THE SYSTEM INTO A CYCLONIC STORM BY 23<sup>RD</sup> OCTOBER.

#### THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 22<sup>ND</sup> OCTOBER 2016.

(M. MOHAPATRA) HEAD RSMC, NEW DELHI









## DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 23.10.2016

# SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 24 HOURS ISSUED AT 0600 UTC OF 23 OCTOBER, 2016 BASED ON 0300 UTC OF 23 OCTOBER, 2016.

THE DEPRESSION OVER EASTCENTRAL BAY OF BENGAL MOVED EAST-NORTHEASTWARDS WITH A SPEED OF 11 KMPH DURING PAST 6 HRS, INTENSIFIED INTO A DEEP DEPRESSION AND LAY CENTRED AT 0300 UTC OF TODAY, THE 23RD OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 15.5° N AND LONGITUDE 93.0° E, ABOUT 420 KM NORTH OF PORT BLAIR (43333) AND 360 KM WEST-SOUTHWEST OF YANGON (48097). THE SYSTEM IS MOST LIKELY TO INTENSIFY INTO A CYCLONIC STORM DURING NEXT 24 HOURS. IT WILL MOVE NORTHEASTWARDS AND REACH CLOSE TO NORTH MYANMAR COAST BY TODAY EVENING. THEREAFTER, IT WILL RECURVE INITIALLY NORTH-NORTHWESTWARDS SKIRTING MYANMAR COAST AND THEN NORTHWESTWARDS TOWARDS NORTHWEST BAY OF BENGAL.

FURTHER UPDATE ON MOVEMENT & FORECAST TRACK OF THE SYSTEM TOWARDS INDIA COAST WILL BE PROVIDED AFTER THE RE-CURVATURE OF THE SYSTEM.

Date/time(UTC)	Position (lat. 0N/ long. 0E)	Maximum sustained surface wind speed (kmph)	Category of cyclonic Disturbance
23-10-2016/0300	15.5/93.0	50-60 gusting to 70	Deep Depression
23-10-2016/0600	15.6/93.2	50-60 gusting to 70	Deep Depression
23-10-2016/1200	15.9/93.7	50-60 gusting to 70	Deep Depression
23-10-2016/1800	16.2/94.1	60-70 gusting to 80	Cyclonic Storm
24-10-2016/0000	16.6/94.1	60-70 gusting to 80	Cyclonic Storm
24-10-2016/1200	17.2/93.5	70-80 gusting to 90	Cyclonic Storm
25-10-2016/0000	17.6/92.4	70-80 gusting to 90	Cyclonic Storm
25-10-2016/1200	17.9/91.2	70-80 gusting to 90	Cyclonic Storm
26-10-2016/0000	18.2/89.9	70-80 gusting to 90	Cyclonic Storm
26-10-2016/1200	18.5/88.6	80-90 gusting to 100	Cyclonic Storm
27-10-2016/0000	18.8/87.3	90-100 gusting to 110	Severe Cyclonic Storm

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW SHEAR PATTERN. CONVECTIVE CLOUDS ARE SHEARED TOWARDS WEST. THE INTENSITY OF THE SYSTEM IS T 2.0. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION LIE OVER BAY OF BENGAL BETWEEN 12.0°N TO 18.0°N AND LONGITUDE  $86.5^{\circ}$ E TO  $95.0^{\circ}$ E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT - $85^{\circ}$ C. MAXIMUM

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SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING TO 40 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

THE BUOY LOCATED NEAR  $14.0^{\circ}$  N AND  $87.0^{\circ}$  E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1010.6 HPA AND MAXIMUM SUSTAINED SURFACE WIND (MSW) OF 310/10 KNOTS. ANOTHER BUOY LOCATED NEAR  $15.0^{\circ}$  N AND  $90.0^{\circ}$  E REPORTED MSLP OF 1008.4 HPA. THIRD BUOY NEAR  $16.5^{\circ}$  N AND  $88.0^{\circ}$  E REPORTED MSLP OF 1009.8 HPA.

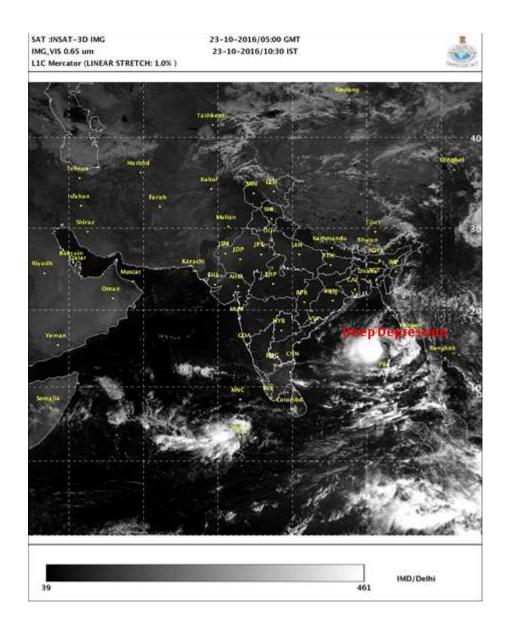
#### **REMARKS**:

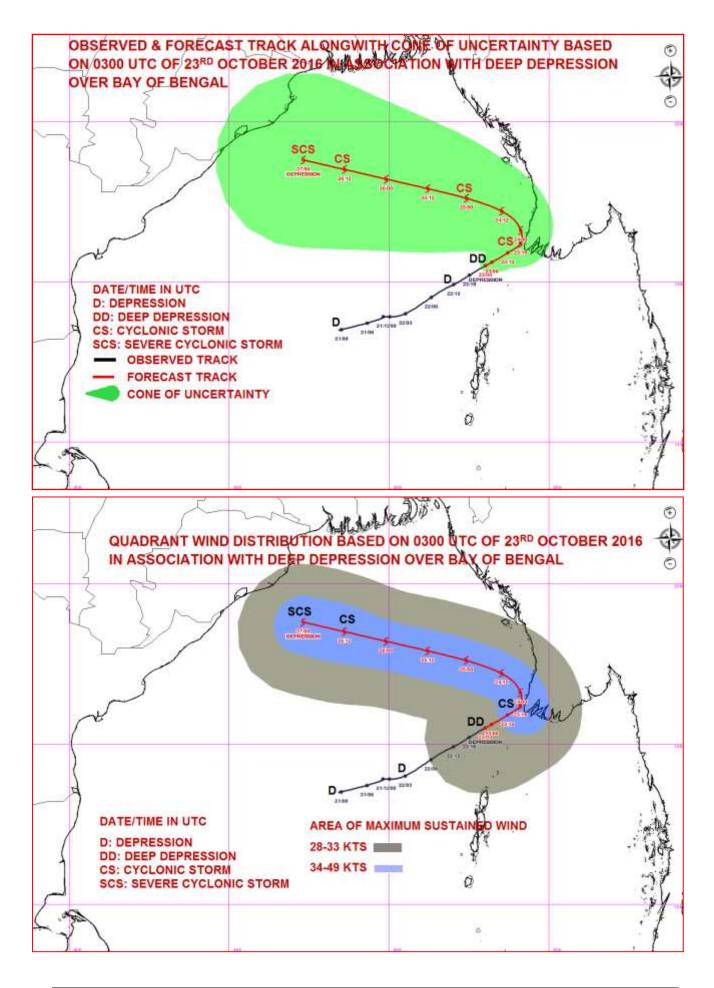
THE SEA SURFACE TEMPERATURE IS 29-30°C, OCEAN THERMAL ENERGY IS ABOUT 100 KJ/CM<sup>2.</sup> LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE SHOWS RISE DURING PAST SIX HOURS AND IS ABOUT 20 X 10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE INCREASED OVER THE AREA DURING PAST SIX HOURS AND IS ABOUT 30 X10<sup>-5</sup> SECOND<sup>-1</sup>. THE LOW LEVEL RELATIVE VORTICITY ALSO INCREASED DURING PAST SIX HOURS AND IS ABOUT 150X10<sup>-6</sup> SECOND<sup>-1</sup> AND VORTICITY CENTRE LIES TO THE EAST-NORTHEAST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND HAS DECREASED DURING PAST SIX HOURS AND IS MODERATE (10-15 KNOTS) AROUND THE SYSTEM CENTRE AND IT FURTHER DECREASES TOWARDS NORTHEAST BECOMING 5-10 KNOTS NEAR ARAKAN & ADJOING TENASSERIM COAST. AN ANTICYCLONIC CIRCULATION LIES OVER MYANMAR CLOSE TO IRRAWADDY DELTA, WHICH WILL STEER THE SYSTEM TOWARDS NORTH-NORTHWEST AS THE DEEP DEPRESSION COMES CLOSER TO THE COAST.

PAST 24 HOURS OBSERVATIONS INDICATED THAT THE SYSTEM MOVED EAST-NORTHEASTWARDS UNDER THE INFLUENCE OF LOWER AND MIDDLE LEVEL WESTERLIES. THE STEERING SPEED WAS ABOUT 5-6 KNOTS IN THE DIRECTION OF EAST-NORTHEAST (070°) DURING PAST 12 HRS. THE SYSTEM INTENSIFIED INTO DEEP DEPRESSION MAINLY DUE TO DECREASE IN WIND SHEAR AROUND THE SYSTEM CENTRE AS WELL AS INCREASE IN LOW LEVEL CONVERGENCE & VORTICITY AND ALSO UPPER LEVEL DIVERGENCE. ALSO THE HIGHER OCEAN THERMAL ENERGY AROUND THE SYSTEM FAVOURED THE INTENSIFICATION. SIMILAR CONDITION IS LIKELY TO CONTINUE DURING NEXT 24 HRS LEADING TO FURTHER INTENSIFICATION. HOWEVER THE LAND INTERACTION AS THE SYSTEM MOVES CLOSER TO COAST WILL BE AN INHIBITING FACTOR, HENCE, THERE IS POSSIBILITY OF SLOW AND STEADY INTENSIFICATION. MAJORITY OF NUMERICAL MODELS ALSO INDICATE STEADY INTENSIFICATION OF THE SYSTEM AND MOVEMENT TOWARDS MYANMAR COAST DURING NEXT 24 HOURS. THEREAFTER, MOST MODELS SUGGEST THE RECURVATURE OF THE SYSTEM. HOWEVER, THERE IS LARGE DIVERGENCE IN THE DIRECTION AND POINT OF RECURVATURE AND REGARDING LANDFALL OVER MYANMAR.

### THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 23<sup>RD</sup> OCTOBER 2016.

(M. MOHAPATRA) HEAD RSMC, NEW DELHI





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# DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 23.10.2016

### SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 24 HOURS ISSUED AT 1500 UTC OF 23 OCTOBER, 2016 BASED ON 1200 UTC OF 23 OCTOBER, 2016.

THE DEEP DEPRESSION OVER EASTCENTRAL BAY OF BENGAL REMAINED PRACTICALLY STATIONARY DURING PAST 12 HRS AND LAY CENTRED AT 1200 UTC OF TODAY. THE 23RD OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 15.5° N AND LONGITUDE 93.0° E, ABOUT 420 KM NORTH OF PORT BLAIR (43333) AND 360 KM WEST-SOUTHWEST OF YANGON (48097). THE SYSTEM IS MOST LIKELY TO INTENSIFY INTO A DURING NEXT 24 IT WILL MOVE NORTH-CYCLONIC STORM HOURS. NORTHEASTWARDS/NORTHWARDS FOR SOME TIME AND THEN RECURVE INITIALLY NORTH-NORTHWESTWARDS AND THEN NORTHWESTWARDS. IT IS VERY LIKELY TO REACH NORTHWEST BAY OF BENGAL IN THE MORNING OF 27<sup>TH</sup>.

FURTHER UPDATE ON MOVEMENT & FORECAST TRACK OF THE SYSTEM TOWARDS INDIA COAST WILL BE PROVIDED AFTER THE RE-CURVATURE OF THE SYSTEM.

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(UTC)	POSITION (LAT. <sup>°</sup> N/LONG. <sup>°</sup> E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
23-10-2016/1200	15.5/93.0	50-60 GUSTING TO 70	DEEP DEPRESSION
23-10-2016/1800	16.1/93.5	50-60 GUSTING TO 70	DEEP DEPRESSION
24-10-2016/0000	16.4/93.6	60-70 GUSTING TO 80	CYCLONIC STORM
24-10-2016/0600	16.7/93.6	65-75 GUSTING TO 80	CYCLONIC STORM
24-10-2016/1200	17.2/93.1	70-80 GUSTING TO 90	CYCLONIC STORM
25-10-2016/0000	17.6/92.4	80-90 GUSTING TO 100	CYCLONIC STORM
25-10-2016/1200	18.0/91.2	80-90 GUSTING TO 100	CYCLONIC STORM
26-10-2016/0000	18.3/89.9	90-100 GUSTING TO 110	CYCLONIC STORM
26-10-2016/1200	18.6/88.7	90-100 GUSTING TO 110	CYCLONIC STORM
27-10-2016/0000	18.9/87.9	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
27-10-2016/1200	19.3/87.1	110-120 GUSTING TO 130	SEVERE CYCLONIC STOR

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW SHEAR PATTERN. CONVECTIVE CLOUDS ARE SHEARED TOWARDS WEST. THE INTENSITY OF THE SYSTEM IS T 2.0 ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY

INTENSE CONVECTION LIE OVER BAY OF BENGAL BETWEEN 12.0<sup>o</sup>N TO 18.0<sup>o</sup>N AND LONGITUDE 85.0<sup>o</sup>E TO 93.0<sup>o</sup>E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -85<sup>o</sup> C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING TO 40 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

THE BUOY LOCATED NEAR 15.0<sup>°</sup> N AND 90.0<sup>°</sup> E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1004.7 HPA ANOTHER BUOY LOCATED NEAR 17.9<sup>°</sup> N AND 89.6<sup>°</sup> E REPORTED MSLP OF 1004.4 HPA AND MAXIMUM SUSTAINED SURFACE WIND (MSW) OF 020/16 KNOTS. THIRD BUOY NEAR 16.5<sup>°</sup> N AND 88.0<sup>°</sup> E REPORTED MSLP OF 1005.6 HPA. AND MSW OF 320/14 KNOTS.

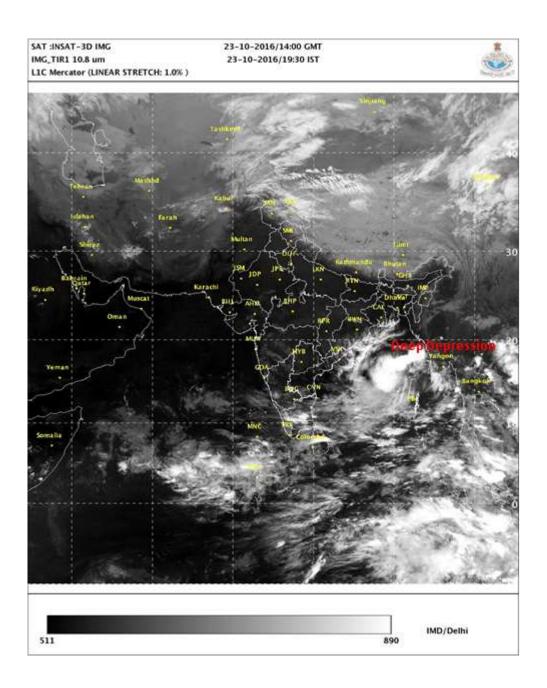
#### **REMARKS**:

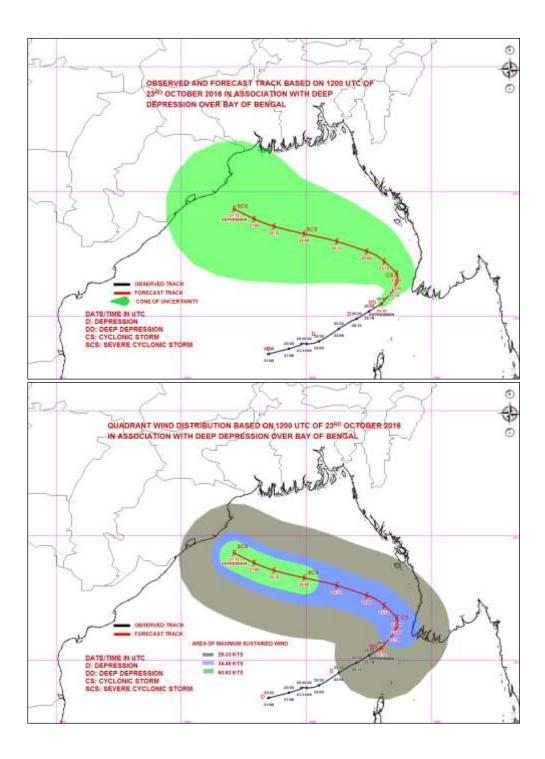
THE SEA SURFACE TEMPERATURE IS 29-30°C, OCEAN THERMAL ENERGY IS ABOUT100 KJ/CM<sup>2</sup>. IT INCREASES TOWARDS NORTHEAST SECTOR OF THE SYSTEM. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE SHOWS RISE DURING PAST SIX HOURS AND IS ABOUT 20 X 10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE ALSO SHOWS INCREASE OVER THE AREA DURING PAST SIX HOURS AND IS ABOUT 30 X10<sup>-5</sup> SECOND<sup>-1</sup>. THE LOW LEVEL RELATIVE VORTICITY INCREASED DURING PAST SIX HOURS AND IS ABOUT 50X10<sup>-6</sup> SECOND<sup>-1</sup> AND VORTICITY CENTRE LIES TO THE EAST-NORTHEAST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND HAS INCREASED DURING PAST SIX HOURS AND IS MODERATE (15-20 KNOTS) AROUND THE SYSTEM CENTRE AND IT DECREASES TOWARDS NORTHEAST BECOMING 5-10 KNOTS NEAR ARAKAN & ADJOING TENASSERIM COAST.

PAST 24 HOURS OBSERVATIONS INDICATED THAT THE SYSTEM MOVED EAST-NORTHEASTWARDS UNDER THE INFLUENCE OF LOWER AND MIDDLE LEVEL WESTERLIES. THE STEERING SPEED WAS ABOUT 5 KNOTS IN THE DIRECTION OF EAST-NORTHEAST (0700). THE SYSTEM INTENSIFIED INTO A DEEP DEPRESSION IN THE MORNING MAINLY DUE TO DECREASE IN WIND SHEAR PREVAILING OVER THE REGION IN ADDITION TO INCREASE IN LOW LEVEL CONVERGENCE AND VORTICITY AS WELL AS UPPER LEVEL DIVERGENCE. ALSO THE SYSTEM MOVED OVER THE AREA WITH HIGHER OCEAN THERMAL ENERGY. SIMILAR CONDITION WILL PREVAIL DURING NEXT 48 HRS. HENCE, THE SYSTEM WILL CONTINUE TO INTENSIFY FURTHER BECOMING CYCLONIC STORM DURING NEXT 24 HRS. THE PRESENCE OF ANTI-CYCLONIC CIRCULATION OVER MYANMAR WILL LEAD TO RECURVATURE OF THE SYSTEM INITIALLY TO NORTH-NORTHWEST AND THEN NORTHWEST. ALSO AS THE SYSTEM INTENSIFIES INTO THE CYCLONIC STORM, THE STEERING LEVEL WILL EXTEND TO UPPER TROPOSPHERIC LEVEL WHICH WILL CAUSE THE SYSTEM TO MOVE NORTHWESTWARDS TOWARDS INDIA COAST. ALSO MAJORITY OF NUMERICAL MODELS ALSO INDICATE STEADY INTENSIFICATION OF THE SYSTEM AND MOVEMENT TOWARDS MYANMAR COAST DURING NEXT 12 HOURS. THEREAFTER, MOST MODELS SUGGEST THE RECURVATURE OF THE SYSTEM. HOWEVER, THERE IS LARGE DIVERGENCE IN THE DIRECTION AND POINT OF RECURVATURE. WHILE GFS BASED MODELS, ECMWF AND UM-EPS SUGGEST RECURVATURE TOWARDS NORTH BAY OF BENGAL, THE UNIFIED MODELS, JMA, METEO-FRANCE MODELS SUGGEST MOVEMENT TOWARDS WC BAY. AFTER THE RECURVATURE, THE SYSTEM WILL AGAIN EXPERIENCE DECREASE IN OCEAN HEAT CONTENT, DECREASE IN MIDDLE TO UPPER LEVEL MOISTURE DUE TO PREVAILING CONTINENTAL WESTERLIES, IF THE SYSTEM MOVES TOWARDS NORTH BAY OF BENGAL. THESE FACTORS MAY RESTRICT THE INTENSIFICATION OF THE SYSTEM OVER THE NORTH BAY OF BENGAL. HOWEVER, MODERATE WIND SHEAR MAY FAVOUR THE INTENSIFICATION. IT IS ALSO REFLECTED BY THE GUIDANCE GIVEN BY ECMWF, UM-EPS AND GFS BASED MODELS. UNDER THESE CIRCUMSTANCES, THERE IS VERY LOW PROBABILITY OF RAPID INTENSIFICATION OR RAPID WEAKENING OF THE SYSTEM. THE SAME IS ALSO PREDICTED BY THE RAPID INTENSIFICATION INDEX OF IMD.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 24<sup>TH</sup> OCTOBER 2016.

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









#### DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 23.10.2016

#### SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 24 HOURS ISSUED AT 2100 UTC OF 23 OCTOBER, 2016 BASED ON 1800 UTC OF 23 OCTOBER, 2016.

THE DEEP DEPRESSION OVER EASTCENTRAL BAY OF BENGAL MOVED NORTH-NORTHEASTWARDS WITH SPEED OF 10 KMPH DURING PAST SIX HOURS AND LAY CENTRED AT 1800UTC UTC OF 23<sup>50</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.0° N AND LONGITUDE 93.2° E. ABOUT 480 KM NORTH OF PORT BLAIR (43333) AND 320 KM WEST-SOUTHWEST OF YANGON (48097). THE SYSTEM IS MOST LIKELY TO INTENSIFY INTO A CYCLONIC STORM DURING NEXT 24 HOURS. IT WILL MOVE NORTH-NORTHEASTWARDS NORTHWARDS FOR SOME TIME AND THEN RECURVE INITIALLY NORTH-NORTHWESTWARDS AND THEN NORTHWESTWARDS. IT IS VERY LIKELY TO REACH NORTHWEST BAY OF BENGAL IN THE MORNING OF 27<sup>TH</sup> OCTOBER, 2016.

FURTHER UPDATE ON MOVEMENT & FORECAST TRACK OF THE SYSTEM TOWARDS INDIA COAST WILL BE PROVIDED AFTER THE RE-CURVATURE OF THE SYSTEM.

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(UTC)	POSITION (LAT. "N/LONG."E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
23-10-2016/1800	16.0/93.2	50-60 gusting to 70	Deep Depression
24-10-2016/0000	16.4/93.4	60-70 gusting to 80	Cyclanic Storm
24-10-2016/0600	16.7/93.4	65-75 gusting to 80	Cyclanic Storm
24-10-2016/1200	17.2/93.1	70-80 gusting to 90	Cyclonic Storm
24-10-2016/1800	17.4/92.7	80-90 gusting to 100	Cyclanic Storm
25-10-2016/0600	17.8/91.8	80-90 gusting to 100	Cyclanic Storm
25-10-2016/1800	18.1/90.9	90-100 gusting to 110	Cyclonic Storm
25-10-2016/0600	18.4/89.3	90-100 gusting to 110	Cyclonic Storm
26-10-2016/1800	18.7/88.3	100-110 gusting to 128	Severe Cyclonic Storm
27-10-2016/0600	19.1/87.5	110-120 gusting to 130	Severe Cyclonic Storm
27-10-2016/1800	19.4/86.7	110-120 gusting to 130	Severe Cyclonic Storm
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ACCORDING TO SATELLITE IMAGERIES. THE CONVECTIVE CLOUDS SHOW SHEAR PATTERN. CONVECTIVE CLOUDS ARE SHEARED TOWARDS WEST. THE INTENSITY OF THE SYSTEM IS T 2.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LIE OVER BAY OF BENGAL BETWEEN LATITUDE 13.0°N TO 19.0°N AND LONGITUDE 87.0°E TO 94.0°E THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT 485°C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING TO 40 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

THE BUOY LOCATED NEAR 16.5<sup>6</sup> N AND 88.0<sup>6</sup> E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1007.6 HPA AND MAXIMUM SUSTAINED SURFACE WIND (MSW) OF 320/08 KNOTS ANOTHER BUOY LOCATED NEAR 17.7<sup>6</sup> N AND 89.5<sup>6</sup> E REPORTED MSLP OF 1005.6 HPA AND MAXIMUM SUSTAINED SURFACE WIND (MSW) OF 020/16 KNOTS

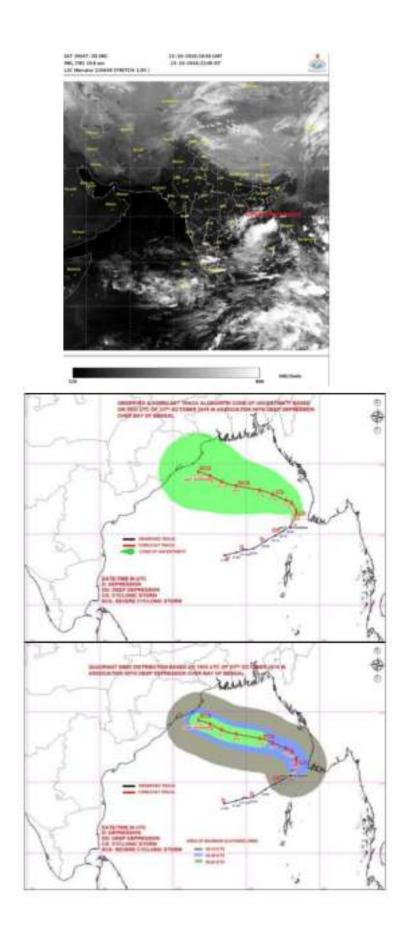
#### REMARKS:

THE SEA SURFACE TEMPERATURE IS 29-30°C, OCEAN THERMAL ENERGY IS ABOUT 100 KJICM<sup>4</sup>. IT INCREASES TOWARDS NORTHEAST SECTOR OF THE SYSTEM, LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE SHOWS RISE DURING PAST SIX HOURS AND IS ABOUT 20 X 10° SECOND<sup>4</sup>. UPPER LEVEL DIVERGENCE ALSO SHOWS INCREASE OVER THE AREA DURING PAST SIX HOURS AND IS ABOUT 30 X10° SECOND<sup>4</sup>. THE LOW LEVEL RELATIVE VORTICITY INCREASED DURING PAST SIX HOURS AND IS ABOUT 150X10° SECOND<sup>4</sup> AND VORTICITY CENTRE LIES TO THE EAST-NORTHEAST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND HAS INCREASED DURING PAST SIX HOURS AND IS MODERATE (15-20 KNOTS) AROUND THE SYSTEM CENTRE AND IT DECREASES TOWARDS NORTHEAST BECOMING 5-10 KNOTS NEAR ARAKAN & ADJOING TENASSERIM COAST.

PAST 24 HOURS OBSERVATIONS INDICATED THAT THE SYSTEM MOVED EAST-NORTHEASTWARDS UNDER THE INFLUENCE OF LOWER AND MIDDLE LEVEL WESTERUES. THE STEERING SPEED WAS ABOUT 5 KNOTS IN THE DIRECTION OF EAST-NORTHEAST (0700). THE SYSTEM INTENSIFIED INTO A DEEP DEPRESSION IN THE MORNING MAINLY DUE TO DECREASE IN WIND SHEAR PREVAILING OVER THE REGION IN ADDITION TO INCREASE IN LOW LEVEL CONVERGENCE AND VORTICITY AS WELL AS UPPER LEVEL DIVERGENCE. ALSO THE SYSTEM MOVED OVER THE AREA WITH HIGHER OCEAN THERMAL ENERGY, SMILAR CONDITION WILL PREVAIL DURING NEXT 48 HRS. HENCE, THE SYSTEM WILL CONTINUE TO INTENSIFY FURTHER. BECOMING CYCLONIC STORM DURING NEXT 24 HRS. THE PRESENCE OF ANTI-CYCLONIC CIRCULATION OVER MYANMAR WILL LEAD TO RECURVATURE OF THE SYSTEM INITIALLY TO NORTH-NORTHWEST AND THEN NORTHWEST, ALSO AS THE SYSTEM INTENSIFIES INTO THE CYCLONIC STORM. THE STEERING LEVEL WILL EXTEND TO UPPER TROPOSPHERIC LEVEL WHICH WILL CAUSE THE SYSTEM TO MOVE NORTHWESTWARDS TOWARDS INDIA COAST. ALSO MAJORITY OF NUMERICAL MODELS ALSO INDICATE STEADY INTENSIFICATION OF THE SYSTEM AND MOVEMENT TOWARDS MYANMAR COAST DURING NEXT 12 HOURS. THEREAFTER, MOST MODELS SUGGEST THE RECURVATURE OF THE SYSTEM, HOWEVER, THERE IS LARGE DIVERGENCE IN THE DIRECTION AND POINT OF RECURVATURE. WHILE GFS BASED MODELS, ECMWF AND UM-EPS SUGGEST RECURVATURE TOWARDS NORTH BAY OF BENGAL. THE UNIFIED MODELS, JMA, METEO-FRANCE MODELS SUGGEST MOVEMENT TOWARDS WC BAY. AFTER THE RECURVATURE, THE SYSTEM WILL AGAIN EXPERIENCE. DECREASE IN OCEAN HEAT CONTENT, DECREASE IN MIDDLE TO UPPER LEVEL MOISTURE. DUE TO PREVAILING CONTINENTAL WESTERLIES. IF THE SYSTEM MOVES TOWARDS NORTH BAY OF BENGAL THESE FACTORS MAY RESTRICT THE INTENSIFICATION OF THE SYSTEM OVER THE NORTH BAY OF BENGAL. HOWEVER, MODERATE WIND SHEAR MAY FAVOUR THE INTENSIFICATION. IT IS ALSO REFLECTED BY THE GUIDANCE GIVEN BY ECMWF, UM-EPS AND GFS BASED MODELS. UNDER THESE CIRCUMSTANCES, THERE IS VERY LOW PROBABILITY OF RAPID INTENSIFICATION OR RAPID WEAKENING OF THE SYSTEM. THE SAME IS ALSO PREDICTED BY THE RAPID INTENSIFICATION INDEX OF IMD.

#### THE NEXT BULLETIN WILL BE ISSUED AT 0300 UTC OF 24<sup>TH</sup> OCTOBER 2016.

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







# DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 24.10.2016

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 24 HOURS ISSUED AT 0600 UTC OF 24 OCTOBER, 2016 BASED ON 0300 UTC OF 24 OCTOBER, 2016.

THE DEEP DEPRESSION OVER EASTCENTRAL BAY OF BENGAL REMAINED PRACTICALLY STATIONARY IN PAST 03 HOURS AND LAY CENTRED AT 0300 UTC OF 24<sup>TH</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NE AR LATITUDE 16.4° N AND LONGITUDE 93.2° E, ABOUT 520 KM NORTH-NORTHEAST OF PORT BLAIR (43333) AND 310 KM WEST-SOUTHWEST OF YANGON (48097). THE SYSTEM IS VERY LIKELY TO INTENSIFY INTO A CYCLONIC STORM DURING NEXT 24 HOURS. IT WILL MOVE NORTHWARDS FOR SOME TIME AND THEN RECURVE INITIALLY NORTH-NORTHWESTWARDS AND THEN NORTHWESTWARDS. IT IS VERY LIKELY TO REACH NORTHWEST BAY OF BENGAL IN THE MORNING OF 27<sup>TH</sup> OCTOBER, 2016

FURTHER UPDATE ON MOVEMENT & FORECAST TRACK OF THE SYSTEM TOWARDS INDIA COAST WILL BE PROVIDED AFTER THE RE-CURVATURE OF THE SYSTEM.

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(UTC)	POSITION (LAT. ⁰N/ LONG. ⁰E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPI	CATEGORY OF CYCLONIC DISTURBANCE
24-10-2016/0300	16.4/93.2	50-60 GUSTING TO 70	DEEP DEPRESSION
24-10-2016/0600	16.7/93.2	50-60 GUSTING TO 70	DEEP DEPRESSION
24-10-2016/1200	17.0/93.1	50-60 GUSTING TO 70	DEEP DEPRESSION
24-10-2016/1800	17.4/92.7	55-65 GUSTING TO 75	DEEP DEPRESSION
25-10-2016/0000	17.7/92.3	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/1200	18.2/91.4	65-75 GUSTING TO 85	CYCLONIC STORM
26-10-2016/0000	18.6/90.3	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1200	19.0/89.2	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/0000	19.4/88.1	75-85 GUSTING TO 95	CYCLONIC STORM
27-10-2016/1200	19.6/87.4	75-85 GUSTING TO 95	CYCLONIC STORM
28-10-2016/0000	19.8/86.7	80-90 GUSTING TO 100	CYCLONIC STORM

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW SHEAR PATTERN. CONVECTIVE CLOUDS ARE SHEARED TOWARDS WEST. THE INTENSITY OF THE SYSTEM IS C.I IS 2.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE

Phone: (91) 11-24652484 FAX: (91) 11-24623220, (91) 11-24643128, e-mail:cwdhq2008@gmail.com

TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 14.0<sup>o</sup>N TO 20.5<sup>o</sup>N AND LONGITUDE 86.5<sup>o</sup>E TO 93.0<sup>o</sup>E THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80<sup>o</sup>C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING TO 40 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

THE BUOY LOCATED NEAR  $16.5^{\circ}$  N AND  $87.9^{\circ}$  E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1008.7 HPA AND MAXIMUM SUSTAINED SURFACE WIND (MSW) OF 310/14 KNOTS. ANOTHER BUOY LOCATED NEAR  $17.7^{\circ}$  N AND  $89.5^{\circ}$  E REPORTED MSLP OF 1006.6 HPA AND MAXIMUM SUSTAINED SURFACE WIND (MSW) OF 030/17 KNOTS. THE BUOY LOCATED NEAR  $14.0^{\circ}$  N AND  $87.0^{\circ}$  E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1009.5 HPA AND MAXIMUM SUSTAINED SURFACE WIND (MSW) OF 300/16 KNOTS.

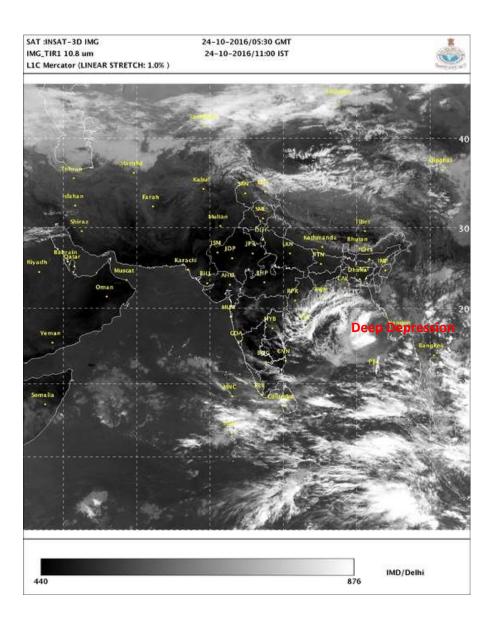
#### **REMARKS**:

THE SEA SURFACE TEMPERATURE IS 29-30°C, OCEAN THERMAL ENERGY IS ABOUT100 KJ/CM<sup>2</sup>. IT INCREASES TOWARDS NORTHEAST SECTOR OF THE SYSTEM AND DECREASES TOWARDS NORTHWEST AND NORTH EXCEPT A SMALL POCKET OF NORTHWEST BAY OF BENGAL OFF ORISSA COAST. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE IS ABOUT 15X10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE OVER THE AREA IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup>. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 150X10<sup>-6</sup> SECOND<sup>-1</sup> AND VORTICITY IS ORIENTED FROM EAST-SOUTHEAST TO WEST-NORTHWEST. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND HAS DECREASED DURING PAST SIX HOURS AND IS MODERATE (10-15 KNOTS) AROUND THE SYSTEM CENTRE.

PAST 12 HOURS OBSERVATIONS INDICATE THAT THE SYSTEM MOVED NEARLY NORTHWARDS WITH A SPEED OF ABOUT 5 KNOTS. THE SYSTEM SHOWS SIGNS OF WEAKENING IN THE MORNING TODAY MAINLY DUE TO INCREASE IN WIND SHEAR PREVAILING OVER THE REGION. HOWEVER THE SCATTEROMETER AND OTHER OBSERVATIONS IN THE REGION INDICATE THE WIND SPEED OF ABOUT 30 KNOTS. DUE TO PREVAILING FAVOURABLE ENVIRONMENTAL CONDITIONS AROUND SYSTEM CENTRE, THERE IS POSSIBILITY OF INTENSIFICATION, THOUGH THERE IS A TEMPORARY SIGN OF WEAKENING IN CONVECTION. THERE IS LARGE DIVERGENCE IN THE MODEL GUIDANCE WITH REGARDS TO TRACK OF THE SYSTEM, WHICH VARIES FROM WESTWARDS TO NORTH-NORTHWESTWARDS. MAJORITY OF NUMERICAL MODELS ALSO INDICATE STEADY INTENSIFICATION OF THE SYSTEM.

THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 24<sup>TH</sup> OCTOBER 2016.

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







# DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 24.10.2016

## SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 24 HOURS ISSUED AT 1500 UTC OF 24 OCTOBER, 2016 BASED ON 1200 UTC OF 24 OCTOBER, 2016.

THE DEEP DEPRESSION OVER EASTCENTRAL BAY OF BENGAL MOVED WEST-NORTHWESTWARDS IN PAST 06 HOURS AND LAY CENTRED AT 1200 UTC OF 24<sup>TH</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.7° N AND LONGITUDE 92.7° E, ABOUT 560 KM NORTH-NORTHWEST OF PORT BLAIR (43333) AND 360 KM WEST-SOUTHWEST OF YANGON (48097). THE SYSTEM IS VERY LIKELY TO INTENSIFY INTO A CYCLONIC STORM DURING NEXT 24 HOURS. IT WILL MOVE INITIALLY NORTHWESTWARDS AND THEN WEST-NORTHWESTWARDS. IT IS VERY LIKELY TO REACH NORTHWEST BAY OF BENGAL IN THE MORNING OF 27<sup>TH</sup>. OCTOBER, 2016

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(UTC)	POSITION	MAXIMUM SUSTAINED	CATEGORY OF CYCLONIC
	(LAT. <sup>0</sup> N/ LONG.	SURFACE WIND SPEED	DISTURBANCE
			DISTURBANCE
	°E)	(KMPH)	
24-10-2016/1200	16.7/92.7	50-60 GUSTING TO 70	DEEP DEPRESSION
24-10-2016/1800	16.9/92.4	55-65 GUSTING TO 75	DEEP DEPRESSION
25-10-2016/0000	17.1/92.0	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/0600	17.3/91.5	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/1200	17.5/91.1	60-70 GUSTING TO 80	CYCLONIC STORM
26-10-2016/0000	17.8/90.3	65-75 GUSTING TO 85	CYCLONIC STORM
26-10-2016/1200	18.2/89.2	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/0000	18.5/88.1	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/1200	18.8/87.0	75-85 GUSTING TO 95	CYCLONIC STORM
28-10-2016/0000	19.0/86.1	70-90 GUSTING TO 100	CYCLONIC STORM
28-10-2016/1200	19.1/85.3	80-90 GUSTING TO 100	CYCLONIC STORM

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW SHEAR PATTERN. CONVECTIVE CLOUDS ARE SHEARED TOWARDS WEST. THE INTENSITY OF THE SYSTEM IS C.I 2.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 15.0°N TO 17.5°N AND LONGITUDE 88.0°E TO 93.0°E THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING

Phone: (91) 11-24652484 FAX: (91) 11-24623220, (91) 11-24643128, e-mail:cwdhq2008@gmail.com

TO 40 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

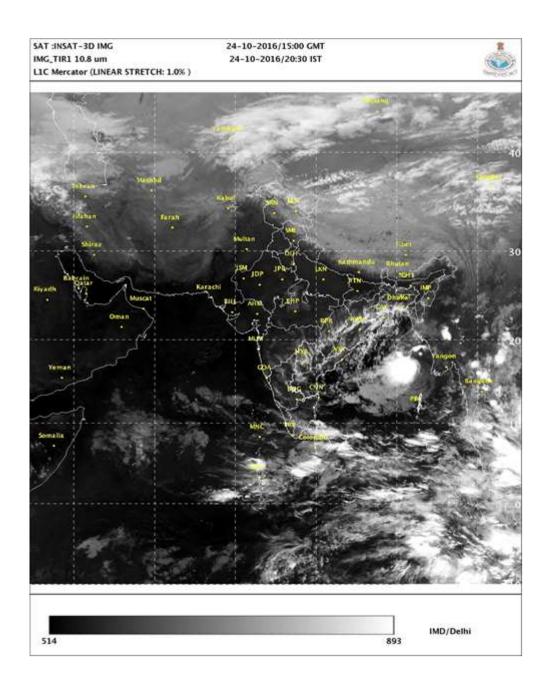
#### **REMARKS**:

THE SEA SURFACE TEMPERATURE IS 29-30°C, OCEAN THERMAL ENERGY IS ABOUT100 KJ/CM<sup>2</sup>. IT INCREASES TOWARDS NORTHEAST SECTOR OF THE SYSTEM AND DECREASES TOWARDS NORTHWEST AND NORTH EXCEPT A SMALL POCKET OF NORTHWEST BAY OF BENGAL OFF ORISSA COAST. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE IS ABOUT 15X10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE OVER THE AREA IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup>. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 150X10<sup>-6</sup> SECOND<sup>-1</sup>. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-15 KNOTS) AROUND THE SYSTEM CENTRE AND IS 5-10 KNOTS IN THE NORTH OF THE SYSTEM.

PAST 24 HOURS OBSERVATIONS INDICATE THAT THE SYSTEM MOVED NEARLY NORTHWARDS WITH A SPEED OF ABOUT 5 KNOTS. THE SYSTEM SHOWS SIGNS OF WEAKENING IN THE MORNING TODAY MAINLY DUE TO INCREASE IN WIND SHEAR PREVAILING OVER THE REGION. HOWEVER THE SCATTEROMETER AND OTHER OBSERVATIONS IN THE REGION INDICATE THE WIND SPEED OF ABOUT 30 KNOTS. DUE TO PREVAILING FAVOURABLE ENVIRONMENTAL CONDITIONS AROUND SYSTEM CENTRE, THERE IS POSSIBILITY OF INTENSIFICATION, THOUGH THERE IS A TEMPORARY SIGN OF WEAKENING IN CONVECTION. THERE IS LARGE DIVERGENCE IN THE MODEL GUIDANCE WITH REGARDS TO TRACK OF THE SYSTEM, WHICH VARIES FROM WESTWARDS TO NORTH-NORTHWESTWARDS. MAJORITY OF NUMERICAL MODELS ALSO INDICATE STEADY INTENSIFICATION OF THE SYSTEM.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 25<sup>TH</sup> OCTOBER 2016.

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







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)

TROPICAL CYCLONE ADVISORY RSMC – TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'KYANT' ADVISORY NO. ONE ISSUED AT 0600 UTC OF 25<sup>TH</sup> OCTOBER 2016 BASED ON 0300 UTC CHARTS OF 25<sup>TH</sup> OCTOBER 2016

THE DEEP DEPRESSION OVER EASTCENTRAL BAY OF BENGAL MOVED WEST-NORTHWESTWARDS IN PAST 12 HOURS, INTENSIFIED INTO A CYCLONIC STORM '**KYANT**' AND LAY CENTRED AT 0300 UTC OF 25<sup>TH</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 17.0° N AND LONGITUDE 91.2° E, ABOUT 620 KM NORTH-NORTHWEST OF PORT BLAIR, 710 KM SOUTH-SOUTHEAST OF GOPALPUR AND 850 KM EAST OF VISHAKHAPATNAM.

THE SYSTEM WILL MOVE INITIALLY WEST-NORTHWESTWARDS AND THEN WEST TO WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

DATE/TIME(UTC)	POSITION (LAT. ⁰N/ LONG.	MAXIMUM SUSTAINED SURFACE WIND SPEED	CATEGORY OF CYCLONIC DISTURBANCE
	⁰E)	(KMPH)	
25-10-2016/0300	17.0/91.2	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/0600	17.1/90.9	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/1200	17.2/90.5	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/1800	17.3/89.9	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/0000	17.4/89.3	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1200	17.5/87.7	75-85 GUSTING TO 95	CYCLONIC STORM
27-10-2016/0000	17.5/86.1	75-85 GUSTING TO 95	CYCLONIC STORM
27-10-2016/1200	17.3/84.5	80-90 GUSTING TO 100	CYCLONIC STORM

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH

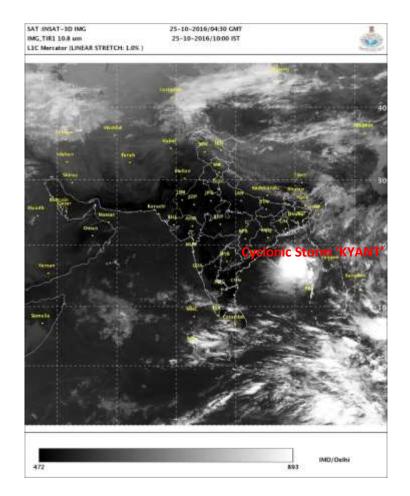
EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 13.0<sup>°</sup>N TO 19.8<sup>°</sup>N AND LONGITUDE 86.5<sup>°</sup>E TO 94.0<sup>°</sup>E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -90<sup>°</sup>C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 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 998 HPA.

#### **REMARKS:**

THE SEA SURFACE TEMPERATURE HAS INCREASED IN PAST 12 HOURS AND NOW IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 100 KJ/CM<sup>2</sup>. IT INCREASES TOWARDS NORTHEAST SECTOR OF THE SYSTEM AND DECREASES TOWARDS NORTHWEST AND NORTH EXCEPT A SMALL POCKET OF NORTHWEST BAY OF BENGAL OFF SOUTH ORISSA AND NORTH ANDHRA COASTS. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE IS ABOUT 5X10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE HAS INCREASED IN PAST 12 HOURS AND IS ABOUT 30X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY ALSO INCREASED AND ABOUT 240X10<sup>-6</sup> SECOND<sup>-1</sup> AND IS TO THE SOUTHWEST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-15 KNOTS) AROUND THE SYSTEM CENTRE.

THE NEXT BULLETIN WILL BE ISSUED AT 1200 UTC OF 25<sup>TH</sup> OCTOBER 2016.

(NEETHA K. GOPAL) SCIENTIST 'E' RSMC, NEW DELHI







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)

TROPICAL CYCLONE ADVISORY RSMC – TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'KYANT' ADVISORY Number TWO ISSUED AT 0900 UTC OF 25<sup>TH</sup> OCTOBER 2016 BASED ON 0600 UTC CHARTS OF 25<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM '**KYANT**' OVER EASTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-NORTHWESTWARDS IN PAST 06 HOURS WITH SPEED 15 KMPH AND LAY CENTRED AT 0600 utc OF 25<sup>TH</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 17.1° N AND LONGITUDE 90.9° E, ABOUT 630 KM NORTH-NORTHWEST OF PORT BLAIR, 680 KM SOUTH-SOUTHEAST OF GOPALPUR AND 815 KM EAST OF VISHAKHAPATNAM.

THE SYSTEM IS VERY LIKELY TO MOVE WEST TO WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(utc)	POSITION (LAT. ⁰N/ LONG. ⁰E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPI	CATEGORY OF CYCLONIC DISTURBANCE
25-10-2016/0600	17.1/90.9	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/1200	17.1/90.5	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/1800	17.1/89.9	60-70 GUSTING TO 80	CYCLONIC STORM
26-10-2016/0000	17.0/89.3	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/0600	16.9/88.5	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1800	16.7/87.0	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/0600	16.4/85.3	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/1800	16.1/83.8	70-80 GUSTING TO 90	CYCLONIC STORM
28-10-2016/0600	15.8/82.4	60-70 GUSTING TO 80	CYCLONIC STORM
28-10-2016/1800	15.5/81.7	50-60 GUSTING TO 70	DEEP DEPRESSION

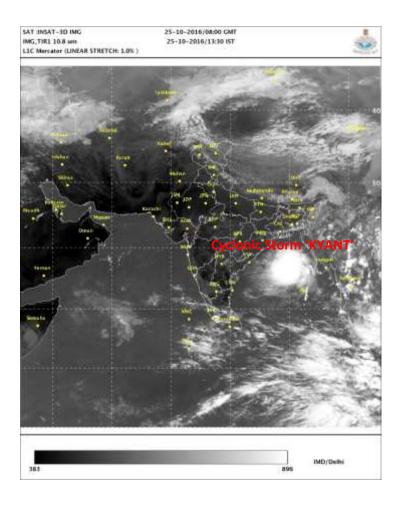
ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 13.0°N TO 19.8°N AND LONGITUDE 86.5°E TO 94.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -90° 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 998 HPA.

#### **REMARKS:**

THE SEA SURFACE TEMPERATURE HAS INCREASED IN PAST 12 HOURS AND NOW IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 100 KJ/CM<sup>2</sup>. IT INCREASES TOWARDS NORTHEAST SECTOR OF THE SYSTEM AND DECREASES TOWARDS NORTHWEST AND NORTH EXCEPT A SMALL POCKET OF NORTHWEST BAY OF BENGAL OFF SOUTH ORISSA AND NORTH ANDHRA COASTS. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE IS ABOUT 5X10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE HAS INCREASED IN PAST 12 HOURS AND IS ABOUT 30X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY ALSO INCREASED AND ABOUT 240X10<sup>-6</sup> SECOND<sup>-1</sup> AND IS TO THE SOUTHWEST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-15 KNOTS) AROUND THE SYSTEM CENTRE.

THE NEXT BULLETIN WILL BE ISSUED AT 1200 UTC OF 25<sup>TH</sup> OCTOBER 2016.

(NEETHA K. GOPAL) SCIENTIST 'E' RSMC, NEW DELHI







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)

TROPICAL CYCLONE ADVISORY RSMC – TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'KYANT' ADVISORY NUMBER THREE ISSUED AT 1200 UTC OF 25<sup>TH</sup> OCTOBER 2016 BASED ON 0900 UTC CHARTS OF 25<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM **'KYANT'** OVER EASTCENTRAL BAY OF BENGAL MOVED WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 11 KMPH AND LAY CENTRED AT 0900 UTC OF 25<sup>TH</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.8° N AND LONGITUDE 90.6° E, ABOUT 610 KM NORTH-NORTHWEST OF PORT BLAIR (43333), 660 KM SOUTH-SOUTHEAST OF GOPALPUR (43049) AND 780 KM NEARLY EAST OF VISHAKHAPATNAM (43149).

THE SYSTEM IS VERY LIKELY TO MOVE WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

DATE/TIME(UTC)	POSITION (LAT. <sup>0</sup> N/ LONG.	MAXIMUM SUSTAINED SURFACE WIND SPEED	CATEGORY OF CYCLONIC DISTURBANCE
	` ⁰E)	(KMPH)	
25-10-2016/0900	16.8/90.6	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/1200	16.7/90.4	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/1800	16.6/89.8	60-70 GUSTING TO 80	CYCLONIC STORM
26-10-2016/0000	16.5/89.2	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/0600	16.4/88.4	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1800	16.2/86.9	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/0600	16.0/85.2	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/1800	15.8/83.7	70-80 GUSTING TO 90	CYCLONIC STORM
28-10-2016/0600	15.6/82.4	60-70 GUSTING TO 80	CYCLONIC STORM
28-10-2016/1800	15.5/81.7	50-60 GUSTING TO 70	DEEP DEPRESSION

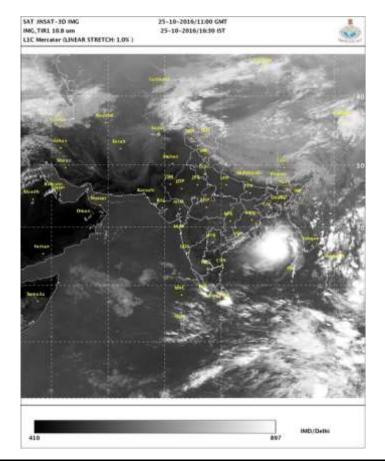
FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 14.0°N TO 20.0°N AND LONGITUDE 86.5°E TO 93.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -90° 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 998 HPA.

#### **REMARKS:**

THE SEA SURFACE TEMPERATURE HAS INCREASED IN PAST 12 HOURS AND NOW IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 100 KJ/CM<sup>2</sup>. IT INCREASES TOWARDS NORTHEAST SECTOR OF THE SYSTEM AND DECREASES TOWARDS NORTHWEST AND NORTH EXCEPT A SMALL POCKET OF NORTHWEST BAY OF BENGAL OFF SOUTH ORISSA AND NORTH ANDHRA COASTS. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE IS ABOUT 5X10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE HAS INCREASED IN PAST 12 HOURS AND IS ABOUT 30X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY ALSO INCREASED AND ABOUT 240X10<sup>-6</sup> SECOND<sup>-1</sup> AND IS TO THE SOUTHWEST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-15 KNOTS) AROUND THE SYSTEM CENTRE.

THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 25<sup>TH</sup> OCTOBER 2016.



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





#### 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

### TROPICAL CYCLONE ADVISORY RSMC – TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'KYANT' ADVISORY NUMBER FOUR ISSUED AT 1500 UTC OF 25<sup>TH</sup> OCTOBER 2016 BASED ON 1200 UTC CHARTS OF 25<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM **'KYANT'** OVER EASTCENTRAL BAY OF BENGAL MOVED WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 09 KMPH AND LAY CENTRED AT 1200 UTC OF 25<sup>TH</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.8° N AND LONGITUDE 90.5° E, 650 KM EAST-SOUTHEAST OF GOPALPUR AND 770 KM EAST-SOUTHEAST OF VISHAKHAPATNAM AND 1000 KM EAST-NORTHEAST OF MACHILIPATNAM. THE SYSTEM IS VERY LIKELY TO SLIGHTLY INTENSIFY FURTHER DURING NEXT 36 HOURS. IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(UTC)	POSITION (LAT. <sup>0</sup> N/ LONG.	MAXIMUM SUSTAINED SURFACE WIND SPEED	CATEGORY OF CYCLON DISTURBANCE
	●E)	(KMPH)	
25-10-2016/1200	16.8/90.5	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/1800	16.6/89.8	60-70 GUSTING TO 80	CYCLONIC STORM
26-10-2016/0000	16.5/89.2	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/0600	16.4/88.4	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1200	16.3/87.6	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/0000	16.1/85.9	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/1200	15.9/84.4	80-90 GUSTING TO 100	CYCLONIC STORM
28-10-2016/0000	15.7/83.2	80-90 GUSTING TO 100	CYCLONIC STORM
28-10-2016/1200	15.5/82.3	70-80 GUSTING TO 90	CYCLONIC STORM
29-10-2016/0000	15.3/81.6	60-70 GUSTING TO 80	CYCLONIC STORM
29-10-2016/1200	15.1/81.1	50-60 GUSTING TO 70	DEEP DEPRESSION

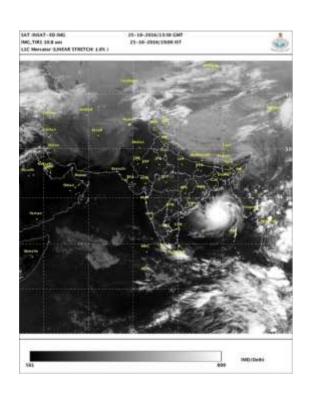
ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 14.0°N TO 19.0°N AND LONGITUDE 86.0°E TO 93.5°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -90° 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 998 HPA.

#### **REMARKS:**

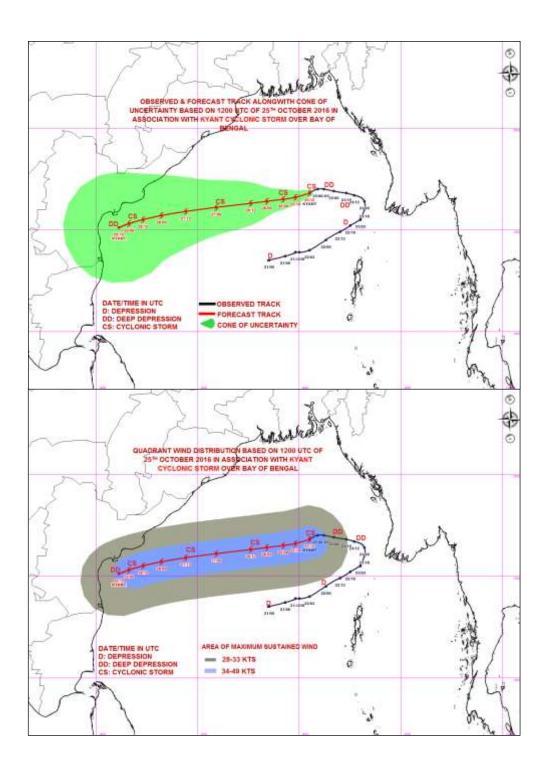
THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 100 KJ/CM<sup>2</sup>. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE IS ABOUT 15X10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 200X10<sup>-6</sup> SECOND<sup>-1</sup> AND IS TO THE SOUTHEAST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-20 KNOTS) AROUND THE SYSTEM CENTRE. IT INCREASES TOWARDS SOUTH AND SOUTHWEST DIRECTION COVERING WESTCENTRAL BAY OF BENGAL. THIS HIGH VERTICAL WIND SHEAR CONDITIONS MAY PREVAIL AFTER 24-36 HOURS. HENCE, THERE IS POSSIBILITY OF TEMPORARY INTENSIFICATION OF THE SYSTEM DURING NEXT 24/36 HOURS UNDER MODERATE WIND SHEAR CONDITIONS. THEREAFTER, AS THE SYSTEM MOVES TO WESTCENTRAL BAY, THERE IS POSSIBILITY OF GRADUAL WEAKENING OF THE SYSTEM DUE TO HIGH VERTICAL WIND SHEAR.

AN ANTICYCLONIC CIRCULATION LIES TO THE NORTHWEST OF THE SYSTEM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT IS STEARING THE SYSTEM IN WEST-SOUTHWEST DIRECTION WITH A SPEED OF 4-5 KNOTS. SIMILAR CONDITIONS MAY CONTINUE FOR NEXT 72-96 HOURS LEADING TO WEST-SOUTHWESTWARDS MOVEMENT OF THE SYSTEM. MAJORITY OF THE NUMERICAL MODELS ARE IN AGREEMENT WITH THIS FORECAST.

#### THE NEXT BULLETIN WILL BE ISSUED AT 1800 UTC OF 25<sup>TH</sup> OCTOBER 2016.



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







#### 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

TROPICAL CYCLONE ADVISORY RSMC – TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'KYANT' ADVISORY NUMBER FIVE ISSUED AT 1800 UTC OF 25<sup>TH</sup> OCTOBER 2016 BASED ON 1500 UTC CHARTS OF 25<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM '**KYANT**' OVER EASTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 07 KMPH AND LAY CENTRED AT 1500 UTC OF 25<sup>TH</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.7° N AND LONGITUDE 90.2° E, 630 KM EAST-SOUTHEAST OF GOPALPUR, 750 KM EAST-SOUTHEAST OF VISHAKHAPATNAM AND 970 KM EAST-NORTHEAST OF MACHILIPATNAM. THE SYSTEM IS VERY LIKELY TO SLIGHTLY INTENSIFY FURTHER DURING NEXT 36 HOURS. IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(IST)	POSITION	MAXIMUM SUSTAINED	CATEGORY OF CYCLONIC
	(LAT. ⁰N/ LONG.	SURFACE WIND SPEED	DISTURBANCE
	°E)	(KMPH)	
25-10-2016/1500	16.7/90.2	60-70 GUSTING TO 80	CYCLONIC STORM
25-10-2016/1800	16.6/89.8	60-70 GUSTING TO 80	CYCLONIC STORM
26-10-2016/0000	16.5/89.2	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/0600	16.4/88.4	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1200	16.3/87.6	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/0000	16.1/85.9	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/1200	15.9/84.4	80-90 GUSTING TO 100	CYCLONIC STORM
28-10-2016/0000	15.7/83.2	80-90 GUSTING TO 100	CYCLONIC STORM
28-10-2016/1200	15.5/82.3	70-80 GUSTING TO 90	CYCLONIC STORM
29-10-2016/0000	15.3/81.6	60-70 GUSTING TO 80	CYCLONIC STORM
29-10-2016/1200	15.1/81.1	50-60 GUSTING TO 70	DEEP DEPRESSION

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 14.0°N TO 19.0°N AND LONGITUDE 86.0°E TO 93.5°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -90° 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 998 HPA.

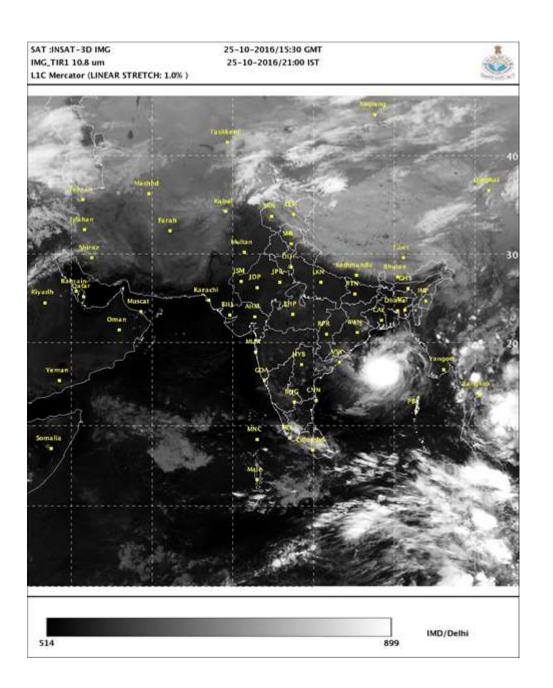
#### **REMARKS:**

THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 100 KJ/CM<sup>2</sup>. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE IS ABOUT 15X10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 200X10<sup>-6</sup> SECOND<sup>-1</sup> AND IS TO THE SOUTHEAST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-20 KNOTS) AROUND THE SYSTEM CENTRE. IT INCREASES TOWARDS SOUTH AND SOUTHWEST DIRECTION COVERING WESTCENTRAL BAY OF BENGAL. THIS HIGH VERTICAL WIND SHEAR CONDITIONS MAY PREVAIL AFTER 24-36 HOURS. HENCE, THERE IS POSSIBILITY OF TEMPORARY INTENSIFICATION OF THE SYSTEM DURING NEXT 24/36 HOURS UNDER MODERATE WIND SHEAR CONDITIONS. THEREAFTER, AS THE SYSTEM MOVES TO WESTCENTRAL BAY, THERE IS POSSIBILITY OF GRADUAL WEAKENING OF THE SYSTEM DUE TO HIGH VERTICAL WIND SHEAR.

AN ANTICYCLONIC CIRCULATION LIES TO THE NORTHWEST OF THE SYSTEM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT IS STEARING THE SYSTEM IN WEST-SOUTHWEST DIRECTION WITH A SPEED OF 4-5 KNOTS. SIMILAR CONDITIONS MAY CONTINUE FOR NEXT 72-96 HOURS LEADING TO WEST-SOUTHWESTWARDS MOVEMENT OF THE SYSTEM. MAJORITY OF THE NUMERICAL MODELS ARE IN AGREEMENT WITH THIS FORECAST.

### THE NEXT BULLETIN WILL BE ISSUED AT 2100 UTC OF 25<sup>TH</sup> OCTOBER 2016.

(D. R. PATTANAIK) SCIENTIST 'E' IMD, NEW DELHI







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

TROPICAL CYCLONE ADVISORY RSMC – TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'KYANT' ADVISORY NUMBER SIX ISSUED AT 2100 UTC OF $25^{TH}$ OCTOBER 2016 BASED ON 1800 UTC CHARTS OF $25^{TH}$ OCTOBER 2016

THE CYCLONIC STORM **'KYANT'** OVER EASTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 07 KMPH AND LAY CENTRED AT 1800 UTC OF 25<sup>TH</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.6° N AND LONGITUDE 89.8° E, 600 KM EAST-SOUTHEAST OF GOPALPUR (43049), 705 KM EAST-SOUTHEAST OF VISHAKHAPATNAM (43150) AND 920 KM EAST-NORTHEAST OF MACHILIPATNAM (43185). THE SYSTEM IS VERY LIKELY TO SLIGHTLY INTENSIFY FURTHER DURING NEXT 36 HOURS. IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

DATE/TIME(UTC)	POSITION (LAT. <sup>°</sup> N/ LONG. <sup>°</sup> E)		
	(LAT. N/ LONG. E)	SURFACE WIND SPEED (KMPH)	DISTURBANCE
25-10-2016/1800	16.6/89.8	60-70 GUSTING TO 80	CYCLONIC STORM
26-10-2016/0000	16.5/89.2	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/0600	16.4/88.4	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1200	16.3/87.6	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1800	16.2/86.7	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/0600	16.0/85.1	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/1800	15.8/83.8	80-90 GUSTING TO 100	CYCLONIC STORM
28-10-2016/0600	15.6/82.7	70-80 GUSTING TO 90	CYCLONIC STORM
28-10-2016/1800	15.4/81.9	60-70 GUSTING TO 80	CYCLONIC STORM
29-10-2016/0600	15.2/81.3	50-60 GUSTING TO 70	DEEP DEPRESSION

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 14.5°N TO 18.0°N AND LONGITUDE 86.0°E TO 90.5°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -85° 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 998 HPA.

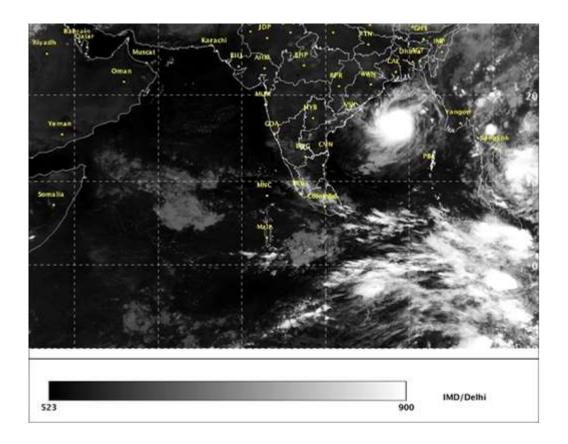
#### **REMARKS:**

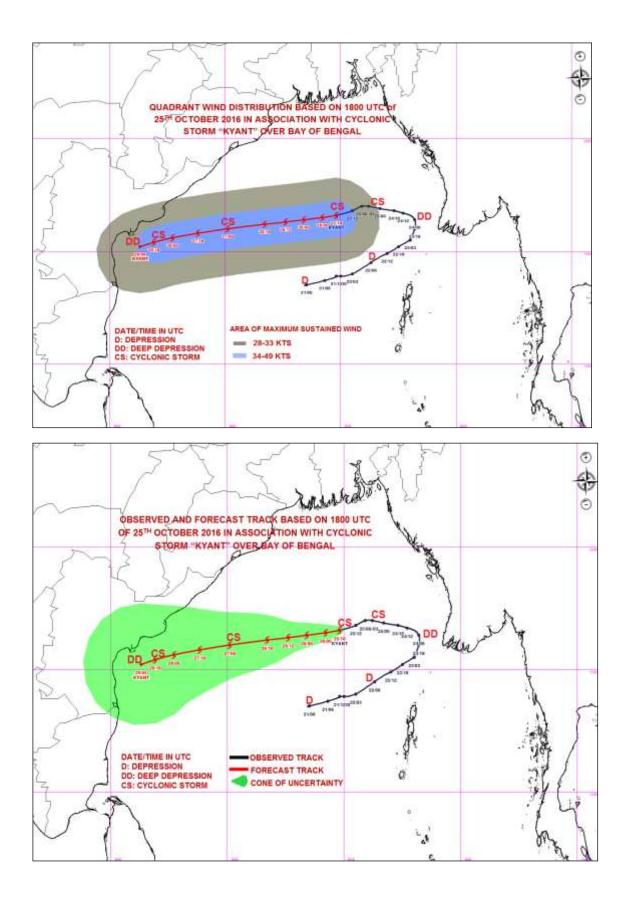
THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 100 KJ/CM<sup>2</sup>. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE IS ABOUT 10X10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 140X10<sup>-6</sup> SECOND<sup>-1</sup> AND IS TO THE SOUTHEAST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-20 KNOTS) AROUND THE SYSTEM CENTRE. IT INCREASES TOWARDS SOUTH AND SOUTHWEST DIRECTION COVERING WESTCENTRAL BAY OF BENGAL. THIS HIGH VERTICAL WIND SHEAR CONDITIONS MAY PREVAIL AFTER 24-36 HOURS. HENCE, THERE IS POSSIBILITY OF TEMPORARY INTENSIFICATION OF THE SYSTEM DURING NEXT 24/36 HOURS UNDER MODERATE WIND SHEAR CONDITIONS. THEREAFTER, AS THE SYSTEM MOVES TO WESTCENTRAL BAY, THERE IS POSSIBILITY OF GRADUAL WEAKENING OF THE SYSTEM DUE TO HIGH VERTICAL WIND SHEAR.

AN ANTICYCLONIC CIRCULATION LIES TO THE NORTHWEST OF THE SYSTEM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT IS STEARING THE SYSTEM IN WEST-SOUTHWEST DIRECTION WITH A SPEED OF 4-5 KNOTS. SIMILAR CONDITIONS MAY CONTINUE FOR NEXT 72-96 HOURS LEADING TO WEST-SOUTHWESTWARDS MOVEMENT OF THE SYSTEM. MAJORITY OF THE NUMERICAL MODELS ARE IN AGREEMENT WITH THIS FORECAST.

### THE NEXT BULLETIN WILL BE ISSUED AT 0000 UTC OF 26<sup>TH</sup> OCTOBER 2016.

(D. R. PATTANAIK) SCIENTIST 'E' IMD, NEW DELHI









#### 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

TROPICAL CYCLONE ADVISORY RSMC – TROPICAL CYCLONES, NEW DELHI

### TROPICAL STORM 'KYANT' ADVISORY NUMBER SEVEN ISSUED AT 0000 UTC OF 26<sup>th</sup> OCTOBER 2016 BASED ON 2100 UTC CHARTS OF 25<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM **'KYANT'** OVER EASTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 06 KMPH AND LAY CENTRED AT 2100 UTC OF 25<sup>TH</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.5° N AND LONGITUDE 89.6° E, 585 KM EAST-SOUTHEAST OF GOPALPUR (43049), 685 KM EAST-SOUTHEAST OF VISHAKHAPATNAM (43150) AND 900 KM EAST-NORTHEAST OF MACHILIPATNAM (43185). THE SYSTEM IS VERY LIKELY TO SLIGHTLY INTENSIFY FURTHER DURING NEXT 36 HOURS. IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

### FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(UTC)	POSITION	MAXIMUM SUSTAINED	CATEGORY OF CYCLONIC
	(LAT. ⁰N/ LONG. ⁰E)	SURFACE WIND SPEED (KMPH)	DISTURBANCE
25-10-2016/2100	16.5/89.6	60-70 GUSTING TO 80	CYCLONIC STORM
26-10-2016/0000	16.5/89.2	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/0600	16.4/88.4	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1200	16.3/87.6	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1800	16.2/86.7	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/0600	16.0/85.1	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/1800	15.8/83.8	80-90 GUSTING TO 100	CYCLONIC STORM
28-10-2016/0600	15.6/82.7	70-80 GUSTING TO 90	CYCLONIC STORM
28-10-2016/1800	15.4/81.9	60-70 GUSTING TO 80	CYCLONIC STORM
29-10-2016/0600	15.2/81.3	50-60 GUSTING TO 70	DEEP DEPRESSION

Phone: (91) 11-24652484 FAX: (91) 11-24623220, (91) 11-24643128, e-mail:cwdhq2008@gmail.com

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 15.0°N TO 19.0°N AND LONGITUDE 85.5°E TO 89.5°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -87° 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 998 HPA.

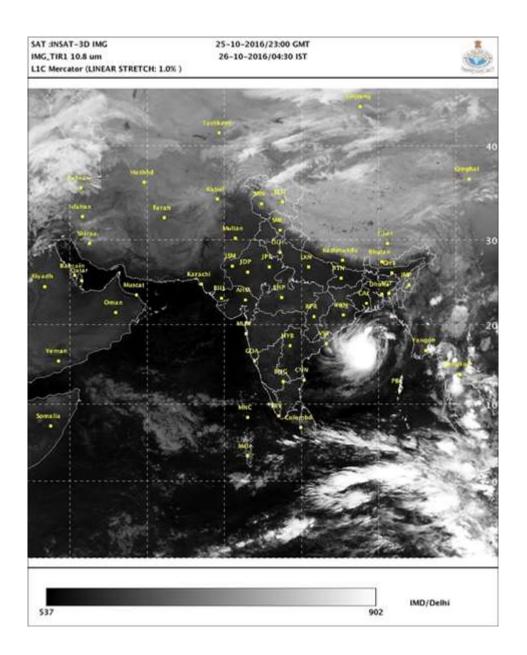
#### **REMARKS:**

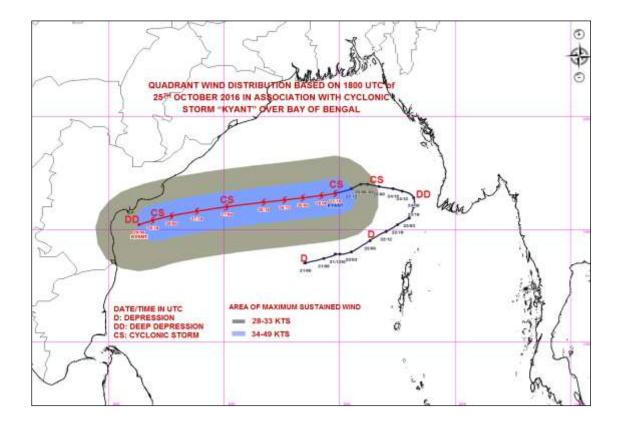
THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 100 KJ/CM<sup>2</sup>. LOW LEVEL CONVERGENCE AROUND THE SYSTEM CENTRE IS ABOUT 10X10<sup>-5</sup> SECOND<sup>-1</sup>. UPPER LEVEL DIVERGENCE IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 140X10<sup>-6</sup> SECOND<sup>-1</sup> AND IS TO THE SOUTHEAST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-20 KNOTS) AROUND THE SYSTEM CENTRE. IT INCREASES TOWARDS SOUTH AND SOUTHWEST DIRECTION COVERING WESTCENTRAL BAY OF BENGAL. THIS HIGH VERTICAL WIND SHEAR CONDITIONS MAY PREVAIL AFTER 24-36 HOURS. HENCE, THERE IS POSSIBILITY OF TEMPORARY INTENSIFICATION OF THE SYSTEM DURING NEXT 24/36 HOURS UNDER MODERATE WIND SHEAR CONDITIONS. THEREAFTER, AS THE SYSTEM MOVES TO WESTCENTRAL BAY, THERE IS POSSIBILITY OF GRADUAL WEAKENING OF THE SYSTEM DUE TO HIGH VERTICAL WIND SHEAR.

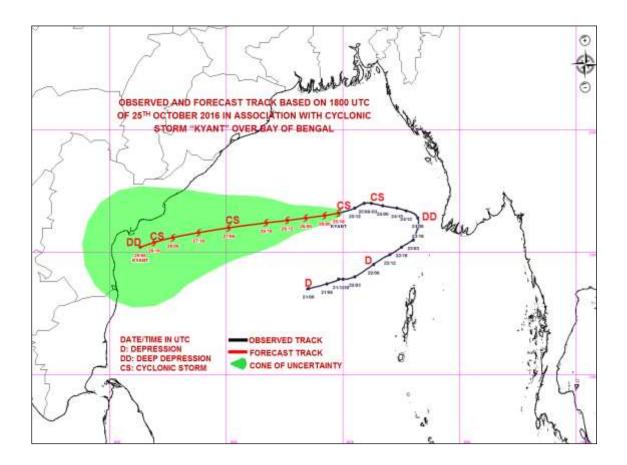
AN ANTICYCLONIC CIRCULATION LIES TO THE NORTHWEST OF THE SYSTEM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT IS STEARING THE SYSTEM IN WEST-SOUTHWEST DIRECTION WITH A SPEED OF 4-5 KNOTS. SIMILAR CONDITIONS MAY CONTINUE FOR NEXT 72-96 HOURS LEADING TO WEST-SOUTHWESTWARDS MOVEMENT OF THE SYSTEM. MAJORITY OF THE NUMERICAL MODELS ARE IN AGREEMENT WITH THIS FORECAST.

### THE NEXT BULLETIN WILL BE ISSUED AT 0300 UTC OF 26<sup>TH</sup> OCTOBER 2016.

(D. R. PATTANAIK) SCIENTIST 'E' IMD, NEW DELHI











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

TROPICAL CYCLONE ADVISORY RSMC – TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'KYANT' ADVISORY NUMBER EIGHT ISSUED AT 0300 UTC OF 26<sup>TH</sup> OCTOBER 2016 BASED ON 0000 UTC CHARTS OF 26<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM **'KYANT'** OVER EASTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 14 KMPH AND LAY CENTRED AT 0000 UTC OF 26<sup>TH</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.6° N AND LONGITUDE 89.0° E, 520 KM EAST-SOUTHEAST OF GOPALPUR, 620 KM EAST-SOUTHEAST OF VISHAKHAPATNAM AND 830 KM EAST-NORTHEAST OF MACHILIPATNAM. THE SYSTEM IS VERY LIKELY TO SLIGHTLY INTENSIFY FURTHER DURING NEXT 24 HOURS. IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

DATE/TIME(UTC)	POSITION (LAT. <sup>0</sup> N/ LONG. <sup>0</sup> E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPI	CATEGORY OF CYCLONIC DISTURBANCE
26-10-2016/0000	16.6/89.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/0600	16.5/88.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1200	16.5/87.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1800	16.4/86.0	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/0000	16.3/85.0	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/1200	16.1/83.5	80-90 GUSTING TO 100	CYCLONIC STORM
28-10-2016/0000	15.8/82.5	70-80 GUSTING TO 90	CYCLONIC STORM
28-10-2016/1200	15.4/81.5	60-70 GUSTING TO 80	CYCLONIC STORM
29-10-2016/0000	15.0/80.7	50-60 GUSTING TO 70	DEEP DEPRESSION

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 14.0°N TO 20.0°N AND LONGITUDE 85.0°E TO 90.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -90° 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 998 HPA.

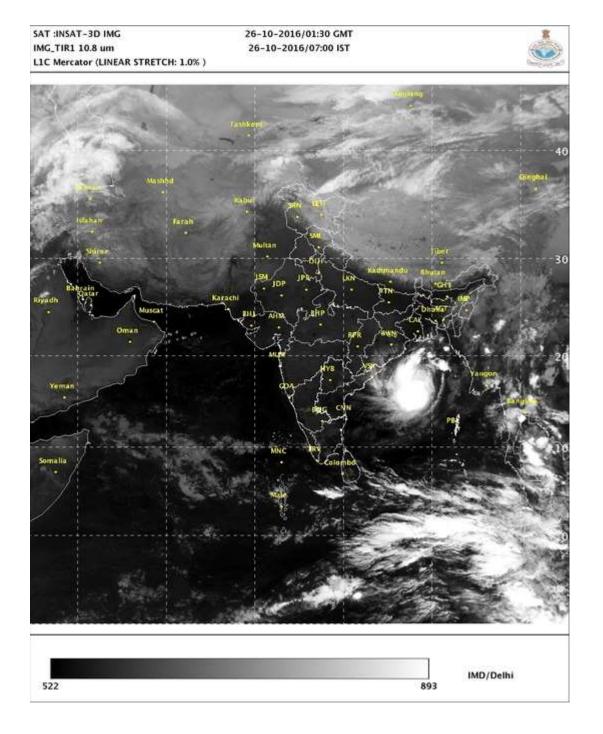
#### **REMARKS:**

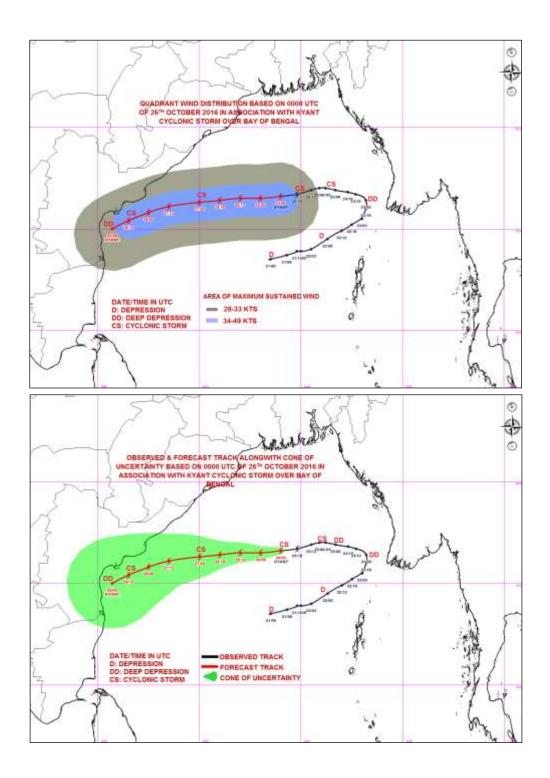
THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 100 KJ/CM<sup>2</sup>. DURING LAST 06 HOURS THE LOW LEVEL CONVERGENCE INCREASED AND IT IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. SIMILARLY THE UPPER LEVEL DIVERGENCE IS ALSO INCREASED IN LAST 06 HOURS AND IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 200X10<sup>-6</sup> SECOND<sup>-1</sup> AND IS TO THE SOUTHEAST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND DURING LAST 06 HOURS DECREASED AND IT IS MODERATE (10-15 KNOTS) AROUND THE SYSTEM CENTRE. THIS INDICATES THE SYSTEM IS LIKELY TO INTENSIFY DURING NEXT 24 HOURS.

AN ANTICYCLONIC CIRCULATION LIES TO THE NORTHWEST OF THE SYSTEM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT IS STEARING THE SYSTEM IN WEST-SOUTHWEST DIRECTION WITH A SPEED OF 7-8 KNOTS. SIMILAR CONDITIONS MAY CONTINUE FOR NEXT 72-96 HOURS LEADING TO WEST-SOUTHWESTWARDS MOVEMENT OF THE SYSTEM. MAJORITY OF THE NUMERICAL MODELS ARE IN AGREEMENT WITH THIS FORECAST.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 26<sup>TH</sup> OCTOBER 2016.

(D. R. PATTANAIK) SCIENTIST 'E' IMD, NEW DELHI









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

TROPICAL CYCLONE ADVISORY RSMC – TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'KYANT' ADVISORY NUMBER NINE ISSUED AT 0600 UTC OF 26<sup>TH</sup> OCTOBER 2016 BASED ON 0300 UTC CHARTS OF 26<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM **'KYANT'** OVER EASTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 14 KMPH AND LAY CENTRED AT 0000 UTC OF 26<sup>TH</sup> OCTOBER, 2016 OVER EASTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.6° N AND LONGITUDE 89.0° E, 520 KM EAST-SOUTHEAST OF GOPALPUR, 620 KM EAST-SOUTHEAST OF VISHAKHAPATNAM AND 830 KM EAST-NORTHEAST OF MACHILIPATNAM. THE SYSTEM IS VERY LIKELY TO SLIGHTLY INTENSIFY FURTHER DURING NEXT 24 HOURS. IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(UTC)	POSITION (LAT. ⁰N/ LONG. ⁰E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPI	CATEGORY OF CYCLONIC DISTURBANCE
26-10-2016/0000	16.6/89.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/0600	16.5/88.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1200	16.5/87.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1800	16.4/86.0	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/0000	16.3/85.0	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/1200	16.1/83.5	80-90 GUSTING TO 100	CYCLONIC STORM
28-10-2016/0000	15.8/82.5	70-80 GUSTING TO 90	CYCLONIC STORM
28-10-2016/1200	15.4/81.5	60-70 GUSTING TO 80	CYCLONIC STORM
29-10-2016/0000	15.0/80.7	50-60 GUSTING TO 70	DEEP DEPRESSION

Phone: (91) 11-24652484 FAX: (91) 11-24623220, (91) 11-24643128, e-mail:cwdhq2008@gmail.com

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 14.0°N TO 20.0°N AND LONGITUDE 85.0°E TO 90.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -90° 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 998 HPA.

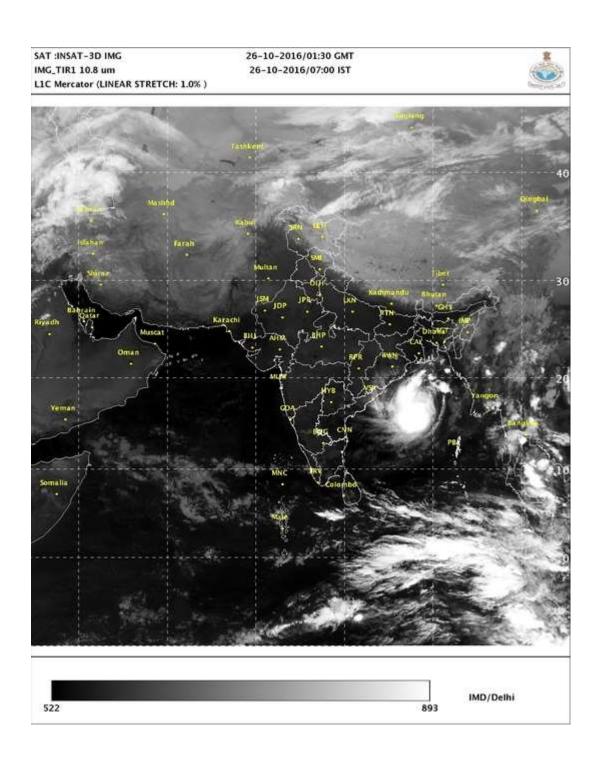
#### **REMARKS:**

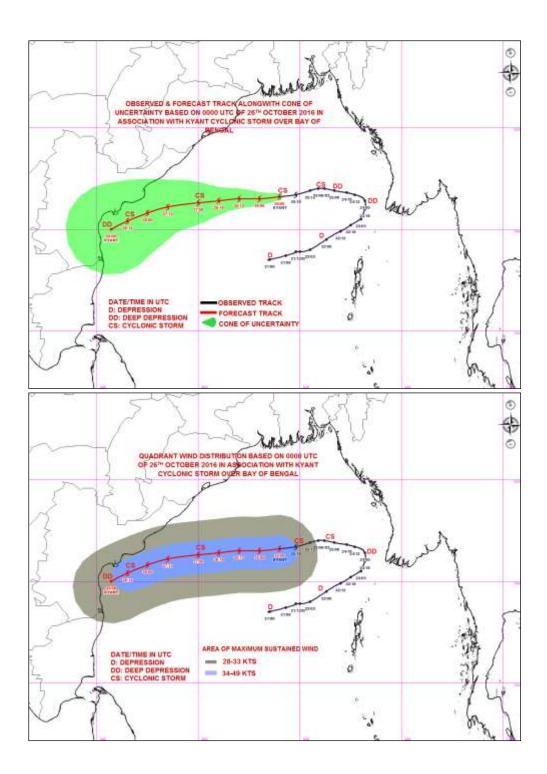
THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 100 KJ/CM<sup>2</sup>. DURING LAST 06 HOURS THE LOW LEVEL CONVERGENCE INCREASED AND IT IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. SIMILARLY THE UPPER LEVEL DIVERGENCE IS ALSO INCREASED IN LAST 06 HOURS AND IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 200X10<sup>-6</sup> SECOND<sup>-1</sup> AND IS TO THE SOUTHEAST OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND DURING LAST 06 HOURS DECREASED AND IT IS MODERATE (10-15 KNOTS) AROUND THE SYSTEM CENTRE. THIS INDICATES THE SYSTEM IS LIKELY TO INTENSIFY DURING NEXT 24 HOURS.

AN ANTICYCLONIC CIRCULATION LIES TO THE NORTHWEST OF THE SYSTEM IN MIDDLE & UPPER TROPOSPHERIC LEVELS. IT IS STEARING THE SYSTEM IN WEST-SOUTHWEST DIRECTION WITH A SPEED OF 7-8 KNOTS. SIMILAR CONDITIONS MAY CONTINUE FOR NEXT 72-96 HOURS LEADING TO WEST-SOUTHWESTWARDS MOVEMENT OF THE SYSTEM. MAJORITY OF THE NUMERICAL MODELS ARE IN AGREEMENT WITH THIS FORECAST.

THE NEXT BULLETIN WILL BE ISSUED AT 0900 UTC OF 26<sup>TH</sup> OCTOBER 2016.

(Naresh Kumar) SCIENTIST 'D' RSMC, NEW DELHI









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 'KYANT' ADVISORY NUMBER NINE ISSUED AT 0600 UTC OF $26^{TH}$ OCTOBER 2016 BASED ON 0300 UTC CHARTS OF $26^{TH}$ OCTOBER 2016

THE CYCLONIC STORM **'KYANT'** OVER EASTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 19 KMPH AND LAY CENTRED AT 0300 UTC OF 26<sup>TH</sup> OCTOBER, 2016 OVER CENTRAL BAY OF BENGAL, NEAR LATITUDE 16.6° N AND LONGITUDE 88.5° E, 480 KM SOUTHEAST OF GOPALPUR (43049), 570 KM EAST-SOUTHEAST OF VISHAKHAPATNAM (43149) AND 780 KM EAST-NORTHEAST OF MACHILIPATNAM (43185). THE SYSTEM IS VERY LIKELY TO SLIGHTLY INTENSIFY FURTHER DURING NEXT 24 HOURS. IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

DATE/TIME(UTC)	POSITION (LAT. <sup>0</sup> N/ LONG. <sup>0</sup> E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
26-10-2016/0300	16.6/88.5	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/0600	16.5/88.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1200	16.5/87.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1800	16.4/86.0	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/0000	16.3/85.0	80-90 GUSTING TO 100	CYCLONIC STORM
27-10-2016/1200	16.1/83.5	80-90 GUSTING TO 100	CYCLONIC STORM
28-10-2016/0000	15.8/82.5	70-80 GUSTING TO 90	CYCLONIC STORM
28-10-2016/1200	15.4/81.5	60-70 GUSTING TO 80	CYCLONIC STORM
29-10-2016/0000	15.0/80.7	50-60 GUSTING TO 70	DEEP DEPRESSION

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 13.5°N TO 20.0°N AND LONGITUDE 85.0°E TO 90.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -90° 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 998 HPA.

THE BUOY LOCATED NEAR 16.5<sup>°</sup>N AND 88.0<sup>°</sup> E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1004.6 HPA AND MAXIMUM SUSTAINED SURFACE WIND (MSW) OF 030/19 KNOTS. ANOTHER BUOY LOCATED NEAR 17.8<sup>°</sup> N AND 89.8<sup>°</sup>E REPORTED MSLP OF 1007.0 HPA AND MSW OF 140/21 KNOTS.

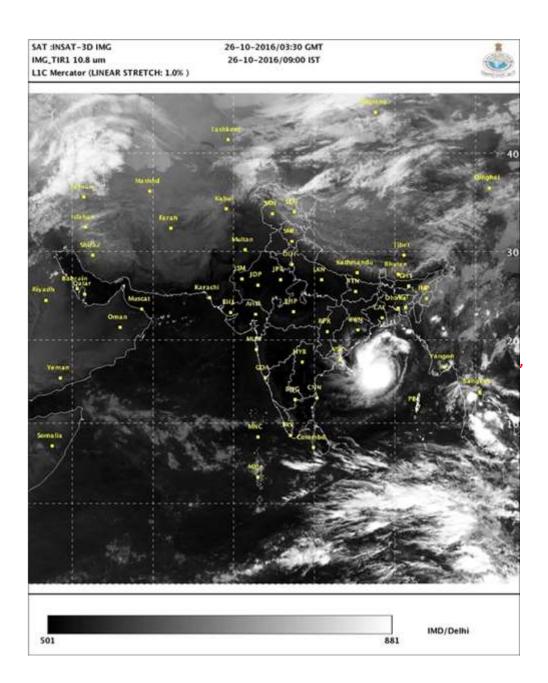
#### **REMARKS**:

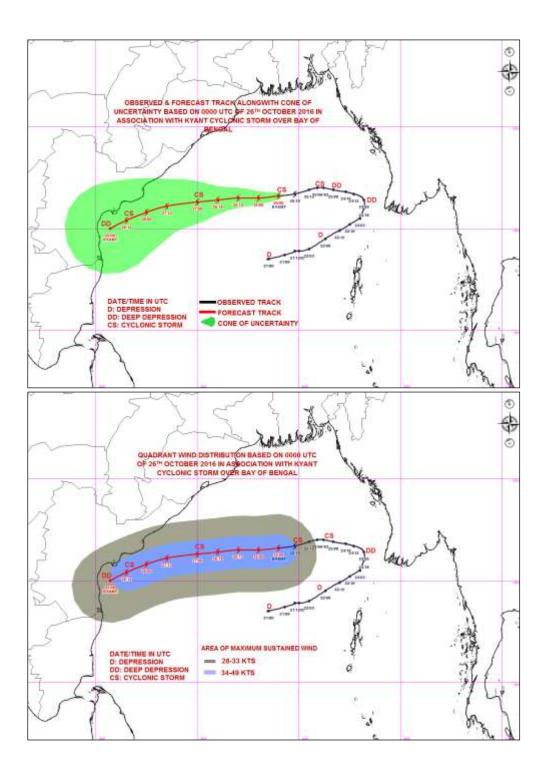
THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM<sup>2</sup> AND DECREASES TOWARDS SOUTHWEST. THE LOW LEVEL CONVERGENCE IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE UPPER LEVEL DIVERGENCE FURTHER INCREASED IN LAST 06 HOURS AND IS 40X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY ALSO INCREASED IN PAST 06 HOURS AND IS ABOUT 200X10<sup>-6</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND DECREASED DURING LAST 06 HOURS AND IT IS LOW (5-10 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST. ALL THESE PARAMETERS INDICATE THE SYSTEM IS LIKELY TO INTENSIFY TEMPORALLY DURING NEXT 24 HOURS AND THEREAFTER IT MAY SHOW SIGN OF WEAKENING.

AN ANTICYCLONIC CIRCULATION LIES OVER MYANMAR. ANOTHER ANTICYCLONE IS SEEN OVER NORTH ARABIAN SEA. UNDER THE INFLUENCE OF THESE TWO ANTI-CYCLONIC CIRCULATIONS, THE SYSTEM IS EXPECTED TO MOVE WEST-SOUTHWESTWARDS DURING NEXT 72 HOURS. MAJORITY OF NUMERICAL MODELS AND IMD MME ALSO SUPPORT THE ABOVE FORECAST

THE NEXT BULLETIN WILL BE ISSUED AT 0900 UTC OF 26<sup>TH</sup> OCTOBER 2016.

(NEETHA K GOPAL) SCIENTIST 'E' RSMC, NEW DELHI









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 'KYANT' ADVISORY NUMBER TEN ISSUED AT 0900 UTC OF 26<sup>TH</sup> OCTOBER 2016 BASED ON 0600 UTC CHARTS OF 26<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM **'KYANT'** OVER EASTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 18 KMPH AND LAY CENTRED AT 0600 UTC OF 26<sup>TH</sup> OCTOBER, 2016 OVER CENTRAL BAY OF BENGAL, NEAR LATITUDE 16.5° N AND LONGITUDE 88.0° E, 450 KM SOUTHEAST OF GOPALPUR (43049), 520 KM EAST-SOUTHEAST OF VISHAKHAPATNAM (43149) AND 730 KM EAST-NORTHEAST OF MACHILIPATNAM (43185). IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

DATE/TIME(UTC)	POSITION (LAT. <sup>0</sup> N/ LONG. <sup>0</sup> E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
26-10-2016/0600	16.5/88.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1200	16.4/87.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1800	16.3/86.0	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/0000	16.1/85.1	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/0600	15.9/84.2	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/1800	15.5/83.0	70-80 GUSTING TO 90	CYCLONIC STORM
28-10-2016/1130	15.0/82.0	60-70 GUSTING TO 80	CYCLONIC STORM
28-10-2016/1800	14.5/81.2	50-60 GUSTING TO 70	DEEP DEPRESSION
29-10-2016/0600	14.0/80.6	40-50 GUSTING TO 60	DEPRESSION

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS CONTINUE TO SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 14.0°N TO 20.0°N AND LONGITUDE 85.0°E TO 90.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -90° 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 998 HPA.

THE BUOY LOCATED NEAR 16.5<sup>°</sup>N AND 88.0<sup>°</sup> E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1003 HPA. ANOTHER BUOY LOCATED NEAR 17.8<sup>°</sup> N AND 89.8<sup>°</sup>E REPORTED MSLP OF 1007.0 HPA AND MAXIMUM SUSTAINED SURFACE WIND (MSW) OF 150/19 KNOTS.

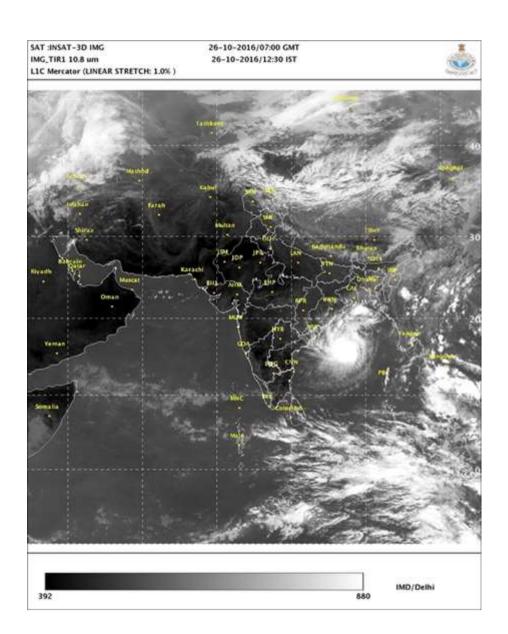
#### **REMARKS**:

THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM<sup>2</sup> AND DECREASES TOWARDS SOUTHWEST. THE LOW LEVEL CONVERGENCE IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE UPPER LEVEL DIVERGENCE FURTHER INCREASED IN LAST 06 HOURS AND IS 40X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY ALSO INCREASED IN PAST 06 HOURS AND IS ABOUT 200X10<sup>-6</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND DECREASED DURING LAST 06 HOURS AND IT IS LOW (5-10 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST. ALL THESE PARAMETERS INDICATE THE SYSTEM IS LIKELY TO INTENSIFY TEMPORALLY DURING NEXT 24 HOURS AND THEREAFTER IT MAY SHOW SIGN OF WEAKENING.

AN ANTICYCLONIC CIRCULATION LIES OVER MYANMAR. ANOTHER ANTICYCLONE IS SEEN OVER NORTH ARABIAN SEA. UNDER THE INFLUENCE OF THESE TWO ANTI-CYCLONIC CIRCULATIONS, THE SYSTEM IS EXPECTED TO MOVE WEST-SOUTHWESTWARDS DURING NEXT 72 HOURS. MAJORITY OF NUMERICAL MODELS AND IMD MME ALSO SUPPORT THE ABOVE FORECAST

THE NEXT BULLETIN WILL BE ISSUED AT 1200 UTC OF 26<sup>TH</sup> OCTOBER 2016.

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







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 'KYANT' ADVISORY NUMBER ELEVEN ISSUED AT 1200 UTC OF 26<sup>TH</sup> OCTOBER 2016 BASED ON 0900 UTC CHARTS OF 26<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM **'KYANT'** OVER EASTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 18 KMPH AND LAY CENTRED AT 0900 UTC OF 26<sup>TH</sup> OCTOBER, 2016 OVER CENTRAL BAY OF BENGAL, NEAR LATITUDE 16.4° N AND LONGITUDE 87.5° E, 420 KM SOUTHEAST OF GOPALPUR (43049), 480 KM EAST-SOUTHEAST OF VISHAKHAPATNAM (43149) AND 680 KM EAST-NORTHEAST OF MACHILIPATNAM (43185). IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS TOWARDS WESTCENTRAL BAY OF BENGAL DURING NEXT 72 HOURS.

DATE/TIME(UTC)	POSITION (LAT. <sup>0</sup> N/ LONG. <sup>0</sup> E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
26-10-2016/0900	16.4/87.5	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1200	16.3/87.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1800	16.2/86.0	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/0000	16.1/85.1	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/0600	15.9/84.2	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/1800	15.5/83.0	70-80 GUSTING TO 90	CYCLONIC STORM
28-10-2016/1130	15.0/82.0	60-70 GUSTING TO 80	CYCLONIC STORM
28-10-2016/1800	14.5/81.2	50-60 GUSTING TO 70	DEEP DEPRESSION
29-10-2016/0600	14.0/80.6	40-50 GUSTING TO 60	DEPRESSION

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS CONTINUE TO SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 14.0°N TO 20.0°N AND LONGITUDE 85.0°E TO 90.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -90° 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 998 HPA.

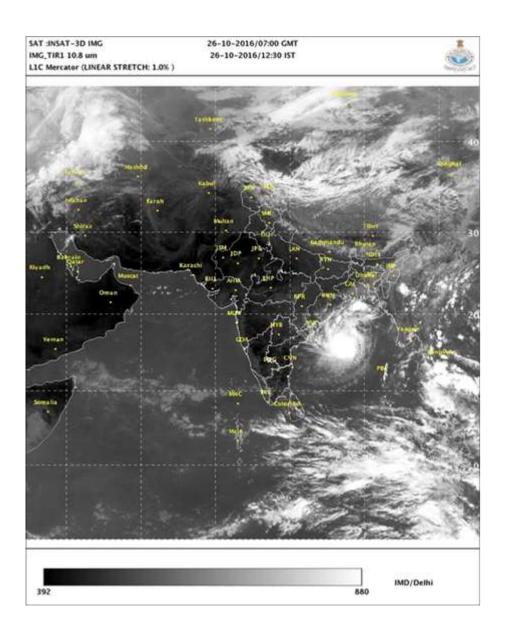
#### **REMARKS**:

THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM<sup>2</sup> AND DECREASES TOWARDS SOUTHWEST. THE LOW LEVEL CONVERGENCE IS ABOUT 20X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE UPPER LEVEL DIVERGENCE FURTHER INCREASED IN LAST 06 HOURS AND IS 40X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY ALSO INCREASED IN PAST 06 HOURS AND IS ABOUT 200X10<sup>-6</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND DECREASED DURING LAST 06 HOURS AND IT IS LOW (5-10 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST. ALL THESE PARAMETERS INDICATE THE SYSTEM IS LIKELY TO INTENSIFY TEMPORALLY DURING NEXT 24 HOURS AND THEREAFTER IT MAY SHOW SIGN OF WEAKENING.

AN ANTICYCLONIC CIRCULATION LIES OVER MYANMAR. ANOTHER ANTICYCLONE IS SEEN OVER NORTH ARABIAN SEA. UNDER THE INFLUENCE OF THESE TWO ANTI-CYCLONIC CIRCULATIONS, THE SYSTEM IS EXPECTED TO MOVE WEST-SOUTHWESTWARDS DURING NEXT 72 HOURS. MAJORITY OF NUMERICAL MODELS AND IMD MME ALSO SUPPORT THE ABOVE FORECAST

THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 26<sup>TH</sup> OCTOBER 2016.

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







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 'KYANT' ADVISORY NUMBER TWELVE ISSUED AT 1500 UTC OF 26<sup>TH</sup> OCTOBER 2016 BASED ON 1200 UTC CHARTS OF 26<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM **'KYANT'** OVER CENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 18 KMPH AND LAY CENTRED AT 1200 UTC OF 26<sup>TH</sup> OCTOBER, 2016 OVER WESTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.3° N AND LONGITUDE 87.0° E, ABOUT 400 KM SOUTHEAST OF GOPALPUR(43049), 430 KM EAST-SOUTHEAST OF VISHAKHAPATNAM(43149) AND 620 KM EAST OF MACHILIPATNAM(43185). IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS DURING NEXT 48 HOURS.

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(UTC)	POSITION (LAT. <sup>°</sup> N/ LONG. <sup>°</sup> E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
26-10-2016/1200	16.3/87.0	70-80 GUSTING TO 90	CYCLONIC STORM
26-10-2016/1800	16.1/86.0	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/0000	15.9/85.1	70-80 GUSTING TO 90	CYCLONIC STORM
27-10-2016/0600	15.7/84.3	60-70 GUSTING TO 80	CYCLONIC STORM
27-10-2016/1200	15.5/83.6	60-70 GUSTING TO 80	CYCLONIC STORM
28-10-2016/0000	15.1/82.5	60-70 GUSTING TO 80	CYCLONIC STORM
28-10-2016/1200	14.7/81.6	50-60 GUSTING TO 70	DEEP DEPRESSION
29-10-2016/0000	14.3/80.9	40-50 GUSTING TO 60	DEPRESSION

ACCORDING TO SATELLITE IMAGERIES, THE CONVECTIVE CLOUDS CONTINUE TO SHOW CDO PATTERN. THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTIOIN

LIE OVER BAY OF BENGAL BETWEEN LATITUDE 13.0°N TO 22.0°N AND LONGITUDE 82.0°E TO 90.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -85° 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 998 HPA.

### **REMARKS**:

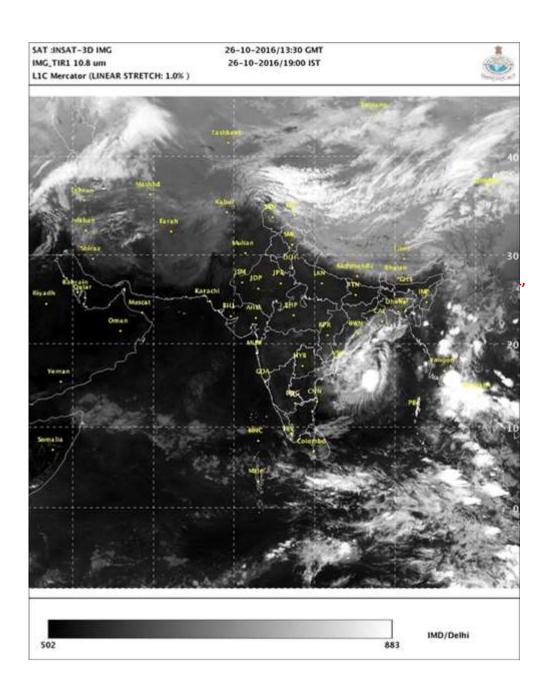
THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM<sup>2</sup> AND DECREASES TOWARDS SOUTHWEST. THE LOW LEVEL CONVERGENCE HAS REDUCED IN PAST SIX HOURS AND IS ABOUT 10X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE UPPER LEVEL DIVERGENCE CONTINUED TO BE AROUND 40X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 200X10<sup>-6</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS LOW (5-10 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST.

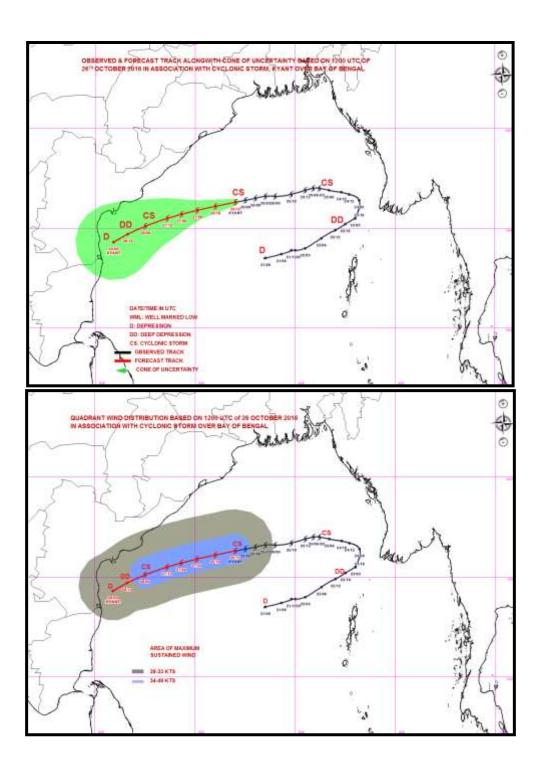
AN ANTICYCLONIC CIRCULATION LIES OVER NORTH ARABIAN SEA. UNDER THE INFLUENCE OF THIS ANTI-CYCLONIC CIRCULATION, THE SYSTEM IS EXPECTED TO MOVE WEST-SOUTHWESTWARDS DURING NEXT 48 HOURS AND THEN SOUTHWESTWARDS. MAJORITY OF MODELS IMD MME ALSO SUPPORT THE ABOVE TRACK FORECAST

FURTHER, THE ANTICYCLONIC CIRCULATION TO THE NORTHWEST OF THE SYSTEM IN MIDDLE AND UPPER TROPOSPHERIC LEVELS IS HELPING DRY AIR INCURSION INTO THE SYSTEM FROM LAND SURFACE. UNDER THIS SCENARIO, THE SYSTEM IS EXPECTED TO MAINTAIN CYCLONIC STORM INTENSITY FOR NEXT 24-36 HRS AND GRADUALLY WEAKEN THEREAFTER. MAJORITY OF NUMERICAL MODELS AND DYNAMICAL STATISTICAL MODEL OF IMD ALSO SUGGEST GRADUAL WEAKENING.

THE NEXT BULLETIN WILL BE ISSUED AT 1800 UTC OF 26<sup>TH</sup> OCTOBER 2016.

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









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 'KYANT' ADVISORY NUMBER FOURTEEN ISSUED AT 2000 UTC OF 26<sup>TH</sup> OCTOBER 2016 BASED ON 1800 UTC CHARTS OF 26<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM '**KYANT**' OVER WESTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 11 KMPH AND LAY CENTRED AT 1800 UTC OF 26<sup>TH</sup> OCTOBER, 2016 OVER WESTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.1° N AND LONGITUDE 86.4° E, ABOUT 380 KM SOUTH-SOUTHEAST OF GOPALPUR (43049), 380 KM SOUTHEAST OF VISHAKHAPATNAM(43149) AND 560 KM EAST OF MACHILIPATNAM(43185). IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS DURING NEXT 24 HOURS AND SOUTHWESTWARDS THEREAFTER. IT WILL WEAKEN INTO A DEEP DEPRESSION DURING NEXT 12 HOURS AND FURTHER INTO A DEPRESSION DURING SUBSEQUENT 24 HOURS.

DATE/TIME(UTC)	POSITION (LAT. <sup>0</sup> N/ LONG. <sup>0</sup> E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
26-10-2016/1800	16.1/86.4	60-70 GUSTING TO 80	CYCLONIC STORM
27-10-2016/0000	15.8/85.2	55-65 GUSTING TO 75	DEEP DEPRESSION
27-10-2016/0600	15.5/84.3	50-60 GUSTING TO 70	DEEP DEPRESSION
27-10-2016/1200	15.3/83.5	45-55 GUSTING TO 65	DEPRESSION
27-10-2016/1800	15.1/83.0	40-50 GUSTING TO 60	DEPRESSION
28-10-2016/0600	14.7/82.0	35-45 GUSTING TO 55	DEPRESSION
28-10-2016/1800	14.2/81.0	35-45 GUSTING TO 55	DEPRESSION
29-10-2016/0000	14.0/80.7	35-45 GUSTING TO 55	DEPRESSION

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS CI-2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 13.5<sup>o</sup>N TO 20.0<sup>o</sup>N AND LONGITUDE 82.0<sup>o</sup>E TO 88.0<sup>o</sup>E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -70<sup>o</sup> 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 998 HPA.

#### **REMARKS**:

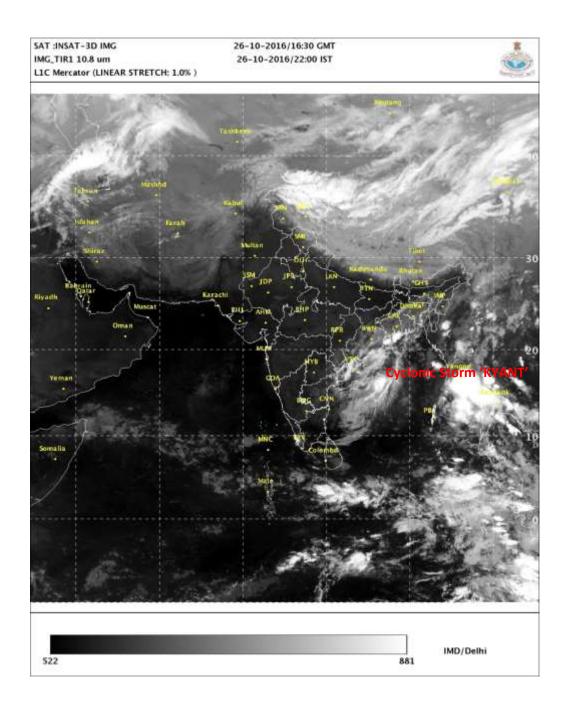
THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM<sup>2</sup> AND DECREASES TOWARDS SOUTHWEST. THE LOW LEVEL CONVERGENCE HAS REDUCED IN PAST SIX HOURS AND IS ABOUT 10X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE UPPER LEVEL DIVERGENCE CONTINUED TO BE AROUND 40X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 200X10<sup>-6</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS LOW (5-10 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST.

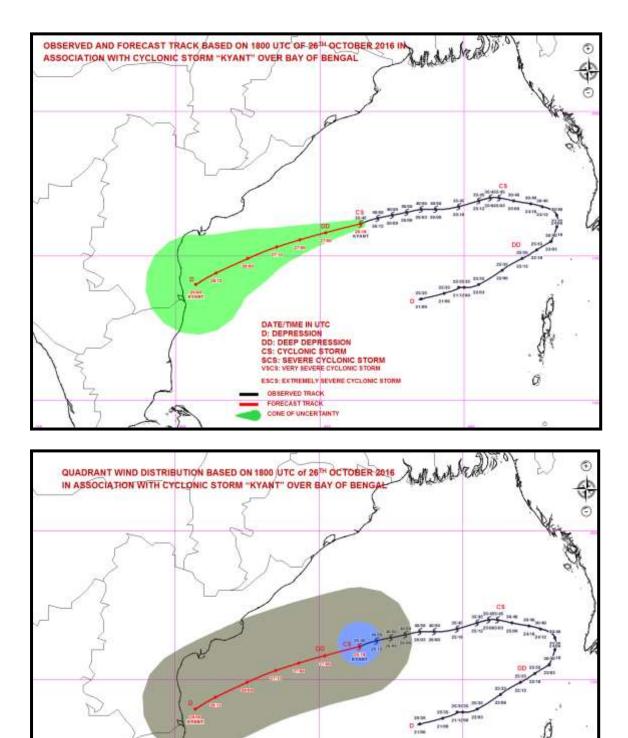
AN ANTICYCLONIC CIRCULATION LIES OVER NORTH ARABIAN SEA. UNDER THE INFLUENCE OF THIS ANTI-CYCLONIC CIRCULATION, THE SYSTEM IS EXPECTED TO MOVE WEST-SOUTHWESTWARDS DURING NEXT 24 HOURS AND THEN SOUTHWESTWARDS. MAJORITY OF MODELS IMD MME ALSO SUPPORT THE ABOVE TRACK FORECAST.

FURTHER, THE ANTICYCLONIC CIRCULATION TO THE NORTHWEST OF THE SYSTEM IN MIDDLE AND UPPER TROPOSPHERIC LEVELS IS HELPING DRY AIR INCURSION INTO THE SYSTEM FROM LAND SURFACE. UNDER THIS SCENARIO, THE SYSTEM WILL GRADUALLY WEAKEN. MAJORITY OF NUMERICAL MODELS AND DYNAMICAL STATISTICAL MODEL OF IMD ALSO SUGGEST GRADUAL WEAKENING.

THE NEXT BULLETIN WILL BE ISSUED AT 0000 UTC OF 27<sup>TH</sup> OCTOBER 2016.

(S. D. KOTAL) SCIENTIST-E IMD, NEW DELHI





AREA OF MAXIMUM SUSTAINED WIND 26-33 KTS 34-49 KTS





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 'KYANT' ADVISORY NUMBER FIFTEEN ISSUED AT 0100 UTC OF 27<sup>TH</sup> OCTOBER 2016 BASED ON 2100 UTC CHARTS OF 26<sup>TH</sup> OCTOBER 2016

THE CYCLONIC STORM '**KYANT**' OVER WESTCENTRAL BAY OF BENGAL WEAKENED INTO DEEP DEPRESSION. THE SYSTEM MOVED FURTHER WEST-SOUTH-WESTWARDS IN PAST 06 HOURS WITH SPEED 12 KMPH AND LAY CENTRED AT 0230 HRS IST OF 27<sup>TH</sup> OCTOBER, 2016 OVER WESTCENTRAL BAY OF BENGAL, NEAR LATITUDE 15.9° N AND LONGITUDE 85.9° E, ABOUT 390 KM SOUTH-SOUTHEAST OF GOPALPUR(43049), 340 KM SOUTHEAST OF VISHAKHAPATNAM(43149) AND 500 KM EAST OF MACHILIPATNAM(43185). IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS DURING NEXT 24 HOURS. IT WILL WEAKEN FURTHER INTO A DEPRESSION DURING NEXT 12 HOURS.

Forecast track and intensity of the system are given in the table below:

DATE/TIME(UTC)	POSITION (LAT. <sup>0</sup> N/ LONG. <sup>0</sup> E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
26-10-2016/2100	15.9/85.9	55-65 GUSTING TO 75	DEEP DEPRESSION
27-10-2016/0000	15.7/85.3	50-60 GUSTING TO 70	DEEP DEPRESSION
27-10-2016/0600	15.3/84.4	50-60 GUSTING TO 70	DEEP DEPRESSION
27-10-2016/1200	15.0/83.6	45-55 GUSTING TO 65	DEPRESSION
27-10-2016/1800	14.7/82.8	40-50 GUSTING TO 60	DEPRESSION
28-10-2016/0000	14.4/81.8	25-35 GUSTING TO 45	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS CI-2.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 13.5<sup>o</sup>N TO 19.5<sup>o</sup>N AND WEST OF LONGITUDE 87.0<sup>o</sup>E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -85<sup>o</sup> C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING TO 40 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

### **REMARKS**:

THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM<sup>2</sup> AND DECREASES TOWARDS SOUTHWEST. THE LOW LEVEL CONVERGENCE HAS REDUCED IN PAST SIX HOURS AND IS ABOUT 10X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE UPPER LEVEL DIVERGENCE CONTINUED TO BE AROUND 40X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 200X10<sup>-6</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS LOW (5-10 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST.

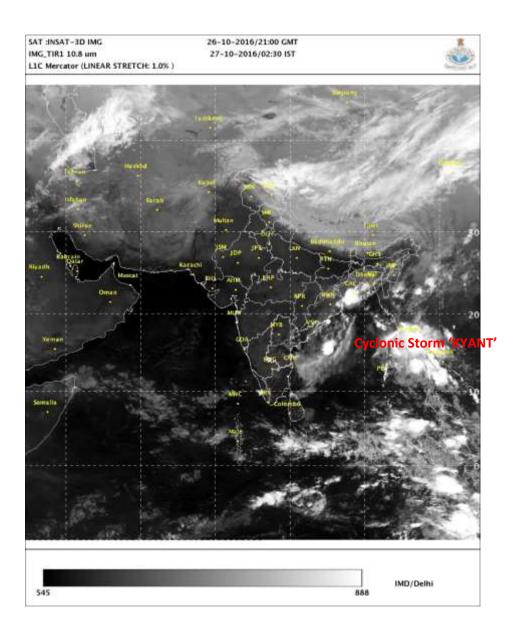
AN ANTICYCLONIC CIRCULATION LIES OVER NORTH ARABIAN SEA. UNDER THE INFLUENCE OF THIS ANTI-CYCLONIC CIRCULATION, THE SYSTEM IS EXPECTED TO MOVE WEST-SOUTHWESTWARDS DURING NEXT 24 HOURS. MAJORITY OF MODELS IMD MME ALSO SUPPORT THE ABOVE TRACK FORECAST.

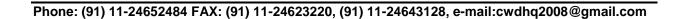
FURTHER, THE ANTICYCLONIC CIRCULATION TO THE NORTHWEST OF THE SYSTEM IN MIDDLE AND UPPER TROPOSPHERIC LEVELS IS HELPING DRY AIR INCURSION INTO THE SYSTEM FROM LAND SURFACE. UNDER THIS SCENARIO, THE SYSTEM WEAKENED IN TO DEEP DEPRESSION. THE SYSTEM WILL WEAKEN FURTHER INTO A DEPRESSION DURING NEXT 12 HOURS.

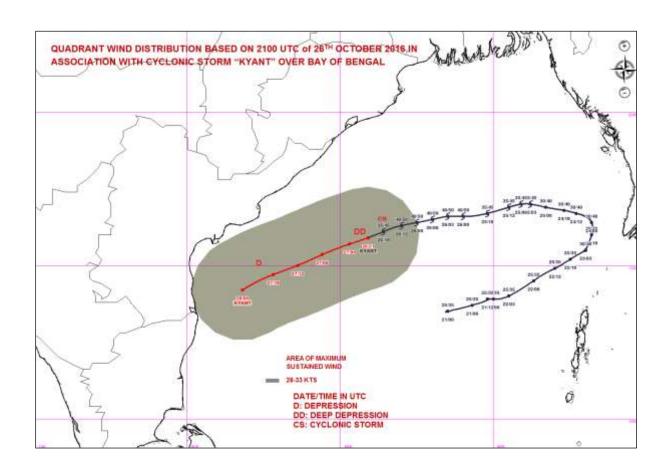
MAJORITY OF NUMERICAL MODELS AND DYNAMICAL STATISTICAL MODEL OF IMD ALSO SUGGEST WEAKENING OF THE SYSTEM.

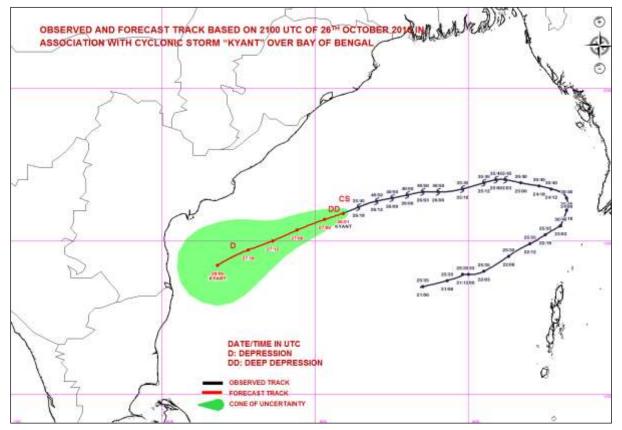
THE NEXT BULLETIN WILL BE ISSUED AT 0300 UTC OF 27<sup>TH</sup> OCTOBER 2016.

(S. D. KOTAL) SCIENTIST-E IMD, NEW DELHI













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

### DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 27.10.2016

# SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 24 HOURS ISSUED AT 0300 UTC OF 27 OCTOBER, 2016 BASED ON 0000 UTC OF 27 OCTOBER, 2016.

THE **DEEP DEPRESSION** OVER WESTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS IN PAST 06 HOURS WITH SPEED 17 KMPH AND LAY CENTRED AT 0000 UTC OF 27<sup>TH</sup> OCTOBER, 2016 OVER WESTCENTRAL BAY OF BENGAL, NEAR LATITUDE 15.7° N AND LONGITUDE 85.5° E, ABOUT 320 KM SOUTHEAST OF VISHAKHAPATNAM AND 460 KM EAST OF MACHILIPATNAM AND 600 KM EAST-NORTHEAST OF NELLORE. IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS AND WEAKEN FURTHER INTO A DEPRESSION DURING NEXT 24 HOURS.

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(UTC)	POSITION (LAT. <sup>0</sup> N/ LONG. <sup>0</sup> E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
27-10-2016/0000	15.7/85.5	50-60 GUSTING TO 70	DEEP DEPRESSION
27-10-2016/0600	15.3/84.6	50-60 GUSTING TO 70	DEEP DEPRESSION
27-10-2016/1200	15.0/83.8	45-55 GUSTING TO 65	DEPRESSION
27-10-2016/1800	14.7/83.0	35-45 GUSTING TO 55	DEPRESSION
28-10-2016/0000	14.4/82.0	25-35 GUSTING TO 45	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 14.0°N TO 17.0°N AND WEST OF LONGITUDE 86.0°E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -70° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING TO 40 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA.

### **REMARKS**:

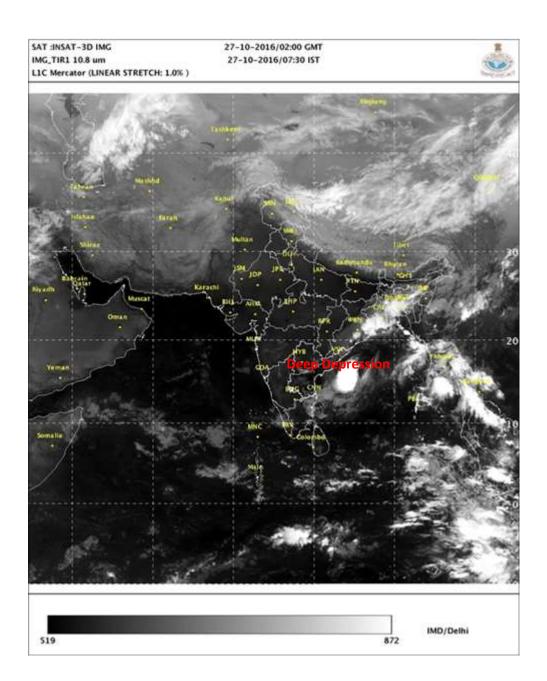
THE SEA SURFACE TEMPERATURE IS AROUND 31°C, OCEAN THERMAL ENERGY IS ABOUT 80-100 KJ/CM<sup>2</sup> AND DECREASES TOWARDS SOUTHWEST. THE LOW LEVEL CONVERGENCE IS ABOUT 10X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE

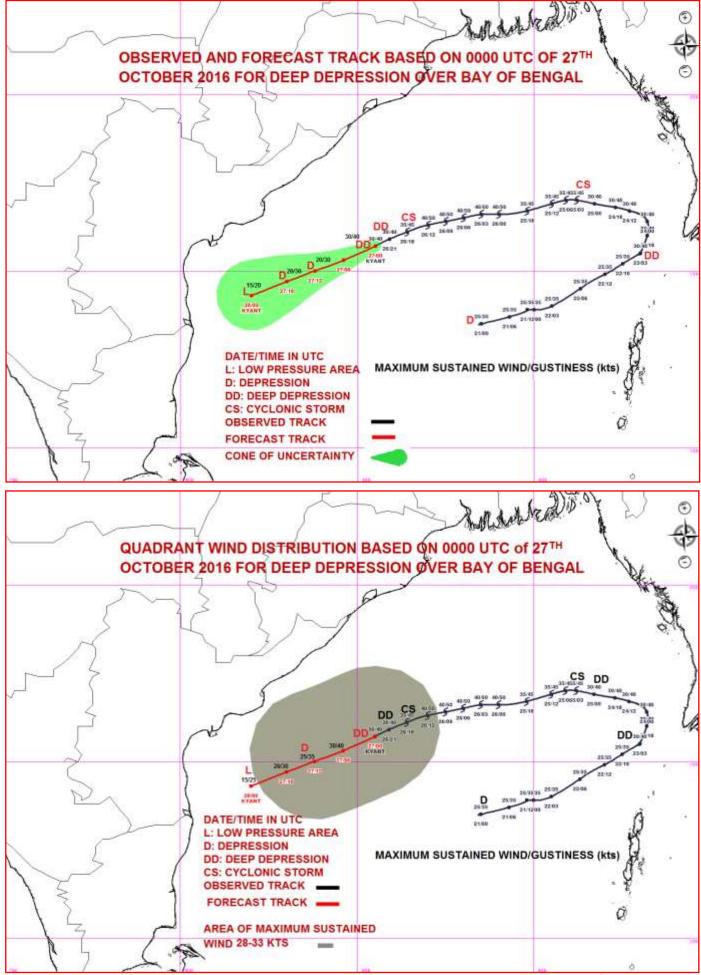
UPPER LEVEL DIVERGENCE CONTINUED TO BE AROUND 40X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY IS ABOUT 180X10<sup>-6</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND IS MODERATE (10-15 KNOTS) AROUND THE SYSTEM CENTRE AND INCREASES TOWARDS SOUTHWEST.

AN ANTICYCLONIC CIRCULATION LIES OVER NORTH ARABIAN SEA. UNDER THE INFLUENCE OF THIS ANTI-CYCLONIC CIRCULATION, THE SYSTEM IS EXPECTED TO MOVE WEST-SOUTHWESTWARDS DURING NEXT 24 HOURS. MAJORITY OF MODELS IMD MME ALSO SUPPORT THE ABOVE TRACK FORECAST. FURTHER, THE ANTICYCLONIC CIRCULATION TO THE NORTHWEST OF THE SYSTEM IN MIDDLE AND UPPER TROPOSPHERIC LEVELS IS HELPING DRY AIR INCURSION INTO THE SYSTEM FROM LAND SURFACE. UNDER THIS SCENARIO, THE SYSTEM WILL WEAKEN FURTHER INTO A DEPRESSION DURING NEXT 24 HOURS. MAJORITY OF NUMERICAL MODELS AND DYNAMICAL STATISTICAL MODEL OF IMD ALSO SUGGEST WEAKENING OF THE SYSTEM.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 27<sup>TH</sup> OCTOBER 2016.

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### REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI

### SPECIALTROPICAL WEATHER OUTLOOK

### DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 27.10.2016

# SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 24 HOURS ISSUED AT 0600 UTC OF 27 OCTOBER, 2016 BASED ON 0300 UTC OF 27 OCTOBER, 2016.

THE **DEEP DEPRESSION** OVER WESTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS DURING PAST 06 HOURS WITH SPEED OF 18 KMPH AND LAY CENTRED AT 0300 UTC OF 27<sup>TH</sup> OCTOBER, 2016 OVER WESTCENTRAL BAY OF BENGAL, NEAR LATITUDE 15.5° N AND LONGITUDE 85.0° E, ABOUT 310 KM SOUTHEAST OF VISHAKHAPATNAM (43149) AND 420 KM EAST-SOUTHEAST OF MACHILIPATNAM (43185) AND 550 KM EAST-NORTHEAST OF NELLORE (43245). IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS AND WEAKEN FURTHER INTO A DEPRESSION DURING NEXT 24 HOURS.

FORECAST TRACK AND INTENSITY OF THE SYSTEM ARE GIVEN IN THE TABLE BELOW:

DATE/TIME(UTC)	POSITION (LAT. <sup>°</sup> N/ LONG. <sup>°</sup> E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
27-10-2016/0300	15.5/85.0	50-60 GUSTING TO 70	DEEP DEPRESSION
27-10-2016/0600	15.3/84.6	50-60 GUSTING TO 70	DEEP DEPRESSION
27-10-2016/1200	15.0/83.8	45-55 GUSTING TO 65	DEPRESSION
27-10-2016/1800	14.7/83.0	35-45 GUSTING TO 55	DEPRESSION
28-10-2016/0000	14.4/82.2	25-35 GUSTING TO 45	LOW

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 13.3<sup>°</sup>N TO 18.0<sup>°</sup>N AND LONGITUDE 82.5<sup>°</sup>E TO LONGITUDE 85.5<sup>°</sup>E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -75<sup>°</sup> C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING TO 40 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1002 HPA.

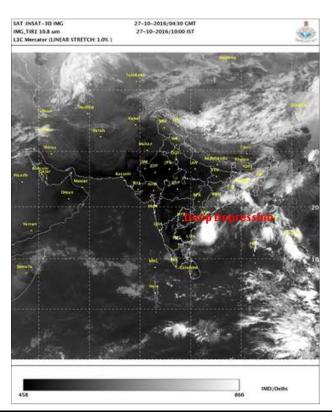
#### **REMARKS:**

THE SEA SURFACE TEMPERATURE IS AROUND 29°C, OCEAN THERMAL ENERGY IS ABOUT 50-75 KJ/CM<sup>2</sup>. THE LOW LEVEL CONVERGENCE IS ABOUT 10X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE UPPER LEVEL DIVERGENCE DECREASED AND IS ABOUT 10X10<sup>-5</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE LOW LEVEL RELATIVE VORTICITY ALSO DECREASED AND IS ABOUT 100X10<sup>-6</sup> SECOND<sup>-1</sup> AROUND THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR OF HORIZONTAL WIND CONTINUES TO BE MODERATE (10-15 KNOTS) AROUND THE SYSTEM CENTRE.

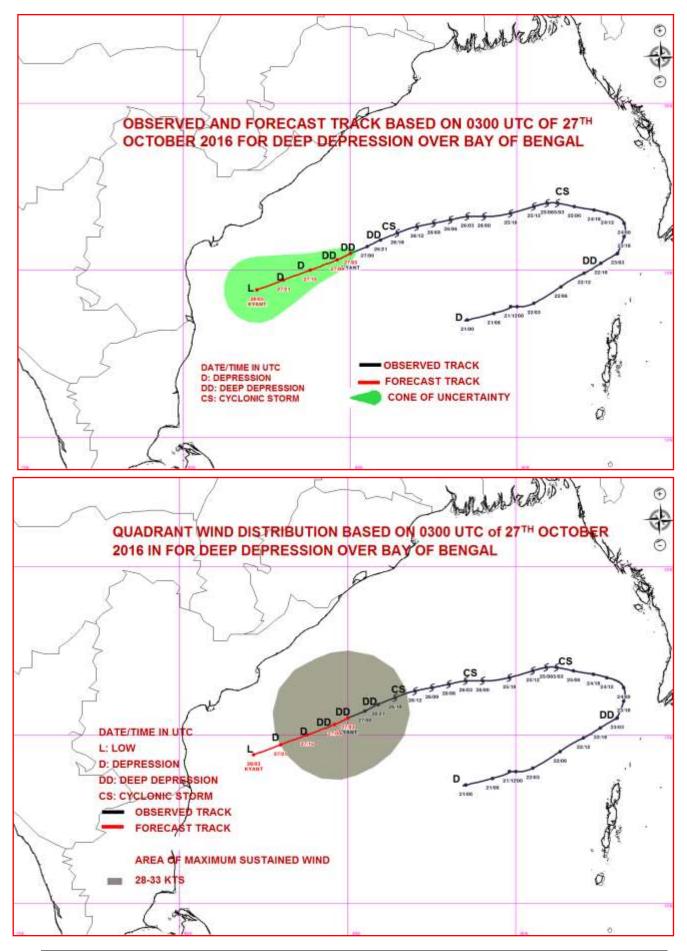
AN ANTICYCLONIC CIRCULATION LIES OVER NORTH ARABIAN SEA. UNDER THE INFLUENCE OF THIS ANTI-CYCLONIC CIRCULATION, THE SYSTEM IS EXPECTED TO MOVE WEST-SOUTHWESTWARDS TO SOUTHWESTWARDS DURING NEXT 24 HOURS. MAJORITY OF MODELS AND MME ALSO SUPPORT THE ABOVE TRACK FORECAST. FURTHER, THE ANTICYCLONIC CIRCULATION TO THE NORTHWEST OF THE SYSTEM IN MIDDLE AND UPPER TROPOSPHERIC LEVELS IS HELPING DRY AIR INCURSION INTO THE SYSTEM FROM LAND SURFACE. UNDER THIS SCENARIO, THE SYSTEM WILL WEAKEN FURTHER INTO A DEPRESSION DURING NEXT 24 HOURS. MAJORITY OF NUMERICAL MODELS AND DYNAMICAL STATISTICAL MODEL OF IMD ALSO SUGGEST WEAKENING OF THE SYSTEM.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 27<sup>TH</sup> OCTOBER 2016.

(NEETHA K. GOPAL) SCIENTIST-E RSMC, NEW DELHI



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

### DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 28.10.2016

# SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 24 HOURS ISSUED AT 0300 UTC OF 28 OCTOBER, 2016 BASED ON 0000 UTC OF 28 OCTOBER, 2016.

THE DEPRESSION OVER WESTCENTRAL BAY OF BENGAL MOVED FURTHER WEST-SOUTHWESTWARDS DURING PAST 06 HOURS WITH A SPEED 10 KMPH AND WEAKENED INTO A WELL MARKED LOW PRESSURE AREA OVER WEST CENTRAL BAY OF BENGAL OFF ANDHRA PRADESH COAST. IT IS MOST LIKELY TO MOVE WEST-SOUTHWESTWARDS AND WEAKEN FURTHER GRADUALLY.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 1.0 THE CONVECTION CONTINUES TO SHOW DISORGANIZATION AND ALSO THERE IS REDUCTION IN DEPTH OF CONVECTION DURING PAST SIX HOURS. ASSOCIATED SCATTERED LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTIOIN LIE OVER BAY OF BENGAL BETWEEN LATITUDE 13.0<sup>°</sup>N TO 16.0<sup>°</sup>N AND LONGITUDE 81.0<sup>°</sup>E TO LONGITUDE 83.5<sup>°</sup>E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -64<sup>°</sup>C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 15 KNOTS GUSTING TO 25 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS MODERATE TO ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1006 HPA.

A BUOY LOCATED NEAR LATITUDE 13.9<sup>°</sup> N AND LONGITUDE 86.9<sup>°</sup> E SHOWS MEAN SEA LEVEL PRESSURE OF 1010 HPA AND COASTAL OBSERVATIONS OF ANDHRA PRADESH INDICATE RISE IN PRESSURE BY ABOUT 1-2 HPA ALONG THE COAST. ALL THESE INDICATE GRADUAL FILLING OF THE SYSTEM.

### **REMARKS**:

UNDER THE INFLUENCE OF THE ANTI-CYCLONIC CIRCULATION TO THE NORTHWEST, THE SYSTEM IS MOVING WEST-SOUTHWESTWARDS. FURTHER, THIS ANTICYCLONIC CIRCULATION OF THE SYSTEM IN MIDDLE AND UPPER TROPOSPHERIC LEVELS IS HELPING DRY AIR INCURSION INTO THE SYSTEM FROM LAND SURFACE LEADING TO WEAKENING OF THE SYSTEM INTO A WELL MARKED LOW PRESSURE AREA. SIMILAR CONDITIONS WILL CONTINUE. THE SYSTEM WOULD CONTINUE TO MOVE WEST-SOUTHWESTWARDS AND WEAKEN FURTHER GRADUALLY

### THIS IS THE LAST BULLETIN FOR THIS SYSTEM.

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