



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

#### DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 10.06.2014

# SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 72 HOURS ISSUED AT 1200 UTC OF 10 JUNE, 2014 BASED ON 0900 UTC OF 10 JUNE, 2014.

LATEST SATELLITE IMAGERY AND OBSERVATIONS INDICATE THAT A DEPRESSION HAS FORMED OVER EASTCENTRAL ARABIAN SEA AND LAY CENTRED AT 0900 UTC OF TODAY, THE 10<sup>TH</sup> JUNE, 2014 NEAR LATITUDE 15.5<sup>0</sup> NORTH AND LONGITUDE 68.5<sup>0</sup> EAST, ABOUT 610 KM SOUTHWEST OF MUMBAI (43003), 630 KM SOUTH-SOUTHWEST OF VERAVAL (42909) AND 1160 KM SOUTHEAST OF MASIRAH ISLAND (41288) (OMAN). IT WOULD MOVE NORTH-NORTHWESTWARDS AND INTENSIFY FURTHER INTO A DEEP DEPRESSION DURING NEXT 24 HRS. SUBSEQUENTLY IT WOULD MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 1.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE AREA BETWEEN LATITUDE 12.0<sup>°</sup> NORTH TO 17.5<sup>°</sup> NORTH LONGITUDE 61.0<sup>°</sup> EAST TO 70.0<sup>°</sup> EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -75<sup>°</sup> C. THE CONVECTIVE CLOUDS IN THE SYSTEM HAVE ORGANISED WITH MERGING OF CLUSTERS DURING THE PAST SIX HOURS. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 25 KNOTS GUSTING TO 35 KNOTS AROUND THE SYSTEM CENTRE. THE WINDS ARE HIGHER IN THE SOUTHERN SECTOR (25-35 KNOTS) DUE TO MONSOON SURGE. THE STATE OF THE SEA IS ROUGH TO VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 998 HPA.

#### **REMARKS**:

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 30-32<sup>0</sup> C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2</sup> THE RELATIVE VORTICITY IN LOWER LEVELS HAS INCREASED DURING THE PAST 24 HOURS ALONG WITH THE LOW-LEVEL CONVERGENCE. HOWEVER, THE UPPER LEVEL DIVERGENCE ALSO INCREASED DURING THE PAST SIX HOURS. THE VERTICAL WIND SHEAR IN THE HORIZONTAL WIND HAS INCREASED OVER THE REGION AND IS ABOUT 20-30 KNOTS. INSPITE OF THE ADVERSE VERRICAL WIND SHEAR, THE SYSTEM HAS INTENSIFIED DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. CONSIDERING MADDEN-JULIAN OSCILLATION, IT LIES IN PHASE-3 (EQUATORIAL EAST INDIAN OCEAN) WITH AMPLITUDE LESS THAN 1.THE MODELS PREDICT IT TO LIE IN PHASE-3 DURING THE NEXT 5 DAYS WITH INCREASING AMPLITUDE, BUT LESS THAN 1.HENCE, WHILE MJO PHASE IS FAVOURABLE, AMPLITUDE IS NOT FAVOURABLE FOR INTENSIFICATION.

CONSIDERING NWP MODELS, GFS CONTINUES TO SHOW CYCLONE WITH INITIAL NORTH-WESTWARD AND THEN WESTWARDS MOVEMENT TOWARDS OMAN COAST. HOWEVER, IT WEAKENS THE SYSTEM, NEAR OMAN COAST MAKING IT AS A LOW AT 1200 UTC OF 15<sup>TH</sup> JUNE 2014. ECMWF METEOFRANCE AND UKMO MODELS INDICATE LOW IN INITIAL CONDITION AND MAXIMUM INTENSIFICATION UPTO DEPRESSION/ DEEP DEPRESSION DURING THE NEXT 72 HOURS WITH NORTH-WESTWARD MOVEMENT AND WEAKENING OF THE SYSTEM THEREAFTER. HENCE, THERE IS A LARGE VARIATION IN THE INTENSITY PREDICTION BY THE MODELS.

#### THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 10 JUNE 2014.

(M.MOHAPATRA) HEAD RSMC Ph: 011-2463191

TOO: 10/1700 HRS IST





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

#### DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 10.06.2014

# SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 72 HOURS ISSUED AT 1500 UTC OF 10 JUNE, 2014 BASED ON 1200 UTC OF 10 JUNE, 2014.

THE DEPRESSION OVER EASTCENTRAL ARABIAN SEA MOVED NORTHWESTWARDS AND LAY CENTRED AT 1200 UTC OF TODAY, THE 10<sup>TH</sup> JUNE, 2014 NEAR LATITUDE 16.0<sup>°</sup> N AND LONGITUDE 68.0<sup>°</sup> E, ABOUT 620 KM SOUTHWEST OF MUMBAI(43003), 600 KM SOUTH-SOUTHWEST OF VERAVAL(42909) AND 1090 KM SOUTHEAST OF MASIRAH ISLAND (41288). IT WOULD MOVE NORTH-NORTHWESTWARDS AND INTENSIFY FURTHER INTO A DEEP DEPRESSION DURING NEXT 12 HRS. SUBSEQUENTLY IT WOULD INTENSIFY FURTHER INTO A CYCLONIC STORM AND MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 1.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 12.5<sup>°</sup> NORTH TO 18.5<sup>°</sup> NORTH LONGITUDE 61.0<sup>°</sup> EAST TO 70.0<sup>°</sup> EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80<sup>°</sup> C. THE CONVECTIVE CLOUDS IN THE SYSTEM HAVE ORGANISED WITH MERGING OF CLUSTERS DURING THE PAST SIX HOURS. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 25 KNOTS GUSTING TO 35 KNOTS AROUND THE SYSTEM CENTRE. THE WINDS ARE HIGHER IN THE SOUTHERN SECTOR (25-35 KNOTS) DUE TO MONSOON SURGE. THE STATE OF THE SEA IS ROUGH TO VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 996 HPA.

#### **REMARKS**:

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 30-32<sup>0</sup> C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2</sup>. THE RELATIVE VORTICITY IN LOWER LEVELS ALONG WITH THE LOW-LEVEL CONVERGENCE AND THE UPPER LEVEL DIVERGENCE HAVE REMAINED THE SAME DURING THE PAST SIX HOURS. THE VERTICAL WIND SHEAR IN THE HORIZONTAL WIND OVER THE REGION IS ABOUT 20-30 KNOTS. INSPITE OF THE ADVERSE VERRICAL WIND SHEAR, THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. CONSIDERING MADDENJULIAN OSCILLATION, IT LIES IN PHASE-3(EQUATORIAL EAST INDIAN OCEAN) WITH AMPLITUDE LESS THAN 1.THE MODELS PREDICT IT TO LIE IN PHASE-3 DURING THE NEXT 5 DAYS WITH INCREASING AMPLITUDE , BUT LESS THAN 1.HENCE, WHILE MJO PHASE IS FAVOURABLE, AMPLITUDE IS NOT FAVOURABLE FOR INTENSIFICATION.

CONSIDERING NWP MODELS, GFS CONTINUES TO SHOW CYCLONIC STORM WITH WEST-NORTHWESTWARD MOVEMENT TOWARDS OMAN COAST TILL 14<sup>TH</sup> 0000 UTC AND THEN RECURVES TOWARDS NORTHEAST AND WEAKENING OF THE SYSTEM OVER SEA. ECMWF, METEOFRANCE AND UKMO MODELS INDICATE MAXIMUM INTENSIFICATION UPTO DEPRESSION/ DEEP DEPRESSION DURING THE NEXT 72 HOURS WITH NORTH-WESTWARD MOVEMENT AND WEAKENING OF THE SYSTEM THEREAFTER. JMA MODEL SHOWS INITIAL NORTHWESTWARD MOVEMENT UPTO 60 HOURS AND THEN WESTWARD MOVEMENT WITH GRADUAL INTENSIFICATION UPTO SEVERE CYCLONIC STORM DURING THE 72 HOURS. HENCE, THERE IS A LARGE VARIATION IN THE TRACK AND INTENSITY PREDICTION BY THE MODELS.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 11 JUNE 2014.

(M.MOHAPATRA) HEAD RSMC Ph: 011-2463191

TOO: 10/2000 HRS IST

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

#### DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 10.06.2014

# SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 72 HOURS ISSUED AT 2100 UTC OF 10 JUNE, 2014 BASED ON 1800 UTC OF 10 JUNE, 2014.

THE DEPRESSION OVER EASTCENTRAL ARABIAN SEA MOVED NORTHWESTWARDS, INTENSIFIED INTO A DEEP DEPRESSION AND LAY CENTRED AT 1800 UTC OF 10<sup>TH</sup> JUNE, 2014 NEAR LATITUDE 16.5<sup>°</sup> N AND LONGITUDE 67.5<sup>°</sup> E, ABOUT 630 KM SOUTHWEST OF MUMBAI (43003), 570 KM SOUTH-SOUTHWEST OF VERAVAL (42909) AND 1020 KM SOUTHEAST OF MASIRAH ISLAND (41288). IT WOULD MOVE NORTHWESTWARDS AND INTENSIFY FURTHER INTO A CYCLONIC STORM DURING NEXT 12 HRS. SUBSEQUENTLY IT WOULD MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 11.0° NORTH TO 19.5° NORTH LONGITUDE 60.5° EAST TO 70.5° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80° C. THE CONVECTIVE CLOUDS IN THE SYSTEM HAVE ORGANISED WITH MERGING OF CLUSTERS DURING THE PAST SIX HOURS. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 30 KNOTS GUSTING TO 40 KNOTS AROUND THE SYSTEM CENTRE. THE WINDS ARE HIGHER IN THE SOUTHERN SECTOR (30-40 KNOTS) DUE TO MONSOON SURGE. THE STATE OF THE SEA IS ROUGH TO VERY ROUGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 994 HPA.

#### **REMARKS**:

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 30-32<sup>0</sup> C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2</sup>. THE RELATIVE VORTICITY IN LOWER LEVELS ALONG WITH THE LOW-LEVEL CONVERGENCE AND THE UPPER LEVEL DIVERGENCE HAVE REMAINED THE SAME DURING THE PAST SIX HOURS. THE VERTICAL WIND SHEAR IN THE HORIZONTAL WIND OVER THE REGION IS ABOUT 20-30 KNOTS. INSPITE OF THE ADVERSE VERRICAL WIND SHEAR, THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. CONSIDERING MADDENJULIAN OSCILLATION, IT LIES IN PHASE-3(EQUATORIAL EAST INDIAN OCEAN) WITH AMPLITUDE LESS THAN 1.THE MODELS PREDICT IT TO LIE IN PHASE-3 DURING THE NEXT 5 DAYS WITH INCREASING AMPLITUDE , BUT LESS THAN 1.HENCE, WHILE MJO PHASE IS FAVOURABLE, AMPLITUDE IS NOT FAVOURABLE FOR INTENSIFICATION.

CONSIDERING NWP MODELS, GFS CONTINUES TO SHOW CYCLONIC STORM WITH WEST-NORTHWESTWARD MOVEMENT TOWARDS OMAN COAST TILL 14<sup>TH</sup> 0000 UTC AND THEN RECURVES TOWARDS NORTHEAST AND WEAKENING OF THE SYSTEM OVER SEA. ECMWF, METEOFRANCE AND UKMO MODELS INDICATE MAXIMUM INTENSIFICATION UPTO DEPRESSION/ DEEP DEPRESSION DURING THE NEXT 72 HOURS WITH NORTH-WESTWARD MOVEMENT AND WEAKENING OF THE SYSTEM THEREAFTER. JMA MODEL SHOWS INITIAL NORTHWESTWARD MOVEMENT UPTO 60 HOURS AND THEN WESTWARD MOVEMENT WITH GRADUAL INTENSIFICATION UPTO SEVERE CYCLONIC STORM DURING THE 72 HOURS. HENCE, THERE IS A LARGE VARIATION IN THE TRACK AND INTENSITY PREDICTION BY THE MODELS.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 11 JUNE 2014.

(DUTY OFFICER) Ph: 011-2463191

TOO: 11/0300 HOURS IST





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) **METEOROLOGICAL OFFICE, MALE (MALDIVES)** OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)

**RSMC – TROPICAL CYCLONES, NEW DELHI** 

#### TROPICAL STORM 'NANAUK' ADVISORY NO. ONE ISSUED AT 0300 UTC OF 11<sup>TH</sup> JUNE 2014 BASED ON 0000 UTC CHARTS OF 11<sup>TH</sup> JUNE 2014

THE DEEP DEPRESSION OVER EASTCENTRAL ARABIAN SEA MOVED SLOWLY WESTWARDS, INTENSIFIED INTO A CYCLONIC STORM 'NANAUK' AND LAY CENTRED AT 0000 UTC OF TODAY, THE 11 JUNE, 2014 NEAR LATITUDE 16.5° N AND LONGITUDE 67.2° E, ABOUT 660 KM SOUTHWEST OF MUMBAI (43003), 590 KM SOUTH-SOUTHWEST OF VERAVAL (42909) AND 990 KM SOUTHEAST OF MASIRAH ISLAND (41288). IT WOULD INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM DURING NEXT 24 HRS. IT WOULD MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST DURING NEXT 72 HRS

TRACK AND INTENSITY FORECASTS 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
11-06-2014/0000	16.5/67.2	60-70 GUSTING TO 80	CYCLONIC STORM
11-06-2014/0600	16.9/66.7	70-80 GUSTING TO 90	CYCLONIC STORM
11-06-2014/1200	17.4/66.2	80-90 GUSTING TO 100	CYCLONIC STORM
11-06-2014/1800	17.8/65.6	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
12-06-2014/0000	18.1/65.1	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
12-06-2014/1200	18.5/64.4	110-120 GUSTING TO 130	SEVERE CYCLONIC STORM
13-06-2014/0000	18.8/63.7	120-130 GUSTING TO 145	SEVERE CYCLONIC STORM
13-06-2014/1200	19.1/62.8	110-120 GUSTING TO 130	SEVERE CYCLONIC STORM
14-06-2014/0000	19.4/61.9	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
14-06-2014/1200	19.5/61.1	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
15-06-2014/0000	19.6/60.3	80-90 GUSTING TO 100	CYCLONIC STORM
15-06-2014/1200	19.7/59.6	70-80 GUSTING TO 90	CYCLONIC STORM
16-06-2014/0000	19.8/58.9	70-80 GUSTING TO 90	CYCLONIC STORM

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 14.0° NORTH TO 19.0° NORTH LONGITUDE 60.0° EAST TO 69.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80° C. THE CONVECTIVE CLOUDS IN THE SYSTEM HAVE ORGANISED WITH MERGING OF CLUSTERS DURING THE PAST SIX HOURS. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 35 KNOTS GUSTING TO 45 KNOTS AROUND THE SYSTEM CENTRE. THE WINDS ARE HIGHER IN THE SOUTHERN SECTOR (35-45 KNOTS) DUE TO MONSOON SURGE. THE STATE OF THE SEA IS HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 992 HPA.

#### **REMARKS:**

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 30-32<sup>0</sup> C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2</sup> THE RELATIVE VORTICITY IN LOWER LEVELS ALONG WITH THE LOW-LEVEL CONVERGENCE AND THE UPPER LEVEL DIVERGENCE HAVE REMAINED THE SAME DURING THE PAST SIX HOURS. THE VERTICAL WIND SHEAR IN THE HORIZONTAL WIND OVER THE REGION IS ABOUT 20-30 KNOTS. INSPITE OF THE ADVERSE VERRICAL WIND SHEAR, THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. CONSIDERING MADDENJULIAN OSCILLATION, IT LIES IN PHASE-3(EQUATORIAL EAST INDIAN OCEAN) WITH AMPLITUDE LESS THAN 1.THE MODELS PREDICT IT TO LIE IN PHASE-3 DURING THE NEXT 5 DAYS WITH INCREASING AMPLITUDE , BUT LESS THAN 1. HENCE, WHILE MJO PHASE IS FAVOURABLE, AMPLITUDE IS NOT FAVOURABLE FOR INTENSIFICATION.

MOST OF THE NWP MODELS SUGGEST THE SYSTEM TO MOVE WEST- NORTHWESTWARDS DURING THE NEXT 72 HOURS. A FEW MODELS SUGGEST FURTHER INTENSIFICATION IN TO A CYCLONIC STORM.

#### THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 11 JUNE 2014.

TOO: 11/0830 HOURS IST

(DUTY OFFICER) Ph: 011-2463191





FROM: RSMC – TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC – TROPICAL CYCLONES. NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. TWO ISSUED AT 0600 UTC OF 11<sup>TH</sup> JUNE 2014 BASED ON 0300 UTC CHARTS OF 11<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL ARABIAN SEA MOVED SLOWLY NORTHWESTWARDS AND LAY CENTRED AT 0300 UTC OF TODAY, THE  $11^{TH}$  JUNE, 2014 NEAR LATITUDE 16.7° N AND LONGITUDE 67.0° E, ABOUT 670 KM WEST-SOUTHWEST OF MUMBAI (43003), 590 KM SOUTH-SOUTHWEST OF VERAVAL (42909) AND 960 KM EAST-SOUTHEAST OF MASIRAH ISLAND (41288). IT WOULD INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM DURING NEXT 24 HRS. IT WOULD MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST DURING NEXT 120 HRS.

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

Date/Time(UTC)	Position	Maximum sustained surface	Category of cyclonic disturbance
	(Lat. ⁰N/ long. ⁰E)	wind speed (kmph)	
11-06-2014/0300	16.7/67.0	60-70 gusting to 80	Cyclonic Storm
11-06-2014/0600	16.8/66.8	70-80 gusting to 90	Cyclonic Storm
11-06-2014/1200	17.1/66.4	80-90 gusting to 100	Cyclonic Storm
11-06-2014/1800	17.4/66.0	80-90 gusting to 100	Severe Cyclonic Storm
12-06-2014/0000	17.6/65.6	90-100 gusting to 110	Severe Cyclonic Storm
12-06-2014/1200	18.1/64.8	100-110 gusting to 120	Severe Cyclonic Storm
13-06-2014/0000	18.7/63.8	110-120 gusting to 130	Severe Cyclonic Storm
13-06-2014/1200	19.1/62.8	120-130 gusting to 140	Very Severe Cyclonic Storm
14-06-2014/0000	19.6/61.8	120-130 gusting to 140	Very Severe Cyclonic Storm
14-06-2014/1200	20.0/60.9	110-120 gusting to 130	Severe Cyclonic Storm
15-06-2014/0000	20.4/59.8	90-100 gusting to 110	Cyclonic Storm
15-06-2014/1200	20.8/58.6	70-80 gusting to 90	Cyclonic Storm
16-06-2014/0000	21.2/57.5	60-70 gusting to 80	Cyclonic Storm

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 14.0° NORTH TO 19.0° NORTH AND LONGITUDE 60.0° EAST TO 69.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 35

KNOTS GUSTING TO 45 KNOTS AROUND THE SYSTEM CENTRE. THE WINDS ARE HIGHER IN THE SOUTHERN SECTOR (40-50 KNOTS) DUE TO MONSOON SURGE. THE STATE OF THE SEA IS HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 992 HPA.

#### **REMARKS**:

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 30-32<sup>0</sup> C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2</sup>. THE RELATIVE VORTICITY IN LOWER LEVELS ALONG WITH THE LOW-LEVEL CONVERGENCE AND THE UPPER LEVEL DIVERGENCE HAVE INCREASED DURING THE PAST SIX HOURS. THE VERTICAL WIND SHEAR IN THE HORIZONTAL WIND OVER THE REGION HAS DECREASED TO ABOUT 10-20 KNOTS. THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. THE SYSTEM WOULD MOVE WEST-NORTWESTWARDS UNDER THE INFLUENCE OF THE SUB-TROPICAL UPPER TROPOSPHERIC RIDGE NEAR LATITUDE 25<sup>0</sup>N IN ASSOCIATION WITH THE ANTICYCLONIC CIRCULATION OVER GULF OF IRAN AND ADJOINING NORTHEAST ARABIAN SEA.

#### THE NEXT BULLETIN WILL BE ISSUED AT 0900 UTC OF 11 JUNE 2014.

(KAMALJIT RAY) SCIENTIST-E

TOO: 11/1200 HOURS IST





### FROM: RSMC – TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC – TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. THREE ISSUED AT 0900 UTC OF 11<sup>TH</sup> JUNE 2014 BASED ON 0600 UTC CHARTS OF 11<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL ARABIAN SEA MOVED WEST- NORTHWESTWARDS WITH A SPEED OF 12 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0600 UTC OF TODAY, THE 11<sup>TH</sup> JUNE, 2014 NEAR LATITUDE 16.9<sup>°</sup> N AND LONGITUDE 66.7<sup>°</sup> E, ABOUT 690 KM WEST-SOUTHWEST OF MUMBAI (43003), 590 KM SOUTH-SOUTHWEST OF VERAVAL (42909) AND 920 KM EAST-SOUTHEAST OF MASIRAH ISLAND (41288). IT WOULD INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM DURING NEXT 24 HRS. IT WOULD MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST DURING NEXT 120 HRS.

TRACK AND INTENSITY FORECASTS 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
11-06-2014/0600	16.9/66.7	70-80 gusting to 90	Cyclonic Storm
11-06-2014/1200	17.1/66.4	80-90 gusting to 100	Cyclonic Storm
11-06-2014/1800	17.4/66.0	90-100 gusting to 110	Severe Cyclonic Storm
12-06-2014/0000	17.6/65.6	100-110 gusting to 120	Severe Cyclonic Storm
12-06-2014/0600	17.9/65.2	110-120 gusting to 130	Severe Cyclonic Storm
12-06-2014/1800	18.4/64.3	120-130 gusting to 140	Very Severe Cyclonic Storm
13-06-2014/0600	18.9/63.3	120-130 gusting to 140	Very Severe Cyclonic Storm
13-06-2014/1800	19.4/62.3	120-130 gusting to 140	Very Severe Cyclonic Storm
14-06-2014/0600	19.8/61.4	110-120 gusting to 130	Severe Cyclonic Storm
14-06-2014/1800	20.1/60.4	110-120 gusting to 130	Severe Cyclonic Storm
15-06-2014/0600	20.5/59.2	90-100 gusting to 110	Cyclonic Storm
15-06-2014/1800	20.9/58.0	70-80 gusting to 90	Cyclonic Storm
16-06-2014/0600	21.2/56.8	60-70 gusting to 80	Cyclonic Storm

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 14.0° NORTH TO 19.0° NORTH AND LONGITUDE 60.0° EAST TO 69.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 990 HPA.

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 30-32<sup>0</sup>C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2.</sup> THE RELATIVE VORTICITY IN LOWER LEVELS ALONG WITH THE LOW-LEVEL CONVERGENCE AND THE UPPER LEVEL DIVERGENCE REMAINED THE SAME DURING THE PAST SIX HOURS. THE VERTICAL WIND SHEAR IN THE HORIZONTAL WIND OVER THE REGION CONTINUES TO BE ABOUT 10-20 KNOTS. THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. THE SYSTEM WOULD MOVE WEST-NORTWESTWARDS UNDER THE INFLUENCE OF THE SUB-TROPICAL UPPER TROPOSPHERIC RIDGE NEAR LATITUDE 25<sup>0</sup>N IN ASSOCIATION WITH THE ANTICYCLONIC CIRCULATION OVER GULF OF IRAN AND ADJOINING NORTHEAST ARABIAN SEA.

THE NEXT BULLETIN WILL BE ISSUED AT 1200 UTC OF 11 JUNE 2014.

(KAMALJIT RAY) SCIENTIST-E

TOO: 11/1500 HOURS IST





### FROM: RSMC – TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA ( BANGLADESH ) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC – TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. FOUR ISSUED AT 1200 UTC OF 11<sup>TH</sup> JUNE 2014 BASED ON 0900 UTC CHARTS OF 11<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL ARABIAN SEA MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 12 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0900 UTC OF TODAY, THE 11<sup>TH</sup> JUNE, 2014 NEAR LATITUDE 17.0<sup>°</sup> N AND LONGITUDE 66.5<sup>°</sup> E, ABOUT 710 KM WEST-SOUTHWEST OF MUMBAI (43003), 590 KM SOUTH-SOUTHWEST OF VERAVAL (42909) AND 900 KM EAST-SOUTHEAST OF MASIRAH ISLAND (41288). IT WOULD INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM DURING NEXT 24 HRS. IT WOULD MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST DURING NEXT 120 HRS.

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

Date/Time(IST)	Position	Maximum sustained surface	Category of cyclonic disturbance
		wind speed (kinpi)	
11-06-2014/0900	17.0/66.5	80-90 gusting to 100	Cyclonic Storm
11-06-2014/1200	17.2/66.3	85-95 gusting to 105	Cyclonic Storm
11-06-2014/1800	17.4/66.0	90-100 gusting to 110	Severe Cyclonic Storm
12-06-2014/0000	17.6/65.6	100-110 gusting to 120	Severe Cyclonic Storm
12-06-2014/0600	17.9/65.2	110-120 gusting to 130	Severe Cyclonic Storm
12-06-2014/1800	18.4/64.3	120-130 gusting to 140	Very Severe Cyclonic Storm
13-06-2014/0600	18.9/63.3	120-130 gusting to 140	Very Severe Cyclonic Storm
13-06-2014/1800	19.4/62.3	120-130 gusting to 140	Very Severe Cyclonic Storm
14-06-2014/0600	19.8/61.4	110-120 gusting to 130	Severe Cyclonic Storm
14-06-2014/1800	20.1/60.4	100-110 gusting to 120	Severe Cyclonic Storm
15-06-2014/0600	20.5/59.2	90-100 gusting to 110	Cyclonic Storm
15-06-2014/1800	20.9/58.0	70-80 gusting to 90	Cyclonic Storm
16-06-2014/0600	21.2/56.8	60-70 gusting to 80	Cyclonic Storm

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE  $14.0^{\circ}$  NORTH TO  $19.0^{\circ}$  NORTH AND LONGITUDE  $60.0^{\circ}$  EAST TO  $69.0^{\circ}$  EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT - $80^{\circ}$  C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 990 HPA.

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 30-32°C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2.</sup> THE RELATIVE VORTICITY IN LOWER LEVELS ALONG WITH THE LOW-LEVEL CONVERGENCE AND THE UPPER LEVEL DIVERGENCE REMAINED THE SAME DURING THE PAST SIX HOURS. THE VERTICAL WIND SHEAR IN THE HORIZONTAL WIND OVER THE REGION CONTINUES TO BE ABOUT 10-20 KNOTS. THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. THE SYSTEM WOULD MOVE WEST-NORTWESTWARDS UNDER THE INFLUENCE OF THE SUB-TROPICAL UPPER TROPOSPHERIC RIDGE NEAR LATITUDE 25°N IN ASSOCIATION WITH THE ANTICYCLONIC CIRCULATION OVER GULF OF IRAN AND ADJOINING NORTHWEST ARABIAN SEA.

THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 11 JUNE 2014.

(KAMALJIT RAY) SCIENTIST-E

TOO: 11/1730 HOURS IST





FROM: RSMC – TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC – TROPICAL CYCLONES. NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. FIVE ISSUED AT 1430 UTC OF 11<sup>TH</sup> JUNE 2014 BASED ON 1200 UTC CHARTS OF 11<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL ARABIAN SEA MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 10 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 1200 UTC OF TODAY, THE 11<sup>TH</sup> JUNE, 2014 NEAR LATITUDE 17.3<sup>°</sup> N AND LONGITUDE 66.2<sup>°</sup> E, ABOUT 720 KM WEST-SOUTHWEST OF MUMBAI, 590 KM SOUTHWEST OF VERAVAL AND 850 KM EAST-SOUTHEAST OF MASIRAH ISLAND (OMAN). IT WOULD INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM DURING NEXT 24 HRS. IT WOULD MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST DURING NEXT 120 HRS

TRACK AND INTENSITY FORECASTS 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
11-06-2014/1200	17.3/66.2	80-90 gusting to 100	Cyclonic Storm
11-06-2014/1800	17.6/65.8	90-100 gusting to 110	Severe Cyclonic Storm
12-06-2014/0000	17.8/65.4	100-110 gusting to 120	Severe Cyclonic Storm
12-06-2014/0600	18.1/64.9	110-120 gusting to 130	Severe Cyclonic Storm
12-06-2014/1200	18.4/64.4	120-130 gusting to 140	Very Severe Cyclonic Storm
13-06-2014/0000	18.8/63.5	120-130 gusting to 140	Very Severe Cyclonic Storm
13-06-2014/1200	19.2/62.5	120-130 gusting to 140	Very Severe Cyclonic Storm
14-06-2014/0000	19.5/61.5	110-120 gusting to 130	Severe Cyclonic Storm
14-06-2014/1200	19.8/60.6	100-110 gusting to 120	Severe Cyclonic Storm
15-06-2014/0000	20.1/59.5	90-100 gusting to 110	Severe Cyclonic Storm
15-06-2014/1200	20.5/58.5	70-80 gusting to 90	Cyclonic Storm
16-06-2014/0000	20.8/57.4	60-70 gusting to 80	Cyclonic Storm
16-06-2014/1200	21.1/56.3	40-50 gusting to 60	Depression

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE  $14.0^{\circ}$  NORTH TO  $19.0^{\circ}$  NORTH AND LONGITUDE  $59.0^{\circ}$  EAST TO  $67.0^{\circ}$  EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE

SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 988 HPA.

#### **REMARKS**:

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 30-32<sup>0</sup>C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2</sup> ALTHOUGH THE VERTICAL WIND SHEAR HAS INCREASED TO 20 – 30 KTS. THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. IT WOULD MOVE WEST-NORTWESTWARDS UNDER THE INFLUENCE OF THE SUB-TROPICAL UPPER TROPOSPHERIC RIDGE NEAR LATITUDE 25<sup>0</sup>N IN ASSOCIATION WITH THE ANTICYCLONIC CIRCULATION OVER GULF OF IRAN AND ADJOINING NORTHWEST ARABIAN SEA. THERE IS POSSIBILITY OF ENTRAINMENT OF DRY AIR AS THE SYSTEM APPROACHES OMAN COAST LEADING TO SLIGHT WEAKENING BEFORE LANDFALL.

THE NEXT BULLETIN WILL BE ISSUED AT 1800 UTC OF 11 JUNE 2014.

(KAMALJIT RAY) SCIENTIST-E

TOO: 11/2030 HOURS IST





FROM: RSMC – TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC – TROPICAL CYCLONES. NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. SIX ISSUED AT 1800 UTC OF 11<sup>TH</sup> JUNE 2014 BASED ON 1500 UTC CHARTS OF 11<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL ARABIAN SEA MOVED NORTHWESTWARDS WITH A SPEED ABOUT 10 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 1500 UTC OF TODAY, THE 11<sup>TH</sup> JUNE, 2014 NEAR LATITUDE 17.5<sup>°</sup> N AND LONGITUDE 66.0<sup>°</sup> E, ABOUT 740 KM WEST-SOUTHWEST OF MUMBAI, 590 KM SOUTHWEST OF VERAVAL AND 820 KM EAST-SOUTHEAST OF MASIRAH ISLAND (OMAN). IT WOULD INTENSIFY INTO A VERY SEVERE CYCLONIC STORM WITHIN 24 HRS. IT WOULD MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST DURING NEXT 120 HRS.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 14.0° NORTH TO 19.0° NORTH AND LONGITUDE 57.0° EAST TO 67.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT -80° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 988 HPA.

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

Date/Time(UTC)	Position (Lat. ⁰N/ long. ⁰E)	Maximum sustained surface wind speed (kmph)	Category of cyclonic disturbance
11-06-2014/1500	17.5/66.0	80-90 gusting to 100	Cyclonic Storm
11-06-2014/1800	17.6/65.8	90-100 gusting to 110	Severe Cyclonic Storm
12-06-2014/0000	17.8/65.4	100-110 gusting to 120	Severe Cyclonic Storm
12-06-2014/0600	18.1/64.9	110-120 gusting to 130	Severe Cyclonic Storm
12-06-2014/1200	18.4/64.4	120-130 gusting to 140	Very Severe Cyclonic Storm
12-06-2014/1800	18.8/63.5	120-130 gusting to 140	Very Severe Cyclonic Storm
13-06-2014/0600	19.2/62.5	120-130 gusting to 140	Very Severe Cyclonic Storm
13-06-2014/1800	19.5/61.5	110-120 gusting to 130	Severe Cyclonic Storm
14-06-2014/0600	19.8/60.6	100-110 gusting to 120	Severe Cyclonic Storm
14-06-2014/1800	20.1/59.5	90-100 gusting to 110	Severe Cyclonic Storm
15-06-2014/0600	20.5/58.5	70-80 gusting to 90	Cyclonic Storm
15-06-2014/1800	20.8/57.4	60-70 gusting to 80	Cyclonic Storm

16-06-2014/0600	21.1/56.3	40-50 gusting to 60	Depression

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 29-31°C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2</sup> ALTHOUGH THE VERTICAL WIND SHEAR IS BETWEEN 20 – 30 KTS AROUND THE SYSTEM. THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. IT WOULD MOVE WEST-NORTWESTWARDS UNDER THE INFLUENCE OF THE SUB-TROPICAL UPPER TROPOSPHERIC RIDGE NEAR LATITUDE  $25^{\circ}$ N IN ASSOCIATION WITH THE ANTICYCLONIC CIRCULATION OVER GULF OF IRAN AND ADJOINING NORTHWEST ARABIAN SEA. BUT THERE IS A POSSIBILITY OF ENTRAINMENT OF DRY AIR AS THE SYSTEM APPROACHES OMAN COAST LEADING TO SLIGHT WEAKENING OF THE SYSTEM BEFORE LANDFALL.

#### THE NEXT BULLETIN WILL BE ISSUED AT 2100 UTC OF 11 JUNE 2014.

(CHARAN SINGH) SCIENTIST-E

TOO: 11/2330 HOURS IST





 FROM: RSMC – TROPICAL CYCLONES, NEW DELHI

 TO:
 STORM WARNING CENTRE, NAY PYI (MYANMAR)

 STORM WARNING CENTRE, BANGKOK (THAILAND)

 STORM WARNING CENTRE, COLOMBO (SRILANKA)

 WARNING CENTRE, DHAKA ( BANGLADESH )

 STORM STORM WARNING CENTRE, KARACHI (PAKISTAN)

 METEOROLOGICAL OFFICE, MALE (MALDIVES)

 OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)

 RSMC –
 TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. SEVEN ISSUED AT 2000 UTC OF 11<sup>TH</sup> JUNE 2014 BASED ON 1800 UTC CHARTS OF 11<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL ARABIAN SEA MOVED SLIGHTLY WEST-NORTHWESTWARDS WITH A SPEED ABOUT 08 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 1800 UTC OF TODAY, THE 11 JUNE, 2014 NEAR LATITUDE 17.5<sup>°</sup> N AND LONGITUDE 65.8<sup>°</sup> E, ABOUT 760 KM WEST-SOUTHWEST OF MUMBAI(43003), 610 KM SOUTHWEST OF VERAVAL(42909) AND 800 KM EAST-SOUTHEAST OF MASIRAH ISLAND(41288 OMAN). THE SYSTEM WOULD INTENSIFY FURTHER DURING NEXT 24 HOURS. IT WOULD MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST DURING NEXT 96 HOURS.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 14.0° NORTH TO 19.0° NORTH AND LONGITUDE 57.0° EAST TO 67.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 80° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 988 HPA.

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

Date/Time(UTC)	Position (Lat. ⁰N/ long. ⁰E)	Maximum sustained surface wind speed (kmph)	Category of cyclonic disturbance
11-06-2014/1800	17.5/65.8	80-90 GUSTING TO 100	Cyclonic Storm
12-06-2014/0000	17.6/65.6	80-90 GUSTING TO 100	Cyclonic Storm
12-06-2014/0600	17.7/65.4	90-100 GUSTING TO 110	Severe Cyclonic Storm
12-06-2014/1200	18.0/64.9	90-100 GUSTING TO 110	Severe Cyclonic Storm
12-06-2014//1800	18.4/64.4	110-120 GUSTING TO 130	Very Severe Cyclonic Storm
13-06-2014//0600	18.8/63.5	120-130 GUSTING TO 140	Very Severe Cyclonic Storm
13-06-2014/1800	19.2/62.5	120-130 GUSTING TO 140	Very Severe Cyclonic Storm
14-06-2014/0600	19.5/61.5	100-110 GUSTING TO 120	Severe Cyclonic Storm
14-06-2014/1800	19.8/60.5	80-90 GUSTING TO 100	Cyclonic Storm
15-06-2014/0600	20.1/59.5	70-80 GUSTING TO 90	Cyclonic Storm
15-06-2014/1800	20.5/58.5	50-60 GUSTING TO 70	Depression

#### **REMARKS**:

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 29-31<sup>o</sup>C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2.</sup> ALTHOUGH THE VERTICAL WIND SHEAR IS

BETWEEN 20 – 30 KTS AROUND THE SYSTEM. THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. IT WOULD MOVE WEST-NORTWESTWARDS UNDER THE INFLUENCE OF THE SUB-TROPICAL UPPER TROPOSPHERIC RIDGE NEAR LATITUDE  $25^{\circ}$ N IN ASSOCIATION WITH THE ANTICYCLONIC CIRCULATION OVER GULF OF IRAN AND ADJOINING NORTHWEST ARABIAN SEA. BUT THERE IS A POSSIBILITY OF ENTRAINMENT OF DRY AIR AS THE SYSTEM APPROACHES OMAN COAST LEADING TO SLIGHT WEAKENING OF THE SYSTEM BEFORE LANDFALL.

#### THE NEXT BULLETIN WILL BE ISSUED AT 0000 UTC OF 12 JUNE 2014.

(CHARAN SINGH) SCIENTIST-E

TOO: 12/0130 HOURS IST





#### FROM: RSMC -TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAY PYI (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. EIGHT ISSUED AT 0000 UTC OF 12<sup>TH</sup> JUNE 2014 BASED ON 2100 UTC CHARTS OF 11<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL ARABIAN SEA MOVED SLIGHTLY WESTWARDS WITH A SPEED ABOUT 05 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 2100 UTC OF TODAY, THE 11 JUNE, 2014 NEAR LATITUDE 17.5<sup>0</sup> N AND LONGITUDE 65.7<sup>0</sup> E, ABOUT 770 KM WEST-SOUTHWEST OF MUMBAI, 620 KM SOUTHWEST OF VERAVAL AND 800 KM EAST-SOUTHEAST OF MASIRAH ISLAND (OMAN). THE SYSTEM WOULD INTENSIFY FURTHER DURING NEXT 24 HOURS. IT WOULD MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST DURING NEXT 96 HOURS.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 12.5<sup>°</sup> NORTH TO 19.5<sup>°</sup> NORTH AND LONGITUDE 58.0<sup>°</sup> EAST TO 67.5<sup>°</sup> EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 87<sup>°</sup> C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 988 HPA.

Date/Time(UTC)	Position (Lat. <sup>⁰</sup> N/ long. <sup>⁰</sup> E)	Maximum sustained surface wind speed (kmph)	Category of cyclonic disturbance
11-06-2014/2100	17.5/65.7	80-90 gusting to 100	Cyclonic Storm
12-06-2014/0000	17.6/65.6	80-90 gusting to 100	Cyclonic Storm
12-06-2014/0900	17.7/65.4	90-100 gusting to 110	Severe Cyclonic Storm
12-06-2014/1500	17.8/65.2	90-100 gusting to 110	Severe Cyclonic Storm
12-06-2014/2100	17.9/64.9	110-120 gusting to 130	Very Severe Cyclonic Storm
13-06-2014/0900	18.3/64.4	120-130 gusting to 140	Very Severe Cyclonic Storm
13-06-2014/2100	18.7/63.7	120-130 gusting to 140	Very Severe Cyclonic Storm
14-06-2014/0900	19.0/63.0	100-110 gusting to 120	Severe Cyclonic Storm
14-06-2014/2100	19.3/62.0	90-100 gusting to 110	Severe Cyclonic Storm
15-06-2014/0900	19.6/61.0	80-90 gusting to 100	Cyclonic Storm
15-06-2014/2100	19.8/60.0	70-80 gusting to 90	Cyclonic Storm
16-06-2014/0900	20.0/58.8	50-60 gusting to 70	Deep Depression
16-06-2014/2100	20.0/57.4	40-50 gusting to 60	Depression

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

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 29-31<sup>0</sup>C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2</sup> ALTHOUGH THE VERTICAL WIND SHEAR IS BETWEEN 25 – 35 KTS AROUND THE SYSTEM. THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. IT WOULD MOVE WEST-NORTWESTWARDS UNDER THE INFLUENCE OF THE SUB-TROPICAL UPPER TROPOSPHERIC RIDGE NEAR LATITUDE 25<sup>0</sup>N IN ASSOCIATION WITH THE ANTICYCLONIC CIRCULATION OVER GULF OF IRAN AND ADJOINING NORTHWEST ARABIAN SEA. BUT THERE IS A POSSIBILITY OF ENTRAINMENT OF DRY AIR AS THE SYSTEM APPROACHES OMAN COAST LEADING TO SLIGHT WEAKENING OF THE SYSTEM BEFORE LANDFALL.

#### THE NEXT BULLETIN WILL BE ISSUED AT 0300 UTC OF 12 JUNE 2014.

(CHARAN SINGH) SCIENTIST-E

TOO: 12/0530 HOURS IST





#### FROM: RSMC -TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAY PYI (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. NINE ISSUED AT 0300 UTC OF 12<sup>TH</sup> JUNE 2014 BASED ON 0000 UTC CHARTS OF 12<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL ARABIAN SEA MOVED WEST-NORTHWESTWARDS WITH A SPEED ABOUT 10 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0000 UTC OF TODAY, THE 12 JUNE, 2014 OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA NEAR LATITUDE 17.8<sup>0</sup> NORTH AND LONGITUDE 65.3<sup>0</sup> EAST, ABOUT 800 KM WEST-SOUTHWEST OF MUMBAI (43003), 630 KM SOUTHWEST OF VERAVAL (42909) AND 800 KM EAST-SOUTHEAST OF MASIRAH ISLAND (41288). THE SYSTEM WOULD INTENSIFY FURTHER IN TO A SEVERE CYCLONIC STORM DURING NEXT 24 HOURS. IT WOULD MOVE WEST-NORTHWESTWARDS AND CROSS OMAN COAST BETWEEN LATITUDE 19.0<sup>0</sup> NORTH AND 21.0<sup>0</sup> NORTH AROUND 15<sup>TH</sup> NIGHT

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. AND THE PATTERN IS CDO TYPE ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 12.5<sup>°</sup> NORTH TO 19.5<sup>°</sup> NORTH AND LONGITUDE 59.0<sup>°</sup> EAST TO 67.5<sup>°</sup> EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 88<sup>°</sup> C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED SURFACE IS ABOUT 986 HPA.

• •					
	Date/Time(UTC)	Position	Maximum sustained surface	Category of cyclonic disturbance	
		(Lat. <sup>0</sup> N/ long. <sup>0</sup> E)	wind speed (kmph)		
	12-06-2014/0000	17.8/65.3	80-90 GUSTING TO 100	CYCLONIC STORM	
	12-06-2014/0600	18.1/64.9	85-95 GUSTING TO 105	CYCLONIC STORM	
	12-06-2014/1200	18.4/64.4	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM	
	12-06-2014/1800	18.6/64.0	95-105 GUSTING TO 115	SEVERE CYCLONIC STORM	
	13-06-2014/0000	18.8/63.5	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM	
	13-06-2014/1200	19.2/62.5	105-110 GUSTING TO 120	SEVERE CYCLONIC STORM	
	14-06-2014/0000	19.5/61.5	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM	
	14-06-2014/1200	19.8/60.6	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM	
	15-06-2014/0000	20.1/59.5	80-90 GUSTING TO 100	CYCLONIC STORM	
	15-06-2014/1200	20.3/58.6	70-80 GUSTING TO 90	CYCLONIC STORM	
	16-06-2014/0000	20.6/57.4	50-60 GUSTING TO 70	DEEP DEPRESSION	
	16-06-2014/1200	20.9/56.3	40-50 GUSTING TO 60	DEPRESSION	

Track and intensity forecasts of the system are given in the table below:

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 29-31<sup>0</sup>C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2.</sup> ALTHOUGH THE VERTICAL WIND SHEAR IS BETWEEN 20 – 30 KTS AROUND THE SYSTEM. THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. IT WOULD MOVE WEST-NORTWESTWARDS UNDER THE INFLUENCE OF THE SUB-TROPICAL UPPER TROPOSPHERIC RIDGE NEAR LATITUDE 25<sup>0</sup>N IN ASSOCIATION WITH THE ANTICYCLONIC CIRCULATION OVER GULF OF IRAN AND ADJOINING NORTHWEST ARABIAN SEA. BUT THERE IS A POSSIBILITY OF ENTRAINMENT OF DRY AIR AS THE SYSTEM APPROACHES OMAN COAST LEADING TO SLIGHT WEAKENING OF THE SYSTEM BEFORE LANDFALL.

#### THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 12 JUNE 2014.

(M.MOHAPATRA) SCIENTIST-E

TOO: 12/0900 HOURS IST





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAY PYI (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES. NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. TEN ISSUED AT 0600 UTC OF 12<sup>TH</sup> JUNE 2014 BASED ON 0300 UTC CHARTS OF 12<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA MOVED WEST-NORTHWESTWARDS WITH A SPEED ABOUT 12 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0300 UTC OF TODAY, THE 12 JUNE, 2014 OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA NEAR LATITUDE 18.0° NORTH AND LONGITUDE 65.0° EAST, ABOUT 830 KM WEST-SOUTHWEST OF MUMBAI (43003), 650 KM SOUTHWEST OF VERAVAL (42909) AND 700 KM EAST-SOUTHEAST OF MASIRAH ISLAND (41288). THE SYSTEM WOULD INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM DURING NEXT 24 HOURS. IT WOULD MOVE WEST-NORTHWESTWARDS AND CROSS OMAN COAST BETWEEN LATITUDE 19.0° NORTH AND 21.0° NORTH AROUND 15<sup>TH</sup> NIGHT/16<sup>TH</sup> MORNING.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 13.0° NORTH TO 20.0° NORTH AND LONGITUDE 60.0° EAST TO 68.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 87° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 986 HPA.

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

Date/Time(UTC)	Position	Maximum sustained surface	Category of cyclonic disturbance
		wind speed (kinpil)	
12-06-2014/0300	18.0/65.0	80-90 gusting to 100	Cyclonic Storm
12-06-2014/0600	18.2/64.8	80-90 gusting to 100	Cyclonic Storm
12-06-2014/1200	18.4/64.4	90-100 gusting to 110	Cyclonic Storm
12-06-2014/1800	18.6/64.0	90-100 gusting to 110	Cyclonic Storm
13-06-2014/0000	18.8/63.5	100-110 gusting to 120	Severe Cyclonic Storm
13-06-2014/1200	19.2/62.5	100-110 gusting to 120	Severe Cyclonic Storm
14-06-2014/0000	19.5/61.5	100-110 gusting to 120	Severe Cyclonic Storm
14-06-2014/1200	19.8/60.6	90-100 gusting to 110	Cyclonic Storm
15-06-2014/0000	20.1/59.5	70-80 gusting to 90	Cyclonic Storm
15-06-2014/1200	20.3/58.6	60-70 gusting to 80	Deep Depression

16-06-2014/0000	20.6/57.4	50-60 gusting to 70	Depression
16-06-2014/1200	20.9/56.3	40-50 gusting to 60	Low

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 29-31<sup> $\circ$ </sup>C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2</sup> ALTHOUGH THE VERTICAL WIND SHEAR IS BETWEEN 20 – 30 KTS AROUND THE SYSTEM. THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. IT WOULD MOVE WEST-NORTWESTWARDS UNDER THE INFLUENCE OF THE SUB-TROPICAL UPPER TROPOSPHERIC RIDGE NEAR LATITUDE 25<sup> $\circ$ </sup>N IN ASSOCIATION WITH THE ANTICYCLONIC CIRCULATION OVER GULF OF IRAN AND ADJOINING NORTHWEST ARABIAN SEA. BUT THERE IS A POSSIBILITY OF ENTRAINMENT OF DRY AIR AS THE SYSTEM APPROACHES OMAN COAST LEADING TO SLIGHT WEAKENING OF THE SYSTEM BEFORE LANDFALL.

MJO IS IN PHASE 4 WITH AMPLITUDE GREATER THAN 1 AND IS LIKELY TO CONTINUE IN PHASE 4 WITH INCREASING AMPLITUDE DURING NEXT FEW DAYS.

#### THE NEXT BULLETIN WILL BE ISSUED AT 0900 UTC OF 12 JUNE 2014.

(KAMALJIT RAY) SCIENTIST-E

TOO: 12/1130 HOURS IST





FROM: RSMC - TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. ELEVEN ISSUED AT 0900 UTC OF 12<sup>TH</sup> JUNE 2014 BASED ON 0600 UTC CHARTS OF 12<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA MOVED WEST-NORTHWESTWARDS WITH A SPEED ABOUT 12 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0600 UTC OF TODAY, THE 12 JUNE, 2014 OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA NEAR LATITUDE 18.1° NORTH AND LONGITUDE 64.7° EAST, ABOUT 860 KM WEST-SOUTHWEST OF MUMBAI (43003), 670 KM WEST-SOUTHWEST OF VERAVAL (42909) AND 670 KM EAST-SOUTHEAST OF MASIRAH ISLAND (41288). THE SYSTEM WOULD INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM DURING NEXT 24 HOURS. HOWEVER, AS THE CYCLONE MOVES CLOSER TO OMAN COAST THERE IS POSSIBILITY OF SLIGHT WEAKENING. IT WOULD MOVE WEST-NORTHWESTWARDS AND CROSS OMAN COAST BETWEEN LATITUDE 19.0° NORTH AND 21.0° NORTH AROUND 15<sup>TH</sup> NIGHT/16<sup>TH</sup> MORNING.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 13.0° NORTH TO 20.0° NORTH AND LONGITUDE 60.0° EAST TO 68.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 84° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 986 HPA.

TRACK AND INTENSITY FORECASTS 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
12-06-2014/0600	18.1/64.7	80-90 gusting to 100	Cyclonic Storm
12-06-2014/1200	18.3/64.4	80-90 gusting to 100	Cyclonic Storm
12-06-2014/1800	18.5/64.0	90-100 gusting to 110	Severe Cyclonic Storm
13-06-2014/0000	18.7/63.5	100-110 gusting to 120	Severe Cyclonic Storm
13-06-2014/0600	18.9/63.0	90-100 gusting to 110	Severe Cyclonic Storm
13-06-2014/1800	19.3/62.0	80-90 gusting to 100	Cyclonic Storm
14-06-2014/0600	19.6/61.0	70-80 gusting to 90	Cyclonic Storm
14-06-2014/1800	20.0/59.9	60-70 gusting to 80	Cyclonic Storm

15-06-2014/0600	20.3/59.2	50-60 gusting to 70	Deep Depression
15-06-2014/1800	20.7/58.5	40-50 gusting to 60	Depression

THE SEA-SURFACE TEMPERATURE OVER THE REGION IS ABOUT 29-31°C. THE OCEAN THERMAL ENERGY IS ABOUT 80-120 KJ/cm<sup>2.</sup> ALTHOUGH THE VERTICAL WIND SHEAR IS BETWEEN 20 – 30 KTS AROUND THE SYSTEM. THE SYSTEM WOULD INTENSIFY DUE TO FAVOURABLE SST, LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE. IT WOULD MOVE WEST-NORTWESTWARDS UNDER THE INFLUENCE OF THE SUB-TROPICAL UPPER TROPOSPHERIC RIDGE NEAR LATITUDE 25°N IN ASSOCIATION WITH THE ANTICYCLONIC CIRCULATION OVER GULF OF IRAN AND ADJOINING NORTHWEST ARABIAN SEA. BUT THERE IS A POSSIBILITY OF ENTRAINMENT OF DRY AIR AS THE SYSTEM APPROACHES OMAN COAST LEADING TO SLIGHT WEAKENING OF THE SYSTEM BEFORE LANDFALL.

MJO IS IN PHASE 4 WITH AMPLITUDE GREATER THAN 1 AND IS LIKELY TO CONTINUE IN PHASE 4 WITH INCREASING AMPLITUDE DURING NEXT FEW DAYS.

#### THE NEXT BULLETIN WILL BE ISSUED AT 1200 UTC OF 12 JUNE 2014.

(KAMALJIT RAY) SCIENTIST-E

TOO: 12/1430 HOURS IST





FROM: RSMC - TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. TWELVE ISSUED AT 1200 UTC OF 12<sup>TH</sup> JUNE 2014 BASED ON 0900 UTC CHARTS OF 12<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA MOVED WEST-NORTHWESTWARDS WITH A SPEED ABOUT 12 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 1430 HOURS IST OF TODAY, THE 12 JUNE, 2014 OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA NEAR LATITUDE 18.3<sup>°</sup> NORTH AND LONGITUDE 64.3<sup>°</sup> EAST, ABOUT 900 KM WEST-SOUTHWEST OF MUMBAI, 700 KM WEST-SOUTHWEST OF VERAVAL AND 620 KM EAST-SOUTHEAST OF MASIRAH ISLAND (OMAN). THE SYSTEM WOULD WEAKEN GRADUALLY AFTER 12 HOURS.

. ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 12.5° NORTH TO 21.0° NORTH AND LONGITUDE 60.0° EAST TO 68.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 88° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 988 HPA.

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

DATE/TIME(UTC)	POSITION	MAXIMUM SUSTAINED	CATEGORY OF CYCLONIC
	_AT. ⁰N/ LONG. ⁰I	SURFACE	DISTURBANCE
		WIND SPEED (KMPH)	
12-06-2014/0900	18.3/64.3	80-90 GUSTING TO 100	CYCLONIC STORM
12-06-2014/1200	18.4/64.0	80-90 GUSTING TO 100	CYCLONIC STORM
12-06-2014/1800	18.5/63.7	80-90 GUSTING TO 100	CYCLONIC STORM
13-06-2014/0000	18.7/63.5	80-90 GUSTING TO 100	CYCLONIC STORM
13-06-2014/0600	18.9/63.0	70-80 GUSTING TO 90	CYCLONIC STORM
13-06-2014/1800	19.3/62.5	60-70 GUSTING TO 80	CYCLONIC STORM
14-06-2014/0600	19.6/62.0	50-60 GUSTING TO 70	DEEP DEPRESSION
14-06-2014/1800	20.0/61.5	40-50 GUSTING TO 60	DEPRESSION
15-06-2014/0600	20.3/61.0	30-40 GUSTING TO 50	DEPRESSION

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THE SYSTEM IS ENTERING INTO COLDER SEA WITH LOWER OCEAN HEAT CONTENT. IT IS ALREADY EXPERIENCING HIGH WIND SHEAR (25-30 KTS), AND FURTHER THERE WILL BE DRY AIR ENTRAPMENT AFTER 12 HOURS. AS A RESULT THE CYCLONE WOULD START WEAKENING. THE SYSTEM WOULD CONTINUE IN WESTNORTHWEST MOVEMENT UNDER THE INFLUENCE OF THE SUB-TROPICAL RIDGE TO THE NORTH OF THE SYSTEM UPTO NEXT 48 HOURS. THE INTENSITY WOULD BE MAINTAINED FOR ABOUT NEXT 12 HOURS DUE TO FAVOURABLE LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE.

#### THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 12 JUNE 2014.

(KAMALJIT RAY) SCIENTIST-E

TOO: 12/1730 HOURS IST





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES. NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. THIRTEEN ISSUED AT 1400 UTC OF 12<sup>TH</sup> JUNE 2014 BASED ON 1200 UTC CHARTS OF 12<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA MOVED WEST-NORTHWESTWARDS WITH A SPEED ABOUT 15 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 1200 UTC OF TODAY, THE 12 JUNE, 2014 OVER WESTCENTRAL AND ADJOINING EASTCENTRAL ARABIAN SEA NEAR LATITUDE 18.3<sup>°</sup> NORTH AND LONGITUDE 63.9<sup>°</sup> EAST, ABOUT 940 KM WEST-SOUTHWEST OF MUMBAI, 740 KM WEST-SOUTHWEST OF VERAVAL AND 580 KM EAST-SOUTHEAST OF MASIRAH ISLAND (OMAN). THE SYSTEM WOULD WEAKEN GRADUALLY AFTER 12 HOURS AS IT WOULD ENTER INTO RELATIVELY COLDER SEA AND EXPERIENCE DRY AIR ENTRAPMENT AND HIGH VERTICAL WIND SHEAR.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 12.5<sup>°</sup> NORTH TO 21.0<sup>°</sup> NORTH AND LONGITUDE 60.0<sup>°</sup> EAST TO 68.0<sup>°</sup> EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 88<sup>°</sup> C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 988 HPA.

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

DATE/TIME(UTC)	POSITION	MAXIMUM SUSTAINED	CATEGORY OF CYCLONIC
	_AT. <sup>0</sup> N/ LONG. <sup>0</sup> I	SURFACE	DISTURBANCE
		WIND SPEED (KMPH)	
12-06-2014/1200	18.3/63.9	80-90 GUSTING TO 100	CYCLONIC STORM
12-06-2014/1800	18.5/63.5	80-90 GUSTING TO 100	CYCLONIC STORM
13-06-2014/0000	18.7/63.1	80-90 GUSTING TO 100	CYCLONIC STORM
13-06-2014/0600	18.9/62.7	75-85 GUSTING TO 95	CYCLONIC STORM
13-06-2014/1200	19.1/62.3	70-80 GUSTING TO 90	CYCLONIC STORM
14-06-2014/0000	19.4/61.5	65-75 GUSTING TO 85	CYCLONIC STORM
14-06-2014/1200	19.8/60.8	60-70 GUSTING TO 80	CYCLONIC STORM
15-06-2014/0000	20.0/60.2	50-60 GUSTING TO 70	DEEP DEPRESSION
15-06-2014/1200	20.6/59.6	40-50 GUSTING TO 60	DEPRESSION

THE SYSTEM IS ENTERING INTO COLDER SEA WITH LOWER OCEAN HEAT CONTENT. IT IS ALREADY EXPERIENCING HIGH WIND SHEAR (25-30 KTS), AND FURTHER THERE WILL BE DRY AIR ENTRAPMENT AFTER 12 HOURS. AS A RESULT THE CYCLONE WOULD START WEAKENING. THE SYSTEM WOULD CONTINUE IN WESTNORTHWEST MOVEMENT UNDER THE INFLUENCE OF THE SUB-TROPICAL RIDGE TO THE NORTH OF THE SYSTEM UPTO NEXT 48 HOURS. THE INTENSITY WOULD BE MAINTAINED FOR ABOUT NEXT 12 HOURS DUE TO FAVOURABLE LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE.

THE NEXT BULLETIN WILL BE ISSUED AT 1800 UTC OF 12 JUNE 2014.





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES. NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. FOURTEEN ISSUED AT 1730 UTC OF 12<sup>TH</sup> JUNE 2014 BASED ON 1500 UTC CHARTS OF 12<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA MOVED WESTWARDS WITH A SPEED ABOUT 12 KMPH DURING PAST 3 HOURS AND LAY CENTRED AT 1500 UTC OF TODAY, THE 12 JUNE, 2014 OVER WESTCENTRAL AND ADJOINING EASTCENTRAL ARABIAN SEA NEAR LATITUDE 18.3<sup>o</sup> NORTH AND LONGITUDE 63.6<sup>o</sup> EAST, ABOUT 980 KM WEST-SOUTHWEST OF MUMBAI, 780 KM WEST-SOUTHWEST OF VERAVAL AND 540 KM EAST-SOUTHEAST OF MASIRAH ISLAND (OMAN). THE SYSTEM WOULD WEAKEN GRADUALLY AFTER 12 HOURS AS IT WOULD ENTER INTO RELATIVELY COLDER SEA AND EXPERIENCE DRY AIR ENTRAPMENT AND HIGH VERTICAL WIND SHEAR.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 14.5<sup>°</sup> NORTH TO 21.0<sup>°</sup> NORTH AND LONGITUDE 60.0<sup>°</sup> EAST TO 65.5<sup>°</sup> EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 87<sup>°</sup> C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 988 HPA.

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

DATE/TIME(UTC)	POSITION	MAXIMUM SUSTAINED SURFACE	CATEGORY OF CYCLONIC
	(LAT. <sup>⁰</sup> N/ LONG. <sup>⁰</sup> E)	WIND SPEED (KMPH)	DISTURBANCE
12-06-2014/1500	18.3/63.6	80-90 GUSTING TO 100	CYCLONIC STORM
12-06-2014/1800	18.5/63.3	80-90 GUSTING TO 100	CYCLONIC STORM
13-06-2014/0000	18.7/63.0	70-85 GUSTING TO 95	CYCLONIC STORM
13-06-2014/0600	18.9/62.7	70-80 GUSTING TO 90	CYCLONIC STORM
13-06-2014/1200	19.1/62.3	65-75 GUSTING TO 85	CYCLONIC STORM
13-06-2014/1800	19.4/61.5	60-70 GUSTING TO 80	CYCLONIC STORM
14-06-2014/0600	19.8/60.8	50-60 GUSTING TO 70	DEEP DEPRESSION
14-06-2014/1800	20.0/60.2	40-50 GUSTING TO 60	DEPRESSION

#### **REMARKS:**

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

THE SYSTEM IS ENTERING INTO COLDER SEA WITH LOWER OCEAN HEAT CONTENT. IT IS ALREADY EXPERIENCING HIGH WIND SHEAR (25-30 KTS), AND FURTHER THERE WILL BE DRY AIR ENTRAPMENT AFTER 12 HOURS. AS A RESULT THE CYCLONE WOULD START WEAKENING. THE SYSTEM WOULD CONTINUE IN WESTNORTHWEST MOVEMENT UNDER THE INFLUENCE OF THE SUB-TROPICAL RIDGE TO THE NORTH OF THE SYSTEM UPTO NEXT 48 HOURS. THE INTENSITY WOULD BE MAINTAINED FOR ABOUT NEXT 12 HOURS DUE TO FAVOURABLE LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE.

THE NEXT BULLETIN WILL BE ISSUED AT 2100 UTC OF 12 JUNE 2014.

(RANJEET SINGH) SCIENTIST'E'

Too:12/2330 hrs.IST





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES. NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. SIXTEEN ISSUED AT 0130 UTC OF 13<sup>TH</sup> JUNE 2014 BASED ON 2100 UTC CHARTS OF 12<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA MOVED WEST-NOTHWESTWARDS WITH A SPEED ABOUT 10 KMPH DURING PAST 3 HOURS AND LAY CENTRED AT 0230 UTC OF TODAY, THE 13 JUNE, 2014 OVER WESTCENTRAL AND ADJOINING EASTCENTRAL ARABIAN SEA NEAR LATITUDE 18.4° NORTH AND LONGITUDE 63.3° EAST, ABOUT 1020 KM WEST-SOUTHWEST OF MUMBAI, 810 KM WEST-SOUTHWEST OF VERAVAL AND 500 KM EAST-SOUTHEAST OF MASIRAH ISLAND (OMAN). THE SYSTEM WOULD WEAKEN GRADUALLY AFTER 12 HOURS AS IT WOULD ENTER INTO RELATIVELY COLDER SEA AND EXPERIENCE DRY AIR ENTRAPMENT AND HIGH VERTICAL WIND SHEAR.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 15.0° NORTH TO 21.0° NORTH AND LONGITUDE 57.0° EAST TO 65.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 87° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 988 HPA.

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

DATE/TIME(UTC)	POSITION	MAXIMUM SUSTAINED SURFACE	CATEGORY OF CYCLONIC
	(LAT. °N/ LONG. °E)	WIND SPEED (KMPH)	DISTURBANCE
12-06-2014/2100	18.4/63.3	80-90 GUSTING TO 100	CYCLONIC STORM
13-06-2014/0000	18.5/62.9	80-90 GUSTING TO 100	CYCLONIC STORM
13-06-2014/0600	18.7/62.4	70-80 GUSTING TO 90	CYCLONIC STORM
13-06-2014/1200	18.9/61.9	70-80 GUSTING TO 90	CYCLONIC STORM
13-06-2014/1800	19.1/61.5	65-75 GUSTING TO 85	CYCLONIC STORM
14-06-2014/0000	19.4/61.0	60-70 GUSTING TO 80	CYCLONIC STORM
14-06-2014/1200	19.7/60.6	50-60 GUSTING TO 70	DEEP DEPRESSION
15-06-2014/0000	20.0/60.2	40-50 GUSTING TO 60	DEPRESSION

### **REMARKS:**

THE SYSTEM IS ENTERING INTO COLDER SEA WITH LOWER OCEAN HEAT CONTENT. IT IS ALREADY EXPERIENCING HIGH WIND SHEAR (25-30 KTS), AND FURTHER THERE WILL BE DRY AIR ENTRAPMENT AFTER 06 HOURS. AS A RESULT THE CYCLONE WOULD START WEAKENING. THE SYSTEM WOULD CONTINUE IN WESTNORTHWEST MOVEMENT UNDER THE INFLUENCE OF THE SUB-TROPICAL RIDGE TO THE NORTH OF THE SYSTEM UPTO NEXT 48 HOURS. THE INTENSITY WOULD BE MAINTAINED FOR ABOUT NEXT 12 HOURS DUE TO FAVOURABLE LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE.

THE NEXT BULLETIN WILL BE ISSUED AT 0300 UTC OF 13 JUNE 2014.

(RANJEET SINGH) SCIENTIST'E'

Too:13/0600 hrs.IST





FROM: RSMC - TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES. NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. SIXTEEN ISSUED AT 0130 UTC OF 13<sup>TH</sup> JUNE 2014 BASED ON 2100 UTC CHARTS OF 12<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA MOVED WEST-NOTHWESTWARDS WITH A SPEED ABOUT 10 KMPH DURING PAST 3 HOURS AND LAY CENTRED AT 2100 UTC ON 12 JUNE, 2014 OVER WESTCENTRAL AND ADJOINING EASTCENTRAL ARABIAN SEA NEAR LATITUDE 18.4<sup>0</sup> NORTH AND LONGITUDE 63.3<sup>0</sup> EAST, ABOUT 1020 KM WEST-SOUTHWEST OF MUMBAI, 810 KM WEST-SOUTHWEST OF VERAVAL AND 500 KM EAST-SOUTHEAST OF MASIRAH ISLAND (OMAN). THE SYSTEM WOULD WEAKEN GRADUALLY AFTER 12 HOURS AS IT WOULD ENTER INTO RELATIVELY COLDER SEA AND EXPERIENCE DRY AIR ENTRAPMENT AND HIGH VERTICAL WIND SHEAR.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 15.0° NORTH TO 21.0° NORTH AND LONGITUDE 57.0° EAST TO 65.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 87° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 988 HPA.

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

DATE/TIME(UTC)	POSITION	MAXIMUM SUSTAINED SURFACE	CATEGORY OF CYCLONIC
	(LAT. <sup>⁰</sup> N/ LONG. <sup>⁰</sup> E)	WIND SPEED (KMPH)	DISTURBANCE
12-06-2014/2100	18.4/63.3	80-90 GUSTING TO 100	CYCLONIC STORM
13-06-2014/0000	18.5/62.9	80-90 GUSTING TO 100	CYCLONIC STORM
13-06-2014/0600	18.7/62.4	70-80 GUSTING TO 90	CYCLONIC STORM
13-06-2014/1200	18.9/61.9	70-80 GUSTING TO 90	CYCLONIC STORM
13-06-2014/1800	19.1/61.5	65-75 GUSTING TO 85	CYCLONIC STORM
14-06-2014/0000	19.4/61.0	60-70 GUSTING TO 80	CYCLONIC STORM
14-06-2014/1200	19.7/60.6	50-60 GUSTING TO 70	DEEP DEPRESSION
15-06-2014/0000	20.0/60.2	40-50 GUSTING TO 60	DEPRESSION

### **REMARKS:**

THE SYSTEM IS ENTERING INTO COLDER SEA WITH LOWER OCEAN HEAT CONTENT. IT IS ALREADY EXPERIENCING HIGH WIND SHEAR (25-30 KTS), AND FURTHER THERE WILL BE DRY AIR ENTRAPMENT AFTER 06 HOURS. AS A RESULT THE CYCLONE WOULD START WEAKENING. THE SYSTEM WOULD CONTINUE IN WESTNORTHWEST MOVEMENT UNDER THE INFLUENCE OF THE SUB-TROPICAL RIDGE TO THE NORTH OF THE SYSTEM UPTO NEXT 48 HOURS. THE INTENSITY WOULD BE MAINTAINED FOR ABOUT NEXT 12 HOURS DUE TO FAVOURABLE LOW-LEVEL VORTICITY AND UPPER-LEVEL DIVERGENCE.

### THE NEXT BULLETIN WILL BE ISSUED AT 0300 UTC OF 13 JUNE 2014.





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI

 TO:
 STORM WARNING CENTRE, NAY PYI TAW (MYANMAR)

 STORM WARNING CENTRE, BANGKOK (THAILAND)

 STORM WARNING CENTRE, COLOMBO (SRILANKA)

 WARNING CENTRE, DHAKA (BANGLADESH)

 STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) +

 METEOROLOGICAL OFFICE, MALE (MALDIVES)

 OMAN METEOROLOGICAL DEPARTMENT, MUSCAT

 RSMC –

# TROPICAL STORM 'NANAUK' ADVISORY NO. SEVENTEEN ISSUED AT 0300 UTC OF 13<sup>TH</sup> JUNE 2014 BASED ON 0000 UTC CHARTS OF 13<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER WESTCENTRAL AND ADJOINING EASTCENTRAL ARABIAN SEA MOVED WEST-NORTHWESTWARDS WITH A SPEED ABOUT 10 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0000 UTC OF TODAY, THE 13 JUNE, 2014 OVER WESTCENTRAL AND ADJOINING EASTCENTRAL ARABIAN SEA NEAR LATITUDE 18.4<sup>0</sup> NORTH AND LONGITUDE 62.9<sup>0</sup> EAST, ABOUT 1080 KM WEST-SOUTHWEST OF MUMBAI, 850 KM WEST-SOUTHWEST OF VERAVAL AND 510 KM EAST-SOUTHEAST OF MASIRAH ISLAND (OMAN). THE SYSTEM WOULD WEAKEN GRADUALLY AS IT WOULD ENTER INTO RELATIVELY COLDER SEA AND EXPERIENCE DRY AIR ENTRAPMENT AND HIGH VERTICAL WIND SHEAR.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 15.0° NORTH TO 21.0° NORTH AND LONGITUDE 57.0° EAST TO 65.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 91° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 988 HPA.

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

DATE/TIME(UTC)	POSITION	MAXIMUM SUSTAINED SURFACE	CATEGORY OF CYCLONIC
	(LAT. <sup>⁰</sup> N/ LONG. <sup>⁰</sup> E)	WIND SPEED (KMPH)	DISTURBANCE
13-06-2014/0000	18.4/62.9	80-90 GUSTING TO 100	CYCLONIC STORM
13-06-2014/0600	18.5/62.6	80-90 GUSTING TO 100	CYCLONIC STORM
13-06-2014/1200	18.7/62.3	75-85 GUSTING TO 95	CYCLONIC STORM
13-06-2014/1800	18.9/62.0	70-80 GUSTING TO 90	CYCLONIC STORM
14-06-2014/0000	19.1/61.7	65-75 GUSTING TO 85	CYCLONIC STORM
14-06-2014/1200	19.5/61.0	60-70 GUSTING TO 80	CYCLONIC STORM
15-06-2014/0000	19.9/60.6	55-65 GUSTING TO 75	DEEP DEPRESSION
15-06-2014/1200	20.3/60.0	50-60 GUSTING TO 70	DEEP DEPRESSION
16-06-2014/0000	20.7/59.4	45-55 GUSTING TO 65	DEPRESSION

#### **REMARKS**:

THE SYSTEM IS ENTERING INTO COLDER SEA WITH LOWER OCEAN HEAT CONTENT. IT IS ALREADY EXPERIENCING HIGH WIND SHEAR (25-30 KTS), AND FURTHER THERE WILL BE DRY AIR ENTRAPMENT. AS A RESULT THE CYCLONE WOULD START WEAKENING. THE SYSTEM WOULD CONTINUE IN WESTNORTHWEST MOVEMENT UNDER THE INFLUENCE OF THE SUB-TROPICAL RIDGE TO THE NORTH OF THE SYSTEM UPTO NEXT 24 HOURS.

#### THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 13 JUNE 2014.

TOO: 13/0845 HRS IST

(M.MOHAPATRA) SCIENTIST E





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. EIGHTEEN ISSUED AT 0600 UTC OF 13<sup>TH</sup> JUNE 2014 BASED ON 0300 UTC CHARTS OF 13<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER WESTCENTRAL AND ADJOINING EASTCENTRAL ARABIAN SEA MOVED NORTHWESTWARDS WITH A SPEED ABOUT 12 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0300 UTC OF TODAY, THE 13 JUNE, 2014 OVER WESTCENTRAL ARABIAN SEA NEAR LATITUDE 18.7<sup>0</sup> NORTH AND LONGITUDE 62.7<sup>0</sup> EAST, ABOUT 1080 KM WEST-SOUTHWEST OF MUMBAI (43003), 850 KM WEST-SOUTHWEST OF VERAVAL (42909) AND 460 KM EAST-SOUTHEAST OF MASIRAH ISLAND (41288). THE SYSTEM WOULD CONTINUE TO MOVE NORTHWESTWARDS AND WEAKEN GRADUALLY AS IT WOULD ENTER INTO RELATIVELY COLDER SEA AND EXPERIENCE DRY AIR ENTRAINMENT AND HIGH VERTICAL WIND SHEAR.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 3.0. THE CLOUD PATTERN IS CHANGING FROM CENTRAL DENSE OVERCAST (CDO) TO SHEAR PATTERN UNDER THE INFLUENCE OF HIGH VERTICAL WIND SHEAR. THE CONVECTIVE CLOUD MASS IS LOCATED TO THE SOUTHWEST OF LOW LEVEL CIRCULATION CENTRE. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 16.0° NORTH TO 21.0° NORTH AND LONGITUDE 58.0° EAST TO 64.5° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 89° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 45 KNOTS GUSTING TO 55 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 988 HPA.

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

Date/Time(UTC)	Position	Maximum sustained surface	Category of cyclonic disturbance
	(Lat. ⁰N/ long. ⁰E)	wind speed (kmph)	
13-06-2014/0300	18.7/62.7	80-90 gusting to 100	CYCLONIC STORM
13-06-2014/0600	18.9/62.6	80-90 gusting to 100	CYCLONIC STORM
13-06-2014/1200	19.1/62.3	75-85 gusting to 95	CYCLONIC STORM
13-06-2014/1800	19.3/62.1	70-80 gusting to 90	CYCLONIC STORM
14-06-2014/0000	19.4/61.9	65-75 gusting to 85	CYCLONIC STORM
14-06-2014/1200	19.8/61.5	60-70 gusting to 80	CYCLONIC STORM
15-06-2014/0000	20.2/61.1	55-65 gusting to 75	DEEP DEPRESSION
15-06-2014/1200	20.6/60.7	50-60 gusting to 70	DEEP DEPRESSION
16-06-2014/0000	21.0/60.3	45-55 gusting to 65	DEPRESSION

#### **REMARKS:**

THE SYSTEM IS ENTERING INTO COLDER SEA WITH LOWER OCEAN HEAT CONTENT. IT IS ALREADY EXPERIENCING HIGH WIND SHEAR (25-30 KTS), AND FURTHER THERE WILL BE DRY AIR ENTRAINMENT. AS A RESULT THE CYCLONE WOULD START WEAKENING. THE UPPER LEVEL WINDS ARE SOUTH-SOUTHEASTERLY WHICH IS HELPING IN INCREASE IN NORTHERLY COMPONENT OF MOVEMENT OF THE SYSTEM. HENCE THE SYSTEM WOULD CONTINUE TO MOVE NORTHWESTWARDS. HOWEVER THE SPEED WOULD DECREASE GRADUALLY AS THE SYSTEM WOULD COME CLOSER TO THE SUB-TROPICAL RIDGE WHICH RUNS NEAR LATITUDE 24<sup>0</sup> NORTH.

#### THE NEXT BULLETIN WILL BE ISSUED AT 0900 UTC OF 13 JUNE 2014.

#### TOO: 13/1130 HRS IST





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. NINTEEN ISSUED AT 0900 UTC OF 13<sup>TH</sup> JUNE 2014 BASED ON 0600 UTC CHARTS OF 13<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER WESTCENTRAL ARABIAN SEA MOVED NORTH-NORTHWESTWARDS WITH A SPEED ABOUT 12 KMPH DURING PAST 6 HOURS. IT SLIGHTLY WEAKENED AND LAY CENTRED AT 0600 UTC OF TODAY, THE 13 JUNE, 2014 AS A CYCLONIC STORM OVER WESTCENTRAL ARABIAN SEA NEAR LATITUDE 19.0<sup>0</sup> NORTH AND LONGITUDE 62.6<sup>0</sup> EAST, ABOUT 1080 KM WEST OF MUMBAI (43003), 850 KM WEST-SOUTHWEST OF VERAVAL (42909) AND 430 KM EAST-SOUTHEAST OF MASIRAH ISLAND (41288). THE SYSTEM WOULD CONTINUE TO MOVE NORTH-NORTHWESTWARDS AND WEAKEN FURTHER INTO A DEEP DEPRESSION DURING NEXT 12 HRS DUE TO RELATIVELY COLDER SEA, DRY AIR ENTRAINMENT AND HIGH VERTICAL WIND SHEAR.

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.5. THE CLOUD PATTERN IS SHEAR PATTERN UNDER THE INFLUENCE OF HIGH VERTICAL WIND SHEAR. THE CONVECTIVE CLOUD MASS IS LOCATED TO THE SOUTHWEST OF LOW LEVEL CIRCULATION CENTRE. FURTHER THERE IS SIGN OF SPLITTING OF CONVECTIVE CLUSTERS SUGGESTING FURTHER WEAKENING DURING NEXT 12 HRS. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 15.0° NORTH TO 21.0° NORTH AND LONGITUDE 58.0° EAST TO 65.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 82° C. MAXIMUM SUSTAINED SURFACE WIND SPEED IS ESTIMATED TO BE ABOUT 40 KNOTS GUSTING TO 50 KNOTS AROUND THE SYSTEM CENTRE. THE STATE OF THE SEA IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 990 HPA.

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

Date/Time(UTC)	Position (Lat. ⁰N/ long. ⁰E)	Maximum sustained surface wind speed (kmph)	Category of cyclonic disturbance
13-06-2014/0600	19.0/62.6	65-75 gusting to 85	CYCLONIC STORM
13-06-2014/1200	19.6/62.4	60-70 gusting to 80	CYCLONIC STORM
13-06-2014/1800	20.2/62.2	50-60 gusting to 70	DEEP DEPRESSION
14-06-2014/0000	20.8/62.0	45-55 gusting to 65	DEPRESSION
14-06-2014/0600	21.4/61.8	40-50 gusting to 60	DEPRESSION

#### **REMARKS:**

THE SYSTEM HAS SLIGHTLY WEAKENED DUE TO RELATIVELY COLDER SEA WITH LOWER OCEAN HEAT CONTENT AND HIGH WIND SHEAR (25-35 KTS). FURTHER THERE WILL BE DRY AIR ENTRAINMENT. AS A RESULT THE CYCLONE WOULD FURTHER WEAKEN INTO A DEEP DEPRESSION DURING NEXT 12 HRS. THE UPPER LEVEL WINDS ARE SOUTH-SOUTHEASTERLY WHICH ARE HELPING IN INCREASING THE NORTHERLY COMPONENT OF MOVEMENT OF THE SYSTEM. HENCE THE SYSTEM WOULD CONTINUE TO MOVE NORTH-NORTHWESTWARDS DURING NEXT 24 HRS.

#### THE NEXT BULLETIN WILL BE ISSUED AT 1200 UTC OF 13 JUNE 2014.

#### TOO: 13/1400 HRS IST





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. TWENTY ISSUED AT 1100 UTC OF 13<sup>TH</sup> JUNE 2014 BASED ON 0900 UTC CHARTS OF 13<sup>TH</sup> JUNE 2014

THE CYCLONIC STORM 'NANAUK' OVER WESTCENTRAL ARABIAN SEA MOVED NORTH-NORTHWESTWARDS WITH A SPEED ABOUT 15 KMPH DURING PAST 6 HOURS. IT WEAKENED INTO A DEEP DEPRESSION AND LAY CENTRED AT 0900 UTC OF TODAY, THE 13 JUNE, 2014 OVER WESTCENTRAL ARABIAN SEA NEAR LATITUDE 19.5<sup>0</sup> NORTH AND LONGITUDE 62.5<sup>0</sup> EAST, ABOUT 1090 KM WEST-NORTHWEST OF MUMBAI(43003), 850 KM WEST-SOUTHWEST OF VERAVAL(42909) AND 400 KM EAST-SOUTHEAST OF MASIRAH ISLAND (41288). THE SYSTEM WOULD CONTINUE TO MOVE NORTH-NORTHWESTWARDS AND WEAKEN FURTHER INTO A DEPRESSION DURING NEXT 12 HRS DUE TO RELATIVELY COLDER SEA, DRY AIR ENTRAINMENT AND HIGH VERTICAL WIND SHEAR

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 2.0. THE CLOUD PATTERN IS SHEAR PATTERN UNDER THE INFLUENCE OF HIGH VERTICAL WIND SHEAR. THE CONVECTIVE CLOUD MASS IS LOCATED TO THE SOUTHWEST OF LOW LEVEL CIRCULATION CENTRE. FURTHER THERE IS SPLITTING OF CONVECTIVE CLUSTERS SUGGESTING FURTHER WEAKENING DURING NEXT 12 HRS. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 16.0° NORTH TO 21.0° NORTH LONGITUDE 58.0° EAST TO 65.0° EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 84° 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 HIGH TO VERY HIGH AROUND THE SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 992 HPA.

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

Date/Time(UTC)	Position (Lat. ⁰N/ long. ⁰E)	Maximum sustained surface wind speed (kmph)	Category of cyclonic disturbance
13-06-2014/0900	19.5/62.5	55-65 GUSTING TO 75	DEEP DEPRESSION
13-06-2014/1200	19.8/62.4	45-55 GUSTING TO 65	DEPRESSION
13-06-2014/1800	20.2/62.2	40-50 GUSTING TO 60	DEPRESSION
14-06-2014/0000	20.8/62.0	30-40 GUSTING TO 50	WELL MARKED LOW

#### **REMARKS**:

THE SYSTEM HAS WEAKENED DUE TO RELATIVELY COLDER SEA WITH LOWER OCEAN HEAT CONTENT AND HIGH WIND SHEAR (25-35 KTS). AS A RESULT, THE CYCLONE WOULD FURTHER WEAKEN INTO A DEPRESSION DURING NEXT 12 HRS. THE UPPER LEVEL WINDS ARE SOUTH-SOUTHEASTERLY WHICH ARE HELPING IN INCREASING THE NORTHERLY COMPONENT OF MOVEMENT OF THE SYSTEM. HENCE THE SYSTEM WOULD CONTINUE TO MOVE NORTH-NORTHWESTWARDS DURING NEXT 24 HRS.

THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 13 JUNE 2014.

TOO: 13/1700 HRS IST





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES. NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. TWENTY ONE ISSUED AT 1400 UTC OF 13<sup>TH</sup> JUNE 2014 BASED ON 1200 UTC CHARTS OF 13<sup>TH</sup> JUNE 2014

THE DEEP DEPRESSION OVER WESTCENTRAL ARABIAN SEA MOVED NORTH-NORTHWESTWARDS WITH A SPEED ABOUT 12 KMPH DURING PAST 6 HOURS, WEAKENED INTO A DEPRESSION AND LAY CENTRED AT 1200 UTC OF TODAY, THE 13 JUNE, 2014 OVER WESTCENTRAL ARABIAN SEA NEAR LATITUDE 19.8<sup>0</sup> NORTH AND LONGITUDE 62.4<sup>0</sup> EAST, ABOUT 1100 KM WEST-NORTHWEST OF MUMBAI(43003), 850 KM WEST-SOUTHWEST OF VERAVAL(42909) AND 370 KM EAST-SOUTHEAST OF MASIRAH ISLAND (41288). THE SYSTEM WOULD CONTINUE TO MOVE NORTH-NORTHWESTWARDS AND WEAKEN FURTHER INTO A WELL MARKED LOW PRESSURE AREA DURING NEXT 24 HRS

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 1.5. THE CLOUD PATTERN IS SHEAR PATTERN UNDER THE INFLUENCE OF HIGH VERTICAL WIND SHEAR. THE CONVECTIVE CLOUD MASS IS LOCATED TO THE SOUTHWEST OF LOW LEVEL CIRCULATION CENTRE. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE  $16.0^{\circ}$  NORTH TO  $22.0^{\circ}$  NORTH LONGITUDES  $58.0^{\circ}$  EAST TO  $64.0^{\circ}$  EAST. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS  $78^{\circ}$  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 994 HPA.

#### THE NEXT BULLETIN WILL BE ISSUED AT 2100 UTC OF 13 JUNE 2014.

TOO: 13/1930 HRS IST





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES. NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. TWENTY TWO ISSUED AT 2000 UTC OF 13<sup>TH</sup> JUNE 2014 BASED ON 1800 UTC CHARTS OF 13<sup>TH</sup> JUNE 2014

THE DEPRESSION OVER WESTCENTRAL ARABIAN SEA MOVED NORTHWESTWARDS WITH A SPEED ABOUT 12 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 1800 UTC OF YESTERDAY, THE 13 JUNE, 2014 OVER WESTCENTRAL ARABIAN SEA NEAR LATITUDE 20.0<sup>0</sup> NORTH AND LONGITUDE 62.0<sup>0</sup> EAST, ABOUT 1140 KM WEST-NORTHWEST OF MUMBAI(43003), 840 KM WEST-SOUTHWEST OF VERAVAL(42909) AND 330 KM EAST-SOUTHEAST OF MASIRAH ISLAND (41288). THE SYSTEM WOULD MOVE NORTHWESTWARDS AND WEAKEN FURTHER INTO A WELL MARKED LOW PRESSURE AREA DURING NEXT 24 HRS

ACCORDING TO SATELLITE IMAGERIES, THE INTENSITY OF THE SYSTEM IS T 1.5. THE CLOUD PATTERN IS SHEAR PATTERN UNDER THE INFLUENCE OF HIGH VERTICAL WIND SHEAR. THE CONVECTIVE CLOUD MASS IS LOCATED TO THE SOUTHWEST OF LOW LEVEL CIRCULATION CENTRE. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS EMBEDDED WITH INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER THE ARABIAN SEA BETWEEN LATITUDE 15.0<sup>°</sup> NORTH TO 22.0<sup>°</sup> NORTH WEST OF LONGITUDE 63.5<sup>°</sup> E. THE LOWEST CLOUD TOP TEMPERATURE (CTT) IS ABOUT MINUS 67<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 994 HPA.

THE NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 14 JUNE 2014.

TOO: 14/0130 HRS IST

(R.P.SHARMA) DUTY OFFICER





FROM: RSMC -TROPICAL CYCLONES, NEW DELHI TO: STORM WARNING CENTRE, NAY PYI TAW (MYANMAR) STORM WARNING CENTRE, BANGKOK (THAILAND) STORM WARNING CENTRE, COLOMBO (SRILANKA) WARNING CENTRE, DHAKA (BANGLADESH) STORM STORM WARNING CENTRE, KARACHI (PAKISTAN) + METEOROLOGICAL OFFICE, MALE (MALDIVES) OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH) RSMC - TROPICAL CYCLONES, NEW DELHI

# TROPICAL STORM 'NANAUK' ADVISORY NO. TWENTY THREE ISSUED AT 0400 UTC OF 14<sup>TH</sup> JUNE 2014 BASED ON 0300 UTC CHARTS OF 14<sup>TH</sup> JUNE 2014

THE DEPRESSION OVER NORTHWEST AND ADJOINING WESTCENTRAL ARABIAN SEA WEAKENED INTO A WELL MARKED LOW PRESSURE AREA OVER THE SAME REGION AT 0830 HOURS IST OF TODAY, THE 14 JUNE, 2014.

STRONG WINDS SPEED REACHING 30-40 KMPH GUSTING TO 50 KMPH WOULD PREVAIL ALONG AND OFF KONKAN AND SOUTH GUJARAT COAST DURING NEXT 24 HOURS. SEA CONDITION WOULD BE ROUGH ALONG AND OFF KONKAN, GOA AND SOUTH GUJARAT COAST DURING THE SAME PERIOD.

FISHERMEN ALONG AND OFF KONKAN, GOA AND SOUTH GUJARAT COASTS ARE ADVISED TO BE CAUTIOUS WHILE VENTURING INTO THE SEA DURING NEXT 24 HOURS.

This is the last bulletin for this system. However the regular bulletins will continue from National Weather Forecast Centre, New Delhi, Area Cyclone Warning Centre, Mumbai and Cyclone Warning Centre, Ahmadabad.

TOO: 14/0930 HRS IST

(M.MOHAPATRA) HEAD RSMC