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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 15.12.2022

SPECIAL TROPICAL WEAHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2100 UTC OF 15.12.2022 BASED ON 1800 UTC OF 15.12.2022.

ARABIAN SEA:

(A) DEEP DEPRESSION OVER EASTCENTRAL & ADJOINING WESTCENTRAL ARABIAN SEA

DEEP DEPRESSION OVER EASTCENTRAL ARABIAN SEA MOVED WESTWARDS WITH A SPEED OF 18 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1800 UTC OF 15TH DECEMBER 2022 OVER EASTCENTRAL & ADJOINING WESTCENTRAL ARABIAN SEA NEAR LATITUDE 14.1^{0}N AND LONGITUDE 65.8^{0}E ABOUT 820 KM WEST-NORTHWEST OF AMINIDIVI (43311), ABOUT 870 KM WEST-SOUTHWEST OF PANJIM (43192) AND 1300 KM EAST-SOUTHEAST OF SALALAH (41316).

IT IS VERY LIKELY TO MOVE NEARLY WESTWARDS OVER CENTRAL ARABIAN SEA AWAY FROM INDIAN COAST, MAINTAIN INTENSITY OF DEEP DEPRESSION TILL 0000 UTC OF 16TH DECEMBER AND WEAKEN GRADUALLY THEREAFTER. IT WOULD MOVE NEARLY WESTWARDS TILL 1200 UTC OF 16TH DECEMBER AND THEN RECURVE WEST-SOUTHWESTWARDS/SOUTHWESTWARDS.

FORECAST TRACK AND INTENSITY:

DATE/TIME(UTC)	FORECAST LEAD PERIOD	POSITION (LAT. ^{0}N/ LONG. ^{0}E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
15.12.22/1800	00	14.1/65.8	55-65 GUSTING TO 75	DEEP DEPRESSION
16.12.22/0600	12	14.3/64.5	45-55 GUSTING TO 65	DEPRESSION
16.12.22/1800	24	14.3/63.0	40-50 GUSTING TO 60	DEPRESSION
17.12.22/0600	36	14.0/61.4	35-45 GUSTING TO 55	DEPRESSION
17.12.22/1800	48	13.3/59.7	20-30 GUSTING TO 40	WELL MARKED LOW

AS PER INSAT 3D IMAGERY, INTENSITY OF THE SYSTEM IS T2.0. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EASTCENTRAL ARABIAN SEA & ADJOINING AREAS BETWEEN LATITUDE 13.5°N & 16.5°N AND LONG 65.8°E & 69.0°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 90°CELCIUS.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 30 KNOTS GUSTING TO 40KTS. THE ESTIMATED CENTRAL PRESSURE IS 1000 HPA. SEA CONDITION IS LIKELY TO BE ROUGH TO VERY ROUGH OVER EASTCENTRAL & ADJOINING SOUTHEAST AND WESTCENTRAL ARABIAN SEA.

BAY OF BENGAL:

(B) LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL AND ADJOINING AREAS OF EAST EQUATORIAL INDIAN OCEAN

THE **LOW PRESSURE AREA** OVER SOUTHEAST BAY OF BENGAL & ADJOINING AREAS OF EAST EQUATORIAL INDIAN OCEAN PERSISTS OVER THE SAME REGION AT 1800 UTC OF 15TH DECEMBER. IT IS LIKELY TO MOVE GRADUALLY WESTWARDS AND MAINTAIN ITS INTENSITY OVER SOUTH BAY OF BENGAL TILL 0000 UTC OF 17TH DECEMBER 2022.

SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHEAST BAY OF BENGAL AND ADJOINING EQUTORIAL INDIAN OCEAN BETWEEN LATITUDE 2.0°N & 7.0°N AND LONG 86.0°E & 94.0°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 74°C.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 10-15 KNOTS AND NORTH OF THE SYSTEM IS 25 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 1007 HPA. SEA CONDITION IS LIKELY TO BE ROUGH OVER SOUTHEAST BAY OF BENGAL AND ADJOINING AREAS OF EQUATORIAL INDIAN OCEAN.

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 120 HRS:

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

REMARKS:

ARABIAN SEA:

SEA SURFACE TEMPERATURE IS ABOUT 28-29°C OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA BECOMING 27°C TO THE WEST OF 65°E. LOW LEVEL RELATIVE VORTICITY IS AROUND $100X10^{-5}$ S^{-1} AT THE SOUTHWEST OF THE SYSTEM CENTRE. LOW LEVEL CONVERGENCE IS ABOUT $5X10^{-5}$ S^{-1} TO THE NORTHEAST SECTOR OF SYSTEM CENTRE. UPPER LEVEL DIVERGENCE IS ABOUT $10X10^{-5}$ S^{-1} AROUND THE SYSTEM CENTRE. MODERATE VERTICAL WIND SHEAR OF ABOUT 20-25 KNOTS IS PREVAILING AROUND THE SYSTEM. MULTI-SATELLITE WINDS ARE INDICATING STRONGER WINDS IN THE NORTHEAST SECTOR.

TOTAL PRECIPITABLE WATER VAPOUR IMAGERY INDICATES COLD AND DRY AIR ADVECTION FROM NORTHWEST SECTOR TO THE SYSTEM AND THE SYSTEM IS MOVING TOWARDS STRONGER VERTICAL WIND SHEAR OF 25-30 KTS. THESE ENVIRONMENTAL FEATURES INDICATE, THE SYSTEM IS LIKELY TO REMAIN AT INTENSITY OF DEEP DEPRESSION TILL 0000 UTC OF 16TH DEC AND THEN LIKELY TO WEAKEN INTO DEPRESSION THEREAFTER. THE SYSTEM IS CURRENTLY MOVING WESTWARDS UNDER THE INFLUENCE OF EAST-SOUTHEASTERLY WINDS PREVAILING IN THE PERIPHERY OF THE RIDGE NEAR 16°N IN THE MIDDLE AND UPPER TROPOSPHERIC LEVELS.

AS THE SYSTEM WEAKENS THE VERTICAL EXTENSION IS EXPECTED TO DECREASE FROM TOMORROW, 16TH DECEMBER. AS A RESULT THE STEARING LEVEL WILL CHANGE TO LOWER TO MIDDLE TROPOSPHERIC LEVELS. IN THE LOWER AND MIDDLE TROPOSPHERIC LEVELS, NORTHEASTERLY/EAST-NORTHEASTERLY WINDS ARE LIKELY TO PREVAIL LEADING TO GRADUAL SOUTHWESTEWARDS MOVEMENT OF THE SYSTEM FROM 17TH DECEMBER ONWARDS.

VARIOUS MODELS INDICATE THAT THE SYSTEM IS LIKELY TO MOVE WESTWARDS TILL 0000UTC OF 17TH DECEMBER AND SOUTHWESTWARDS THEREAFTER.

IN VIEW OF ABOVE, IT IS VERY LIKELY TO MOVE WESTWARDS OVER CENTRAL ARABIAN SEA AWAY FROM INDIAN COAST, MAINTAIN INTENSITY OF DEEP DEPRESSION BY 0000 UTC OF 16TH DECEMBER AND WEAKEN GRADUALLY THEREAFTER. IT WOULD MOVE NEARLY WESTWARD TILL 1200UTC 16TH DECEMBER AND THEN RECURVE WEST-SOUTHWESTWARDS/SOUTHWESTWARDS.

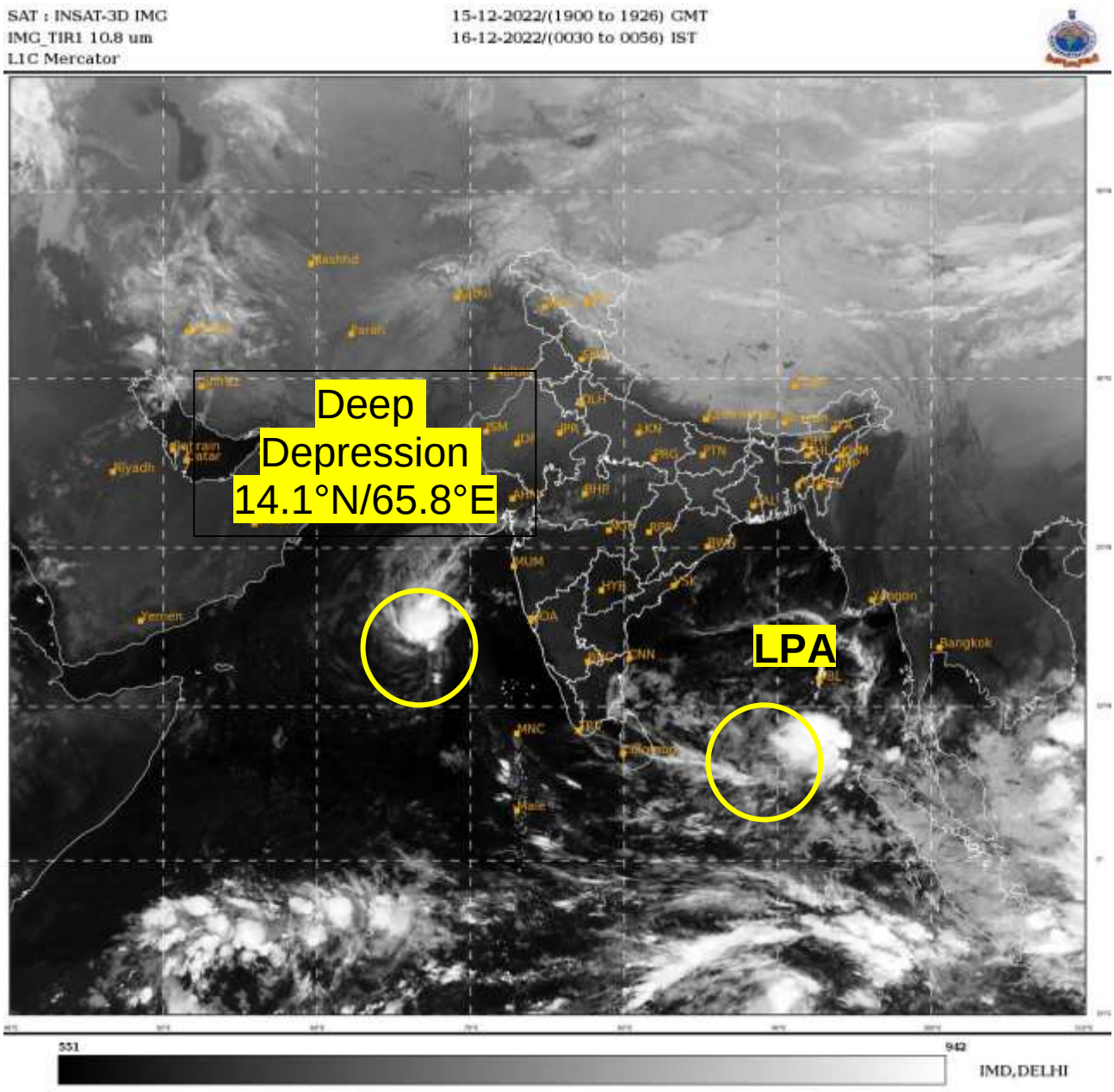
BAY OF BENGAL:

SEA SURFACE TEMPERATURE IS ABOUT 28-29°C OVER SOUTH BOB AND ADJOINING EQUATORIAL INDIAN OCEAN. LOW LEVEL RELATIVE VORTICITY IS AROUND 60X10^{-5} S^{-1} OVER SOUTH ANDAMAN SEA AND ADJOINING EQUATORIAL INDIAN OCEAN. LOW LEVEL CONVERGENCE IS ABOUT 5-10X10^{-5} S^{-1} OVER SOUTHEAST BOB AND ADJOINING AREAS. UPPER LEVEL DIVERGENCE IS ABOUT 10-20X10^{-5} S^{-1} OVER SOUTHEAST BOB AND ADJOINING EQUTORIAL INDIAN OCEAN. MODERATE VERTICAL WIND SHEAR OF ABOUT 15-20 KNOTS IS PREVAILING AROUND SYSTEM AREA OVER SOUTHEAST BOB & ADJOINING AREAS. UPPER TROPOSPHERIC RIDGE IS SEEN NEAR 12.5N.

MOST OF THE MODELS ARE INDICATING EXISTING LOW PRESSURE AREA OVER SOUTHEAST BOB AND ADJOINING EAST INDIAN OCEAN TO MOVE WESTWARDS TILL 17TH MORNING AND WEAKEN THEREAFTER.

IN VIEW OF ABOVE, THE LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL & ADJOINING AREAS OF EAST EQUATORIAL INDIAN OCEAN IS LIKELY TO MOVE GRADUALLY WESTWARDS AND MAINTAIN ITS INTENSITY OVER SOUTH BAY OF BENGAL TILL 0000UTC OF 17TH DECEMBER 2022.

(SHASHI KANT)
SCIENTIST-C
RSMC NEW DELHI



LPA – Low Pressure Area

Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION): NIL: 0%, LOW: 1-33%, , MODERATE: 34-66% AND HIGH: 67-100%
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OBSERVED AND FORECAST TRACK OF DEEP DEPRESSION OVER EASTCENTRAL ADJOINING WESTCENTRAL ARABIAN SEA BASED ON 1800 UTC OF 15TH DECEMBER, 2022

DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

LESS THAN 34 KT
34-47 KT
≥ 48 KT
OBSERVED TRACK
FORECAST TRACK
CONE OF UNCERTAINTY

Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION): NIL: 0%, LOW: 1-33%, , MODERATE: 34-66% AND HIGH: 67-100%
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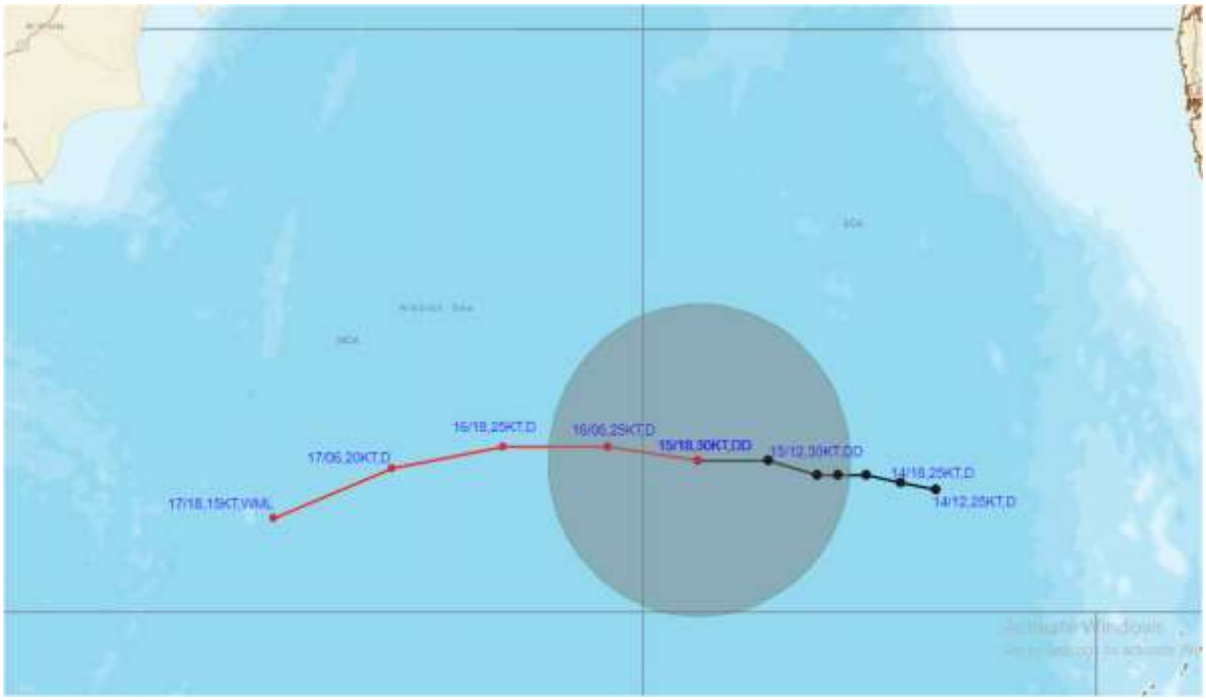
OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER EASTCENTRAL ADJOINING WESTCENTRAL ARABIAN SEA BASED ON 1800 UTC OF 15TH DECEMBER, 2022



DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
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SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

LESS THAN 34 KT
34-47 KT
≥ 48 KT
OBSERVED TRACK
FORECAST TRACK
CONE OF UNCERTAINTY
AREA OF MAXIMUM SUSTAINED WIND SPEED:
28-33 KT (52-61 KMPH)
34-49 KT (62-91 KMPH)
50-63 KT (92-117 KMPH)
≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
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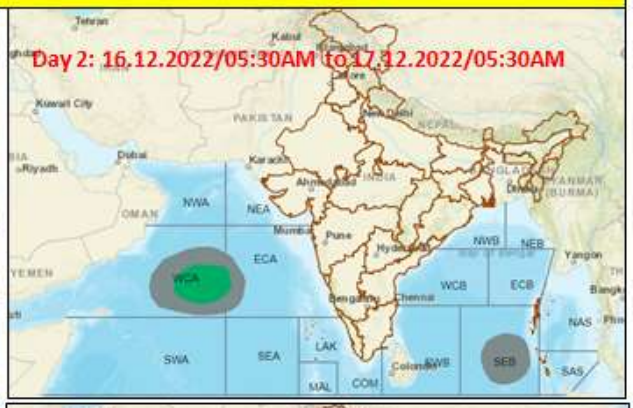
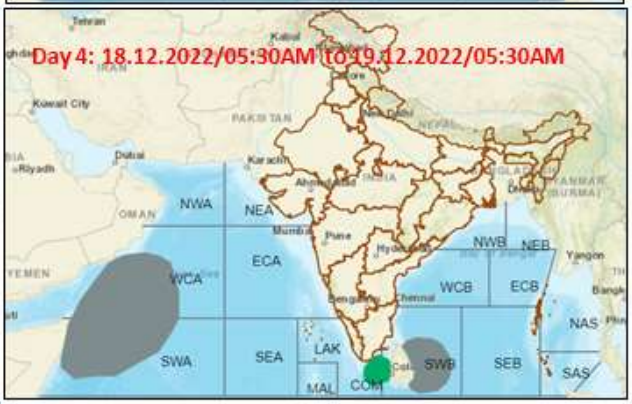
Fishermen warning graphics





Squally WX with wind speed 40-45 kmph gusting to 55 kmph
Squally wind speed 45-55 kmph gusting to 65 kmph
Squally wind speed 55-65 kmph gusting to 75 kmph

Fishermen are advised not to venture into the marked areas.

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