Weather Forecast for Indian Ocean Region – March

1. Indian Ocean Region (IOR) is divided into four broad regions as shown in **Figure 1** for providing a comprehensive weather forecast. Forecast for each region covers synoptic discussion, surface winds, wave height & direction and surface currents. The region wise forecast for the month of February is as follows: -

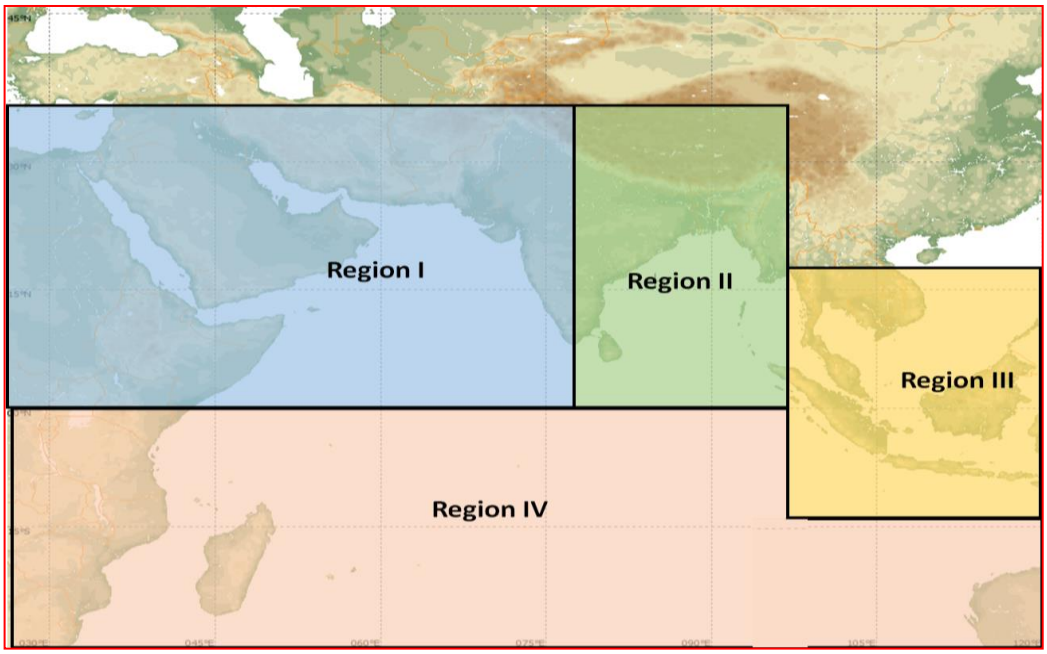

Fig 1. Forecast Regions

(a) **Region I (Arabian Sea)**

Synoptic Discussion. March is the first month of pre-monsoon season and fair weather prevails over most areas of the sea. Semi-permanent high pressure cells over Arabian Sea is a characteristic feature of the month. Thunderstorm activity over sea area starts in the second half of the month and the occurrence increases gradually till the onset of South West Monsoon. **Formation of cyclonic storm over Arabian sea in this month is rare.**

Region I	Weather Parameter	Forecast
Arabian Sea	Surface winds	WNW-N/ 05-10 knots in northern Arabian sea N-NNE/ 05-10 knots in southern Arabian sea
	Wave height & direction	SSE-SSW/ 0.5-0.8 m in northern Arabian sea SSE-S/ 0.5-1.0 m in southern Arabian sea
	Surface Current	SW-NW/ 0.4-0.6 knots in northern Arabian sea W/ 0.6-1.0 knots in southern Arabian sea
Gulf of Oman	Surface winds	WNW/ 05-10 knots in western section of Gulf W/ 05-10 knots in eastern section of Gulf
	Wave height & direction	NW/ 0.4-0.6 m in western section of Gulf SW/ 0.5 m in eastern section of Gulf
	Surface Current	SW-W/ 0.4 knots in western section of Gulf NE/ 0.4-0.8 knots in eastern section of Gulf

	Region I	**Weather Parameter**	**Forecast**
	Gulf of Aden	Surface winds	ESE/ 05-10 knots in western section of Gulf E-SE/ 05-10 knots in eastern section of Gulf
		Wave height & direction	SE/ 0.4-0.8 m in western section of Gulf E-ESE/ 0.5-1.0 m in eastern section of Gulf
		Surface Current	W-NW/ 0.4-0.6 knots in western section of Gulf SW-NW/ 0.4-0.8 knots in eastern section of Gulf
	Equatorial Indian Ocean	Surface winds	NNW-N/ 05-10 knots between 45 ^{o}E-77^{o}E W-WNW/ 05-10 knots between 77 ^{o}E-100 ^{o}E
		Wave height & direction	SE-S/ 0.5-1.0 m between 45 ^{o}E-77^{o}E S-SSW/ 1-1.5 m between 77 ^{o}E-100 ^{o}E
		Surface Current	W/ 0.6-1.0 knots between 45 ^{o}E-77^{o}E E-ESE/ 0.6-1.0 knots between 77 ^{o}E-100 ^{o}E
(b)	**Region II (Bay of Bengal)**		
	Synoptic Discussion. Fair weather generally prevails over most parts of Bay of Bengal. During this month the possibility of formation of Tropical Cyclones is very low. Due to the northward shifting of ITCZ, a few disturbances are generally seen over south of Bay of Bengal. The mean SST in Bay of Bengal reaches a minimum of 26 to 27°C in March. Calm to smooth sea prevails over most parts of region.		
	Region II	**Weather Parameter**	**Forecast**
	Andaman Sea	Surface winds	W-WNW/ 05-10 knots in northern section N-NNE/ 05-10 knots in southern section
		Wave height & direction	SW/ 0.5 m in northern section S-SSW/ 0.5-1.0 m in southern section
		Surface Current	NNW-NNE /0.4-0.8 knots in northern section SW-NW/ 0.4-0.8 knots in southern section
	Bay of Bengal	Surface winds	WSW-WNW/ 05-10 knots in northern Bay of Bengal N-NNE/ 05-10 knots in southern Bay of Bengal
		Wave height & direction	S-SSW/ 0.8-1.2 m in northern Bay of Bengal SSE-SSW/ 0.8-1.2 m in southern Bay of Bengal
		Surface Current	SE-SW/ 0.8-1.2 knots in northern Bay of Bengal SW-W/ 0.4-0.8 knots in southern Bay of Bengal
(c)	**Region III (Southeast Asia)**		
	Synoptic Discussion. During March, the average pressure distribution at mean sea level varies from 02-04 hpa from north to south. In general, isolated localised thunderstorms/showers over Sumatra island and Straits of Malacca occur due to convective activity over the region. The swell waves from NE direction with 0.5-1.5 m height and SST between 28°-29°C can be observed during this month. Tropical cyclones are least frequent in the month of March but rarely originate as remnants from West Pacific systems.		

	Region III	Weather Parameter	Forecast
	Southern parts of South China Sea	Surface winds	NE-E/ 10-15 knots
		Wave height & direction	NE/ 1-1.5 m
		Surface Current	SSE-SSW/ 0.8-1.2 knots
	Malacca Strait	Surface winds	NE-E/ 5-10 knots in northern strait N-NNE/ 5-10 knots in southern strait
		Wave height & direction	SW/ 0.5 m in northern strait W-NW/ 0.5 m in southern strait
		Surface Current	SW-NW/ 1.0-2.0 knots in northern strait E-ESE/ 0.8-1.2 knots in southern strait
	Southern Sulu Sea - Northern Celebes Sea	Surface winds	NE/ 05-10 knots
		Wave height & direction	NE/0.5 m
		Surface Current	SE/ 0.8-1.2 knots

(d) **Region IV (South Indian Ocean)**

Synoptic Discussion. During this month, the MSLP over central parts of the Southern IOR is about 1020 hpa and gradually decreases outwards. High pressure area shifts towards west and is generally seen in-between 30°-40°S and 60°-120°E. Tropical disturbances are relatively rare during the autumn months in south IOR.

Region IV	Weather Parameter	Forecast
South Indian Ocean	Surface winds	E-ESE/ 12-17 knots
	Wave height & direction	S-SE/ 2.0-2.5 m
	Surface Current	SSW-W/ 0.4-0.8 knots
West Australian coast	Surface winds	SSE-S/ 10-15 knots in western coast S-SSW/ 05-10 knots in north western coast
	Wave height & direction	S-SSW/ 1.8-2.3 m in western coast SW/ 0.8-1.2 m in north western coast
	Surface Current	SSE-S/ 0.4-0.6 knots in western coast S-SSW/ 0.4-0.6 knots in north western coast
Somali Coast	Surface winds	E/ 05-10 knots
	Wave height & direction	E/ 1.0-1.5 m
	Surface Current	NW-N/ 0.6-1.0 knots

	Region IV	Weather Parameter	Forecast
	Central African Coast/ Indian Ocean	Surface winds	ENE-E/ 05-10 knots
		Wave height & direction	E-ESE/ 0.5-1.0 m
		Surface Current	W-NW/ 0.8-1.2 knots
	Mozambique Channel	Surface winds	SE-S/ 05-10 knots
		Wave height & direction	S-SSW/ 2.0-2.5 m
		Surface Current	W-SW/ 0.8-1.2 knots

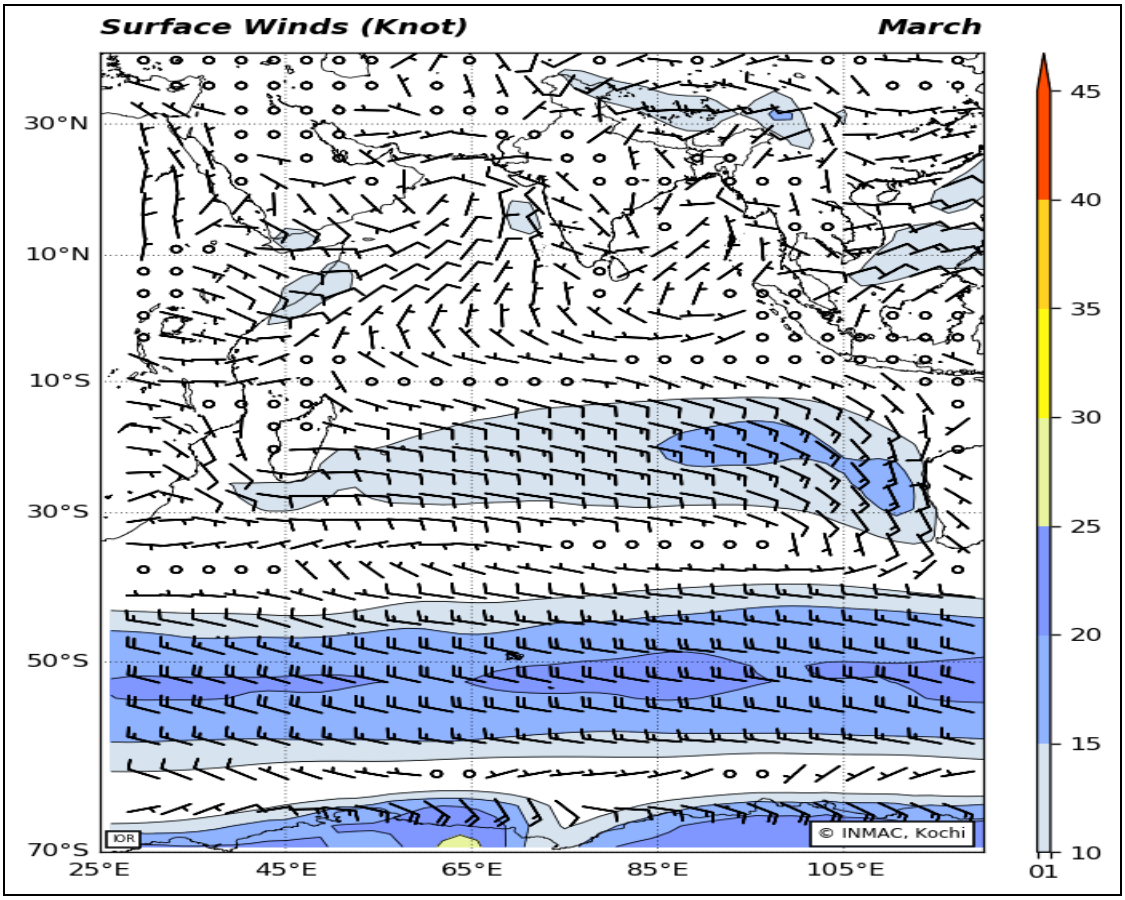

Fig 2. Surface Wind speed (Knot) and Direction over IOR-Mar

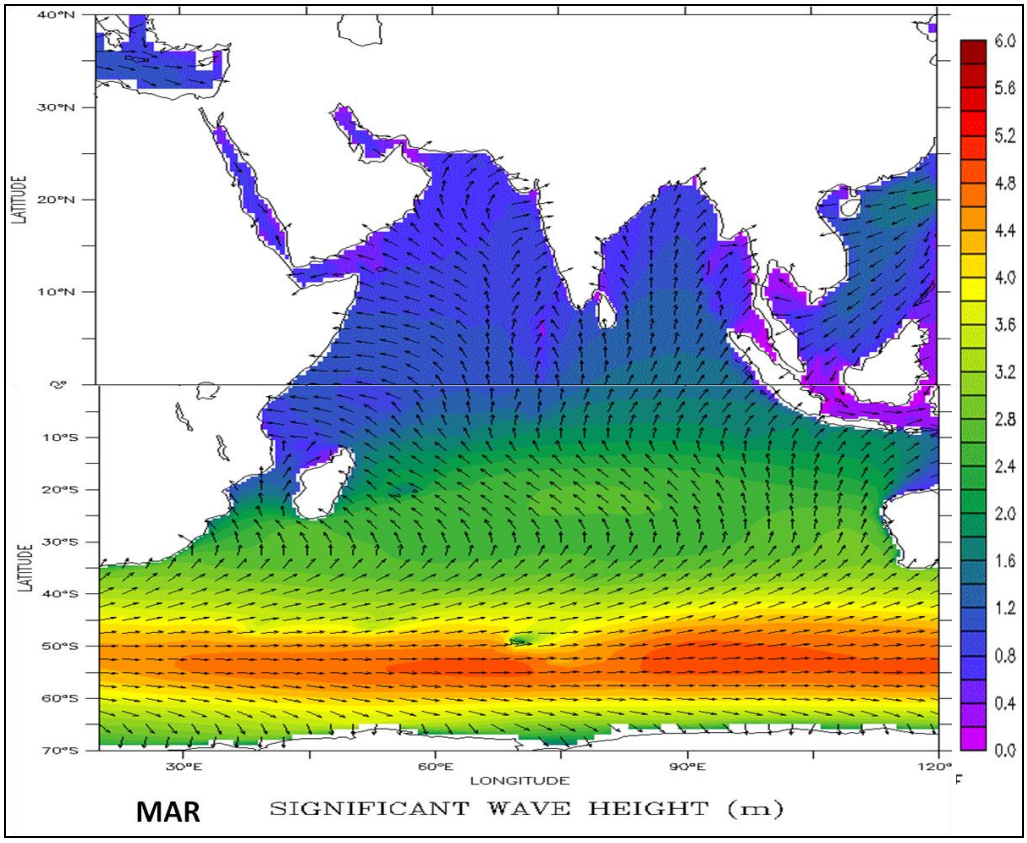

Fig 3. Significant Wave Height and Direction (m) over IOR-Mar

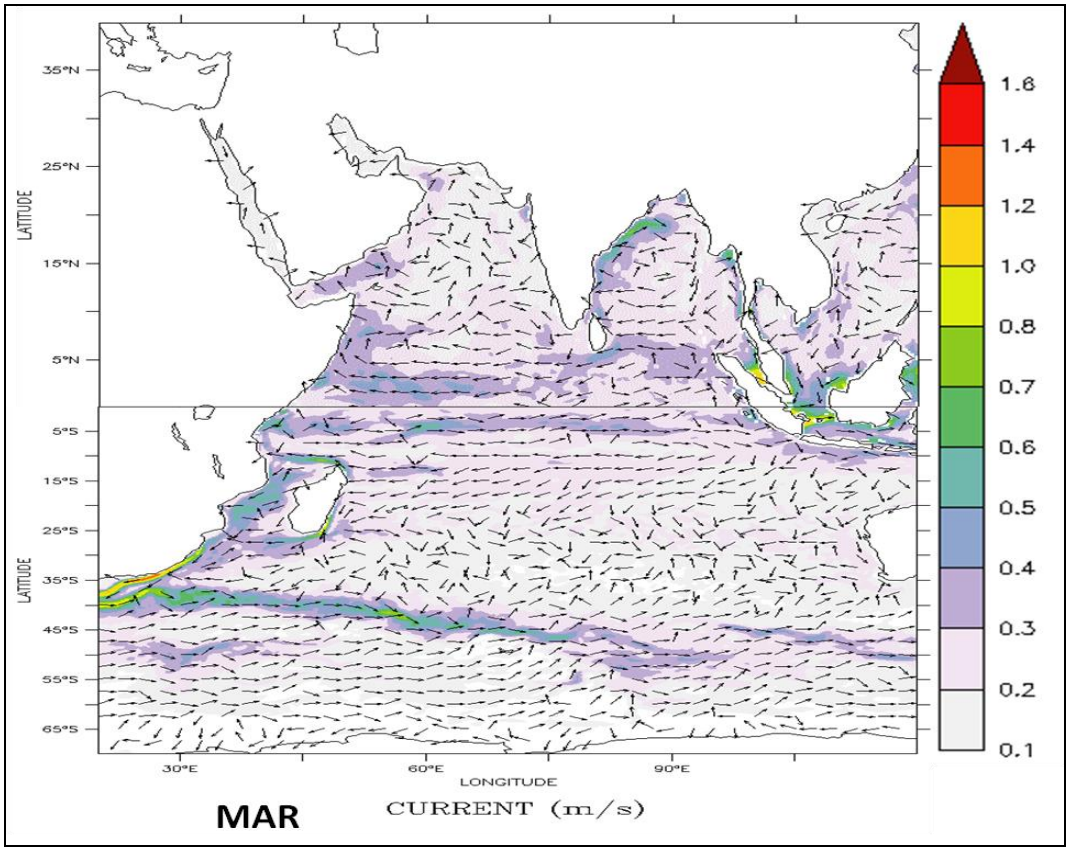

Fig 4. Surface Current (m/s) over IOR-Mar