

## Weather Forecast for Indian Ocean Region– Oct

1. The Indian Ocean Region (IOR) is divided into four broad sub-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 weather forecast for the month of October is as follows: -

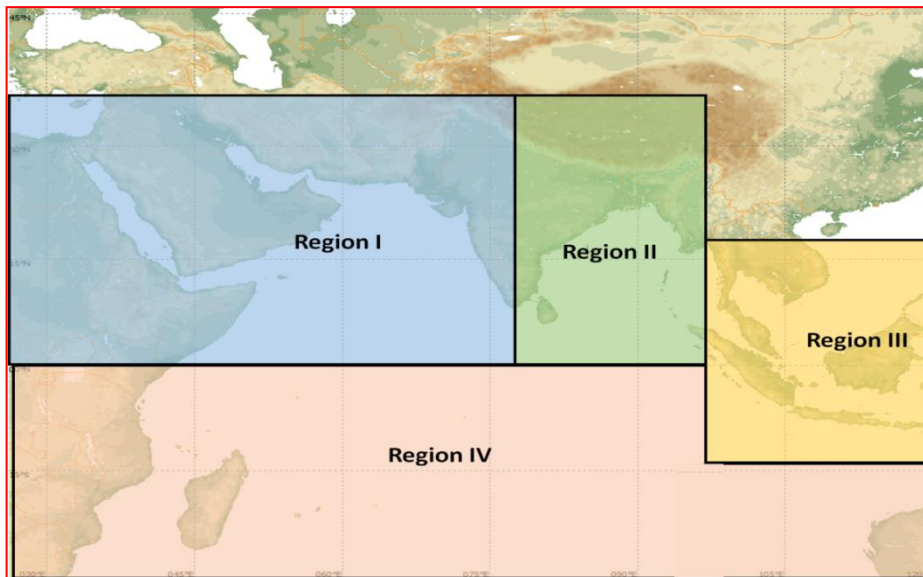


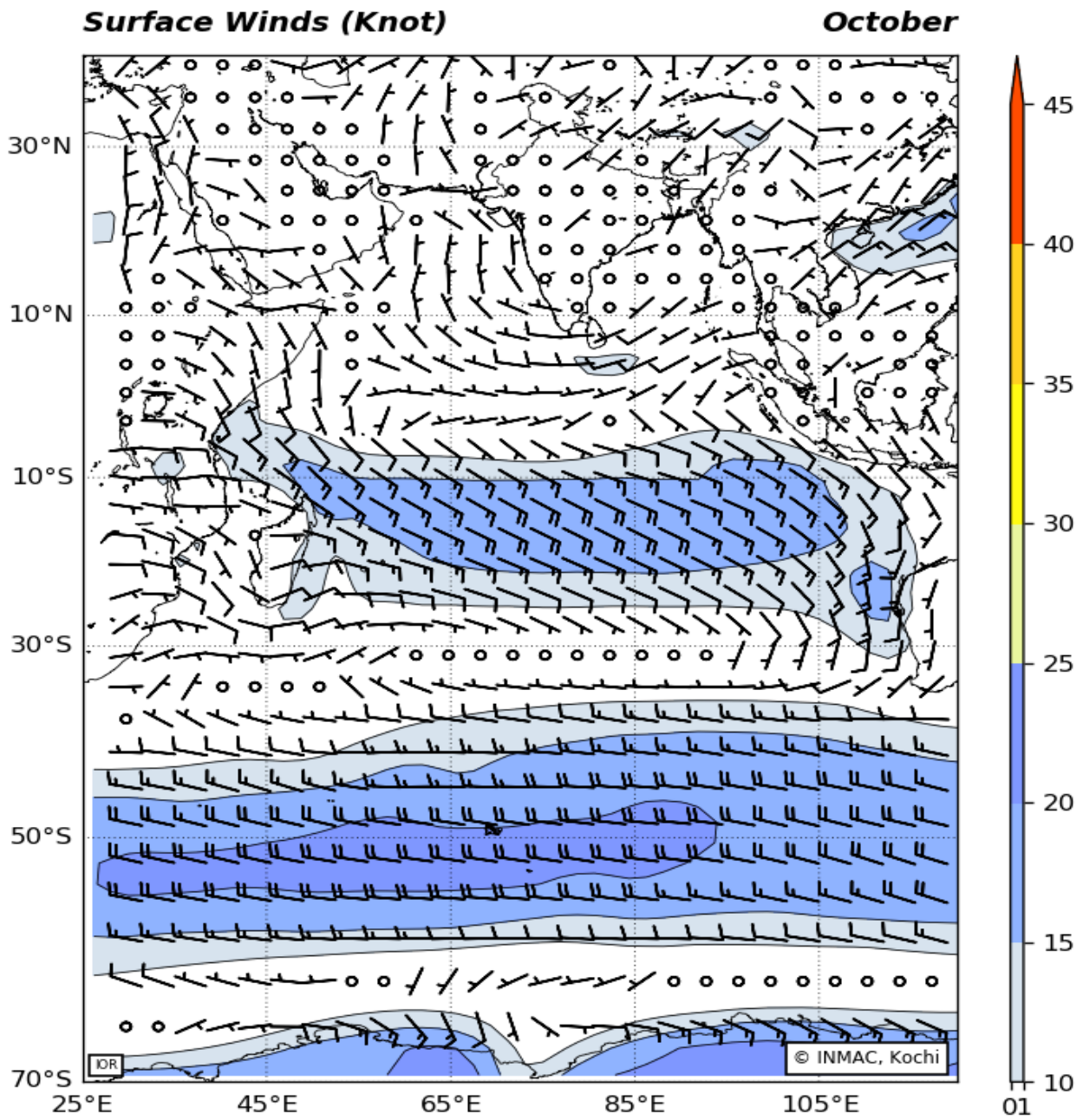
Fig 1. Forecast Regions

(a)	<b><u>Region I (Arabian Sea)</u></b>	
	<p><b><u>Synoptic Discussion.</u></b> October is the transition month when <b>SW'ly</b> winds retreat southwards and are replaced by <b>the NE'ly</b> winds. During this month the Arabian Sea (AS) is prone to formation of cyclonic disturbances that generally track Westward. However, to the East of 70°E, some of these disturbances move NNW wards and later re-curve towards Northeast. A total of 14 Cyclonic Disturbances have occurred in the region during the last 30 years. The average Sea Surface Temperature (SST) is about 26 to 27°C over the West-central AS and 29°C over the South AS. The Significant Wave Height is about 1.5 - 2.0 m over the East-central AS and increases southwards to about 2.5 – 3.0 m over the equatorial Indian Ocean.</p>	
	<b><u>Region I</u></b>	<b><u>Weather Parameter</u></b>
		<b><u>Forecast</u></b>
Arabian Sea	Surface winds	NW-N/ 05-10 Knots in Northern Arabian Sea NW-N / 05-10 Knots in Southern Arabian Sea
	Wave height & direction	S-SW/ 1.0-1.6 m in Northern Arabian Sea S-SW/ 1.0-1.6 m in Southern Arabian Sea
	Surface Current	SW-W/ 1.0-1.6 Knots in Northern Arabian Sea SW-W/ 0.2-1.0 Knots in Southern Arabian Sea
Gulf of Oman	Surface winds	S-SW / 05-10 Knots in Western Section of the Gulf S-SW / 05-10 Knots in Eastern Section of the Gulf
	Wave height & direction	NW/ 0.2-0.6 m in Western section of the Gulf SE-S/ 0.2-0.8 m in Eastern section of the Gulf

<u>Region I</u>	<u>Weather Parameter</u>	<u>Forecast</u>
Gulf of Oman	Surface Current	SW-W/ 0.1-0.3 Knots in Western section of the Gulf SW-W/ 0.2-0.6 Knots in Eastern section of the Gulf
Gulf of Aden	Surface Winds	E-SE/ 05-10 Knots in Western section of the Gulf E-SE/ 05-10 Knots in Eastern section of the Gulf
	Wave Height & Direction	NW/ 0.2-0.6 m in Western section of the Gulf E-SE/ 0.2-0.8 m in Eastern section of the Gulf
	Surface Current	NE/ 0.1-0.3 Knots in Western section of the Gulf NW-N/ 0.3-0.6 Knots in Eastern section of the Gulf
Equatorial Indian Ocean	Surface Winds	SW-W/05-10 Knots between 45°E -77°E SW-W/05-10 Knots between 77°E -100°E
	Wave Height & Direction	SSE/ 0.8-1.4 m between 45°E - 77°E SW/ 1.8-2.2 m between 77°E -100°E
	Surface Current	E / 0.3-0.6 Knots between 45°E - 77°E NE-E / 0.3-0.7 Knots between 77°E -100°E
(b)	<b><u>Region II (Bay of Bengal)</u></b>	
<p><b><u>Synoptic Discussion.</u></b> A seasonal Low Pressure Area establishes over the Central and South Bay of Bengal (BOB), which gradually shifts southwards resulting NNEly to NEly winds over the area. The average winds speed over North BOB is about 10 Knots and over the southern parts it is of the order of 15 - 20 Knots. During the past 30 years a total of 24 Depressions (frequency 1.40 per year) have developed over the BOB. Sea State during the month is generally 2, except in Southeast Bay where the Sea State is 3. The direction of swell over most parts of Bay of Bengal is S - SW'ly with height of the order of 0.6 - 1.2 m.</p>		
<u>Region II</u>	<u>Weather Parameter</u>	<u>Forecast</u>
Andaman Sea	Surface winds	SW / 05-10 Knots in Northern section SW / 05-10 Knots in Southern section
	Wave Height & Direction	SW / 0.6-1.0 m in Northern section SW / 0.6-1.6 m in Southern section
	Surface Current	W-NW /0.1-0.3 Knots in Northern section NE-E /0.1-0.3 Knots in Southern section
Bay of Bengal	Surface Winds	SW/ 05-10 Knots in Northern Bay of Bengal SW/ 10-15 Knots in Southern Bay of Bengal
	Wave Height & Direction	SSW/ 1.2-1.8 m in Northern Bay of Bengal SSW/ 1.6-2.2 m in Southern Bay of Bengal
	Surface Current	N-NE/ 0.2-0.6 Knots in Northern Bay of Bengal NE-E/ 0.2-0.6 Knots in Southern Bay of Bengal

(c)	<b><u>Region III (Southeast Asia)</u></b>																									
<b><u>Synoptic Discussion.</u></b> During this month, Sea Level Pressure of the order of 1015 - 1020 hPa is observed to the north of 15°N. Surface winds are predominantly N-NE'ly/15 -20 Knots over most parts of the open sea. Moderate swell waves from Northeast having mean height of 1.0 – 1.5 m are experienced over the South China Sea. Most tropical disturbance over the Gulf of Thailand and South China Sea are remnants of systems that originated from West Pacific between the latitudes 125 – 140°E.																										
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(d)	<b><u>Region IV (South Indian Ocean)</u></b>																									
<b><u>Synoptic Discussion.</u></b> The Sea Level Pressure over the Northern parts of Southern IOR is of the order of 1022 hPa, gradually decreasing to 1012 hPa towards the lower latitudes. A region of high pressure is generally seen between Latitude 25-35°S and Longitude 50-90°E. Generally tropical disturbances originate near 70°E and 10°S and moves Westwards or re-curve towards Northeast. Strong winds from Southeast of the order of 15-20 Knots are seen from the Equatorial Indian Ocean up to 30°S. Surface Current varies from 0.3 –1.0 m/s over south IOR and relatively stronger currents up to 1.2 m/s seen along Southeast African coast and Malacca strait. Moderate swell of the order of 2.0-2.5m from Southerly direction is seen over South IOR, decreasing to 1.0 m towards equatorial IOR.																										
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West Australian coast	Wave Height & Direction	SW/ 2.8-3.6 m in West coast SW/ 2.0-2.8 m in Northwest coast
	Surface Current	N-NE/ 0.2-0.6 Knots in West coast E-SE/ 0.2-0.5 Knots in Northwest coast
Somali Coast	Surface Winds	SE - S/10-15 Knots
	Wave Height & Direction	ESE/ 1.2-2.0 m
	Surface Current	W-NW/ 0.3-1.0 Knots
Central African Coast/ Indian Ocean	Surface Winds	E - SE/10-15 Knots
	Wave Height & Direction	S-SE/ 2.0-2.8 m
	Surface Current	SW-W/ 0.2-0.6 Knots
Mozambique Channel	Surface Winds	SE/ 05-10 Knots
	Wave Height & Direction	S /0.4-1.2 m
	Surface Current	NE-E/0.3-1.0 Knots



**Fig 2. Surface Wind and Direction (Kts) over IOR - Oct**

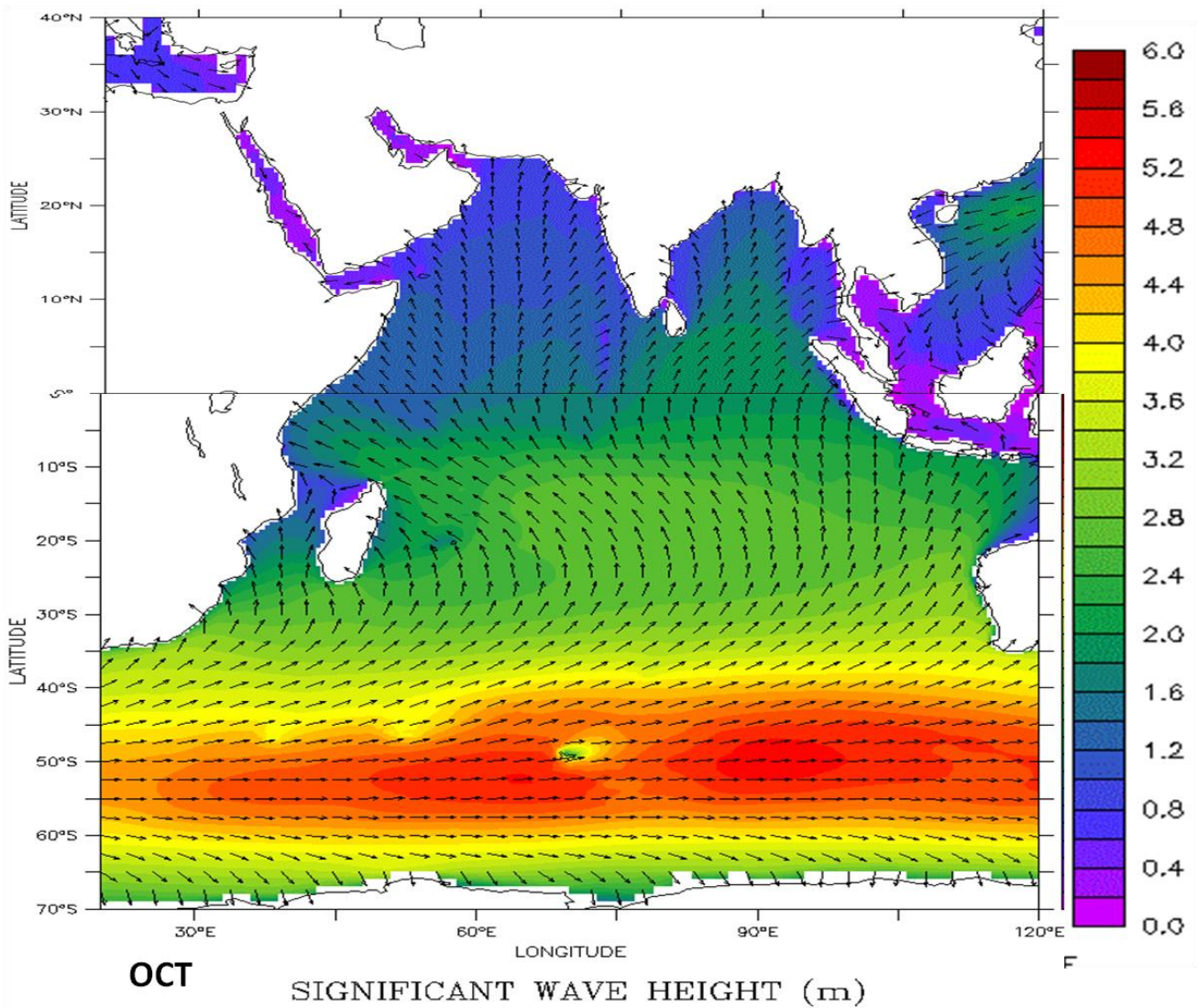


Fig 3. Significant Wave Height and Direction (m) over IOR - OCT



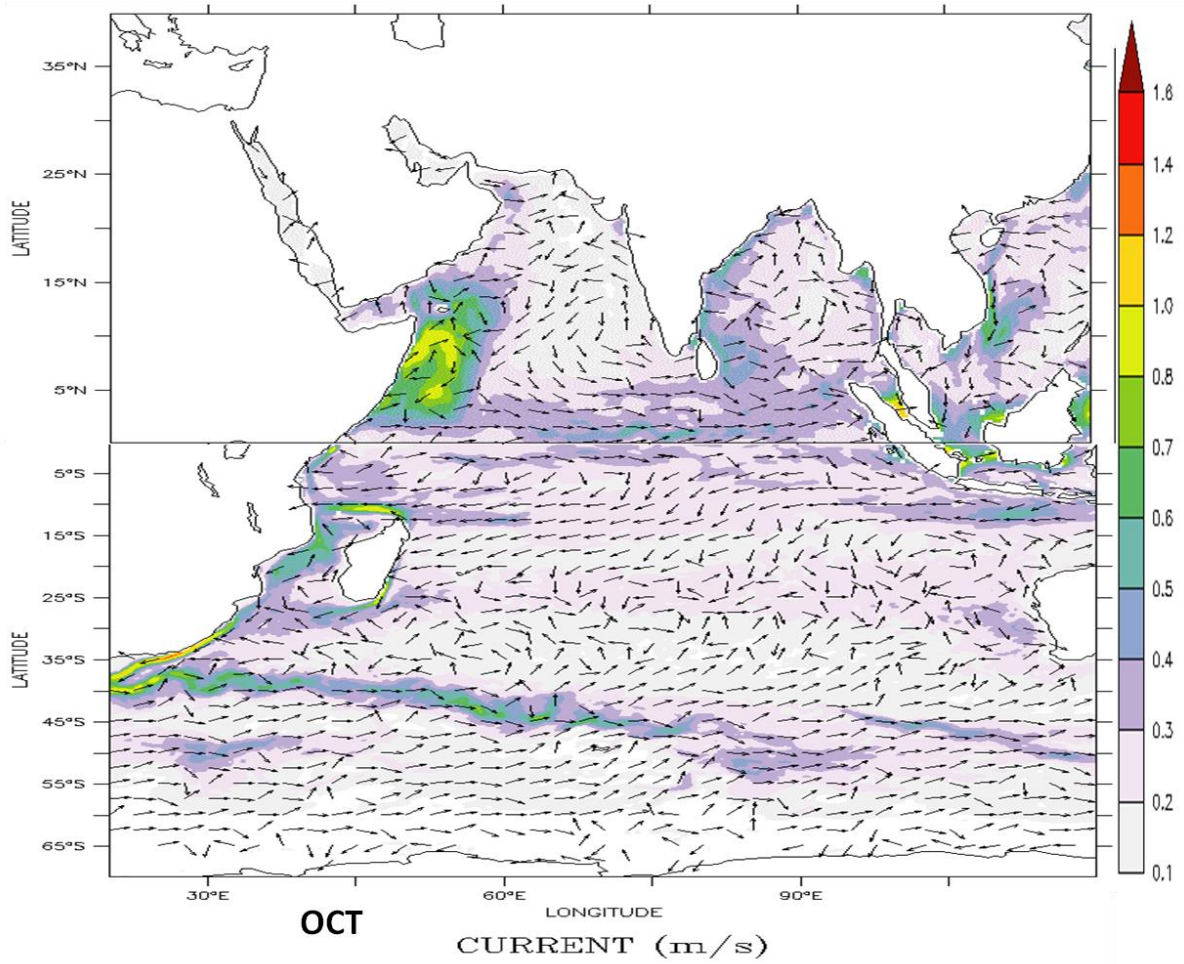


Fig 4. Surface Current (m/s) over IOR - Oct