

## Weather Forecast for Indian Ocean Region – May

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 May is as follows: -

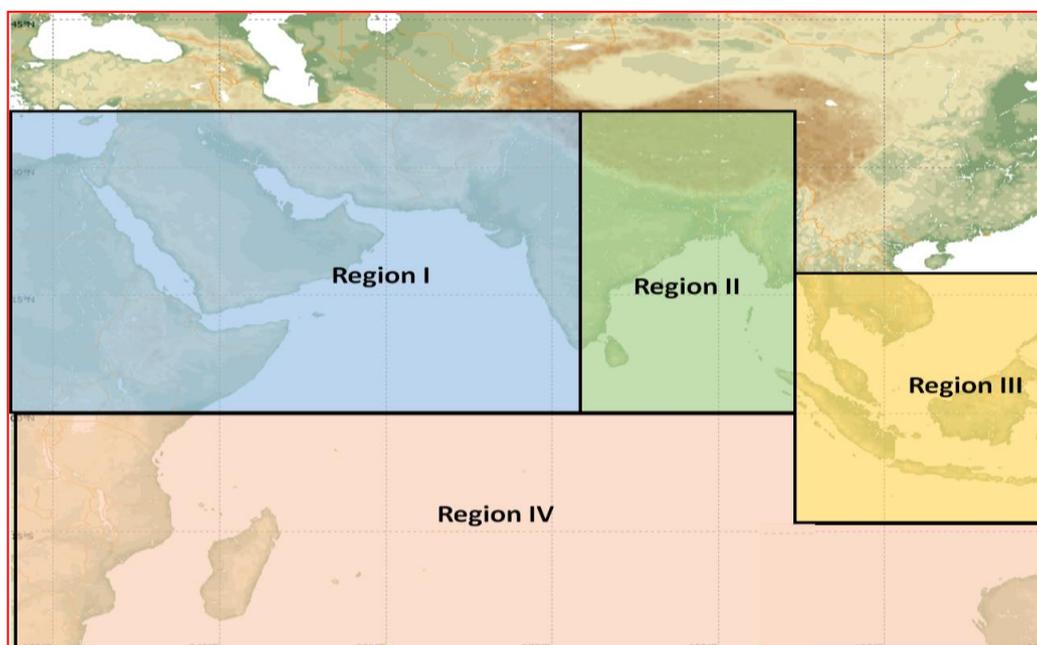


Fig 1. Forecast Regions

(a)	<b><u>Region I (Arabian Sea)</u></b>	
	<p><b><u>Synoptic Discussion.</u></b> Surface pressure of 1010 hPa is seen over south Arabian Sea and gradually decreases towards higher latitudes to about 1006-1004 hPa over north Arabian Sea off Pakistan coast. Associated with the pressure distribution, the winds are more Westerly over AS of order 10-15KT. The average sea surface temperatures (SST) is about 28-30°C over most parts of AS. Most of the cyclonic disturbances during this month originate between 10<sup>0</sup> N and 15<sup>0</sup> N. Most of the Arabian Sea disturbances move in a North Westerly direction and hit Oman coast. And only few moves in Northerly direction and later recurve towards Konkan, Maharashtra or Gujarat Coast. The number of cyclonic disturbances in 30 years from 1988 – 2017 are 07 in Arabian Sea. Surface current is around 0.5-1.0 m/s over most of central Arabian Sea.</p>	
	<b><u>Region I</u></b>	<b><u>Weather Parameter</u></b>
	<b><u>Forecast</u></b>	
Arabian Sea	Surface winds	WSW-W/ 07-12 knots in northern Arabian sea SW-W/ 05-10 knots in southern Arabian sea
	Wave height & direction	SW-W/ 1.0 – 1.8 m in northern Arabian sea SW/ 1.2 – 1.8 m in southern Arabian sea
	Surface Current	E-SE/ 0.4 - 0.8 knots in northern Arabian sea S-SW/ 0.4 – 0.8 knots in southern Arabian sea
Gulf of Oman	Surface winds	W-NW/ 05-10 knots in western section of Gulf SW-W/ 05-10 knots in eastern section of Gulf

	Wave height & direction	W-NW/ 0.4 - 0.8 m in western section of Gulf SW-W/ 0.4-1.2 m in eastern section of Gulf
	Surface Current	SW - W/ 0.4 knots in western section of Gulf NE-E/ 0.4 - 0.8 knots in eastern section of Gulf
<b><u>Region I</u></b>	<b><u>Weather Parameter</u></b>	<b><u>Forecast</u></b>
Gulf of Aden	Surface winds	SW-W/ 05-10 knots in western section of Gulf SE-S/ 05-10 knots in eastern section of Gulf
	Wave height & direction	WNW-NNW/ 0.2 – 0.8 m in western section of Gulf E – SE/ 0.2 – 0.6 m in eastern section of Gulf
	Surface Current	SE/ 0.4 – 0.6 knots in western section of Gulf N-NE/ 0.2 – 0.6 knots in eastern section of Gulf
Equatorial Indian Ocean	Surface winds	SW-W/05-10 knots between 45°E -77°E SW / 07-12 knots between 77°E -100°E
	Wave height & direction	S-SW/ 1.0 -1.6 m between 45°E - 77°E S-SW/ 1.4-2.4 m between 77°E -100°E
	Surface Current	E-SE / 0.4 – 0.6 knots between 45°E - 77°E E -NE/ 0.6 – 1.2 knots between 77°E -100°E
(b)	<b><u>Region II (Bay of Bengal)</u></b>	
	<p><b><u>Synoptic Discussion.</u></b> The weather over Bay of Bengal is generally fair and it tends to be cloudy in the south Bay and southern parts of central Bay. The month of May is one of the favourable months for the genesis of cyclones due to high sea surface temperature values. Most of the weather systems which form over the Bay of Bengal intensify rapidly, and nearly half of them intensify into cyclonic/severe cyclonic storms. In Bay of Bengal, weather systems form generally in the area between latitudes 10<sup>0</sup> to 15<sup>0</sup> North, east of longitudes 85<sup>0</sup> East. The systems in this month have a tendency to move initially in NNW-NW'ly direction. A few of them may cross Tamilnadu, Andhra Pradesh or Orissa coast. On crossing the Lat 15<sup>0</sup> North, the systems have a tendency to move in NNE-NE'ly direction and eventually cross Bangladesh / Myanmar coast. The swell conditions over Bay of Bengal during the month are mainly SSW – WSW/ 1.0 – 1.5 M unless affected by weather systems. Over most parts of the Bay of Bengal, significant Wave height is about 1.25 to 2.25 m, however, along the coastal regions the wave height is about 1.0 m.</p>	
<b><u>Region II</u></b>	<b><u>Weather Parameter</u></b>	<b><u>Forecast</u></b>
Andaman Sea	Surface winds	SW-W / 05-10 knots in northern section SW / 05-10 knots in southern section
	Wave height & direction	SW / 0.8 – 1.2 m in northern section SW / 0.8-1.6 m in southern section
	Surface Current	N-NE /0.4 – 0.6 knots in northern section NE-E/ 0.4 - 0.8 knots in southern section

Bay of Bengal	Surface winds	S-SW/ 07-12 knots in northern Bay of Bengal SSW-WSW/ 07-12 knots in southern Bay of Bengal
	Wave height & direction	S-SW/ 1.2-2.0 m in northern Bay of Bengal SW/ 1.4-2.2 m in southern Bay of Bengal
	Surface Current	ENE-ESE/ 0.8 – 1.4 knots in northern Bay of Bengal ENE-ESE / 0.4 – 0.6 knots in southern Bay of Bengal

(c)	<b><u>Region III (Southeast Asia)</u></b>	
	<p><b><u>Synoptic Discussion.</u></b> Mean sea level pressure over the area is of the order of 1008-1010 hpa. SW monsoon over S half of south China Sea begins in May. As the month progresses a NE going current become increasingly evident on the W side of south China Sea. During the month, there is a marked improvement in sea states with a mean frequency of 80% smooth to slight Sea and 10% calms prevailing throughout the area. The mean sea surface temperatures (SST) is about 28-30°C. The pressure gradient becomes slack during the transition period in May. Relative humidity is maximum of 70% over Malacca strait and off Thailand coast.</p>	
	<b><u>Region III</u></b>	<b><u>Weather Parameter</u></b>
	<b><u>Forecast</u></b>	
Southern parts of South China Sea	Surface winds	ESE - SSE/ 05-10 knots
	Wave height & direction	SW-W/ 0.5-1.0 m
	Surface Current	NE-E/ 0.4 – 0.6 knots
Malacca Strait	Surface winds	SW /5-10 knots in northern strait SE/ 5-10 knots in southern strait
	Wave height & direction	W-WNW/0.2-0.4 m in northern strait ESE/ 0.2-0.4 m in southern strait
	Surface Current	ESE - SSE / 1.2 - 2.0 knots in northern strait NW / 0.8 – 1.6 knots in southern strait
Southern Sulu Sea - Northern Celebes Sea	Surface winds	SE / 05 - 10 knots
	Wave height & direction	W-NW /0.4-0.6 m
	Surface Current	NW / 0.4 – 0.8 knots

(d)	<b><u>Region IV (South Indian Ocean)</u></b>	
	<p><b><u>Synoptic Discussion.</u></b> During the month of May, the sea level pressure over central parts of the Southern IOR is in of the order of 1020 HPa and gradually decreases northwards to 1010 HPa over Equatorial Indian Ocean and to 990 HPa towards 55°S latitudes. The pressure gradient over south IOR is of the order of 8-10 h Pa. Tropical disturbances are rare occurrence during the month. They originate around 10<sup>0</sup> S and east of 80°E longitudes and move in a westerly direction and strike east coast of Madagascar Islands or recurve in south-westerly southerly easterly direction and strike</p>	

<p>Madagascar coast or Mauritius Islands and adjoining areas. They have a tendency to weaken and dissipate over the sea area in the course of their movement. Average minimum surface air temperatures varies between 10-23°C is seen South IOR. Temperatures are around 27°C over Equatorial Indian Ocean up to 20°S and drastically reduce to below 0°C towards higher latitudes. Average daily max temperatures vary from 10-28°C over most parts of South Indian Ocean.</p>		
<b><u>Region IV</u></b>	<b><u>Weather Parameter</u></b>	<b><u>Forecast</u></b>
South Indian Ocean	Surface winds	E-SE/12-17 knots
	Wave height & direction	SE-S/ 2.0 - 2.8 m
	Surface Current	W-SW/ 0.4 – 0.6 knots
West Australian coast	Surface winds	ESE-SE / 07-12 knots in western coast ESE-SE/10-15 knots in north western coast
	Wave height & direction	SW/ 2.8-3.0 m in western coast S-SSW/ 1.8-2.2 m in north western coast
	Surface Current	E-NE/ 0.4 – 0.8 knots in western coast SE - SW/ 0.4 – 0.6 knots in north western coast
Somali Coast	Surface winds	SSE-SSW / 07 - 12 knots
	Wave height & direction	S-SE/ 1.2 - 2.0 m
	Surface Current	NW-NE/ 0.8 – 1.4 knots
Central African Coast/ Indian Ocean	Surface winds	SSE/ 10-15 knots
	Wave height & direction	S-SE/ 2.4 -2.8 m
	Surface Current	W-WSW/ 0.4 – 0.8 knots
Mozambique Channel	Surface winds	SE - S/ 05 -10 knots
	Wave height & direction	S/1.6 - 2.2 m
	Surface Current	NW-NE/ 0.8 – 1.2 knots

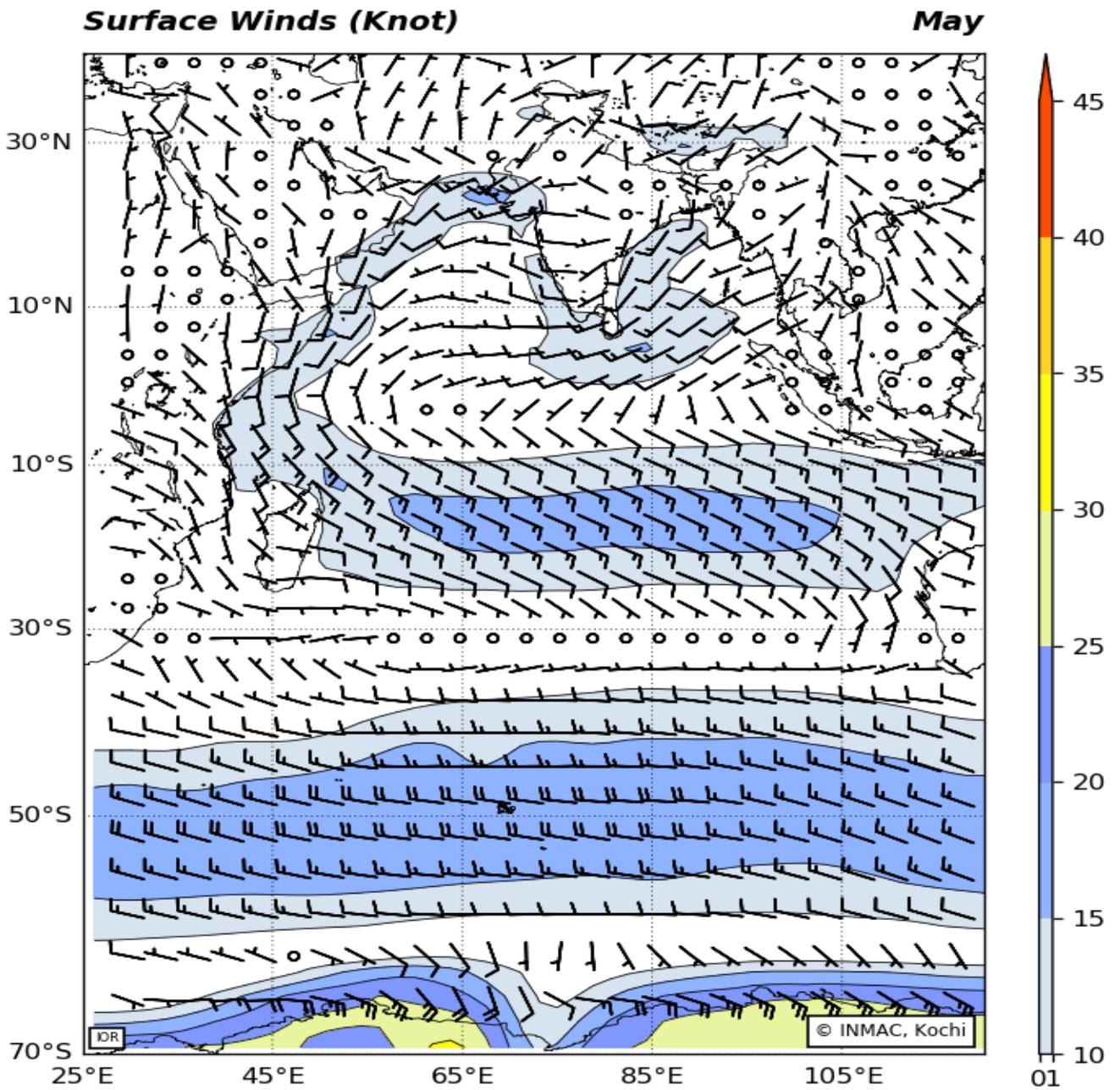


Fig 2. Surface Wind and Direction (Kt) over IOR - May

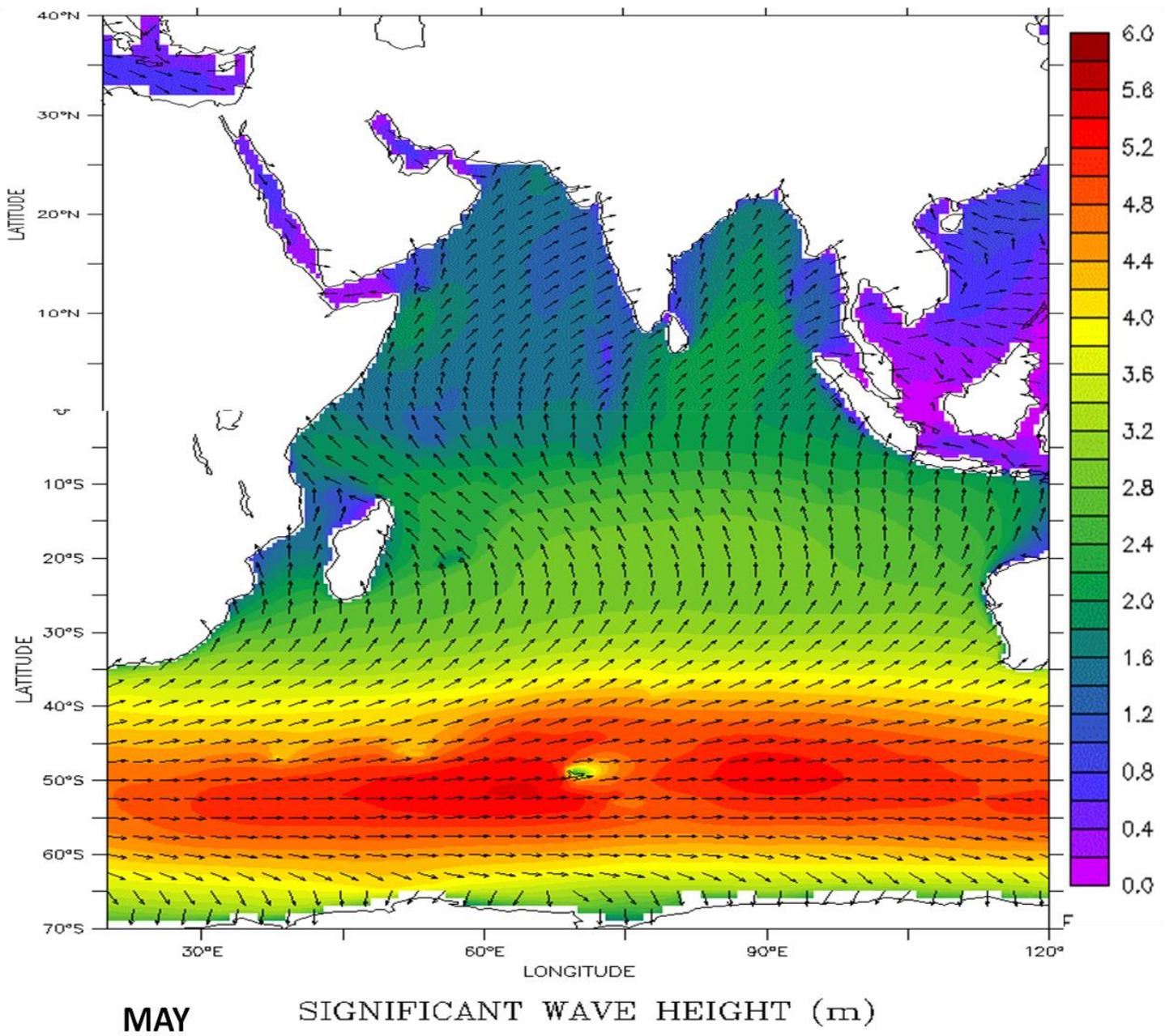


Fig 3. Significant Wave Height and Direction (m) over IOR - May

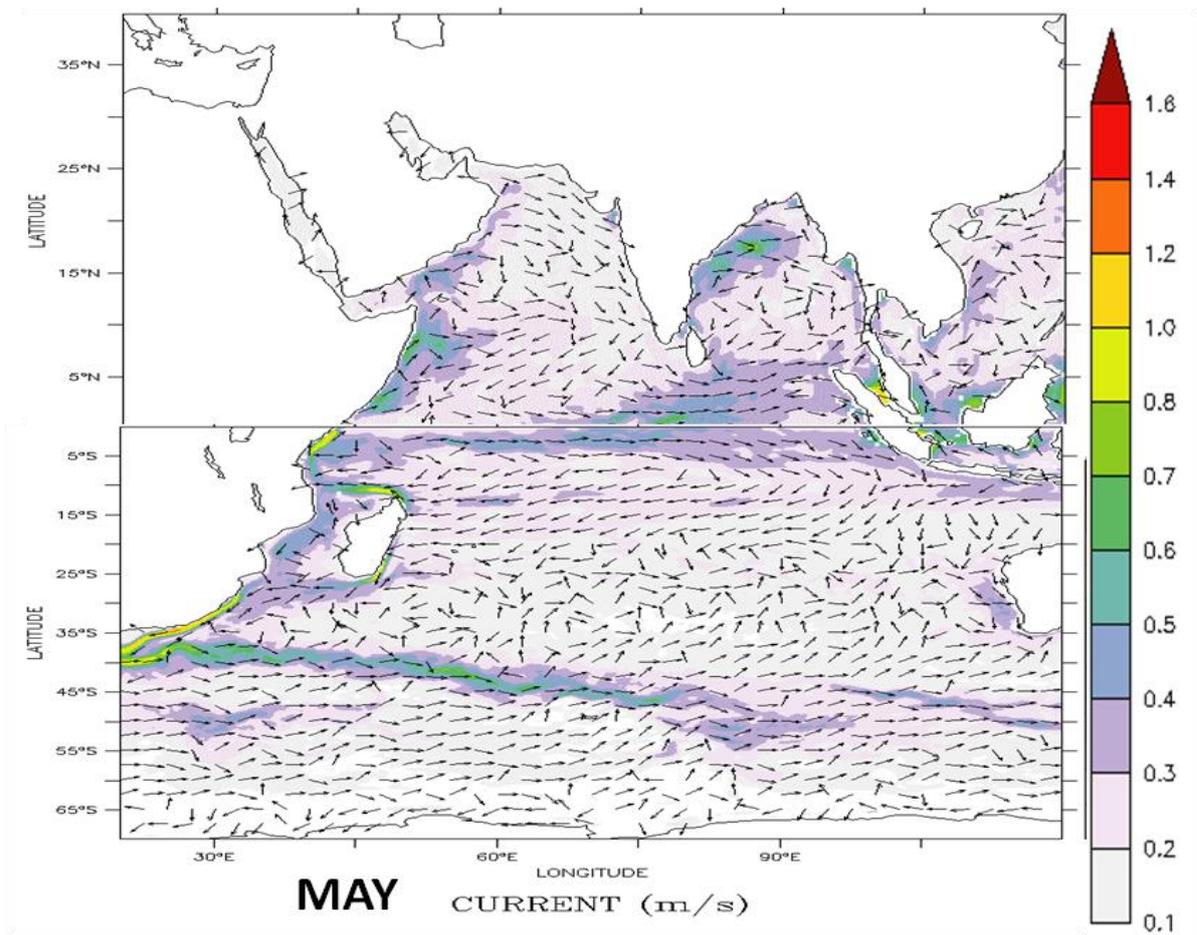


Fig 4. Surface Current (m/s) over IOR - May