

Weather Forecast for Indian Ocean Region – June

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

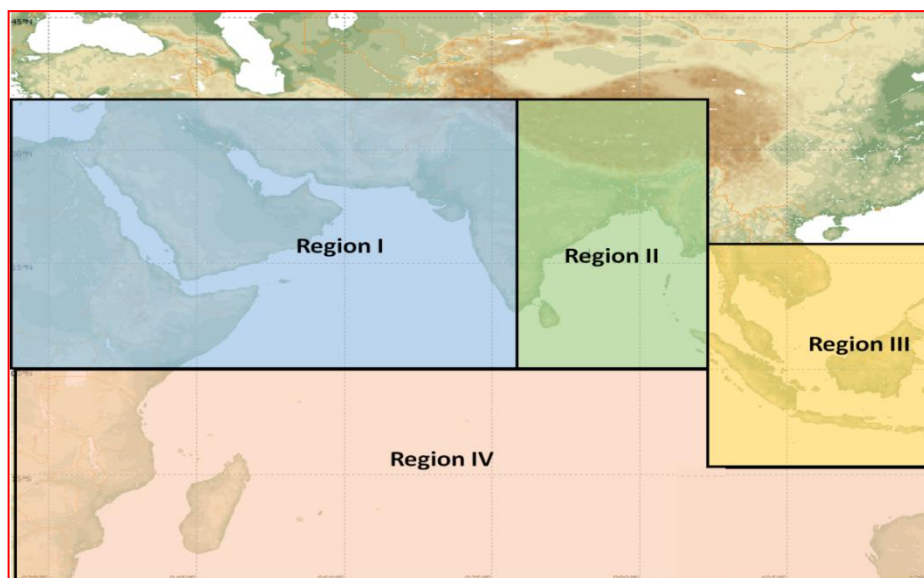


Fig 1. Forecast Regions

(a)	<u>Region I (Arabian Sea)</u>	
	<p><u>Synoptic Discussion.</u> Surface pressure of 1008 hPa is seen over south Arabian Sea and gradually decreases towards higher latitudes to about 1000-998 hpa over north Arabian Sea off Pakistan coast. 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 10⁰ N and 15⁰ N and move in North Westerly direction towards Oman coast and only few moves in Northerly direction and subsequently recurve towards West coast of India. The number of cyclonic disturbances in 30 years from 1989 – 2018 are 17 in Arabian Sea. Surface current is around 0.5-1.0 m/s over most of central Arabian Sea.</p>	
	<u>Region I</u>	<u>Weather Parameter</u>
	<u>Forecast</u>	
Arabian Sea	Surface winds	SW-W/ 10-15 knots in northern Arabian sea SW-W/ 15-20 knots in southern Arabian sea
	Wave height & direction	WSW/ 1.5 – 2.0 m in northern Arabian sea SW-W / 2.5 – 3.5 m in southern Arabian sea
	Surface Current	SE/ 0.4 - 0.8 knots in northern Arabian sea SSE/ 0.6 – 1.2 knots in southern Arabian sea
Gulf of Oman	Surface winds	NW-W/ 05-10 knots in western section of Gulf SW/ 05-10 knots in eastern section of Gulf
	Wave height & direction	W - WNW/ 0.5 – 0.8 m in western section of Gulf SSW - W/ 0.4 - 0.8 m in eastern section of Gulf
	Surface Current	W-NW/ 0.4 - 0.6 knots in western section of Gulf SW-W/ 0.4 - 0.6 knots in eastern section of Gulf

	<u>Region I</u>	<u>Weather Parameter</u>	<u>Forecast</u>
	Gulf of Aden	Surface winds	SW/ 10-15 knots in western section of Gulf S-SW/ 15 - 20 knots in eastern section of Gulf
		Wave height & direction	W-SW/ 2.5 – 3.0 m in western section of Gulf SSW/ 3.0 – 3.6 m in eastern section of Gulf
		Surface Current	NE/ 0.8 – 1.0 knots in western section of Gulf E-NNE/ 0.8 – 1.4 knots in eastern section of Gulf
	Equatorial Indian Ocean	Surface winds	SE-S/ 05 -10 knots between 45 °E -77°E SE - S/ 10-15 knots between 77 °E -100 °E
		Wave height & direction	S-SW/ 1.5 -2.0 m between 45 °E - 77°E S-SW/ 2.0-2.5 m between 77 °E -100 °E
		Surface Current	E-SE / 0.4 – 0.6 knots between 45 °E - 77°E E -SSE/ 0.6 – 0.8 knots between 77 °E -100 °E
(b)	<u>Region II (Bay of Bengal)</u>		
	<p><u>Synoptic Discussion.</u> The weather over Bay of Bengal (BOB) is Generally Cloudy and it tends to be Cloudy in the south Bay and southern parts of central Bay. In general, weather systems forms in BOB between latitudes 10⁰ to 15⁰ North, east of longitudes 85⁰ East. These systems have a tendency to move initially in NNW-NW'ly direction and are less likely to intensify into Cyclonic storm. The swell conditions over Bay of Bengal during the month are mainly SW – SSW/ 1.5 – 2.0m (Sea State 3-4) 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 - 1.5 m.</p>		
	<u>Region II</u>	<u>Weather Parameter</u>	<u>Forecast</u>
	Andaman Sea	Surface winds	SW-W / 10-15 knots in northern section SW / 15 - 20 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	E-SE /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/ 10-15 knots in southern Bay of Bengal
		Wave height & direction	S-SW/ 1.2-2.0 m in northern Bay of Bengal SW/ 1.5-2.0 m in southern Bay of Bengal
		Surface Current	E-NE/ 0.8 – 1.4 knots in northern Bay of Bengal E-NE / 0.4 – 0.6 knots in southern Bay of Bengal
(c)	<u>Region III (Southeast Asia)</u>		

<p><u>Synoptic Discussion.</u> Mean sea level pressure over the area is of the order of 1008-1010 hpa. The average pressure gradient varies to the order of 04 - 06 hpa from north to south. SW monsoon over southern half of south China Sea begins during end May. In general, thunderstorms/ showers over Sumatra island and Straits of Malacca occur due to active monsoon conditions over the region. The Swell waves are SW'ly over most parts of the open sea, with a mean height of 1.5-2.0 m in the North & 2.0 - 3.0 m in South and SST between 28° - 29°C can be observed during this month. A NE'ly current is generally seen along the west of the south China sea for most duration of the month.</p>		
<u>Region III</u>	<u>Weather Parameter</u>	<u>Forecast</u>
Southern parts of South China Sea	Surface winds	SW - S/ 10-15 knots
	Wave height & direction	SW-S/ 1.0-1.5 m
	Surface Current	NE/ 0.6 – 0.8 knots
Malacca Strait	Surface winds	SW /5-10 knots in northern strait S-SW/ 5-10 knots in southern strait
	Wave height & direction	W-WNW/ 0.5m in northern strait S-SW/ 0.2-0.4m 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	S-SE / 05 - 10 knots
	Wave height & direction	E-ESE / 0.4-0.6m
	Surface Current	E-SE / 0.4 – 0.8 knots
(d)	<u>Region IV (South Indian Ocean)</u>	
<p><u>Synoptic Discussion.</u> During the month of June, the sea level pressure over central parts of the Southern IOR is of the order of 1020 hPa and gradually decreases northwards. The pressure gradient over south IOR is of the order of 8-10 HPa. High pressure cell shift towards west and is generally seen in between 30°- 40°S and 60°- 110°E. Mean sea level pressure value further decreases to less than 990 hPa below 55°S latitudes. Temperatures are around 27- 29°C over South Indian Ocean up to 20°S and reduce drastically to 05-10°C beyond 50°S. The swell waves are from SE over most parts of the open sea, with a mean height of 1.5-2.5 m in the North and 2.5 - 3.5 m in South IOR.</p>		
<u>Region IV</u>	<u>Weather Parameter</u>	<u>Forecast</u>
South Indian Ocean	Surface winds	E-SE/15-20 knots
	Wave height & direction	SE-S/ 1.5 - 2.0 m
	Surface Current	W-SW/ 0.4 – 0.6 knots
West Australian coast	Surface winds	ESE-SE / 05-10 knots in western coast ESE-SE/10-15 knots in north western coast
	Wave height &	SW/ 2.8-3.0 m in western coast

		direction	S-SSW/ 1.8-2.2 m in north western coast
		Surface Current	E-NE/ 0.4 – 0.6 knots in western coast SE - SW/ 0.4 – 0.6 knots in north western coast
Somali Coast		Surface winds	S-SSE / 10 - 15 knots
		Wave height & direction	S-SE/ 1.2 - 2.0 m
		Surface Current	E-NE/ 0.8 – 1.4 knots
Central African Coast/ Indian Ocean		Surface winds	W-NW/ 10-15 knots
		Wave height & direction	S-SE/ 2.4 -2.8 m
		Surface Current	E-SE/ 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	NE/ 0.8 – 1.2 knots

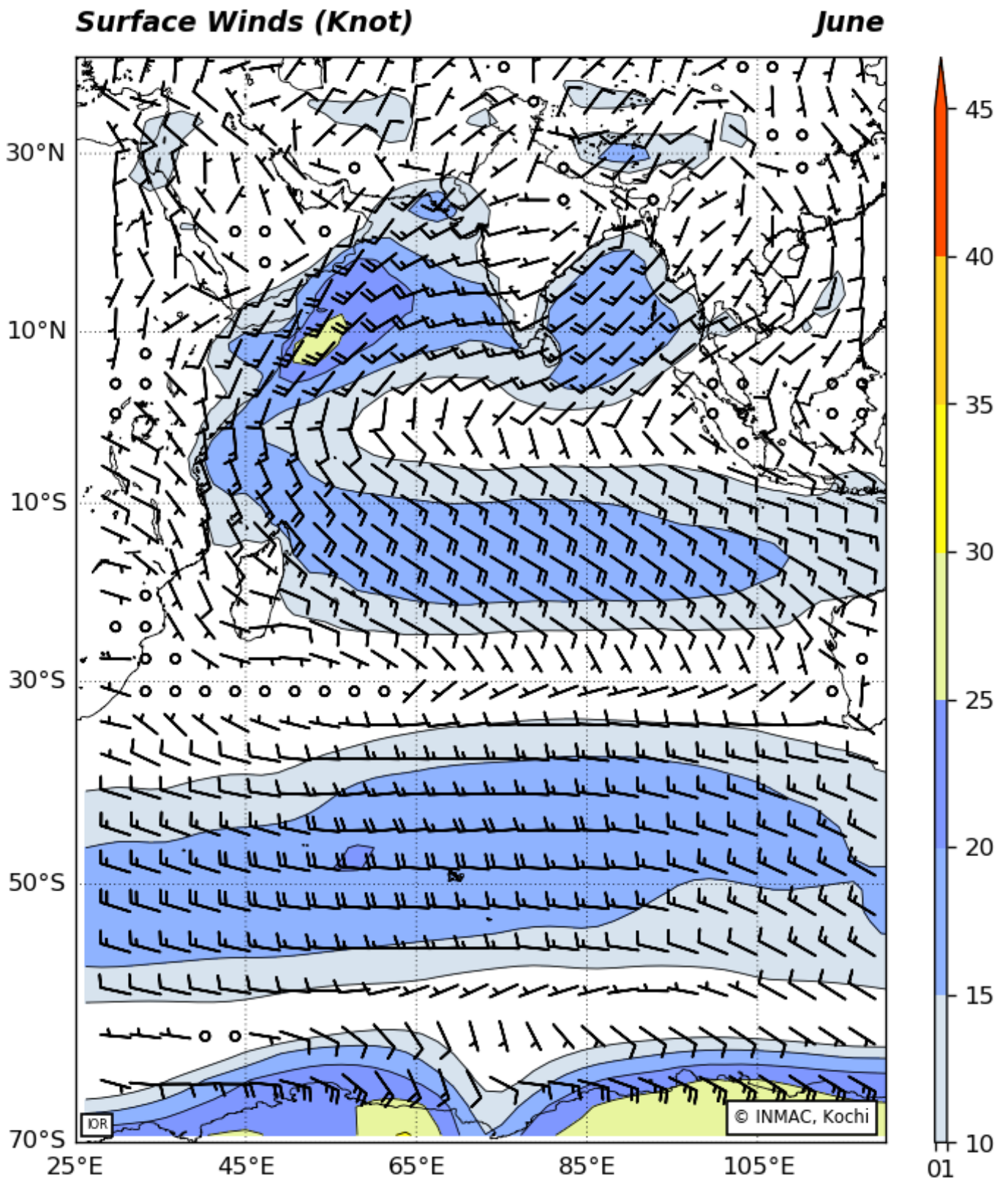


Fig 2. Surface Wind and Direction (Kt) over IOR - June

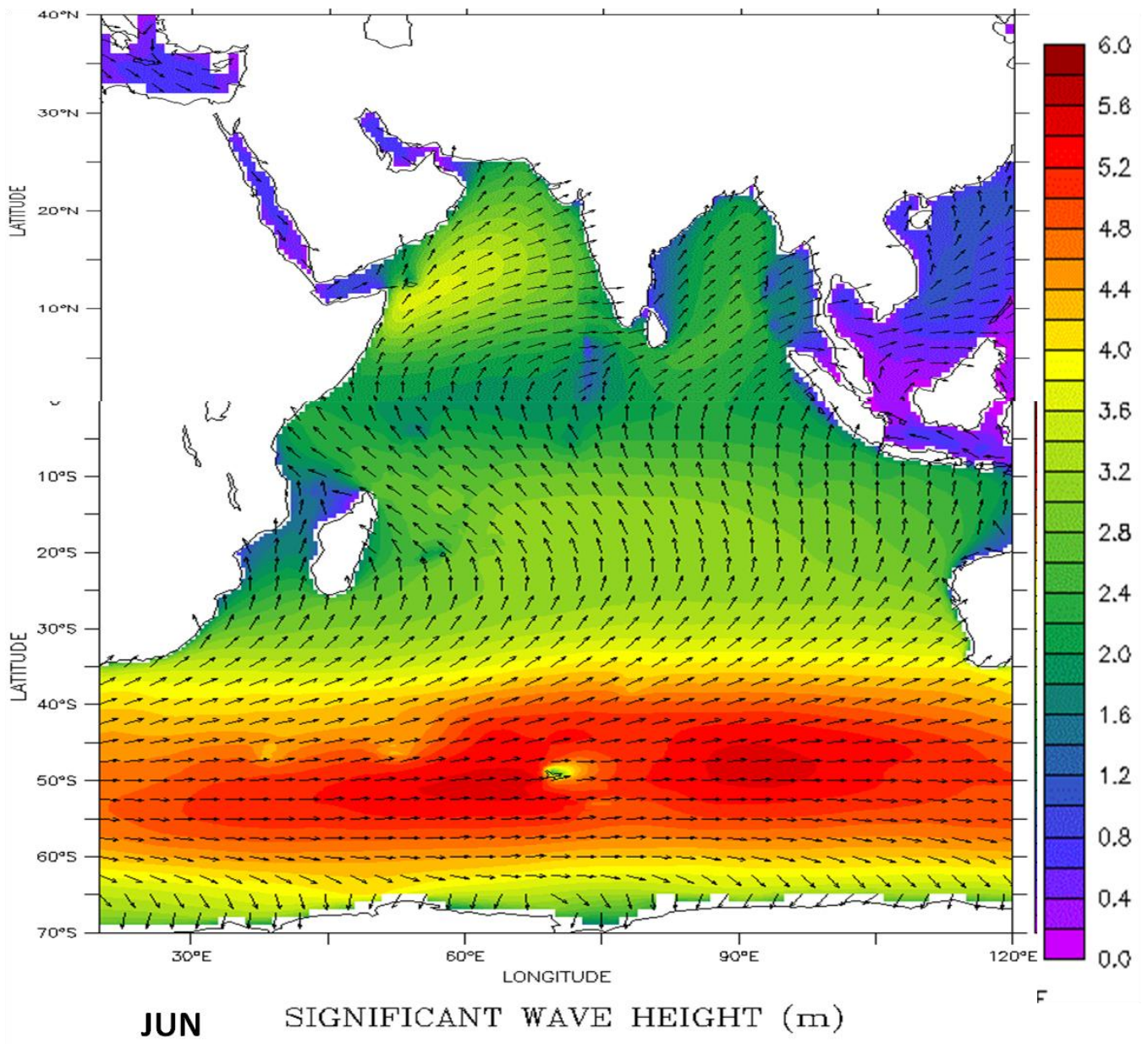


Fig 3. Significant Wave Height and Direction (m) over IOR

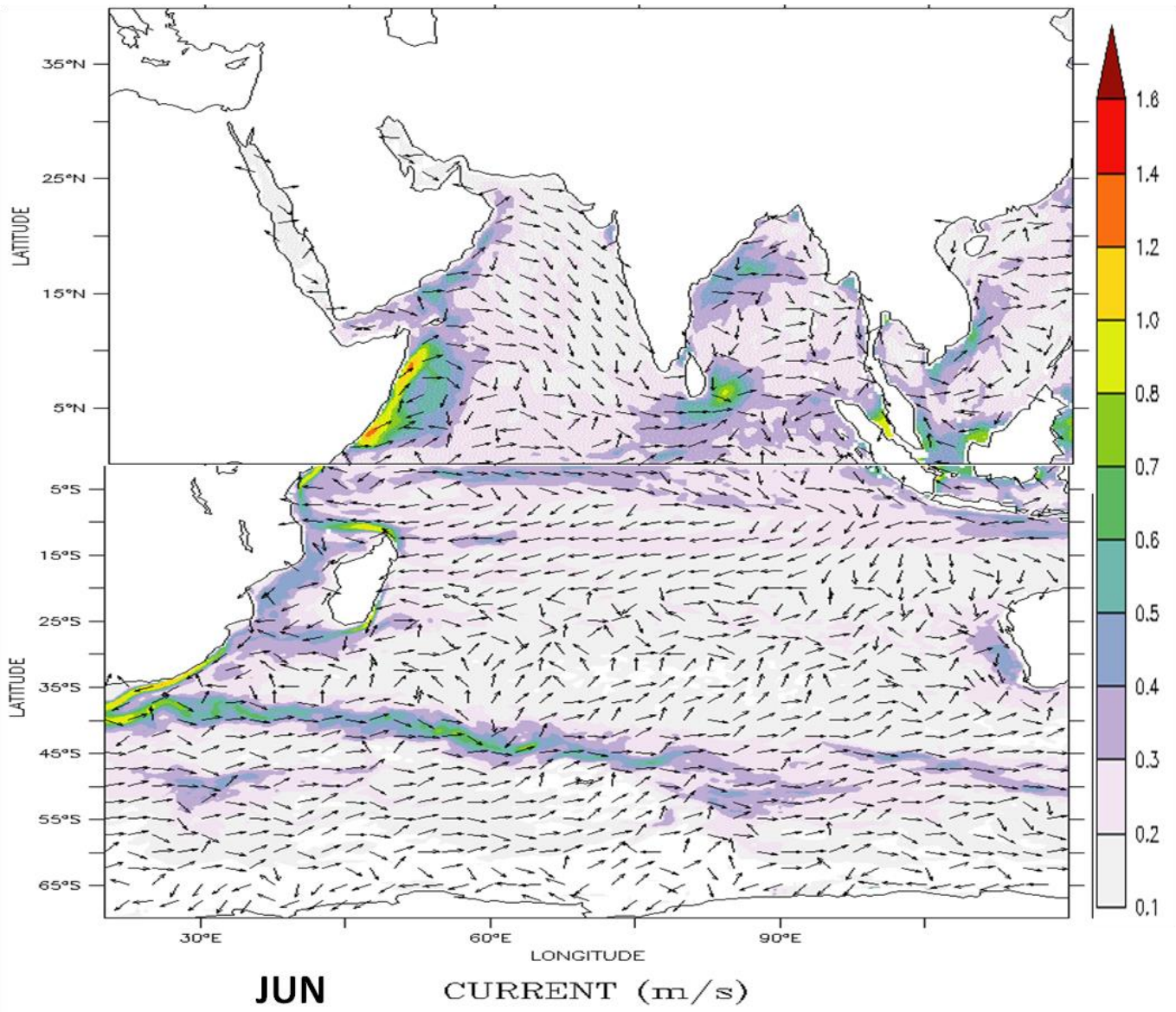


Fig 4. Surface Current (m/s) over IOR - June