

## Weather Forecast for Indian Ocean Region– June

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 forecast for the month of June is as follows: -

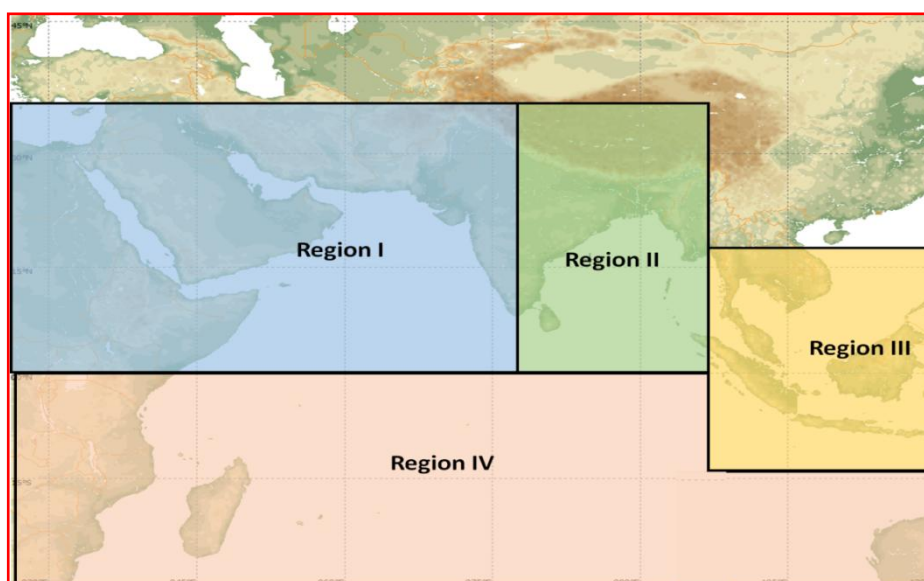


Fig 1. Forecast Regions

(a)	<b><u>Region I (Arabian Sea)</u></b>	
	<p><b><u>Synoptic Discussion.</u></b> Surface pressure of 1008 hPa prevails over the South Arabian Sea gradually decreasing towards higher latitudes to about 1000- 998 hPa over North Arabian Sea, off Pakistan coast. The average Sea Surface Temperature (SST) is about 28-30°C over most parts of AS. During this month, most of the cyclonic disturbances originate between 10<sup>0</sup>N to 15<sup>0</sup>N and move in a Northwesterly direction towards Oman coast. However, a few disturbances move in Northerly direction, subsequently recurving towards the West coast of India. A total of 17 cyclonic disturbances have been recorded in a period of 30 years from 1989 – 2018 over the Arabian Sea. Surface currents are around 0.5-1.0 m/s over most parts 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	SW-W/ 10-15knots in Northern Arabian Sea SW-W/ 15-20knots 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- 0.8knots in Northern Arabian Sea SSE/ 0.6-1.2knots in Southern Arabian Sea
Gulf of Oman	Surface winds	NW-W/ 05-10knots in Western section of the Gulf SW/ 05-10knots in Eastern section of the Gulf
	Wave height & direction	W - WNW/ 0.5 - 0.8 m in Western section of the Gulf SSW - W/ 0.4-0.8m in Eastern section of the Gulf
	Surface Current	W-NW/ 0.4-0.6knots in Western section of the Gulf SW-W/ 0.4 - 0.6 knots in Eastern section of the Gulf

<u>Region I</u>	<u>Weather Parameter</u>	<u>Forecast</u>
Gulf of Aden	Surface winds	SW/ 10-15knots in Western section of the Gulf S-SW/ 15 - 20knots in Eastern section of the Gulf
	Wave height & direction	W-SW/ 2.5 -3.0 m in Western section of theGulf SSW/ 3.0 - 3.6m in Eastern section of theGulf
	Surface Current	NE/ 0.8 - 1.0knots in Western section of theGulf E-NNE/ 0.8 - 1.4knots in Eastern section of theGulf
Equatorial Indian Ocean	Surface winds	SE-S/05-10 knots between 45°E -77°E SE- S/ 10-15knots 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- 0.6knots between 45°E - 77°E E -SSE/ 0.6 - 0.8 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 (BOB) is Generally Cloudy.However it tends to be Cloudy towards the South Bay and Southern parts of Central Bay. In general, the low pressure systems form in BOB between latitudes 10<sup>0</sup> to 15<sup>0</sup> North, east of longitudes 85<sup>0</sup> East. The systems forming in the month have a tendency to move in a NNW-NW'ly direction and are less likely to intensify into a Cyclonic Storm. The swell is SW - SSW/ 1.5 - 2.0m (Sea State 3-4)during this month, unless affected by any weather system. The Significant Wave Height is about 1.25 to 2.25 m over most parts of Bay of Bengal. However, along the coast the wave height is of the order of1.0 - 1.5 m.</p>		
<u>Region II</u>	<u>Weather Parameter</u>	<u>Forecast</u>
Andaman Sea	Surface winds	SW-W / 10-15knots in Northern section SW / 15 - 20knots in Southern section
	Wave height & direction	SW / 0.8 – 1.2m in Northern section SW / 0.8-1.6 m in Southern section
	Surface Current	E-SE /0.4 – 0.6knots in Northern section NE-E/ 0.4 - 0.8knots in Southern section
Bay of Bengal	Surface winds	S-SW/ 07-12knots in Northern Bay of Bengal SSW/ 10-15knots in Southern Bay of Bengal
	Wave height & direction	S-SW/ 1.2-2.0 m in Northern Bay of Bengal SW/ 1.5-2.0m in Southern Bay of Bengal
	Surface Current	E-NE/ 0.8–1.4knots in Southern Bay of Bengal E-NE / 0.4 – 0.6knots 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 which variesto the order of 04 - 06hPa from North to South. The onset of SW monsoon occurs over southern half of South China Sea duringend May.The month is characterised by thunderstorms and showers over Sumatra Islands and the Malacca Strait due to the active monsoon condition.</p>		

<p>The Swell is SW'ly over most parts of the deep sea, with a mean height of 1.5-2.0 m in the North &amp; 2.0 - 3.0 m in the South. The SST values are between 28° - 29°C during the month of June. A NE'ly current is seen along the western parts of the South China Sea for most 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)	<b><u>Region IV (South Indian Ocean)</u></b>	
<p><b><u>Synoptic Discussion.</u></b> During the month of June, the sea level pressure over Central parts of the Southern IOR is of the order of 1020 hPa which gradually decreases northwards. The pressure gradient over south IOR is of the order of 8-10 hPa. The High pressure cell shifts westward and is generally seen between 30°- 40°S and 60°-110°E. Mean sea level pressure value further decreases to less than 990 hPa to the South of 55°S latitudes. Temperatures are around 27- 29°C over the South Indian Ocean up to 20°S, drastically reducing to 05-10°C to the South of 50°S. The swell waves are from SE direction over most parts of the deep sea, with a mean height of 1.5-2.5 m in the North and 2.5 - 3.5m in the 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 West coast ESE-SE/10-15 knots in Northwest coast
	Wave height & direction	SW/ 2.8-3.0m in West coast S-SSW/ 1.8-2.2 m in Northwest coast
	Surface Current	E-NE/ 0.4 – 0.6 knots in West coast SE-SW/ 0.4 – 0.6 knots in Northwest coast

<u>Weather Parameter</u>	<u>Forecast</u>	<u>Region IV</u>
Somali Coast	Surface winds	S-SSE/ 10 - 15knots
	Wave height & direction	S-SE/ 1.2 - 2.0 m
	Surface Current	E-NE/ 0.8-1.4knots
Central African Coast/ Indian Ocean	Surface winds	W-NW/ 10-15knots
	Wave height & direction	S-SE/ 2.4 -2.8 m
	Surface Current	E-SE/ 0.4- 0.8knots
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

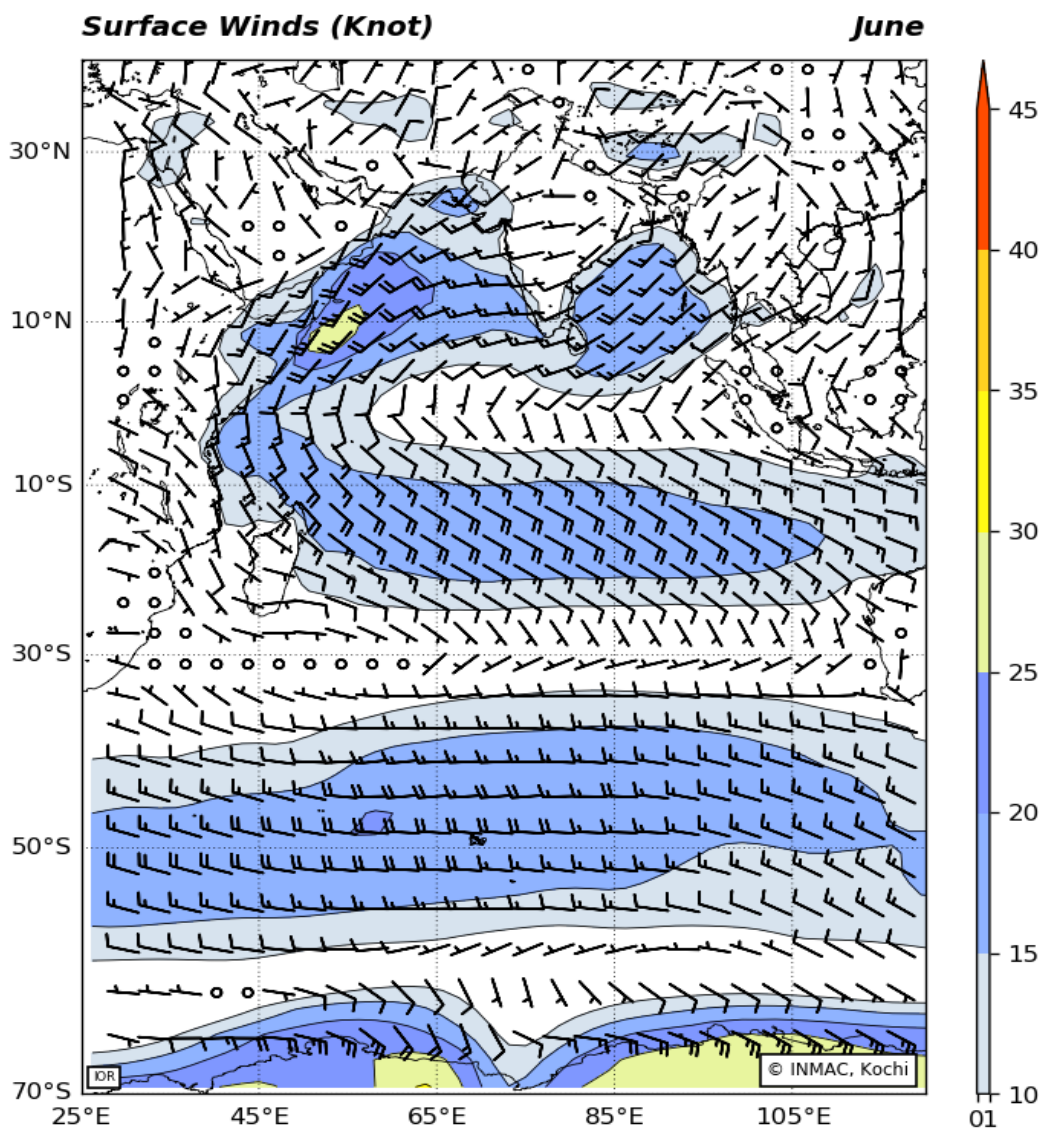


Fig 2. Surface Wind and Direction (Kt) over IOR - June

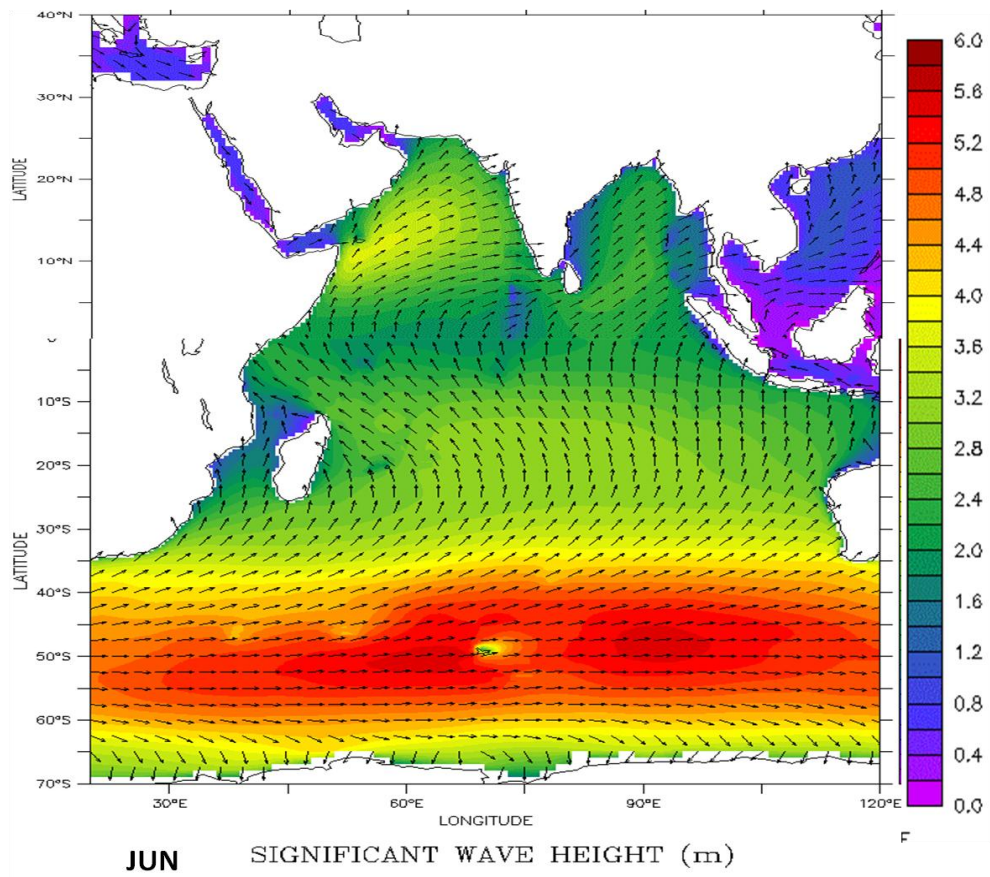


Fig 3. Significant Wave Height and Direction (m) over IOR - June

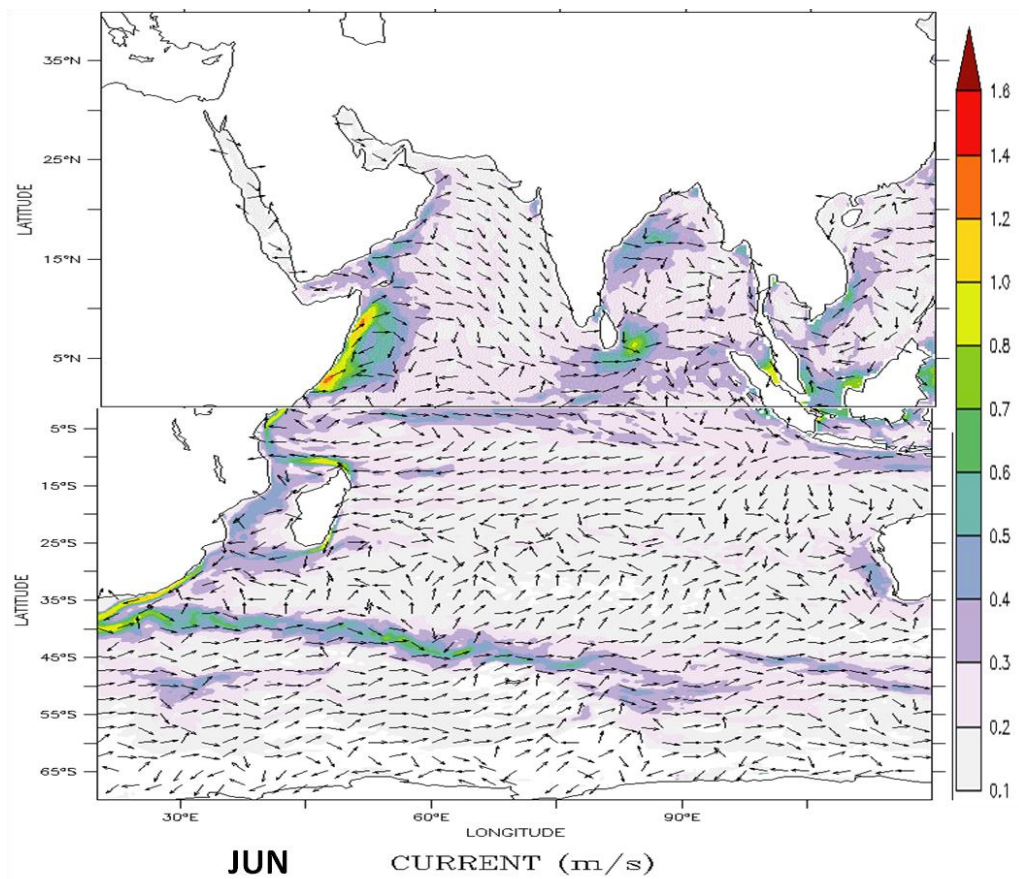


Fig 4. Surface Current (m/s) over IOR - June