Weather Forecast for Indian Ocean Region – Jul

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 July is as follows: -

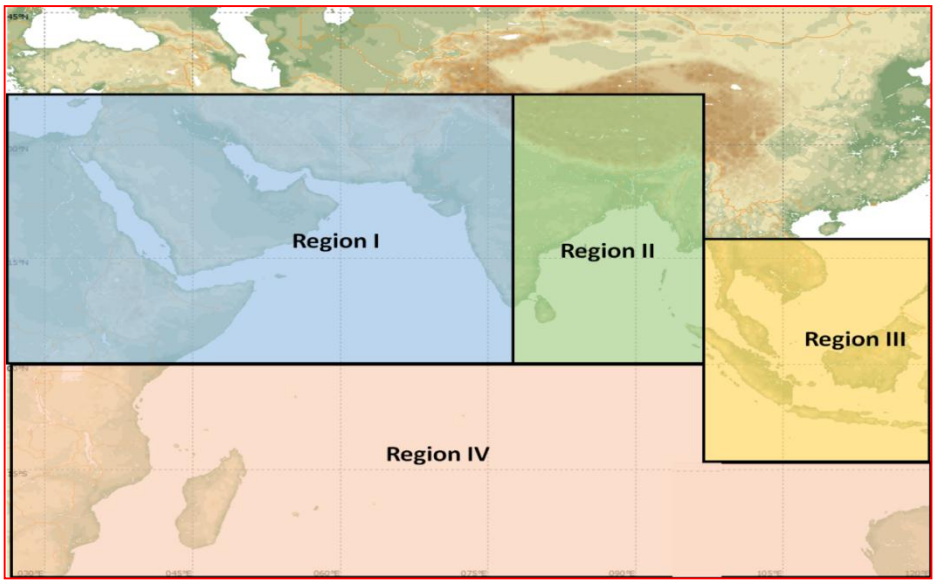

Fig 1. Forecast Regions

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

Synoptic Discussion. Surface pressure of 1010 - 11 hPa is seen over South Arabian Sea and gradually decreases towards higher latitudes to about 1000 - 998 hPa over North Arabian Sea. The average Sea Surface Temperatures (SST) is about 28 - 29°C over most parts of AS. During this month, nil cyclonic storms have originated over AS. Surface currents are around 2 - 3 knots over most of SE Arabian Sea.

Region I	Weather Parameter	Forecast
Arabian Sea	Surface winds	SW/ 20-25 knots in Northern Arabian Sea SW-W/ 20-25 knots in Southern Arabian Sea
	Wave height & direction	SW/ 3.0-3.5 m in Northern Arabian Sea SW/ 2.5-3.0 m in Southern Arabian Sea
	Surface Current	SE/ 0.4-0.5 knots in Northern Arabian Sea E-SE/ 0.4 knots in Southern Arabian Sea
Gulf of Oman	Surface winds	SW/ 05-10 knots in Western section of Gulf WSW/ 10-15 knots in Eastern section of Gulf
	Wave height & direction	SW/ 0.5-1.0 m in Western section of Gulf SW/ 0.5 m in Eastern section of Gulf
	Surface Current	NE/ 0.4 knots in Western section of Gulf E/ 0.3 knots in Eastern section of Gulf

	Region I	Weather Parameter	Forecast
	Gulf of Aden	Surface winds	SW/ 15-20 knots in Western section of Gulf SW-W/ 10-15 knots in Eastern section of Gulf
		Wave height & direction	SW/ 0.5-1.0 m in Western section of Gulf SSW/ 1.0-1.5 m in Eastern section of Gulf
		Surface Current	E/ 0.6-0.8 knots in Western section of Gulf E-SE/ 0.4-0.6 knots in Eastern section of Gulf
	Equatorial Indian Ocean	Surface winds	SSW-SW/ 15-20 knots between 45 ^{o}E -77^{o}E SW / 10-15 knots between 77 ^{o}E -100 ^{o}E
		Wave height & direction	SW/ 2.5-3.0 m between 45 ^{o}E - 77^{o}E S-SW/ 2.0-2.5 m between 77 ^{o}E -100 ^{o}E
		Surface Current	E-SE / 0.4-0.6 knots between 45 ^{o}E - 77^{o}E E/ 0.6-1.2 knots between 77 ^{o}E -100 ^{o}E
(b)	**Region II (Bay of Bengal)**		
	Synoptic Discussion. The weather systems over Bay of Bengal (BOB) originate between latitudes 18^{0} North, West of longitude 90^{0} East and gradually move in WNW direction. The tracks of these disturbances are largely confined to the latitude in a belt from 20^{0} N to 25^{0} N. The total number of cyclonic disturbances in past 30 years is 14 in BOB. The swell conditions over Bay of Bengal during the month are mainly SW/ 2.0 – 2.5 m (Sea State 3-4) unless affected by weather systems. Over most parts of the Bay of Bengal, significant Wave height is about 1.75 to 2.5 m. However, along the coastal regions the wave height is about 1.5 m.		
	Region II	**Weather Parameter**	**Forecast**
	Andaman Sea	Surface winds	SW / 20-25 knots in Northern section SW / 15 - 20 knots in Southern section
		Wave height & direction	S-SW / 1.5-2.0 m in Northern section SW / 1.0-1.5 m in Southern section
		Surface Current	SE /0.4 knots in Northern section E/ 0.4 knots in Southern section
	Bay of Bengal	Surface winds	S-SW/ 15-20 knots in Northern Bay of Bengal S-SW/ 15-20 knots in Southern Bay of Bengal
		Wave height & direction	SW/ 2.0-2.5 m in Northern Bay of Bengal SW/ 1.5-2.0 m in Southern Bay of Bengal
		Surface Current	E-SE/ 0.6 knots in Northern Bay of Bengal E / 0.8-1.0 knots in Southern Bay of Bengal

(c) **Region III (Southeast Asia)**

Synoptic Discussion. The Mean Sea Level Pressure over the region varies between 1013 -1009 hPa. During this month, occurrence of thunderstorms/ showers over Sumatra island and Straits of Malacca over the region is fairly common. Over most parts of open Sea, the swell is from SW'ly direction with a mean height of 1.5-2.0 m. A NE'ly current is seen over South China Sea for most of the month.

Region III	Weather Parameter	Forecast
Southern parts of South China Sea	Surface winds	SW - W/ 10-15 knots
	Wave height & direction	SW/ 1.5-1.75 m
	Surface Current	NE/ 0.6-0.8 knots
Malacca Strait	Surface winds	S- SW /10 knots in Northern Strait S/ 10 knots in Southern Strait
	Wave height & direction	SSW-S/1.0 m in Northern Strait S/0.5 m in Southern Strait
	Surface Current	SE / 0.5 knots in Northern Strait SE / 0.6 knots in Southern Strait
Southern Sulu Sea - Northern Celebes Sea	Surface winds	S-SSE / 05-10 knots
	Wave height & direction	SE /1.0-1.5 m
	Surface Current	SE / 0.7 knots

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

Synoptic Discussion. The Mean Sea Level Pressure over parts of the Southern IOR is of the order of 1020 hPa and gradually decreases to 1011 hPa on lower latitudes. The pressure gradient over South IOR is of the order of 8-10 hPa. SST over the region vary between 28-30 ºC. The swell waves are from SE, over remaining parts of Northern section of South IOR, with mean wave height of 1.5-2.0 m and from NE-E/ 2.5-3.5 m in South IOR.

Region IV	Weather Parameter	Forecast
South Indian Ocean	Surface winds	SE- S/10-15 knots
	Wave height & direction	E/ 1.5-2.0 m
	Surface Current	WSW-W/ 0.4-0.6 knots
West Australian coast	Surface winds	SW/ 10-15 knots in Western coast SE/10-15 knots in North Western coast
	Wave height & direction	E-SE/ 2.0 m in Western coast SE/ 1.5 m in North Western coast
	Surface Current	NE/ 0.7 knots in Western coast S/ 0.4 knots in North Western coast

	Region IV	Weather Parameter	Forecast
	Somali Coast	Surface winds	SE- S/ 15-20 knots
		Wave height & direction	S-SSW/ 1.0-1.5 m
		Surface Current	N-NE/ 1.5-1.8 knots
	Central African Coast/ Indian Ocean	Surface winds	NW - N/ 10-15 knots
		Wave height & direction	NNW-N/ 2.0-2.5 m
		Surface Current	SW/ 0.8 knots
	Mozambique Channel	Surface winds	SE/ 05-10 knots
		Wave height & direction	SE/1.0 m
		Surface Current	S-SE/ 1.0-1.2 knots

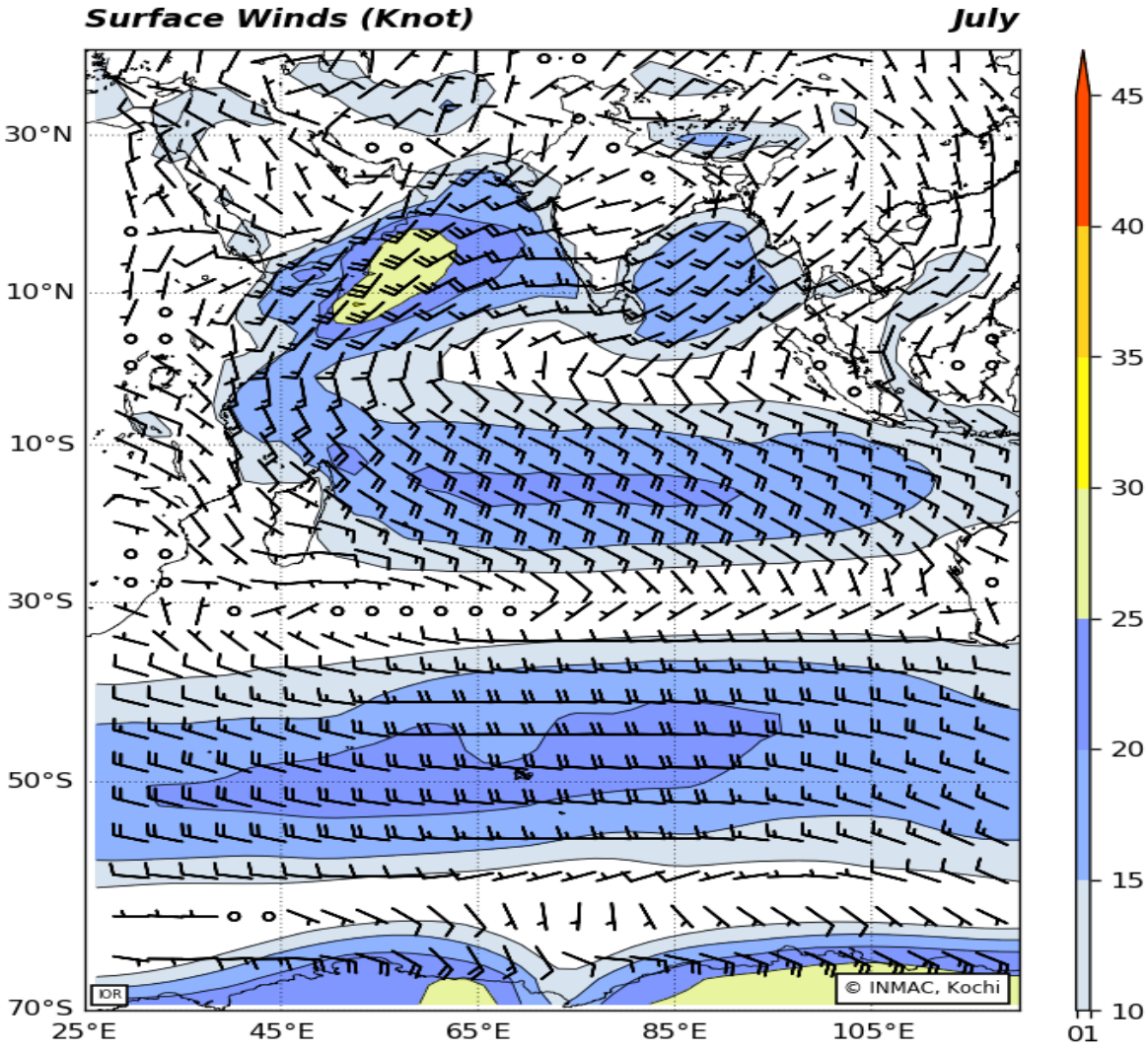

Fig 2. Surface Wind and Direction (Kt) over IOR - Jul

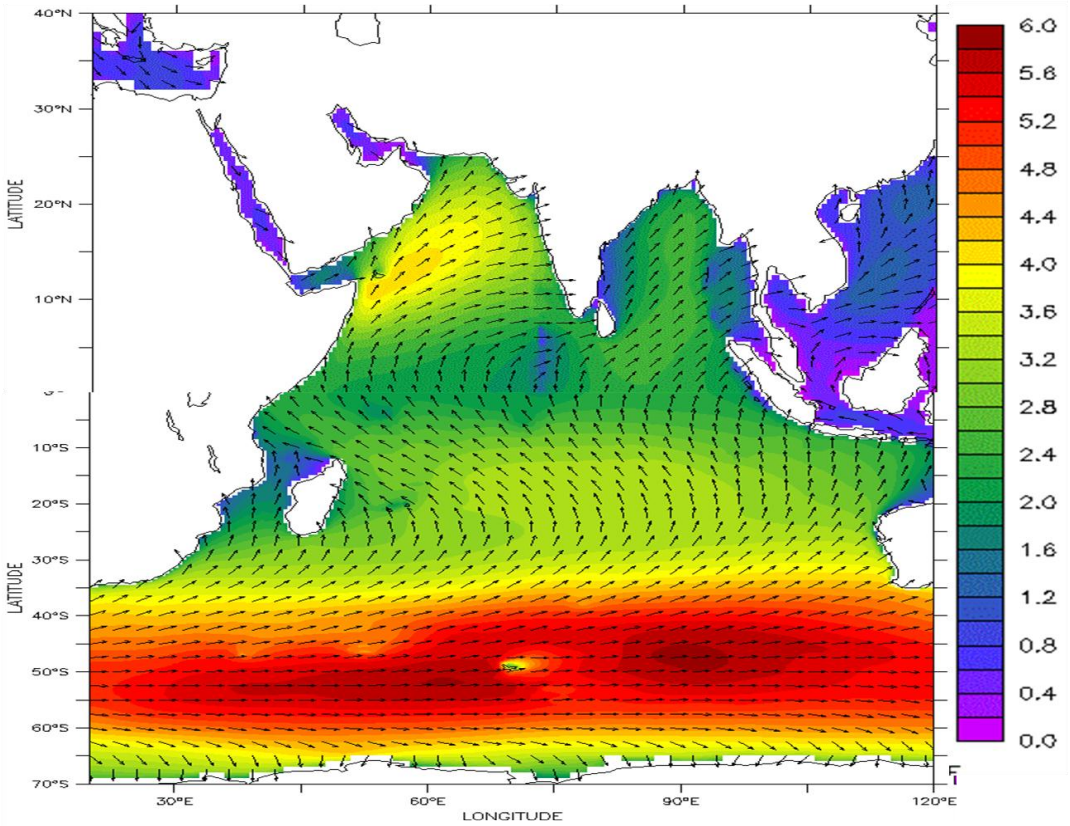

Fig 3. Significant Wave Height (m) and Direction over IOR

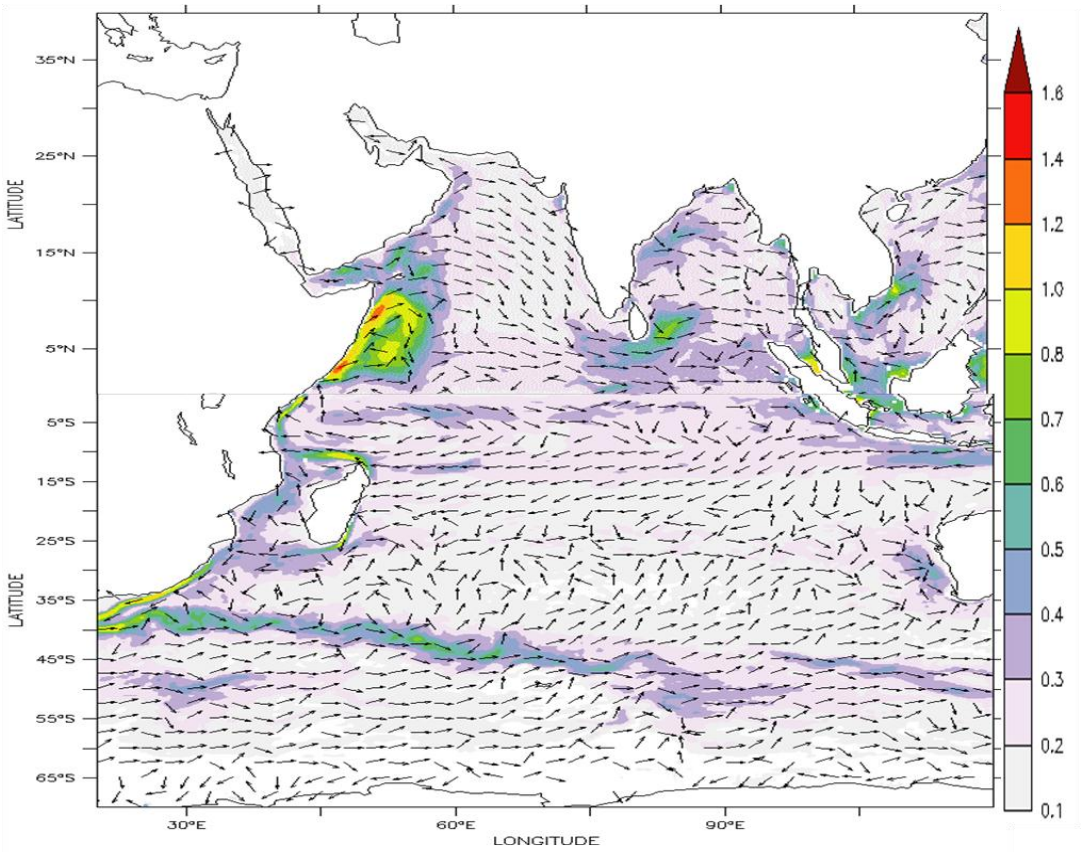

Fig 4. Surface Current (m/s) over IOR - Jul