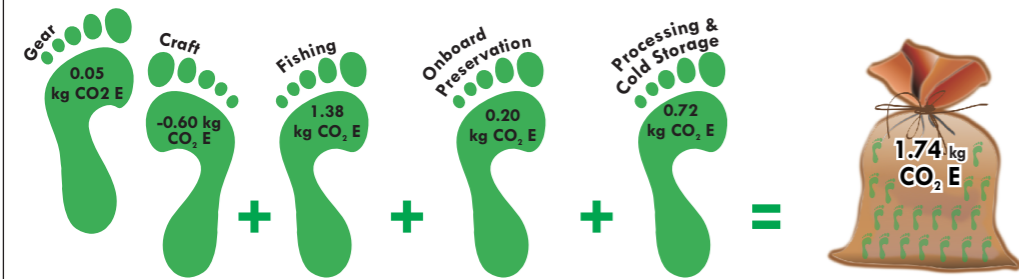
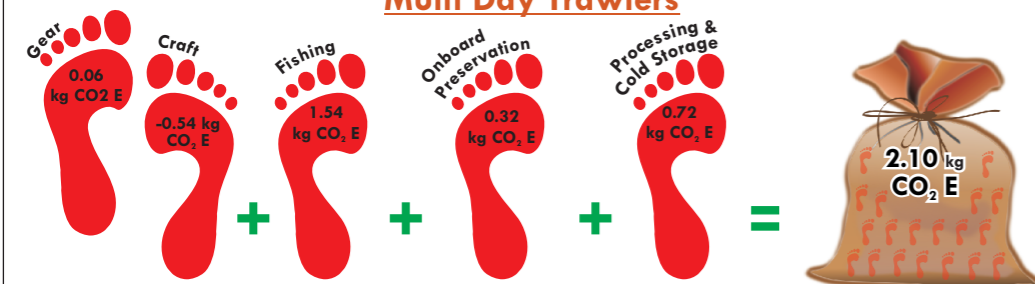


Carbon Footprint

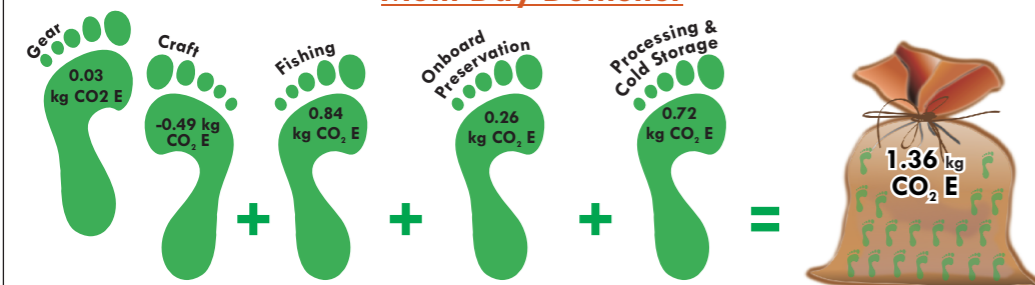
Mechanised Single Day Trawlers



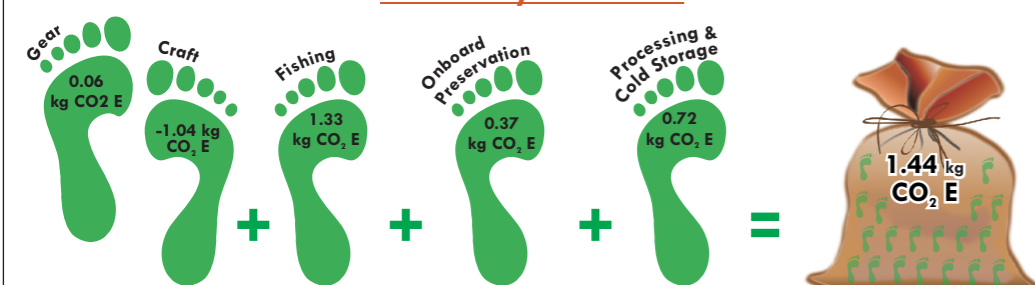
Multi Day Trawlers



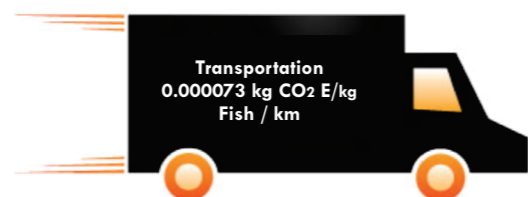
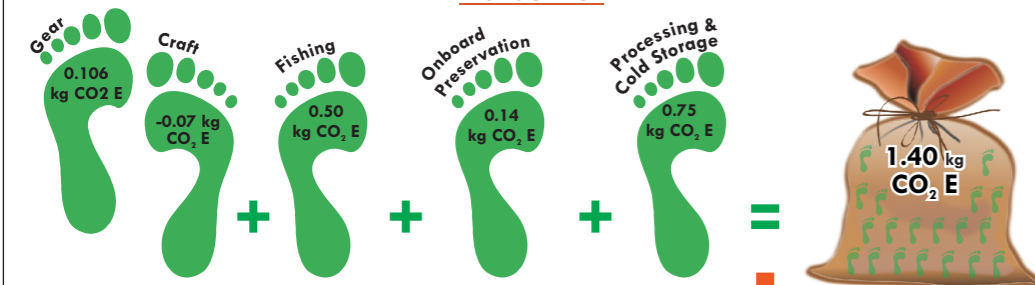
Multi Day Dolnetter



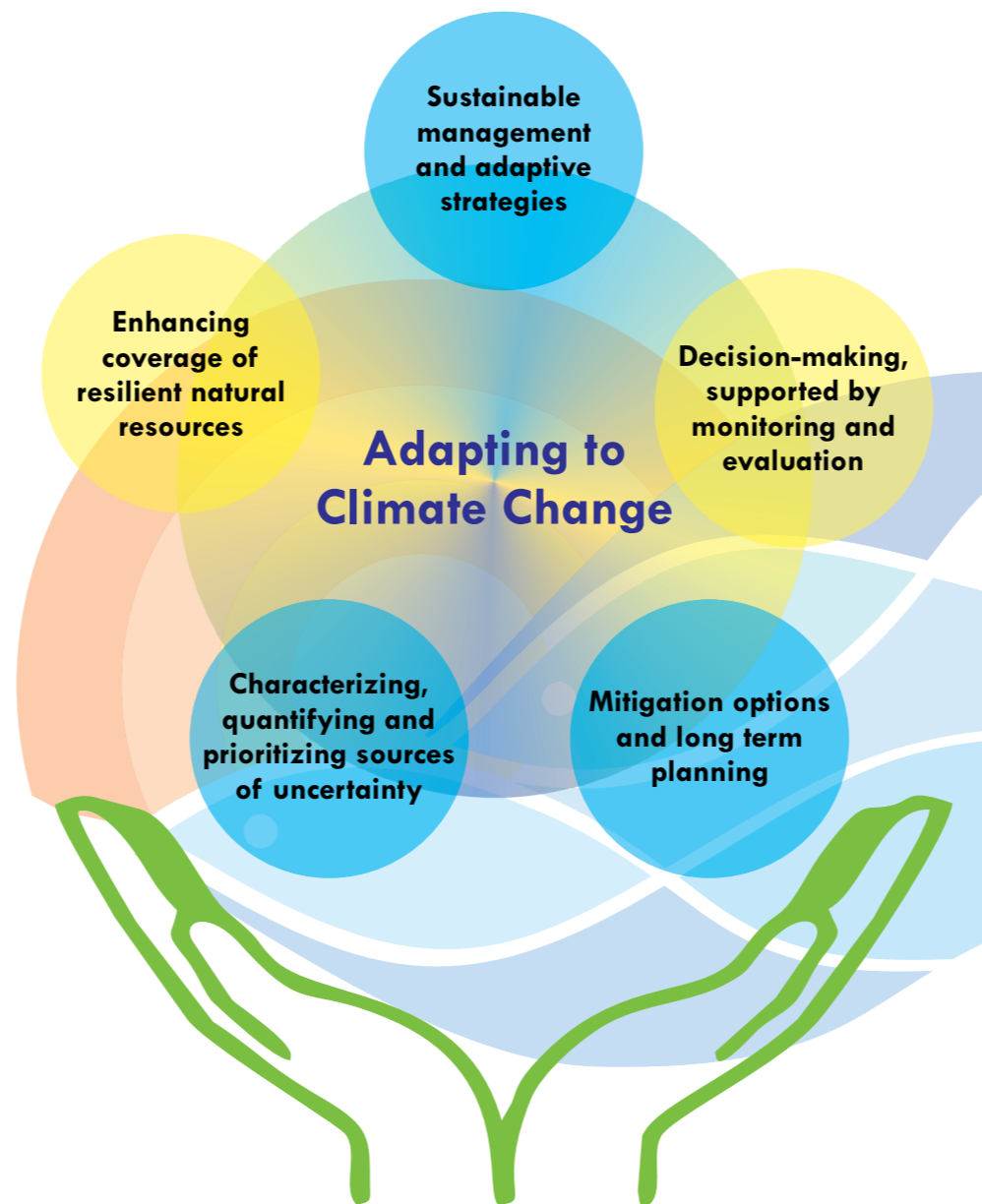
Multi Day Gillnetter



Purseiner



Adaptation Options



- Design and implement long-term policies to protect climate sensitive ecosystem
- Appropriate and region specific adaptive options for stakeholders
- Mainstreaming climate adaptation in policy and infrastructure development
- Implementation of adaptation strategies and harnessing sustainable benefits

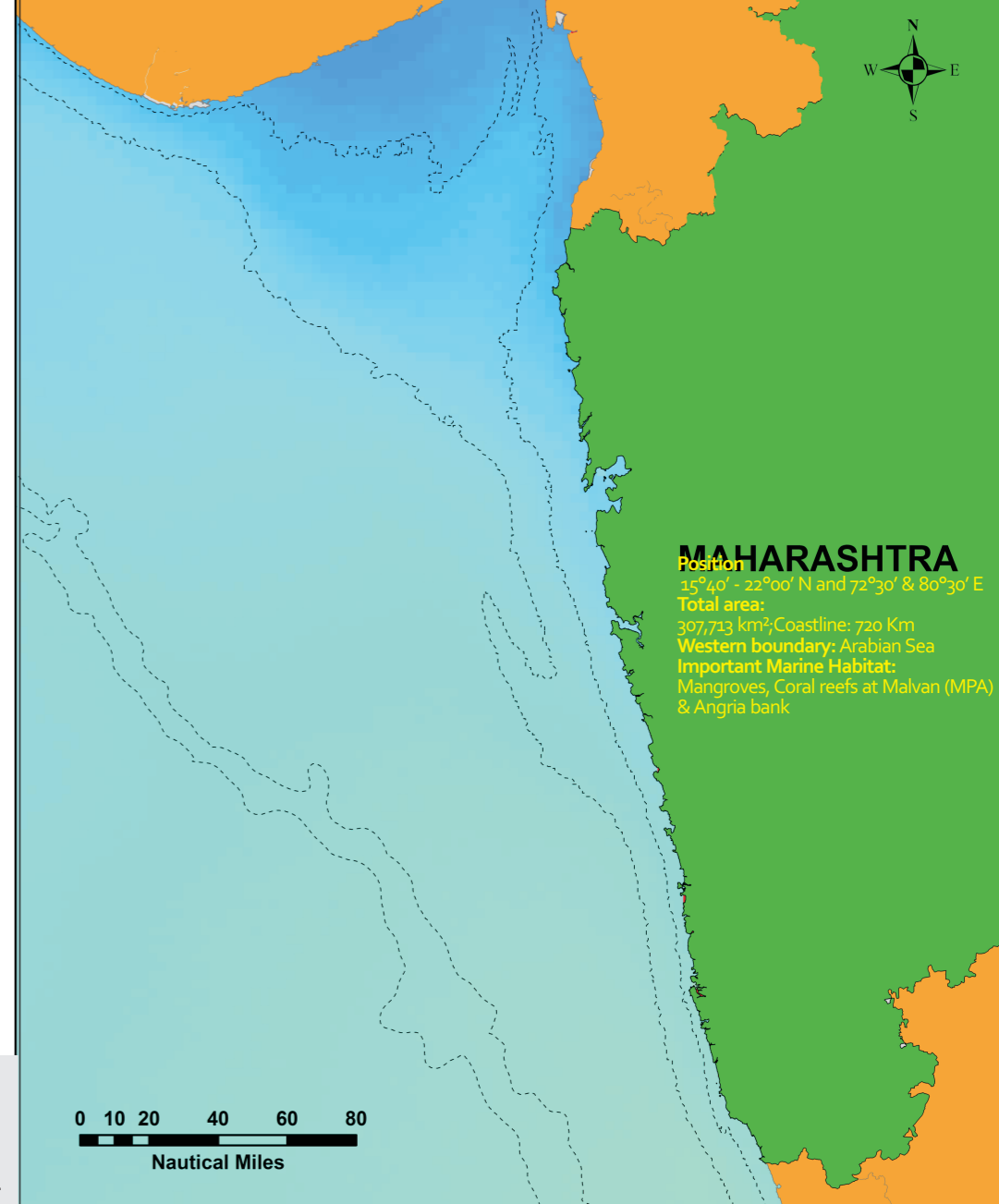
Prepared by: Anulekshmi Chellappan, Akhilesh K.V., Ramkumar S, Bala Mhadgut, Swapnil Tandel & P.U. Zacharia

Acknowledgements : Dr. V. V. Singh, Ajay Nakhwa, Santosh B, Ratheeshkumar R.

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Marine climate & fisheries scenario of Maharashtra

Climcard- 4



MAHARASHTRA
Position: 15°40' - 22°00' N and 72°30' & 80°30' E
Total area: 307,713 km²; Coastline: 720 Km
Western boundary: Arabian Sea
Important Marine Habitat: Mangroves, Coral reefs at Malvan (MPA) & Angria bank

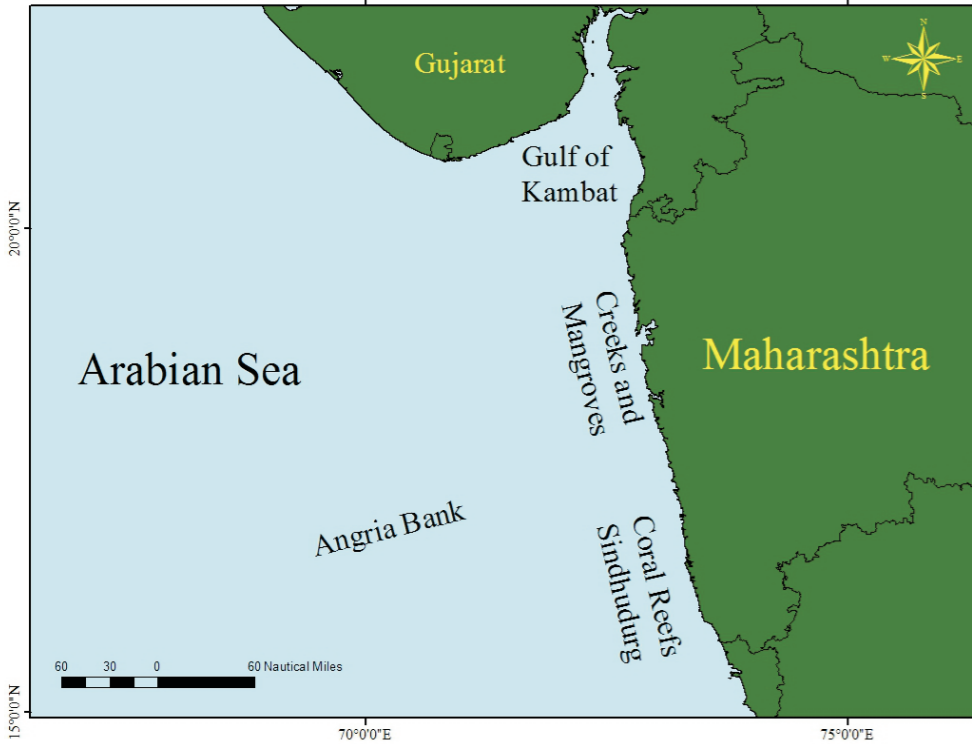


National Innovations
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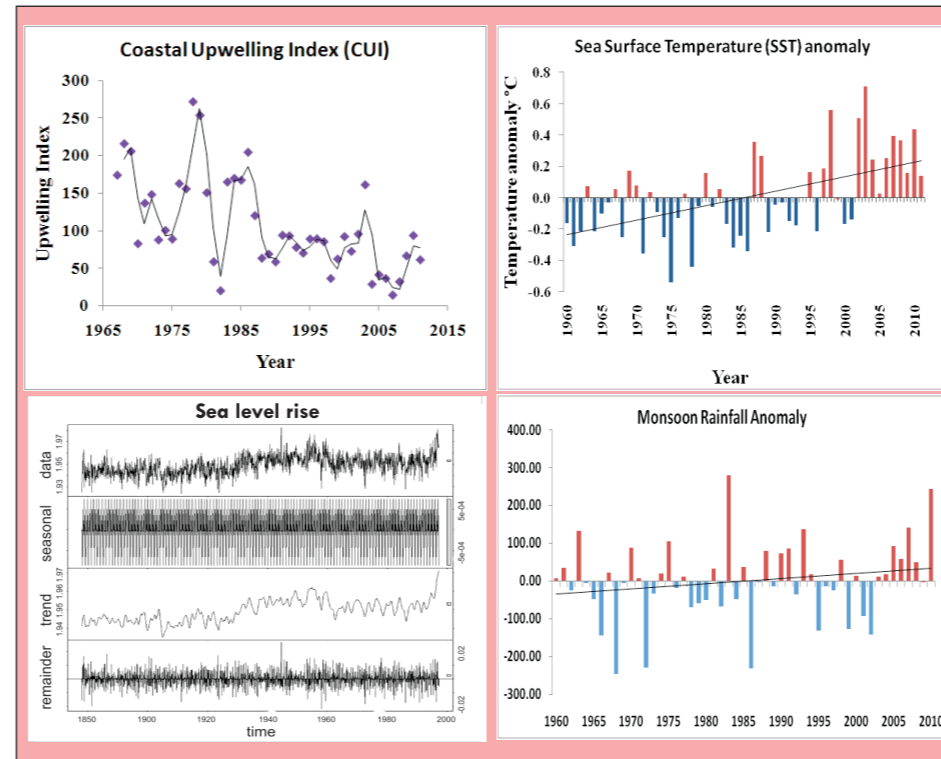


Marine Ecosystem



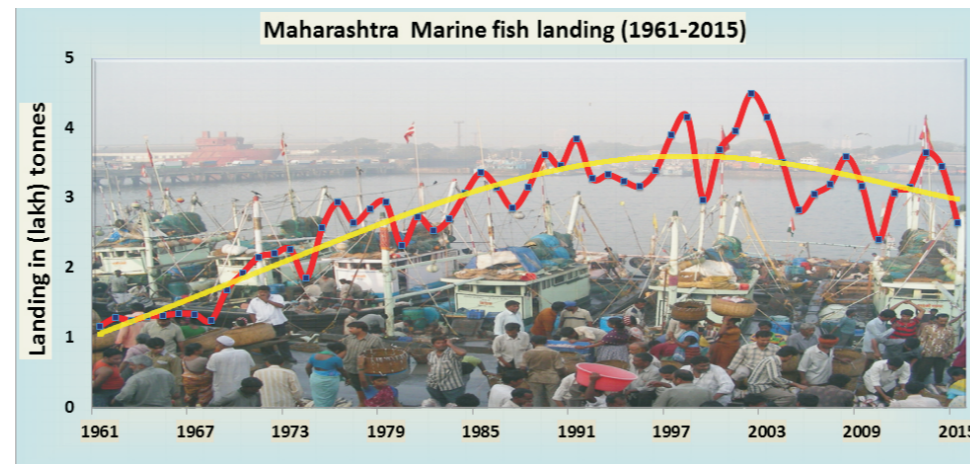
- Maharashtra has a coastline of about 720 km and continental shelf 1,11,512 sq. km, with six coastal districts
- Good mangrove coverage along the coast of Mumbai and Thane with 33 mangrove species
- Malwan marine sanctuary in Sindhudurg (corals)
- Olive Ridley Nesting ground (Velas) in Ratnagiri
- Migratory location of Flamingoes in Thane creeks/ wetlands
- Angria bank (coral habitat) in West of southern Maharashtra

Marine Climate Variability



Increase in SST- 0.4 °C during past 5 decades (1960-2015)
Sea level rise - an increase of 0.78 mm/year.

Marine Fishery



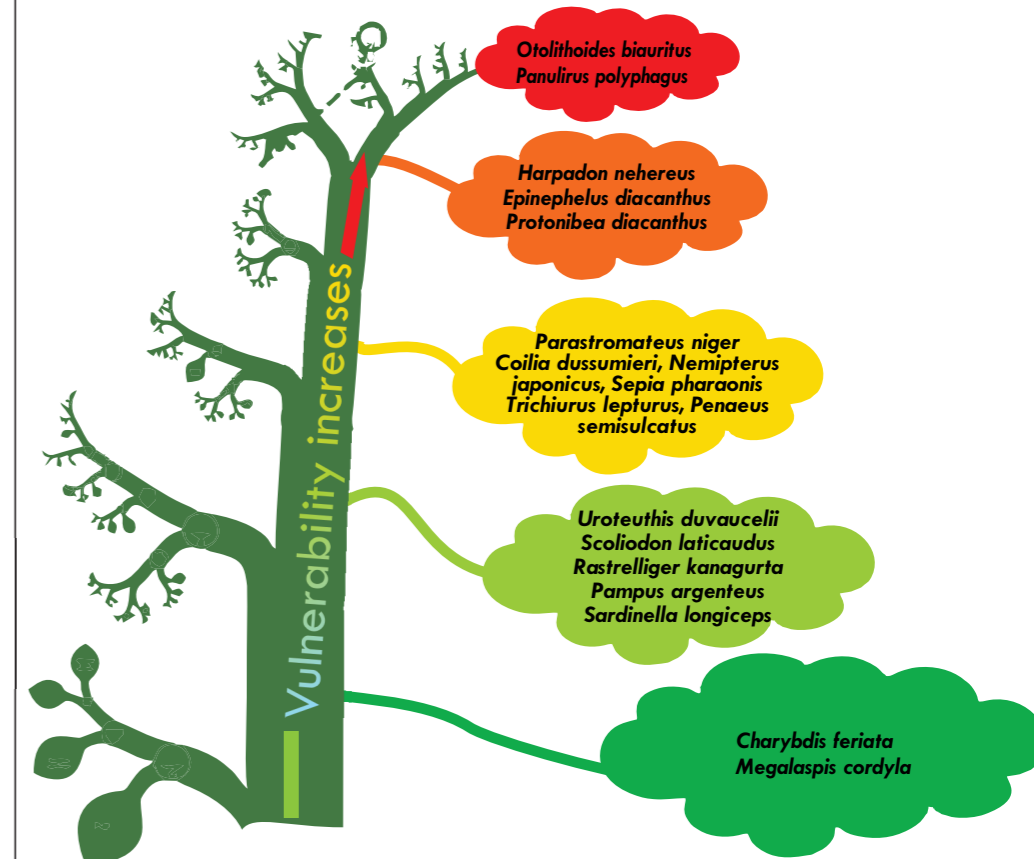
- Maharashtra ranks 6th in Marine fish production in India
- Landing in 2015: 2.65 lakh tonnes
- Decrease in Marine fish landing trend from 2001.
- Shift in the spawning season of Bombay duck (*Harpadon nehereus*) and Silver pomfret (*Pampus argenteus*) towards the cooler months when compared to the previous years.

Vulnerability

Species Vulnerability

Increase in the abundance of Bombay duck (*Harpadon nehereus*), Goldspotted grenadier anchovy (*Coilia dussumieri*) and Paste shrimp (*Acetes* spp.) in the southern coast of Maharashtra.

Highly vulnerable commercial marine species of this region are *Otolithoides biauritus*, *Panulirus polyphagus*, *Harpadon nehereus*, *Epinephelus diacanthus*, *Protonibea diacanthus* & *Thunnus tonggol*



Coastal Vulnerability

Major causes for coastal vulnerability in Maharashtra

- ★ Increased climate variability and extreme events
- ★ High population density in coastal regions
- ★ Increase in sea level, salt water ingression to water table
- ★ Overexploitation and juvenile fishing impacting future fisheries and livelihood
- ★ Oil spill, pollution and sewage
- ★ Mangrove destruction



Oil covered intertidal segment at Uran, Raigad



Tar balls on Kunkeshwar beach, Sindhudurg

Coastal ecosystems of Maharashtra are highly vulnerable to climate change and anthropogenic activities

