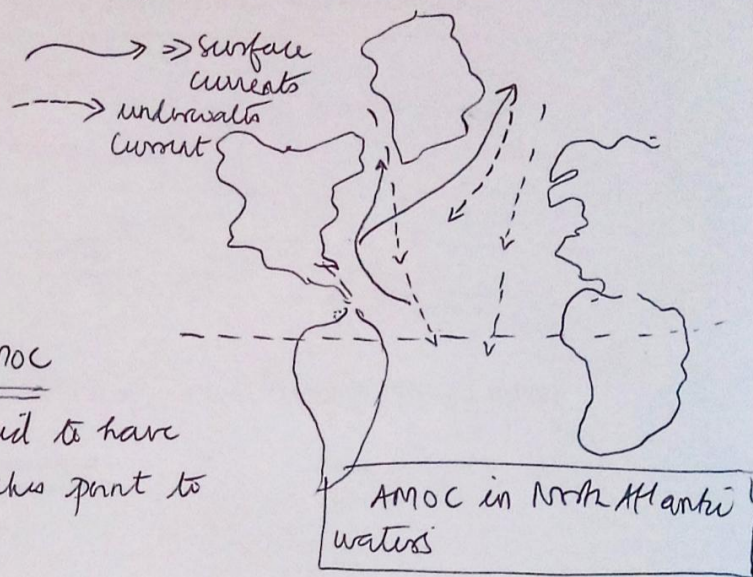


what is meant by Atlantic Meridional Overturning Current (AMOC)
 Discuss the role of Indian ocean in maintaining the stability of AMOC
 and its influence on global climate.

Atlantic Meridional Overturning current is a large system of ocean currents that carry warm tropical waters northwards into North Atlantic. It acts as a conveyor belt system that acts as a conduit for distributing ocean heat, energy, and salinity influencing global climate.

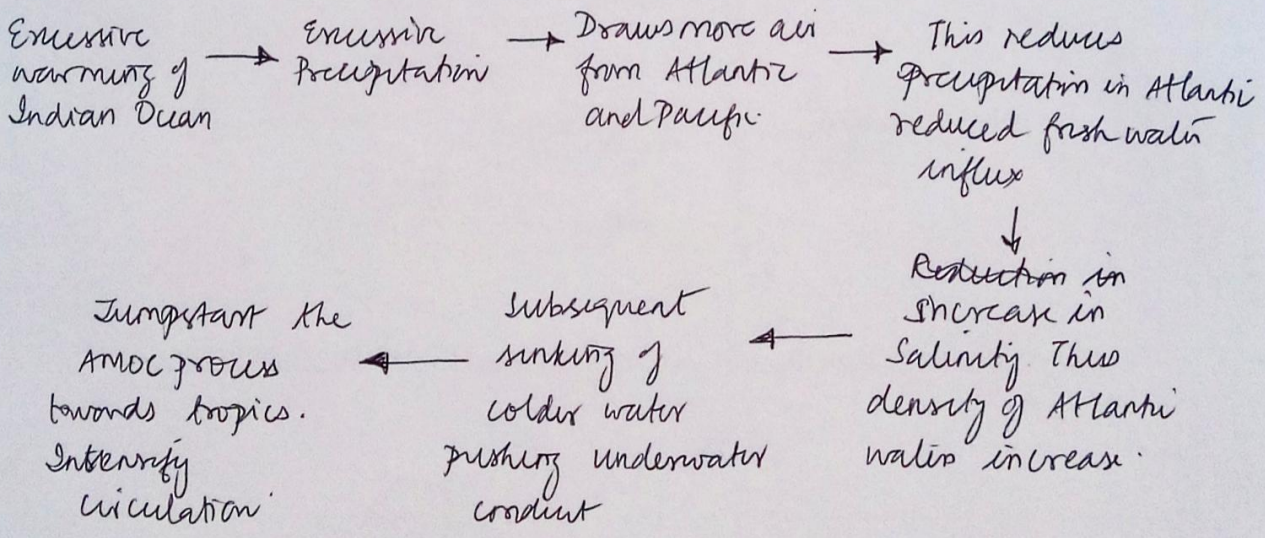
- AMOC is occurring due to
- (i) ocean currents
 - (ii) Pressure differences
 - (iii) Density, salinity
 - (iv) Sea surface temperatures
 - (v) Local winds.



ROLE OF INDIAN OCEAN in AMOC

AMOC for the past 15 years is said to have been slowed down. Various researches point to climate change effects.

Recently, the Scripps Institute of Oceanography have identified the possibility of warming Indian ocean to kick start AMOC process.



AMOC - Indian Ocean - Global climate

(2)

- 1) AMOC helps to maintain the ocean current circulation vital for the marine life.
- 2) It influences the surface wind phenomenon allowing moderation of weather in coastal areas.
- 3) ELNino - ENSO is another thermohaline circulation affecting the AMOC circulation due to heating of eastern Pacific. Thus, it indirectly affects the monsoonal activity in South Asia.
- 4) AMOC influences upwelling of oceans that serves economic interests of the nation and ocean biodiversity.
- 5) Indian ocean is the birth bed for large number of tropical cyclones throughout the year. Underwater sea temperature and circulation is vital for cyclone movements and formation that hit eastern coasts in Southern Hemisphere.
- 6) Oceans are 80% of the total carbon sink. Thermoregulation and salinity regulation of AMOC maintain ocean stability giving a net positive climate change.

Researches have pointed out that AMOC could stall when both Pacific and Indian ocean heat at same level. Thus, a wholesale study of climate regulation by oceans is needed to offset the deleterious effects of global warming.