

# **EGF Academy for Environmental Science & Geography & Forestry**



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# World's oceans set new surface temperature record: EU monitor

AFP / Aug 19, 2023, 12:09 IST

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World's oceans set new surface temperature record: EU monitor



- PARIS: The world's oceans has set a new temperature record raising concerns about knock-on effects on the planet' .. climate, marine life and coastal communities.

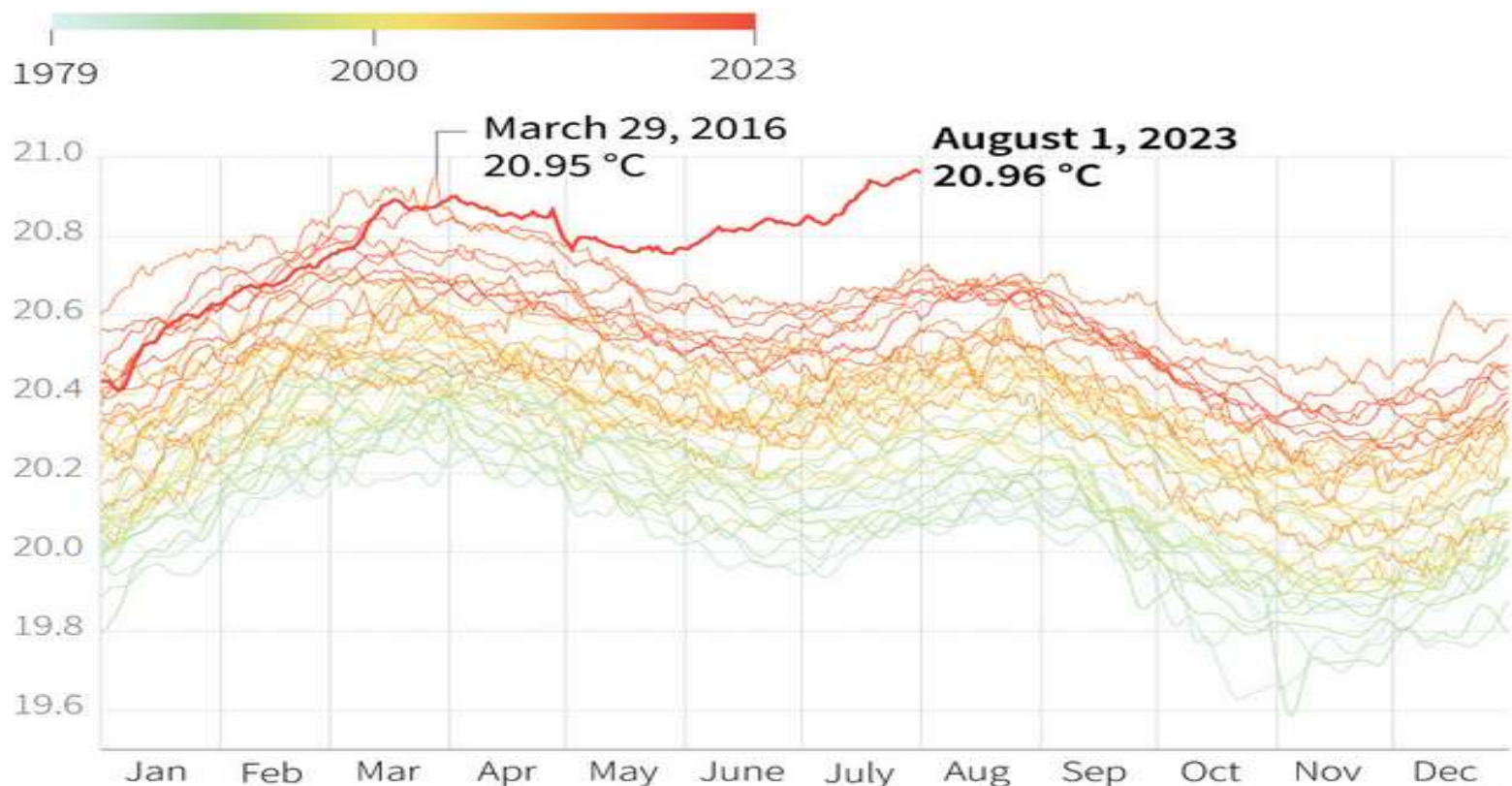
- The **average surface temperature** of the world's **oceans** **rose to 20.96 degrees Celsius on July 30**



- The **previous record** was **20.95 degrees Celsius** in **March 2016**

## Sea surface temperature reaches new high

Daily average temperature, between 60° N and 60° S parallels, by year, in °C



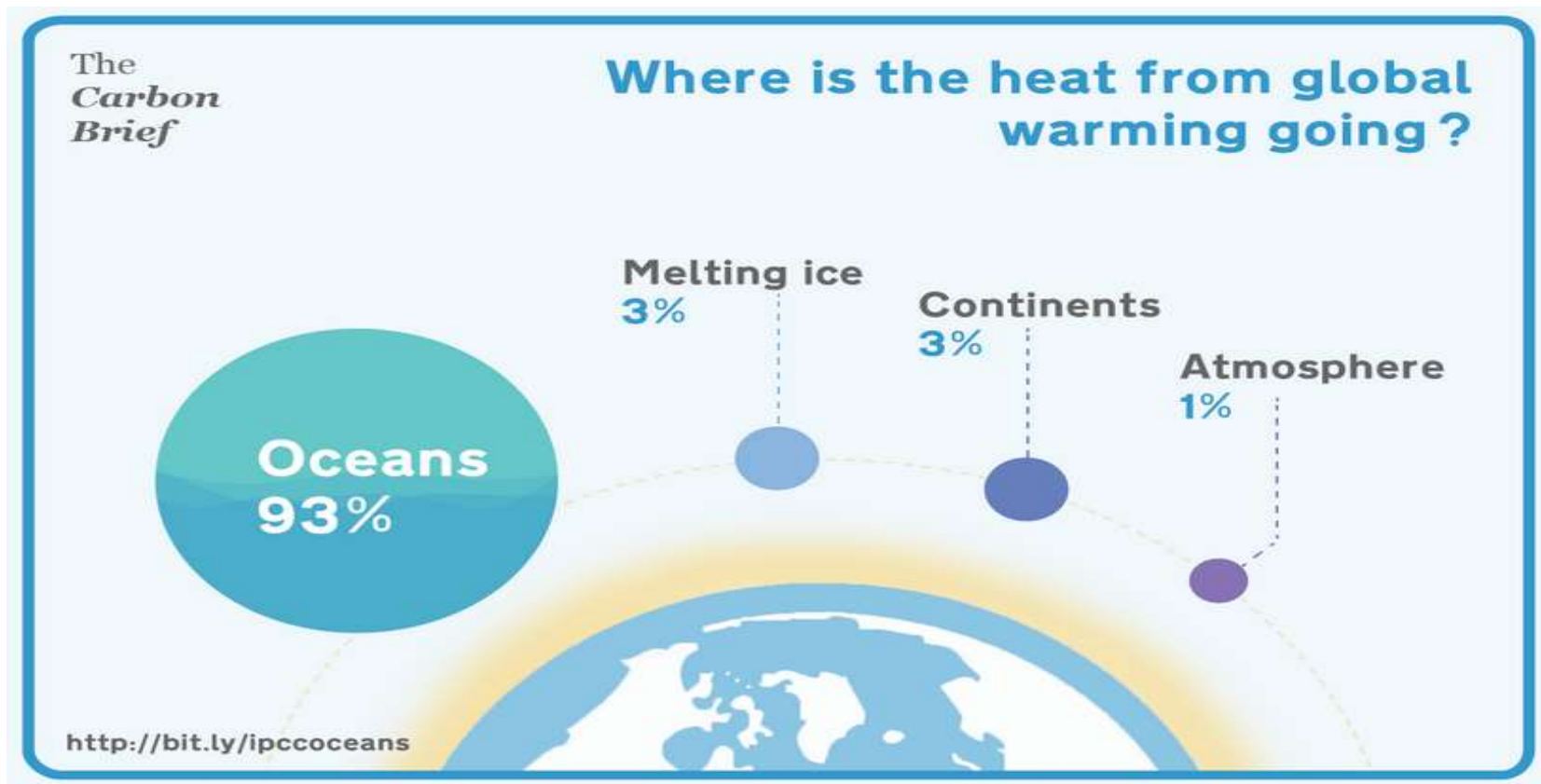


○ Temperatures are usually highest in March, not August. And this is not a good signal for the Earth.





Oceans have absorbed 90 per cent of the excess heat produced by human activity since the dawn of the industrial age, according to scientists.





- Globally, the **average ocean temperature has been besting seasonal heat records** on a **regular basis** since April.



Image credit: istockphoto.com/kappaphoto

It follows a pattern of marine heatwaves and record sea surface temperatures around the world.





**MEDITERRANEAN SEA RECORDED ITS HIGHEST-EVER  
SURFACE TEMPERATURE AT 28.71C.**





**Waters around the Florida** Keys hit temperature of just **over 38C** and possibly **breaking a world record**.







# Impacts of ocean warming





The **Ocean heat-wave** is an immediate **threat to some marine life**

There is **Coral Bleaching in Florida** as a direct result





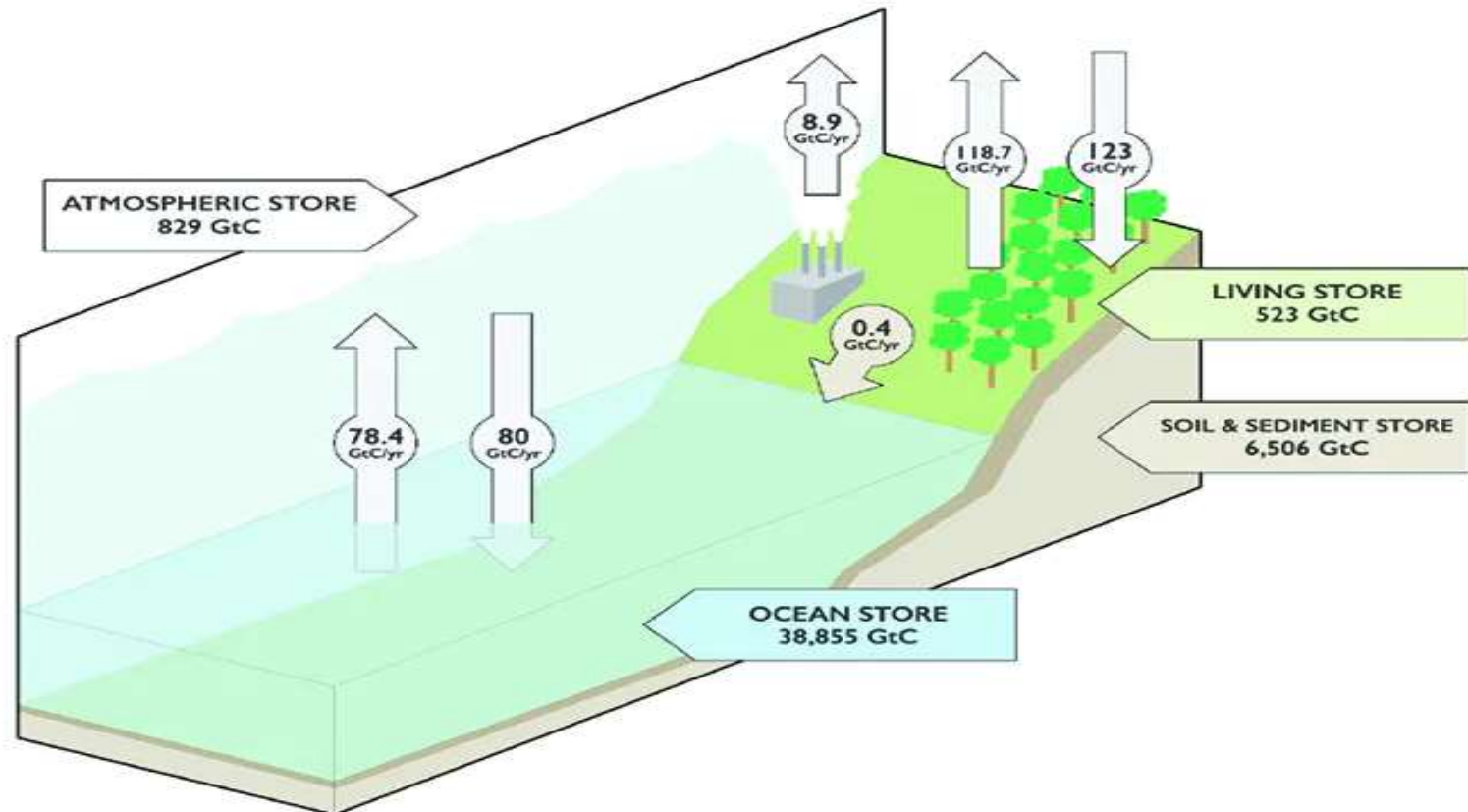
Hotter oceans also have an effect on marine life with whales and some fish **species moving to cooler waters** which **upsets the food chain.**

This could **threaten fish stocks** and thus **undermine food security** in certain parts of the globe.





- **Warmer oceans** are also **less capable of absorbing carbon dioxide (CO<sub>2</sub>)**, reinforcing the vicious cycle of global warming.
- **leading to an increase in** the amount of this **greenhouse gas in the atmosphere.**





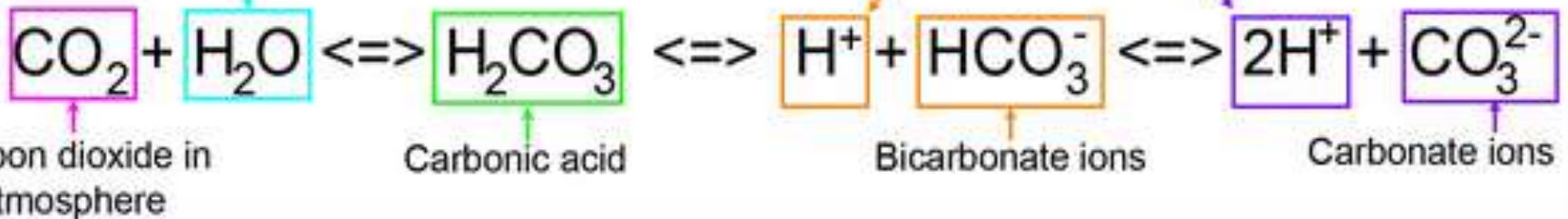


# carbon dioxide is present in oceans in the form of carbonates and bicarbonates

## Airborne fraction of CO<sub>2</sub>

- The amount of anthropogenic carbon emitted to the amount that remains in the atmosphere
  - Plant removal = 35%
  - **Oceans removal=30%**
  - **Airborne fraction= 35%**

Seawater that is absorbing carbon dioxide from atmosphere





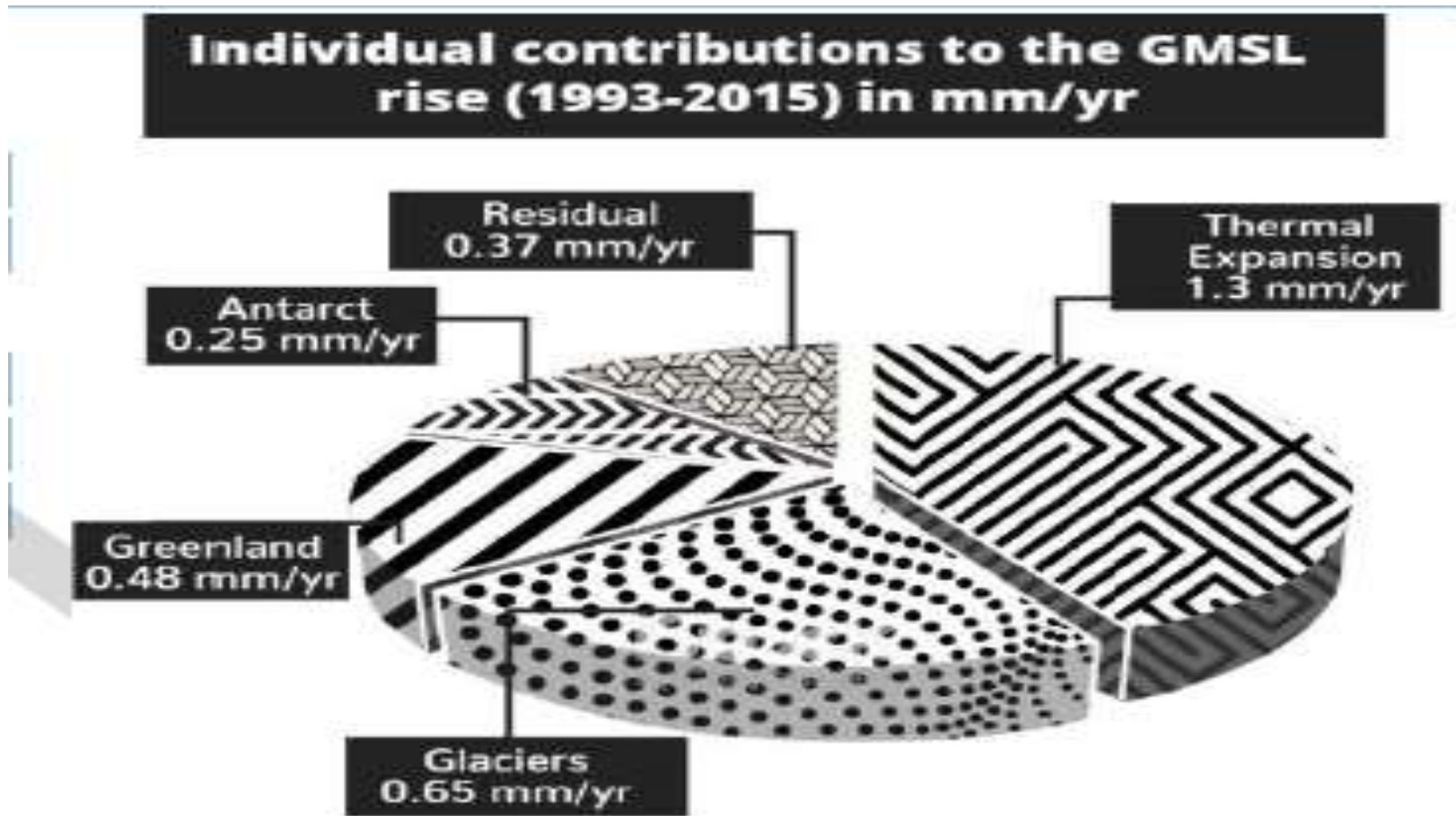
- high ocean temperatures can also increase the chance of hurricanes, cyclones, storms and extreme weather.

## Requirements for cyclone formation

- Presence of the **Coriolis force** enough to create a cyclonic vortex,
  - A pre-existing **weak low-pressure area**
- Large **sea** surface with **temperature higher than 27°C**,



- Warm ocean causes sea level rise





- **UN Secretary-General underscored** the need for **global action on GHG emissions**, climate adaptation and climate finance.
- **He warned** that “the **era of global warming has ended**” and “**the era of global boiling has arrived.**”
- **Although climate change is evident**, “**we can still stop the worst,**” he said.
- “But to do so **we must turn a year of burning heat into a year of burning ambition.**”





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