

What is the Thermal Dome?

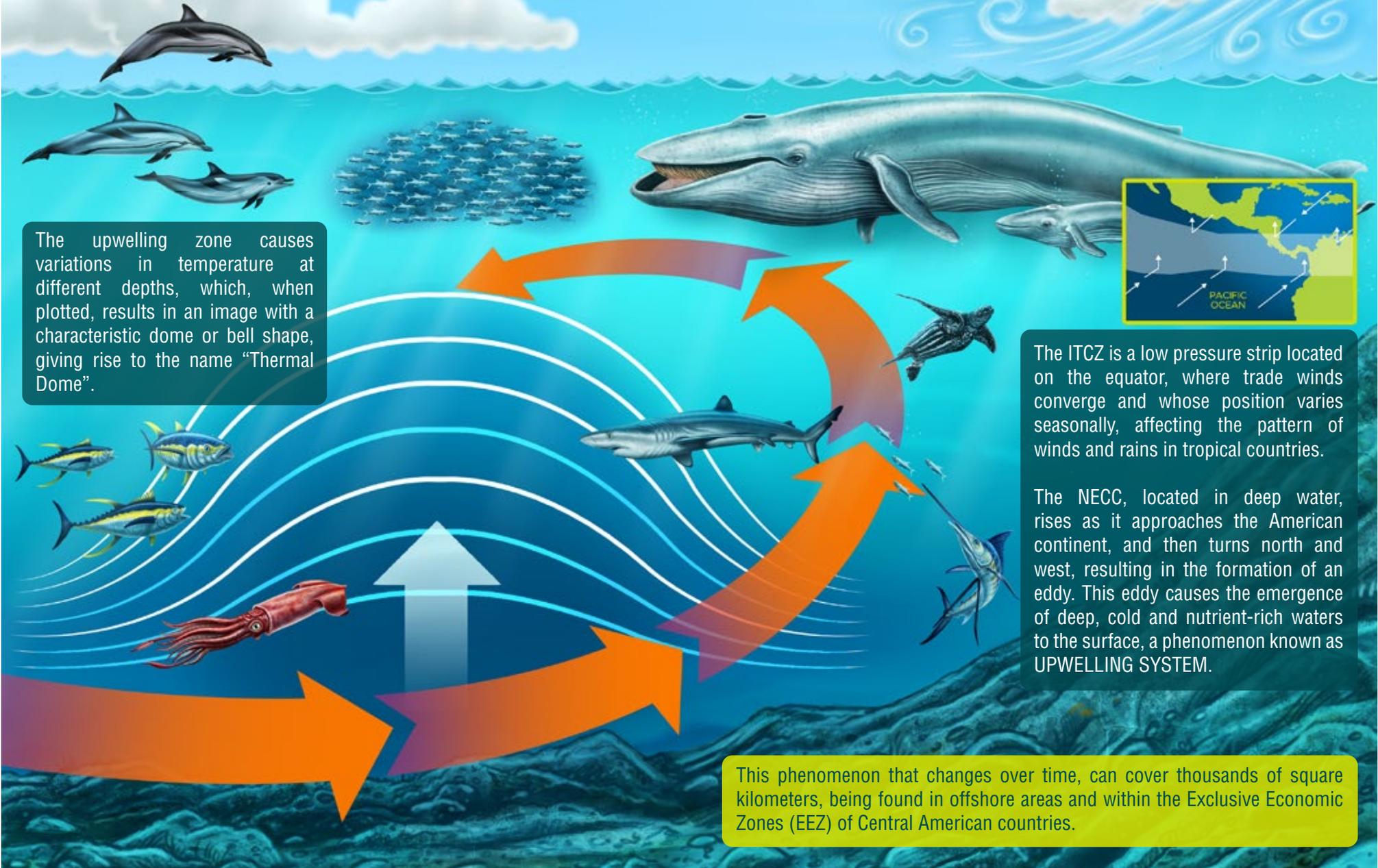
- **Unique oceanographic phenomenon** in the American continent.
- It is the result of the action of the trade winds, the marine currents (the North Equatorial Counter Current - NECC, the Costa Rica Coastal Current - CRCC and the North Equatorial Current - NEC) and the displacement of the Intertropical Convergence Zone (ITCZ).

The upwelling zone causes variations in temperature at different depths, which, when plotted, results in an image with a characteristic dome or bell shape, giving rise to the name "Thermal Dome".

The ITCZ is a low pressure strip located on the equator, where trade winds converge and whose position varies seasonally, affecting the pattern of winds and rains in tropical countries.

The NECC, located in deep water, rises as it approaches the American continent, and then turns north and west, resulting in the formation of an eddy. This eddy causes the emergence of deep, cold and nutrient-rich waters to the surface, a phenomenon known as UPWELLING SYSTEM.

This phenomenon that changes over time, can cover thousands of square kilometers, being found in offshore areas and within the Exclusive Economic Zones (EEZ) of Central American countries.



What is its importance?

1. Ecological



It is an important field for **feeding, reproduction and migration** for a large number of species.

Buffers the effects of climate change

due to the enormous amount of carbon fixed in its waters, as a result of the photosynthesis process of microalgae.

CO₂

O₂

2. Economic

The species that frequent the dome attract tourism to Central America's coastal areas, revitalizing the economy.



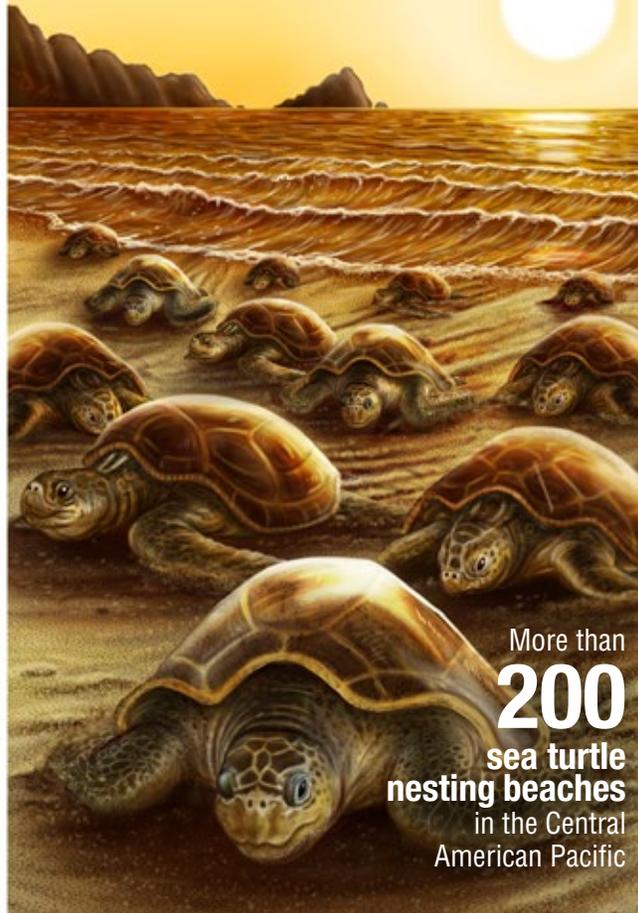
\$278

million generated annually for **whale watching**



\$800

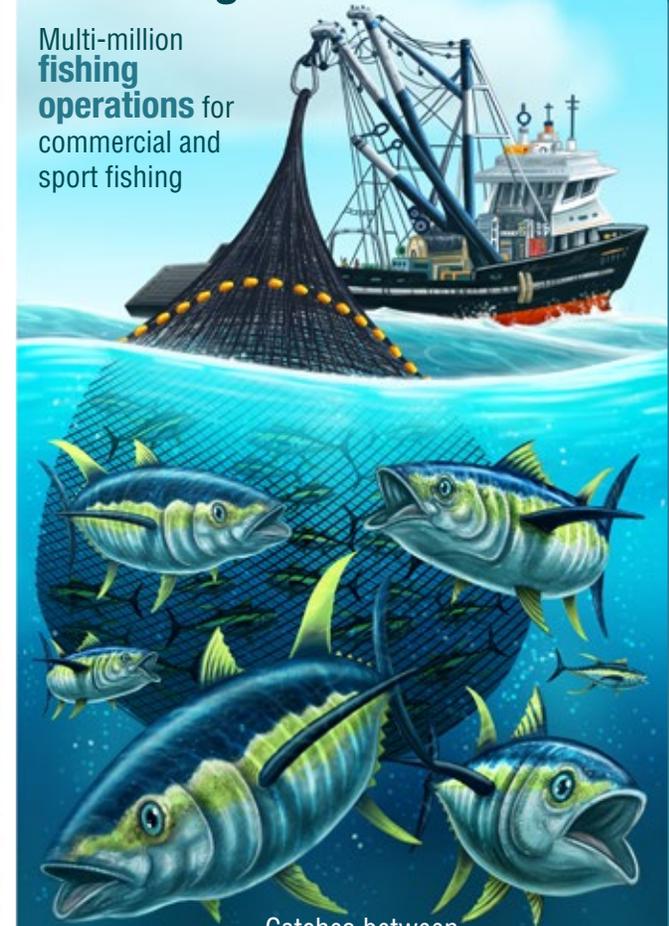
million generated annually by **sport fishing** in Central America



More than **200** sea turtle nesting beaches in the Central American Pacific

3. Fishing

Multi-million **fishing operations** for commercial and sport fishing



Catches between **2.5 and 2.6** tons of tuna per day.

International Relevance

Hope Spot (Mission Blue): 2014

Convention on Biological Diversity (CDB): Designated Ecologically or Biologically Significant Marine Area (EBSA) in 2014