OCEANOGRAPHER

Woman scientist who studies the ocean

What is oceanography?

Oceanography is the science that studies the ocean. It encompasses many aspects: ocean currents, tides, waves, marine organisms and the habitats where they live, plate tectonics and geological processes of the seabed, and the chemistry of both the seawater and the exchanges between the atmosphere or the lithosphere and the seawater, among others.

What does an oceanographer do?

Women oceanographers work to know and understand the coasts and the ocean, in order to better conserve and manage them. Many discoveries made in the field of oceanography are the result of multidisciplinary, since they involve several areas of scientific specialization.

CHEMICAL OCEANOGRAPHY

They study the composition of seawater, including the analysis of nutrients and oxygen, and the chemical processes of marine organisms. They also study marine pollutants and how they affect marine organisms.

PHYSICAL OCEANOGRAPHY

They investigate the physical conditions and processes that occur in the ocean such as waves, ocean currents, tides, or eddies. They also study how coasts and beaches change by observing sand transport and stroms' effects.

BIOLOGICAL OCEANOGRAPHY

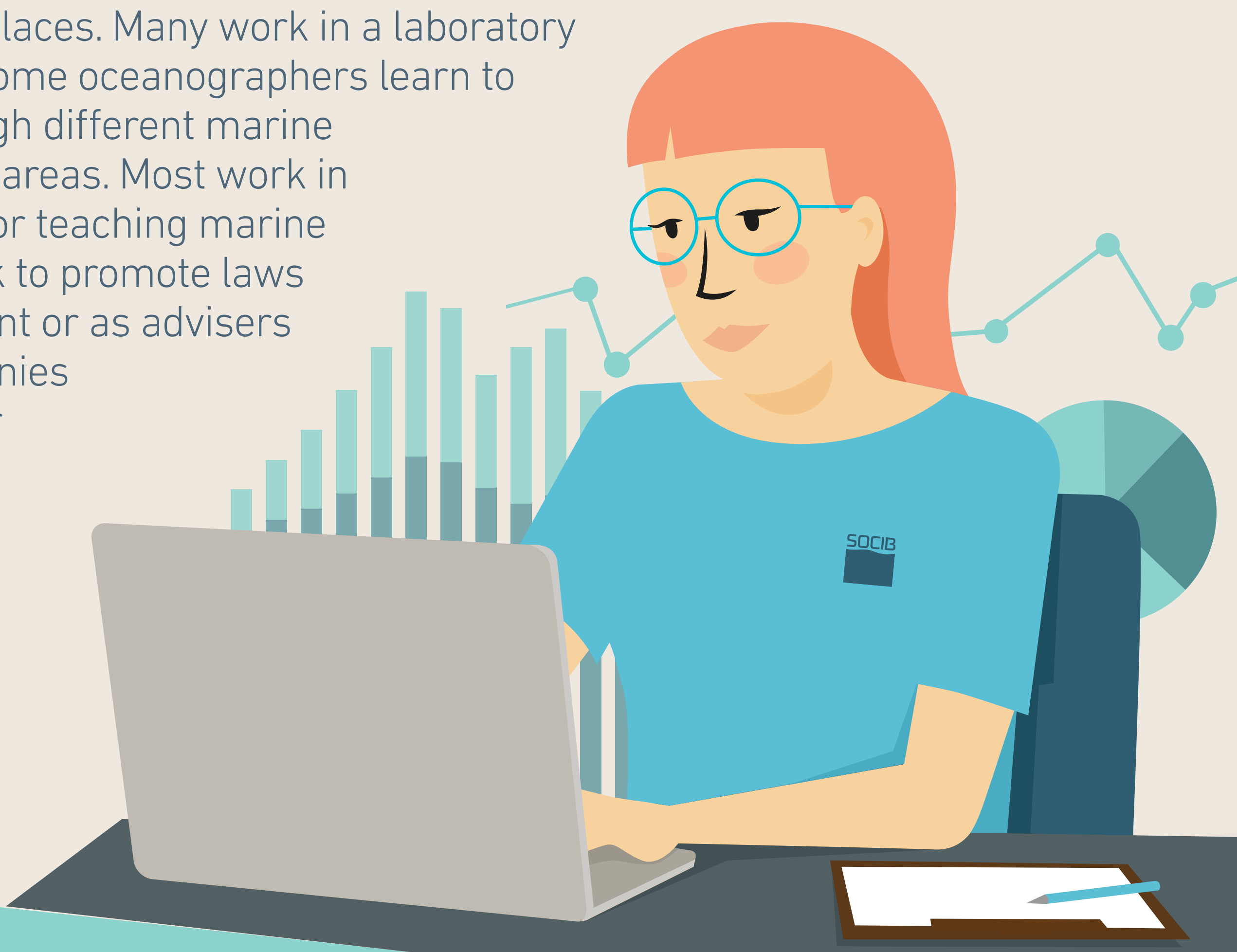
They study all marine organisms and their relationship with the environment. They perform different experiments, collect data, take samples, and also observe marine flora and fauna.

GEOLOGICAL OCEANOGRAPHY

They explore the ocean floor and the formation of beaches. They also investigate underwater volcanoes and mountain ranges or the evolution of the sea level.

Where does an oceanographer work?

Women oceanographers' primary task is research. They spend lots of time collecting data, running experiments, reading about other's work, and then writing about their results and sharing their findings with society. They can work in many places. Many work in a laboratory or on board a research vessel. Some oceanographers learn to dive scuba, collecting data through different marine technologies or studying coastal areas. Most work in institutions devoted to research or teaching marine science. Some of them also work to promote laws that improve coastal management or as advisers in the industrial sector, in companies dedicated to energy resources or engineering.



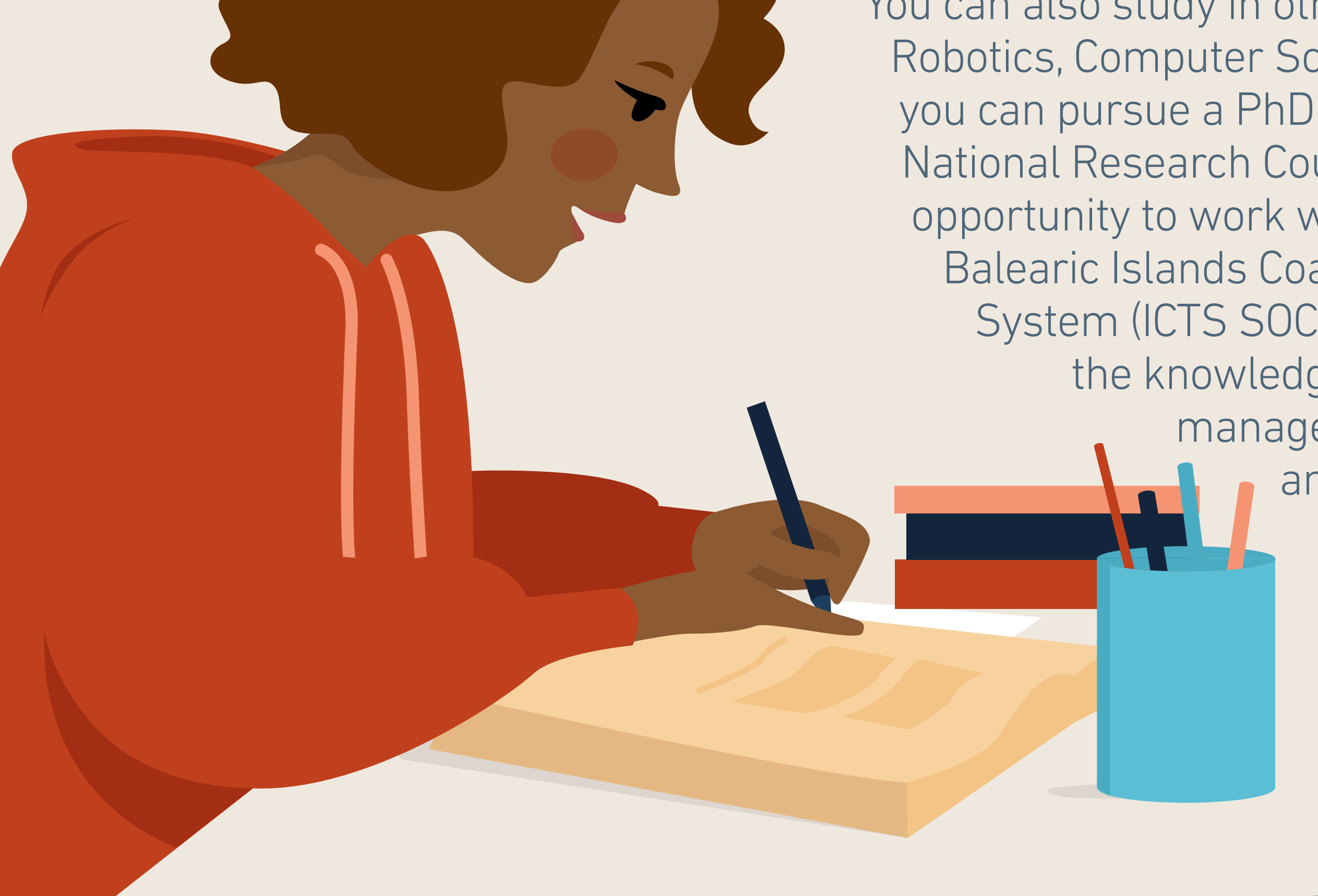
What can an oceanographer do to conserve the ocean?

A healthy ocean equals a healthy planet. Oceanographic research is crucial in the fight to mitigate climate change effects, marine pollution or overfishing. They can:

- Use forecasting models to understand the physical processes of the ocean, such as eddies, that have an impact on the climate, biological activity, maritime safety, tourism or the environment.
- Promote interdisciplinarily research and guarantee open access to data and information as an essential element to investigate and sustainably manage the ocean.
- Raise awareness in society about the importance of ocean health and its direct relationship with human well-being.

How can you be an oceanographer?

If you are a curious person, passionate about the sea, with a sense of adventure, and you like to explore (in addition to science and mathematics), you may want to be an oceanographer. At the university, you can graduate in Marine Sciences, Physics, Biology, Geology, Chemistry, Geography... You can also study in other fields such as Engineering, Robotics, Computer Science, or Mathematics. Afterward, you can pursue a PhD at the institutes of the Spanish National Research Council (CSIC) and have the opportunity to work with other researchers in the Balearic Islands Coastal Observing and Forecasting System (ICTS SOCIB), where we work to advance in the knowledge, understanding, and sustainable management of the Mediterranean Sea and the ocean.



Sources:
www.noaa.gov
www.environmentalscience.org

Researching the ocean, sharing the future

www.socib.es
@socib_icts
ICTS SOCIB

MINISTERIO DE CIENCIA E INNOVACIÓN
CSIC Consejo Superior de Investigaciones Científicas
GOVERN ILLES BALEARS
SOCIB Balearic Islands Coastal Observing and Forecasting System