

# Science of the oceans

Showcasing cutting edge deep-sea research

## Keywords

Ocean science • Deep sea • Current research

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THE ROYAL SOCIETY  
SUMMER SCIENCE EXHIBITION

The science of the oceans stand presents visitors with an insight into cutting edge research topics being studied at the University of Southampton and the UK's National Oceanography Centre. There is so much going on in the world's oceans, and so little of it has been observed or understood. The oceans can provide food, adventure and a source of renewable energy. They can also be a powerful and dangerous force.

From deep-sea exploration to predicting climate change, the science of the oceans stand will help to explain what's going on in deep-seas around the world. The exhibit will change on a daily basis. Please read on to find out more about each display, and follow the web-links for further information.

### **Mountains of the deep**

This activity shows the importance of seamounts for the deep ocean from a biological and physical perspective, using a water tank demonstration and film footage. Biological samples will also be on display.



### **Exhibitors:**

**Dr Tony Curran, Mr Gerard McCarthy, Ms Sally Close, Ms Lorna Mclean, Mr Chris Atkinson, Mr Jon Lauderdale, Ms Kirsty Morris, Ms Maria Broadbridge, Mr Rob Curry, Ms Helen Griffin, Mr Joe Stewart, Ms Anya Crocker, Ms Jennifer Riley, Dr Timos Papadopoulos**  
*University of Southampton and National Oceanography Centre, Southampton*

### **Sounds of the oceans**

Dolphins use sound to 'see' prey and other objects in the ocean. They can tell the subtle differences in the echoes created by different objects underwater. Try our demo to experience how echolocation works and see if you can beat the dolphin!

Oil industry robots provide information for a more complete picture of the biodiversity of the deep ocean. (Image courtesy of the SERPENT project)



Underwater mountains are an important and little-explored ecosystem. (Image courtesy of the Institute of Zoology and the Fundacao Reibikorf-Niggeler)

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### Rapid climate change and the Great Atlantic Conveyor

The Great Atlantic Conveyor carries huge amounts of heat in the ocean to Western Europe, greatly influencing our climate. How does the conveyor work and what would happen if the conveyor were to slow or even shut down? What is happening to the conveyor now? The RAPID Climate Change project tries to answer these questions by measuring the ocean and using computer models to predict what the future holds for the Atlantic Conveyor and our climate.

### New technologies for oceanography

Modern technology is revolutionising the way we study the oceans. Seals, satellites and 3000 underwater floats all over the world are playing an important role in this – come and find out how!

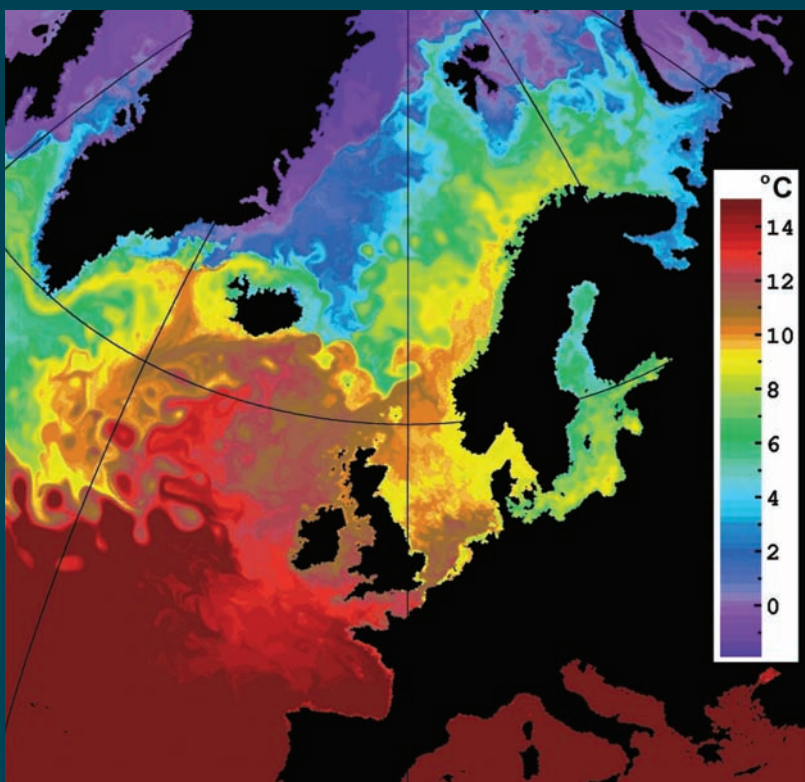
### Real science, real deep – robots do deep-sea research

The freezing darkness and huge pressures of the deep oceans hide some of the last great secrets of our blue planet. The SERPENT (Scientific and Environmental ROV Partnership using Existing industrial Technology) project explores this exciting frontier using oil industry robots to carry out research and build a more complete picture of the biodiversity of this mysterious undersea world.

### Sands of time

Crocodiles in the Arctic and ice over London? We've all heard the climate was different in the past but how do we know this and why does it change?

From microscopic fossils to impact diamonds, the ocean's history is not only fascinating but also provides a vital perspective on anthropogenic global warming.



The oceans play a major part in regulating the planet's temperature  
(OCCAM model image courtesy of A. Coward, National Oceanography Centre, Southampton)



Subsurface floats which transmit readings to satellites to be relayed back to researchers. (Image © National Oceanography Centre, Southampton)

### Further information

National Oceanography Centre, Southampton:

[www.noc.soton.ac.uk](http://www.noc.soton.ac.uk)

Institute of Sound and Vibration Research:

[www.isvr.soton.ac.uk/SPCG](http://www.isvr.soton.ac.uk/SPCG)

[royalsociety.org](http://royalsociety.org)