



OSIL

Environmental Instruments
and Systems

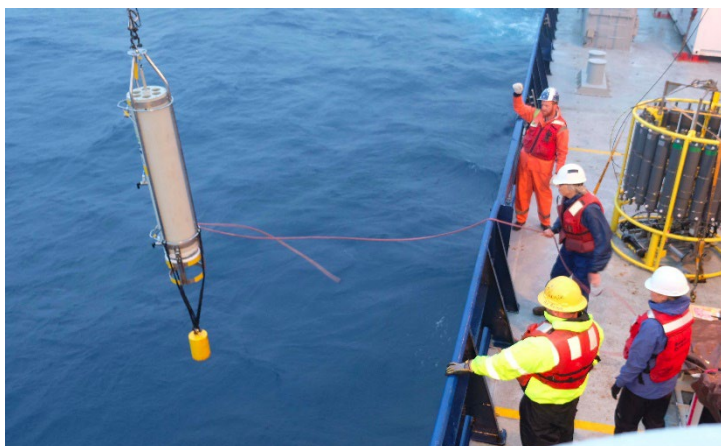
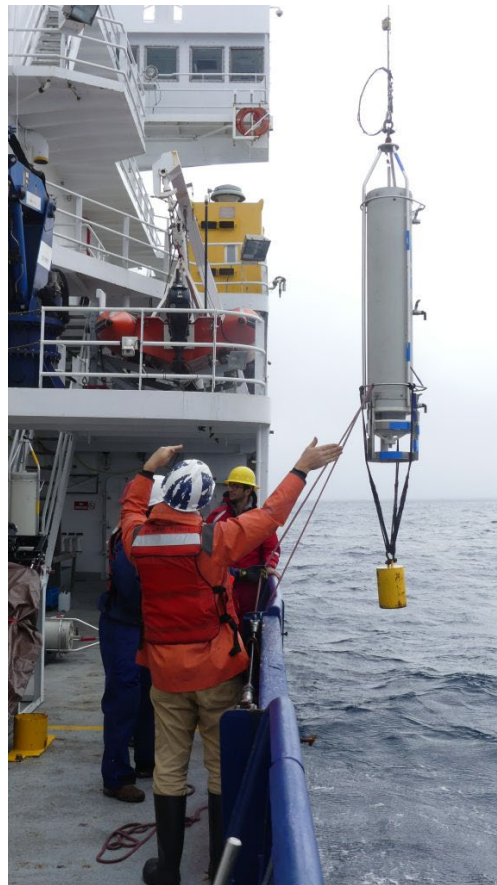
NASA Carbon Export studies with Marine Snow Catchers

*OSIL
Application
Note*

The NASA EXPORTS field campaign has been equipped with Marine Snow Catchers from OSIL.

The goal of the EXPORTS field campaign is to develop a predictive understanding of the export and fate of global ocean primary production and its implications for the Earth's carbon cycle in present and future climates, and will contribute to the NASA PACE (Plankton, Aerosol, Cloud, ocean Ecosystem) Mission that aims to provide an insight into Earth's ocean and atmosphere using remote sensing.

Marine Snow Catchers are large volume water samplers that have separable top and bottom sections with a variety of taps along its length that allow researchers to collect and characterise suspended and sinking particles in the water column.



The principle of this device relies on the rapidity with which marine snow particles sink when enclosed in still water. 100 litres of water are collected in a messenger operated PVC water bottle. Water transport through the device during descent is controlled through two large diameter terminal apertures constructed to reduce turbulence.





OSIL

Environmental Instruments
and Systems

NASA Carbon Export studies with Marine Snow Catchers

*OSIL
Application
Note*

After recovery, the device remains upright on deck for two hours to allow the marine snow particles to sink to the bottom. The top 95 litres are then slowly drained through a tap. The bottom section of the water bottle, containing the remaining 5 litres of water and the marine snow, is then disconnected. The lower section can then be taken into the laboratory where the marine snow particles are photographed and removed from the flat bottom of the chamber with a wide-bore pipette. The bottom chamber has transparent sides though which spot lights can be directed to increase the visibility of the settled marine snow particles.



For further information please contact:

OSIL

Culkin House

C8 Endeavour Business Park

Penner Road

Havant

Hampshire

PO9 1QN

Tel: +44 (0)2392 488 240

Email: osil@osil.com

Web: www.osil.com

Images courtesy of Colleen Durkin, Ken Buesseler & Elisa Romanelli

