



From Nano to Macro, Shallow to 10,984 m, Vast & Essential for Life on Earth

The Essential Principles of Ocean Sciences

1. The Earth has one big ocean with many features
2. The ocean and life in the ocean shape the features of Earth
3. The ocean is a major influence on weather and climate
4. The ocean made Earth habitable
5. The ocean supports a great diversity of life and ecosystems
6. The ocean and humans are inextricably interconnected
7. The ocean is largely unexplored

Sea temperature **Ocean Acidification** **Sea level**

Global mean surface temperature (GMST) will increase ~ 1.5°C

Deoxygenation

Leukorhiza octona
Up to 15 mm

Professor Colin Moffat, Chief Scientific Advisor, Marine Scottish Government

There is one single ocean, comprised of interconnecting ocean basins, contains approximately 1.33 billion km³ of water. The heat capacity of water means that the ocean has absorbed about 90% of the additional heat resulting from the increased concentration of atmospheric greenhouse gasses. Furthermore, as the concentration of carbon dioxide has increased in the atmosphere, the concentration in the ocean has also increased resulting in ocean acidification. Other human activities, for example, removal of target species, aquaculture, leisure and recreation, renewable energy production, transport, and communication, are placing direct pressures on the ocean which are resulting in changes, including in biodiversity.

The criticality of the ocean to life on Earth, as well as the wellbeing associated with living near the coast, are now well recognised. Significant, and immediate, interventions are required if tipping points are to be avoided. Management actions are being taken, be they marine protected areas or changes in fishing practices. However, the plan must go further based on various international agreements, including the UN Sustainable Development Goals and the UN Decade of Ocean Science for Sustainable Development (2021 – 2030). By acting now, there is a future when the ocean will be less impacted and the current decline in state is reversed

<p>Tuesday 8th December 2020 at 18:30</p> <p>Guests and visitors are welcome to attend this meeting.</p>	<p>Online Zoom Presentation with Registration Through Eventbrite Link Below by 14:00 Sunday 6th December 2020</p> <p>https://www.eventbrite.co.uk/e/from-nano-to-macro-shallow-to-10984-m-vast-essential-for-life-on-earth-tickets-128242945101</p> <p>Zoom link with instructions will be sent to registrants a few days before the meeting.</p>
<p>CPD Certificates will be available for this meeting.</p> <p>Email Contact: rob.harleyuk@gmail.com</p> <p>Find us on Facebook: https://www.facebook.com/#!/RINAScotland</p>	