

A Decade of Argo: Achievements and Future Challenges

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When first mooted in the late 1990's, the idea of deploying an array of thousands of real-time reporting deep profiling ocean floats spread evenly across the global oceans was considered extremely ambitious by many, and simply preposterous by some. A decade later, the Argo project has largely achieved the goal of sustaining an array of over 3000 active floats delivering high quality temperature and salinity profiles from depths of around 2000m to the surface every 10 days. This data stream has revolutionised our ability to characterise and track subsurface ocean processes across the globe, in particular delivering first order information from poorly sampled regions such as the Southern Hemisphere and winter oceans. In this talk we will describe the status of Argo, its current challenges and possible future missions. These could include extensions to cover existing gaps (deep and ice-covered ocean) and new parameters such as oxygen and optical measurements. We will also touch on some of the new science based on Argo, including what Argo is telling us about fundamental ocean processes, long-term changes in the oceans, and how this relates to the changing global water cycle, sea level and energy budgets.