

Argo: past achievements, future risks and opportunities

S. Wijffels¹, D. Roemmich², H. Freeland³, and the Argo Steering Team

¹CSIRO Oceans and Atmosphere, Hobart, Australia

²Scripps Institution of Oceanography, San Diego, USA

³Institute of Ocean Sciences, Victoria, Canada

Since reaching global coverage in 2006, the Argo array of profiling floats has been delivering high-quality temperature and salinity profiles from depths of around 2000m to the surface every 10 days (www.argo.net). Argo now supplies the dominant subsurface ocean temperature and salinity data stream underpinning ocean, seasonal climate and weather forecasting. Papers reliant on Argo data are now being published faster than one per day, reporting breakthroughs in tracking ocean inventories of heat and freshwater, ocean change, deep ocean circulation, climate dynamics and air-sea interactions. We will touch on a few key applications and research results enabled by Argo. We will also describe the current status of Argo and its near term challenges and risks. We will also outline progress towards evolving the data system and the design of the Argo array, including progress on piloting extensions to cover existing gaps (marginal seas, deep and ice-covered oceans) and new parameters such as bio-chemical and optical measurements. As only one element of the Global Climate Observing System, Argo's evolution requires strong integration with satellite and other *in situ* networks.