Autonomous floats and high resolution modelling: potential applications

The UTas and CSIRO Argo and modelling groups (pete.strutton@utas.edu.au)

- The global Argo array has been tracking ocean heat uptake and sea level rise for 2 decades: >3,000 floats
- Great progress is being made towards a 1,000 float global biogeochemical (BGC) Argo array: T&S + nutrients, biomass, O₂, pH, light
- At the same time, models can assimilate these data for hindcasts and future projections





Where are the potential future uses? Fisheries, surveillance...

- Floats provide several different measures of water masses, ocean chemistry and productivity...
- ...at a range of spatial and temporal scales, suitable for pelagic and demersal applications
- Data assimilating hindcasts show change that has already occurred
- Future projections of varying lengths and spatial resolution are possible
- Consultation with potential end users is an important next step to understand needs





Large scale models with BGC are approaching 10km resolution future runs (Hayashida and the COSIMA modelling community)

