



AVVISO

Informo che il **Dr. Thierry Penduff** (CNRS, Institut des Géosciences de l'Environnement, Grenoble) terrà, nell'ambito del progetto IPSODES-P.N.R.A. il giorno **Martedì 12 Ottobre alle ore 15:30 nell'Aula 2 dei locali del Centro Direzionale**, un seminario dal titolo:

***Forced vs chaotic ocean interannual to multidecadal variability:
large-scale impacts in the Southern Ocean***

Il seminario potrà essere seguito anche in teleconferenza [cliccando qui](#).

Tutti gli interessati sono invitati a partecipare.

Prof. Stefano Pierini

Napoli, 6 Ottobre 2021



***Forced vs chaotic ocean interannual to multidecadal variability:
large-scale impacts in the Southern Ocean***

Thierry Penduff

CNRS, Institut des Géosciences de l'Environnement, Grenoble

Abstract. Mesoscale ocean turbulence is the best-known expression of Chaotic Intrinsic Variability (CIV), which spontaneously emerges from the unstable ocean circulation. This chaotic behavior can reach the scale of several thousand kilometers and decades, via e.g. spatiotemporal inverse cascade or large-scale baroclinic instability processes. Global ensemble simulations of the eddying ocean/sea-ice system indicate that interannual to multi-decadal CIV has the strongest imprints south of about 30°S, where it competes with (and in certain regions exceeds) the atmospherically-forced variability (AFV). This presentation summarizes various results about the low-frequency, large-scale impacts of AFV and CIV on climate-relevant oceanic indices in the Southern Ocean (SO), such as heat content, volume and heat transports, sea level rise, and air-sea CO₂ fluxes. These results question the attribution to atmospheric drivers of observed fluctuations in the SO, their predictability, and their potential influence in coupled climate simulations.