“Many [Southern Ocean] feedbacks are poorly understood and quantified, yet evidence from the end of the last glacial period suggests that they can induce changes in atmospheric CO$_2$”

RoSES Announcement

Key insights from paleo record:
1) State change in Southern Ocean circulation possible under different climates
2) Coupled changes in Southern Ocean biogeochemistry can drive major CO$_2$ change

Major added value to RoSES possible with small investment in new sediment cores

Improved spatial coverage will allow quantification of key processes and test-bed for understanding major changes Southern Ocean past and present

Ferrari et al. 2014