

SST experimentation

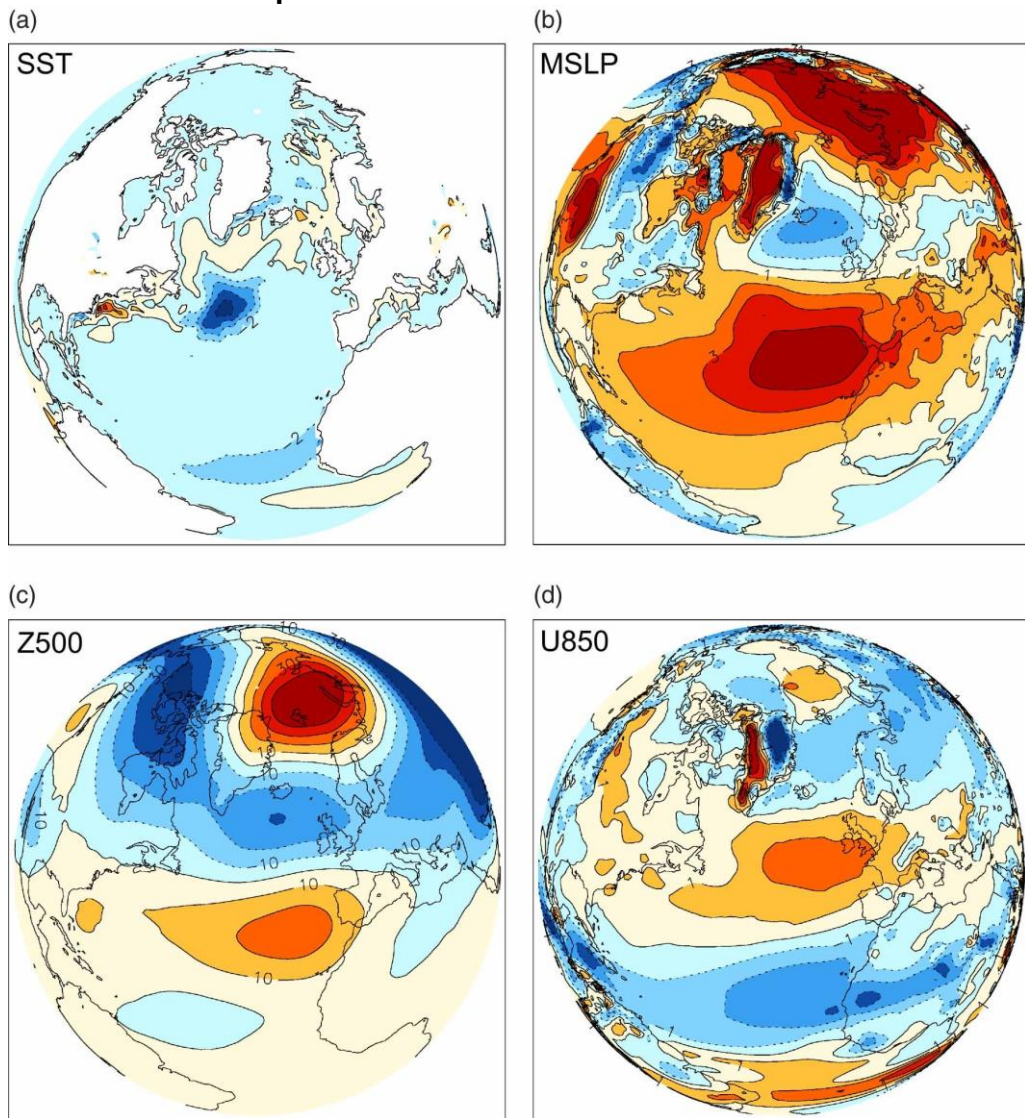
Sarah Keeley

Coupled Processes Team

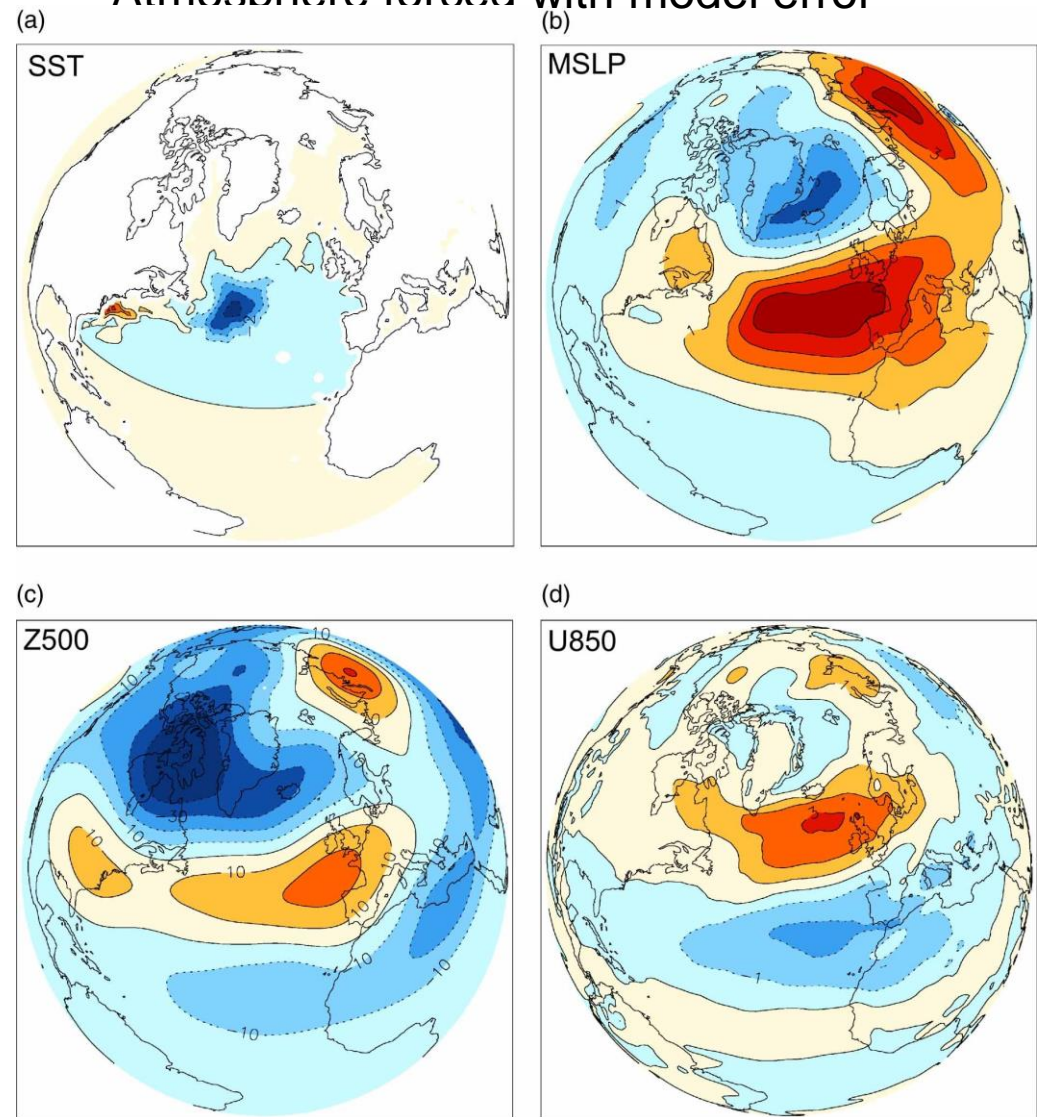
sarah.keeley@ecmwf.int

Testing a hypothesis in model error

Coupled model error

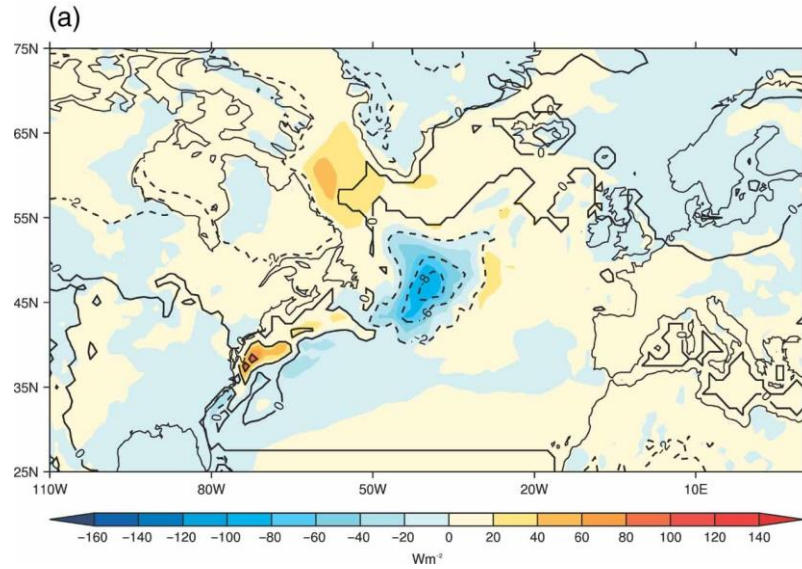


Atmosphere forced with model error

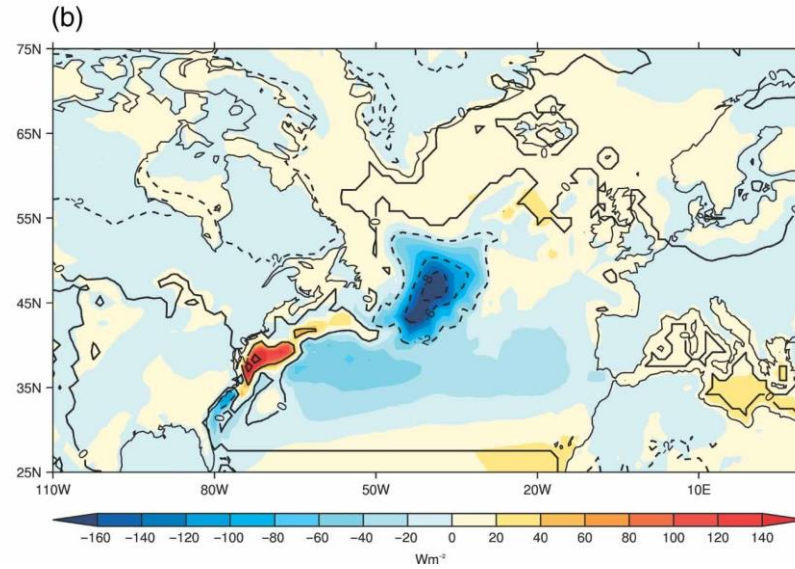


Keeley et al.
(2012),
QJRMS

Local impacts

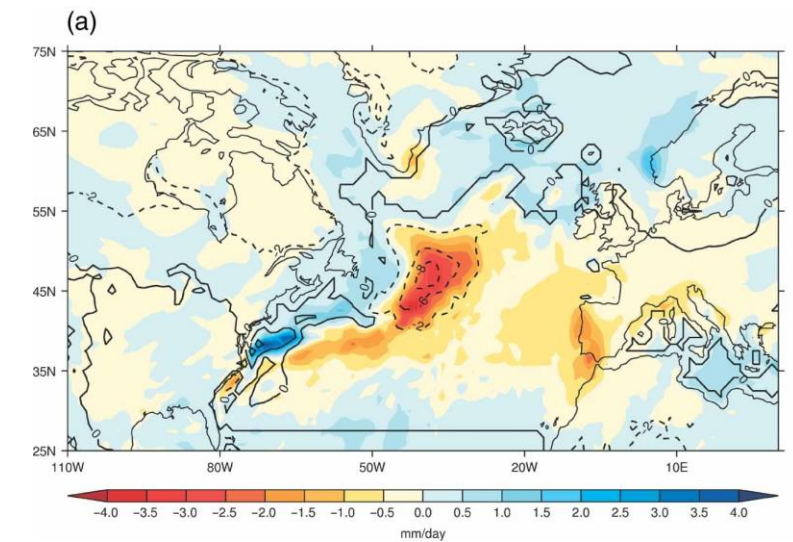


Sensible



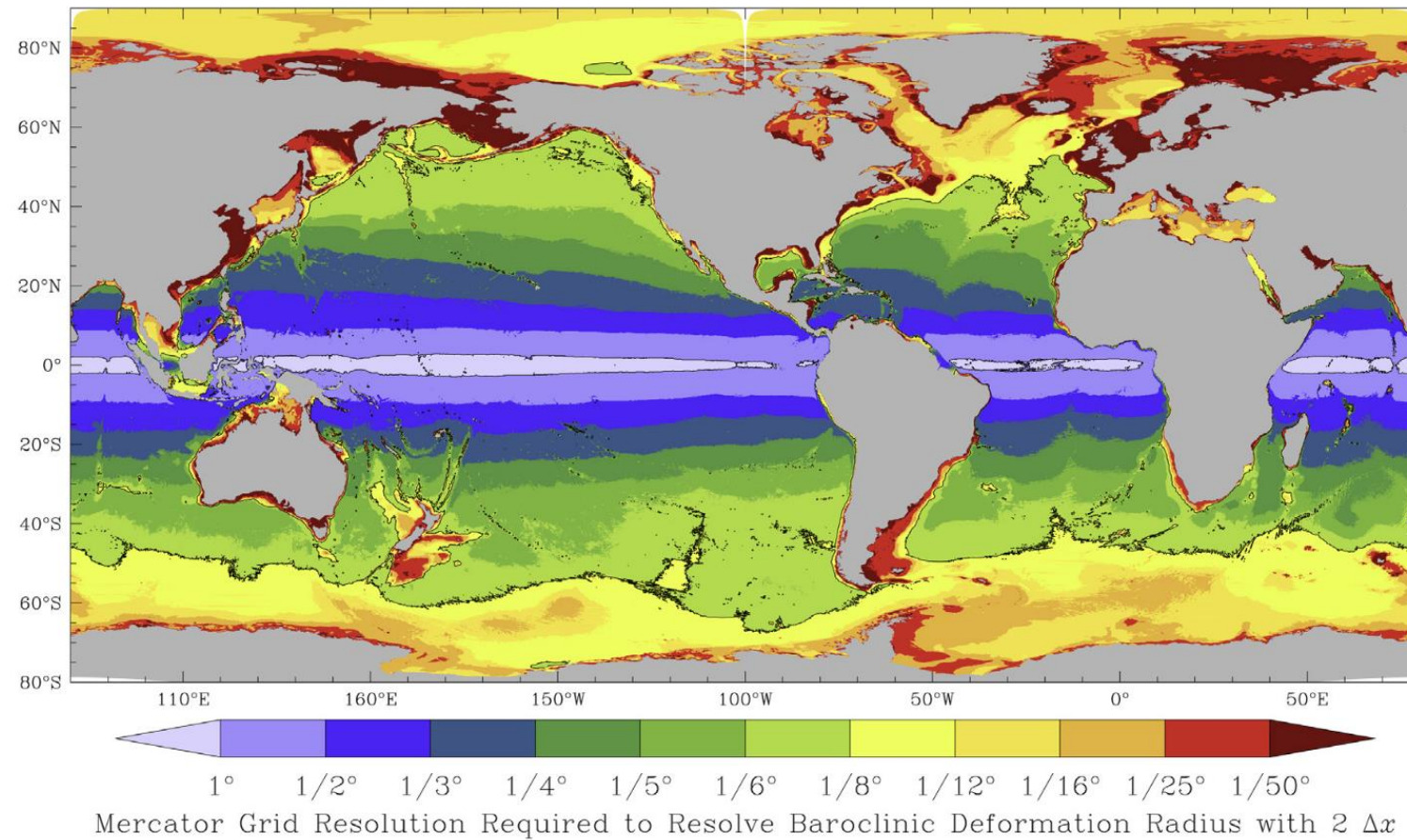
Latent heat flux

Precipitation



A brief diversion – to ocean modelling

R. Hallberg/*Ocean Modelling* 72 (2013) 92–103

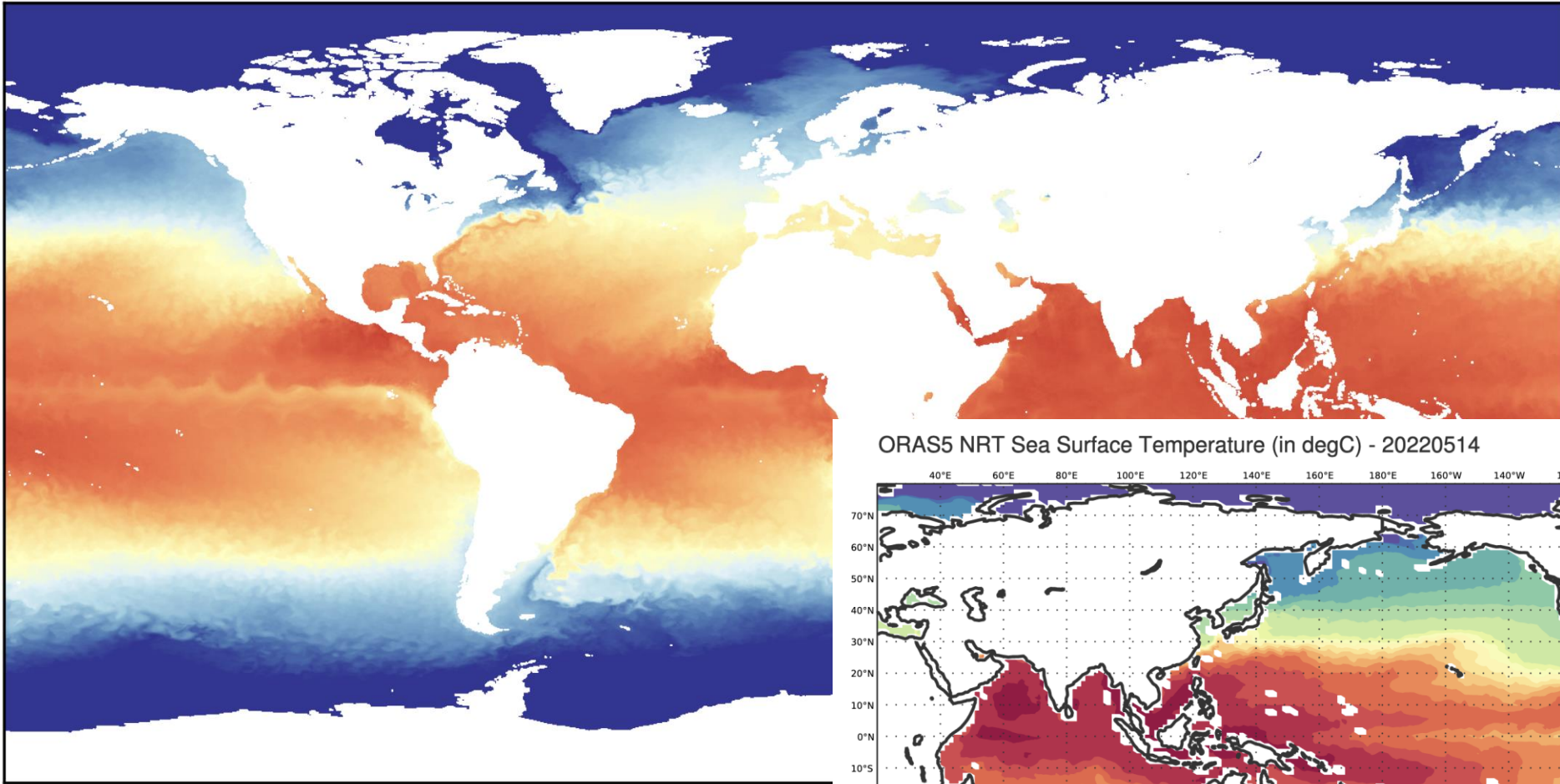


At different model resolutions we can resolve features in different geographical locations.

The fine scale matters for the midlatitudes

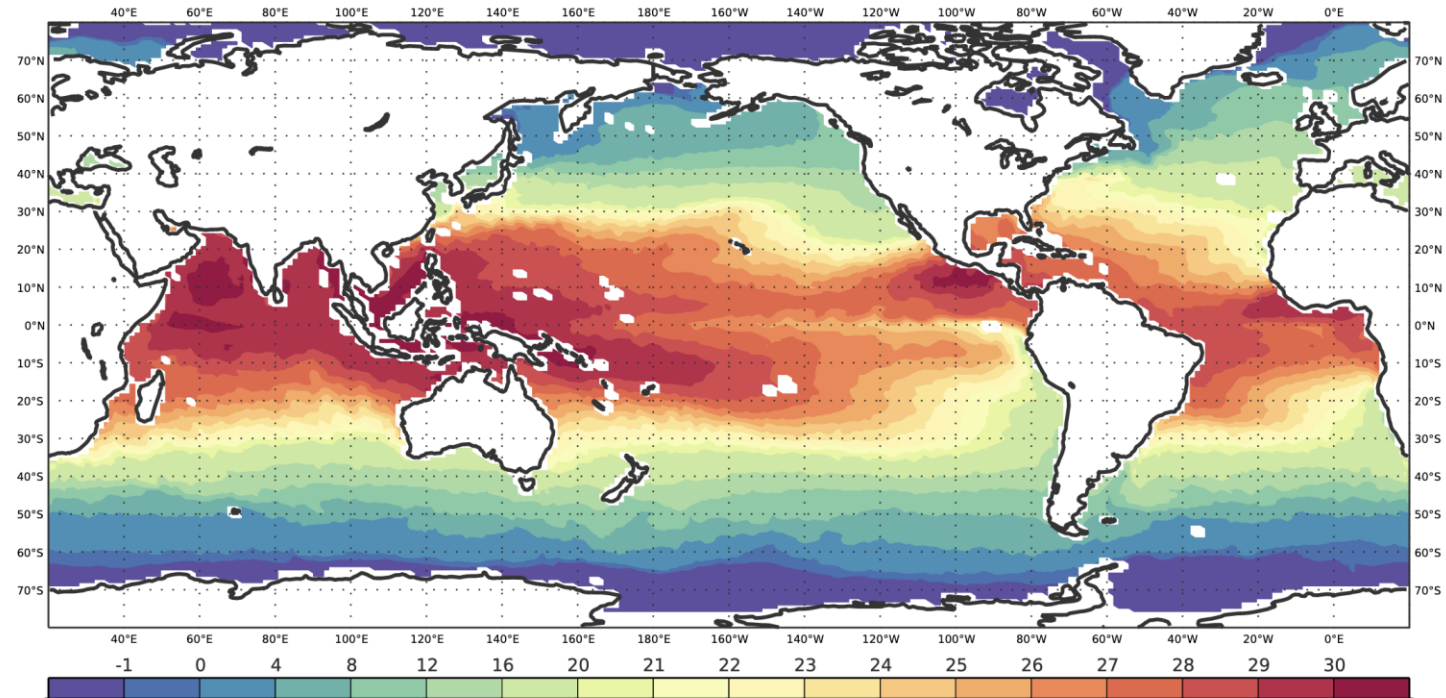
14/05/2022

OSTIA SST product at
1/20 deg

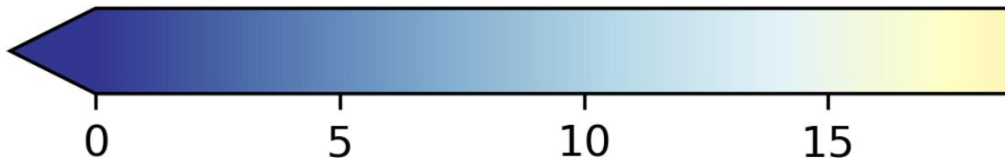


ORAS5 SST product at
1/4 deg

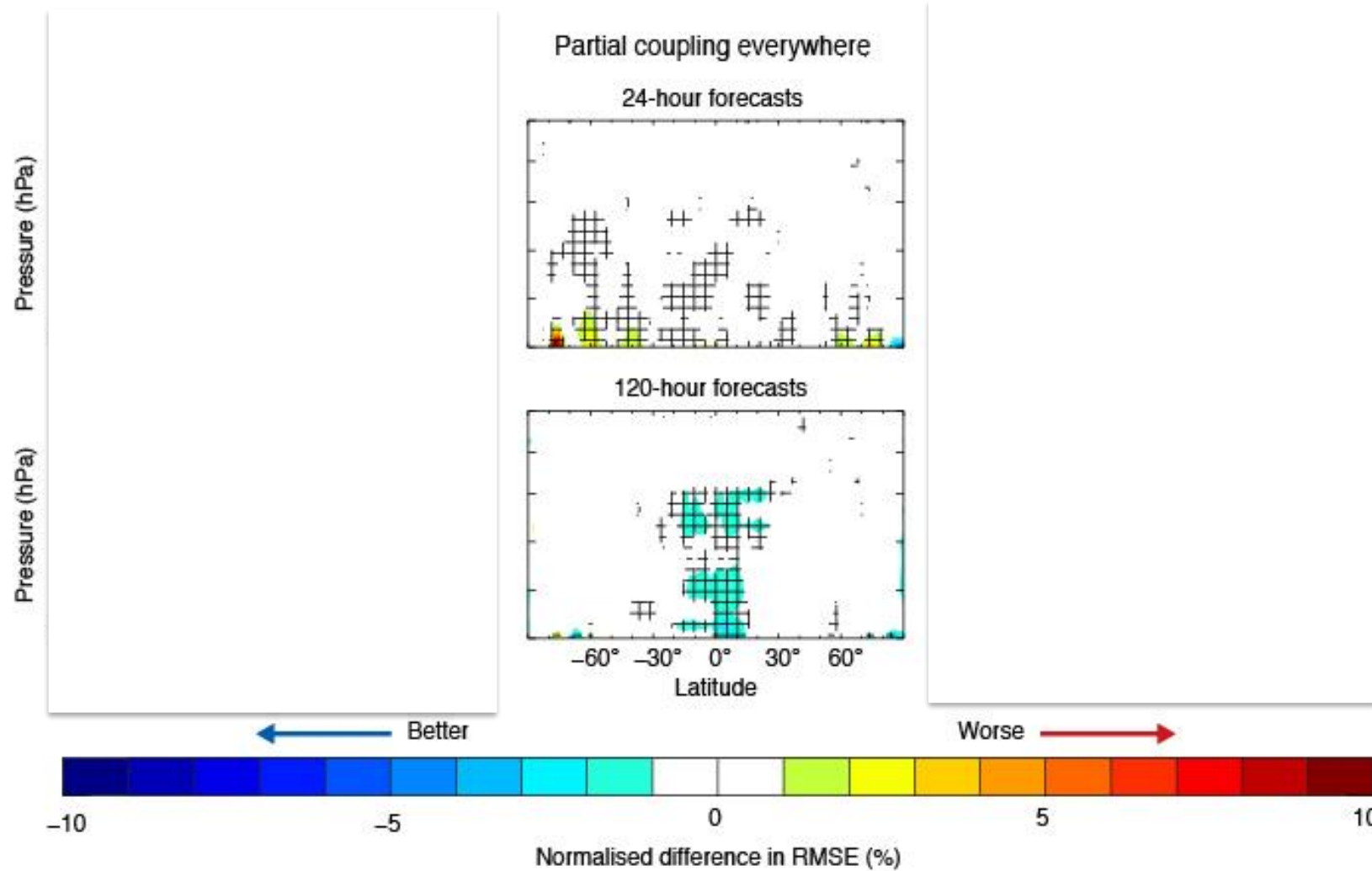
ORAS5 NRT Sea Surface Temperature (in degC) - 20220514



Crown copyrig



Partial coupling at ECMWF



With partial coupling we add the change of SST from the ocean model to the SST of the initial conditions (OSTIA) rather than use the SST of the ocean model

- In practice we only do this for the first 4 days and gradually change to use the ocean SST directly (below figure)

