



Tāouae Moana

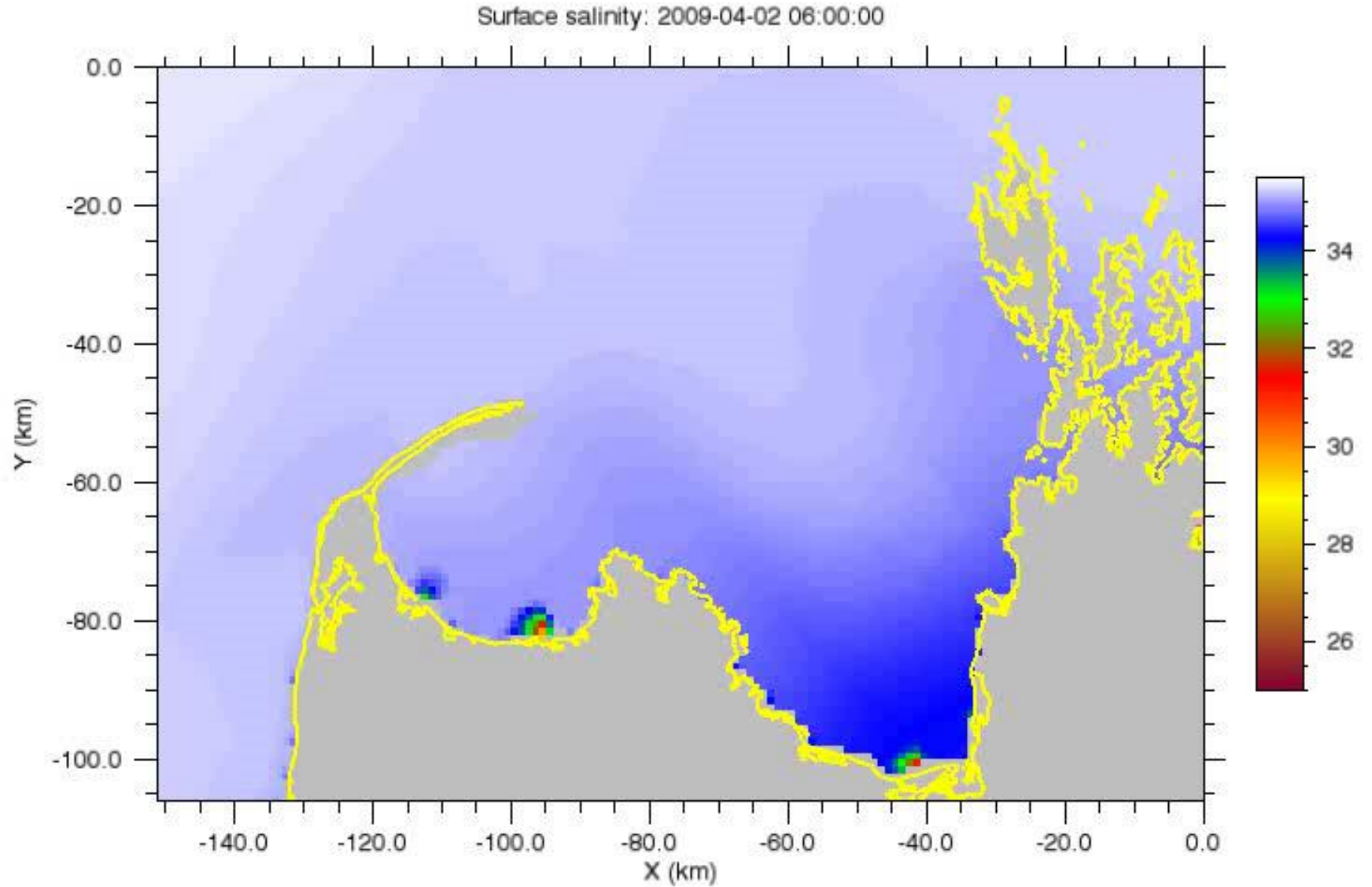
Stevens & the A-2-2 team

Combining footprints + non-linearity



$$\begin{aligned} \frac{\partial \mathcal{C}}{\partial t} = & -\tilde{u} \nabla \mathcal{C} \\ & + D \nabla^2 \mathcal{C} \\ & + S_i + S_o \end{aligned}$$

Combining footprints + non-linearity



The Near-Field

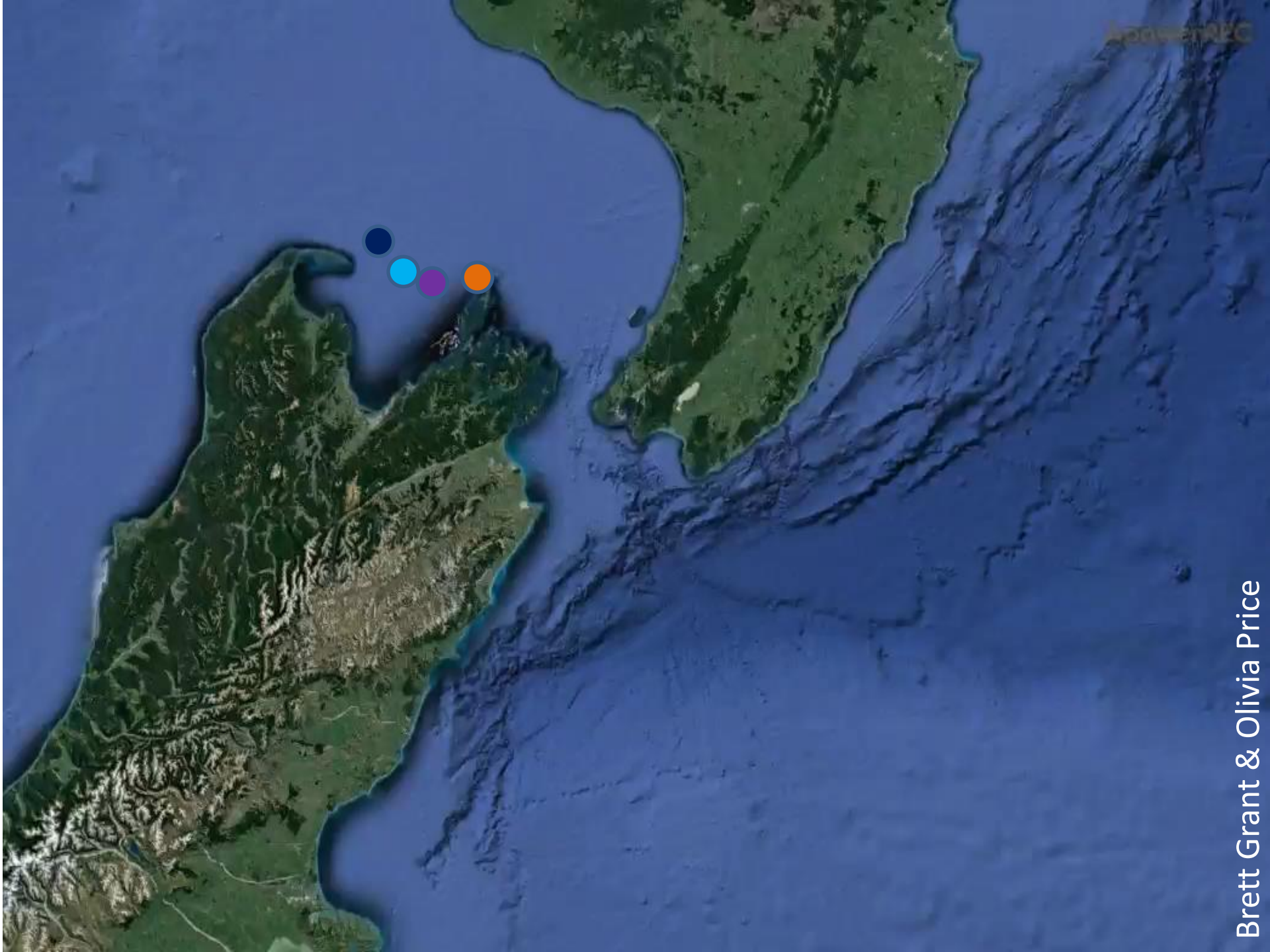


O'Callaghan, Plew & Stevens unpubl.

The Ocean Moves



... in
different
directions



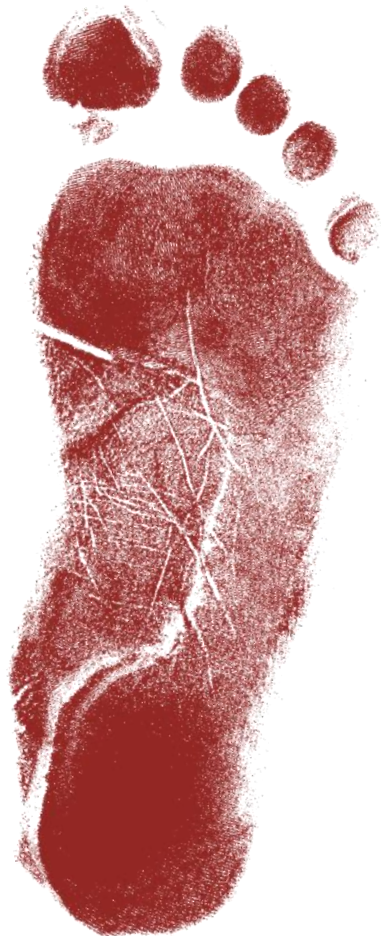
...and it is different at different depths

Jhugroo, O'Callaghan & Elliott (vid: D. Allen)



=> See Khush's poster

... and is changing with the climate



NEW ZEALAND JOURNAL OF MARINE AND FRESHWATER RESEARCH, 2018
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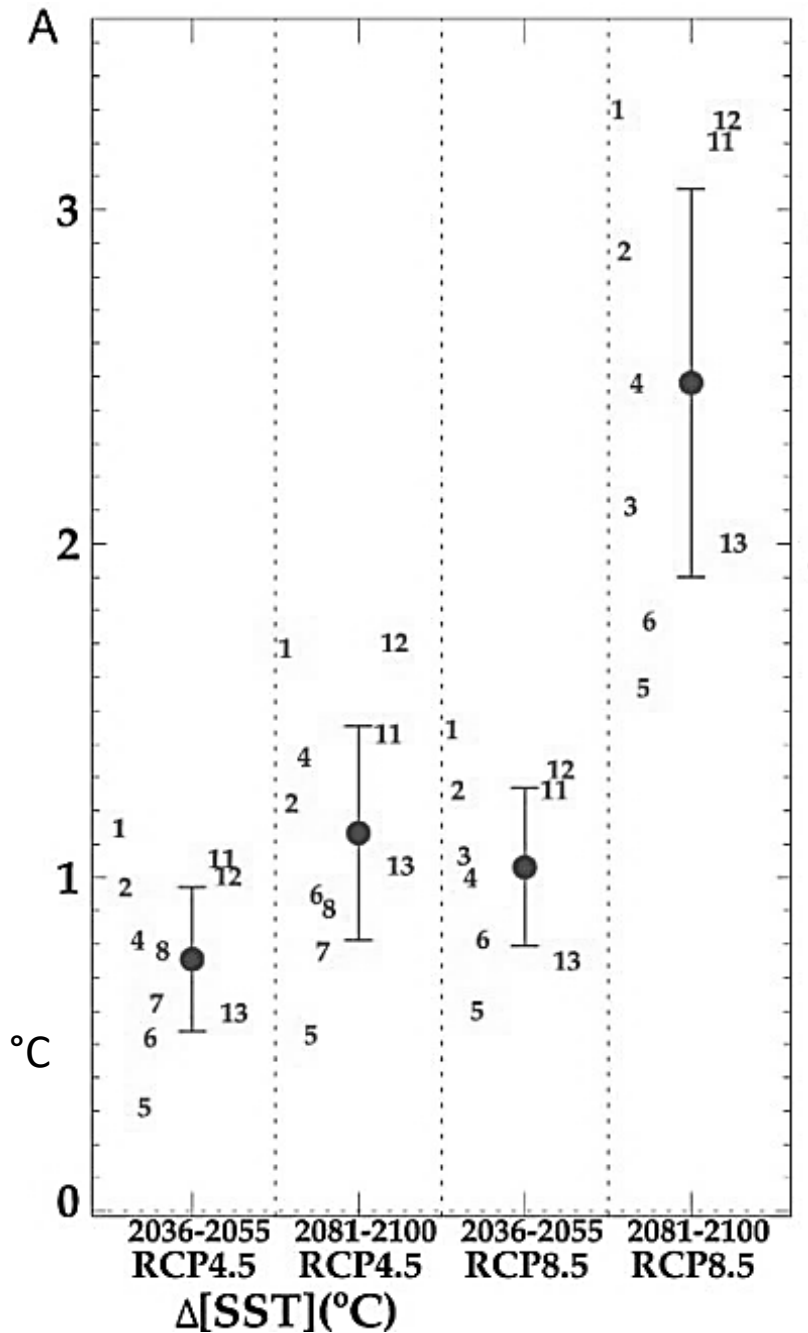
RESEARCH ARTICLE



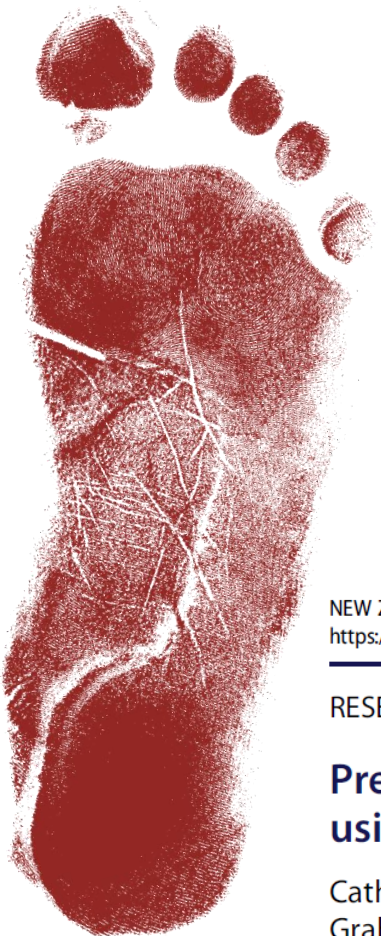
Climate change projections for the surface ocean around New Zealand

Cliff S. Law ^{a,b}, Graham J. Rickard ^a, Sara E. Mikaloff-Fletcher ^a,
Matt H. Pinkerton ^a, Erik Behrens ^a, Steve M. Chiswell ^a and Kim Currie ^c

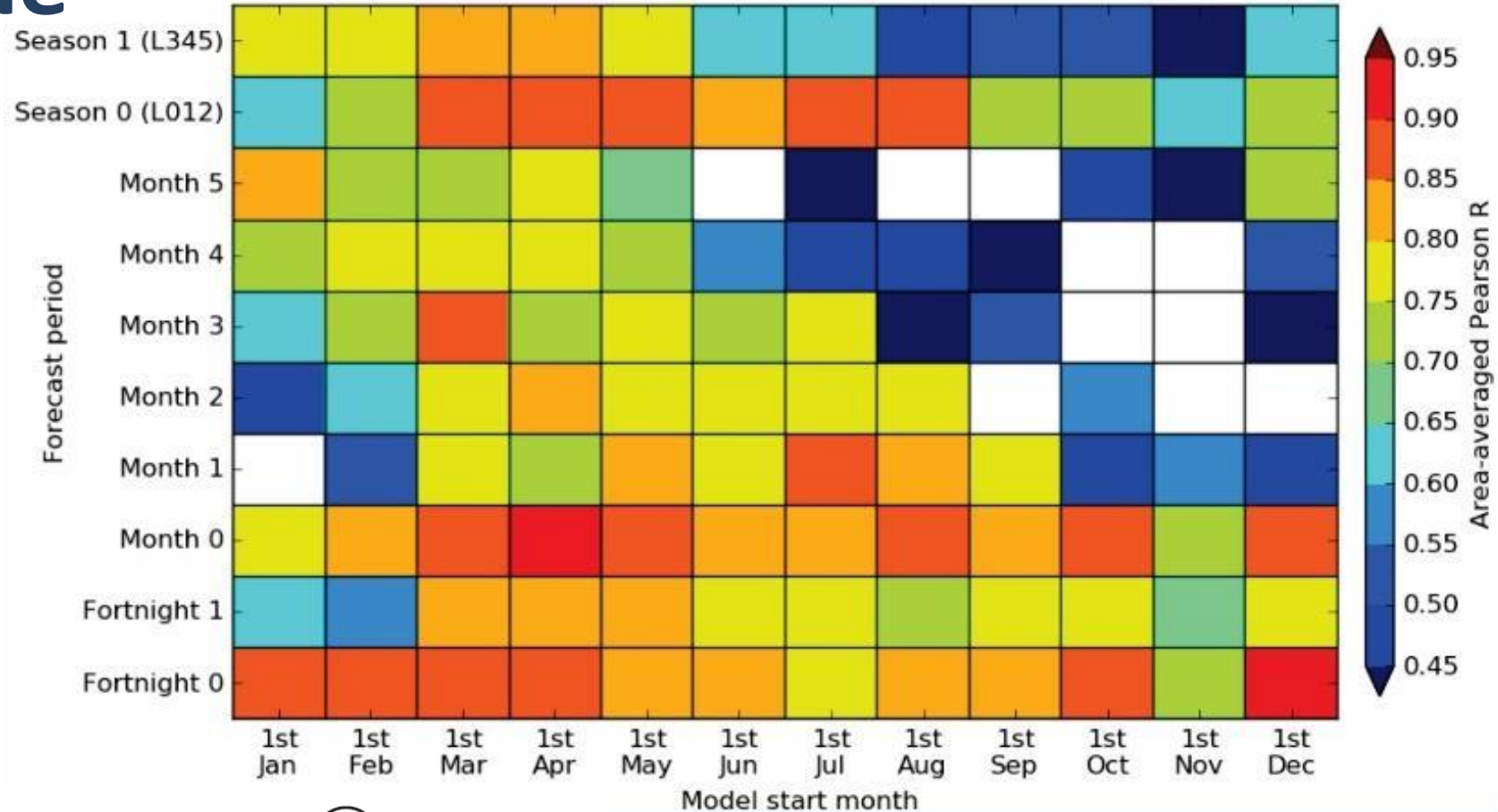
Δ SST, °C



But we have some foresight... at different scales



Area-averaged top SST Pearson R by leadtime and start date around New Zealand, 1990-2012



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<https://doi.org/10.1080/00288330.2018.1538052>



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RESEARCH ARTICLE

Predicting seasonal ocean variability around New Zealand using a coupled ocean-atmosphere model

Catherine O. de Burgh-Day^a, Claire M. Spillman^a, Craig Stevens^{b,c}, Oscar Alves^a and Graham Rickard^b

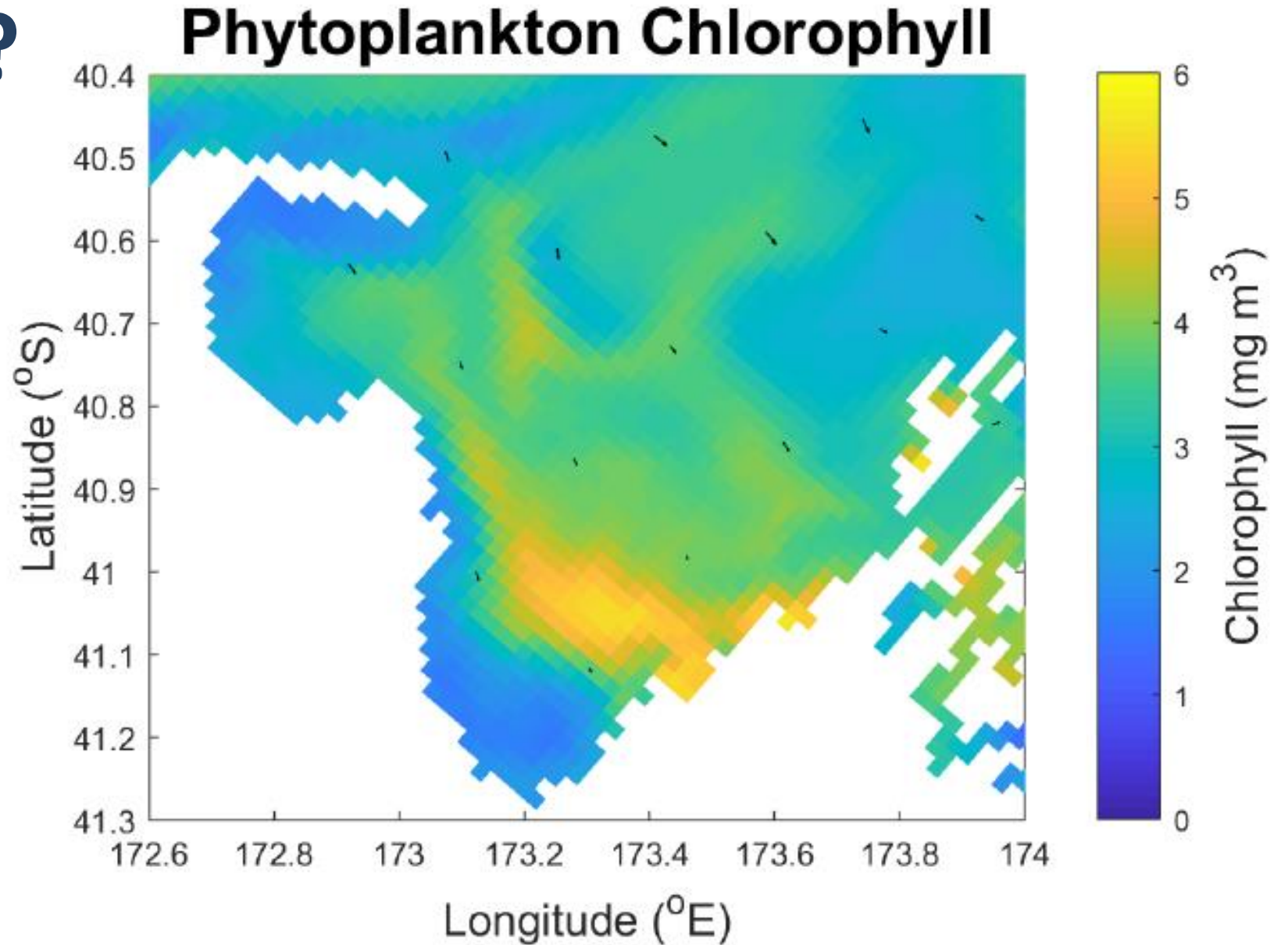
=> see Cat's poster



Australian Government

Bureau of Meteorology

Where to Next?



=> See Helen's poster

4.2.2 Team

Khush Jhugroo (UoAkl+ NIWA)
and Helen MacDonald (NIWA)

NIWA - Joe O'Callaghan, Graham Rickard, Brett Grant, Fiona Elliott, Olivia Price, Mark Hadfield, John Zeldis, Steve Chiswell.

Cawthron - Ross Vennell, Ben Knight.

MetService: Brett Beamsley, Moninya Roughan.

Thanks also: Conrad Pilditch.



Teara.govt.nz: human footprint in ash from Rangitoto (1400AD)