

Atlantis Course Universidad de Concepción

Day 3 - Physics

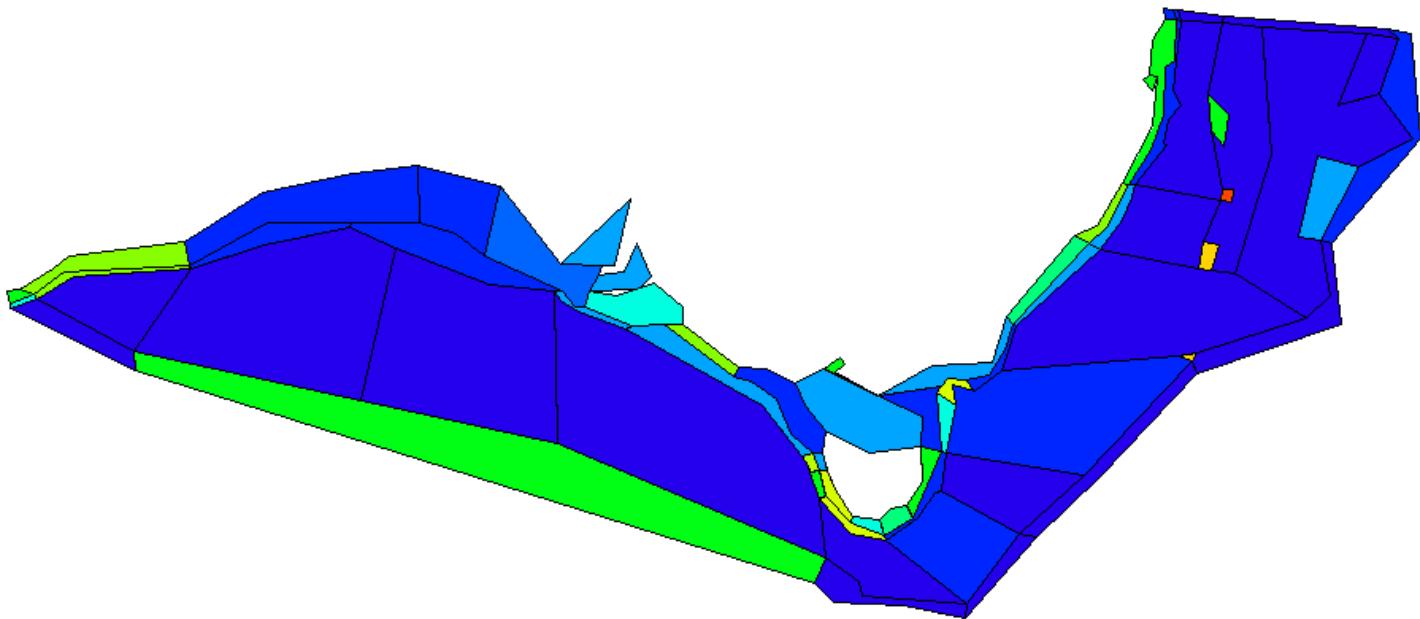
Javier Porobic and Beth Fulton

CSIRO Ocean & Atmosphere
www.csiro.au



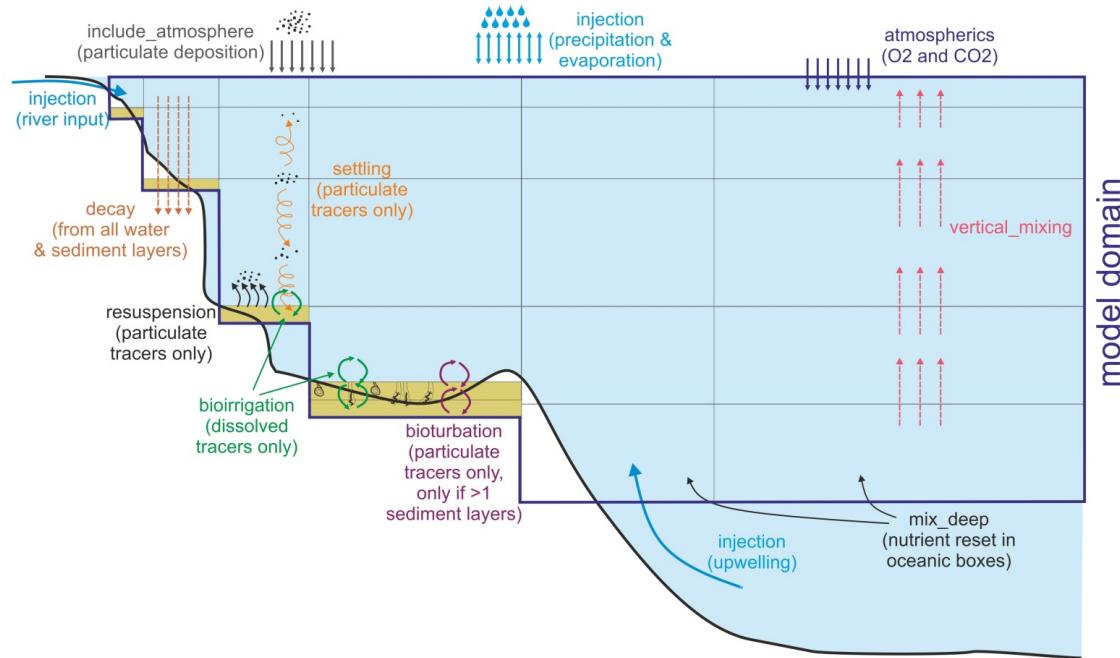
Geology

- Bottom types (rough, flat, soft)
- Canyons

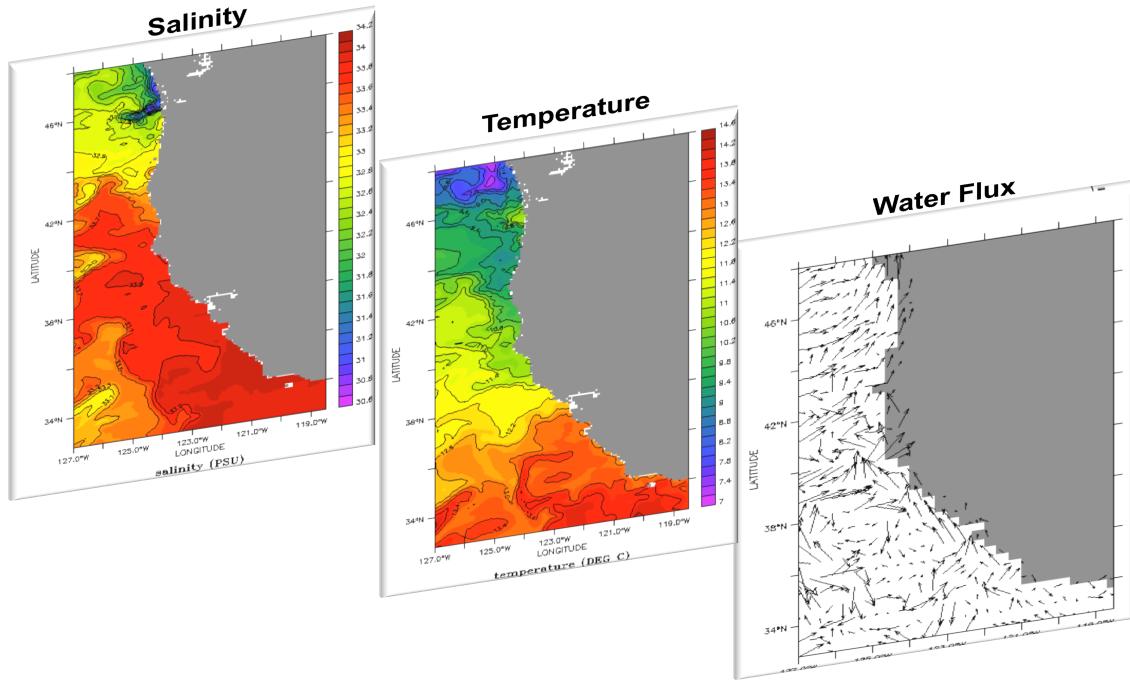


Geology

- Bottom types (rough, flat, soft)
- Canyons



Oceanography

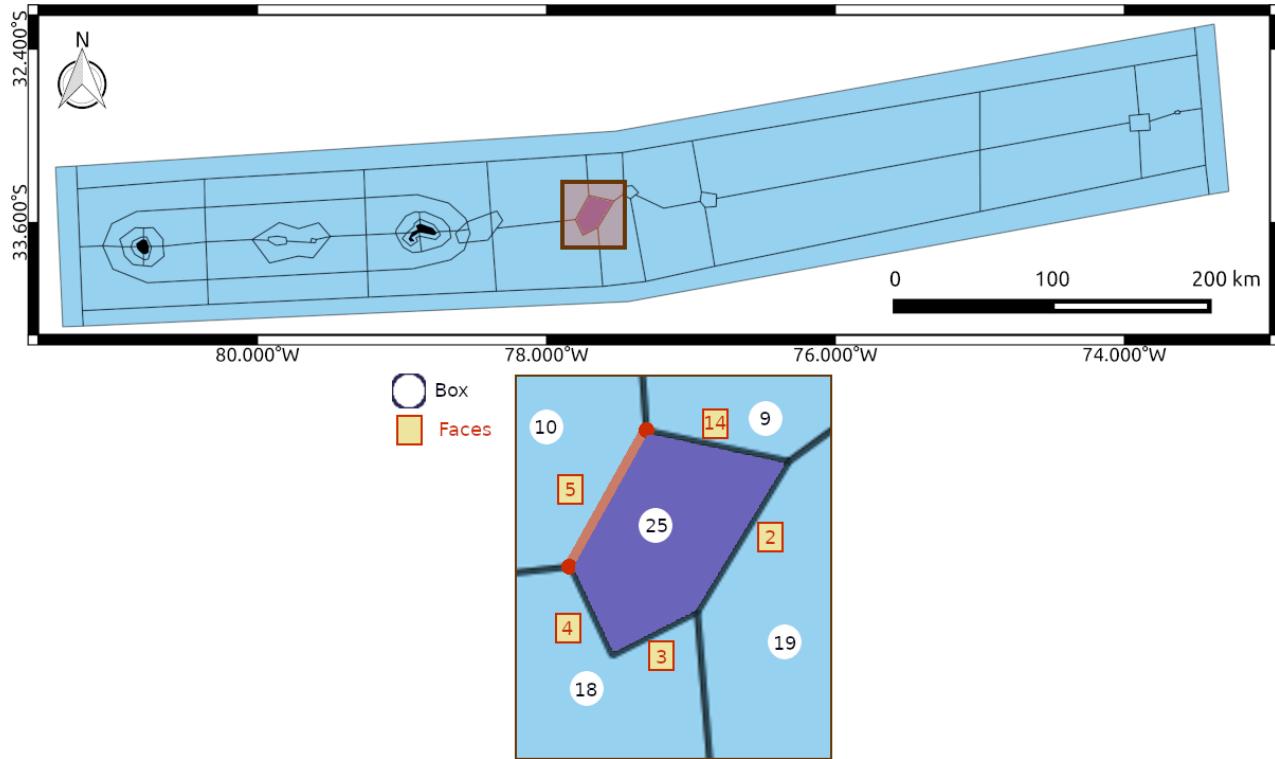


Geology

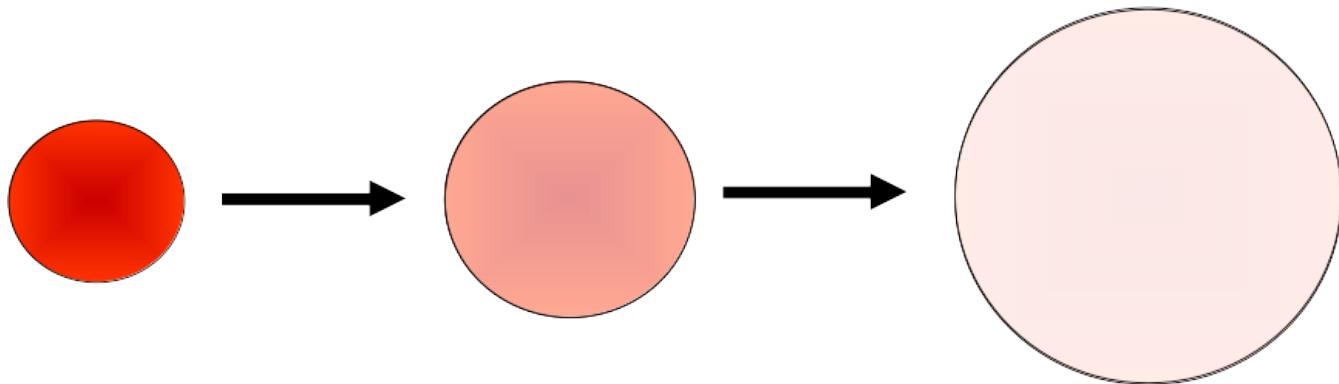
Acronym	Full name
ADCIRC	ADvanced CIRCulation model
COCO	CCSR (Center for Climate System Research) Ocean Component Model
COHERENS	COupled Hydrodynamical Ecological model for REgioNal Shelf seas
FVCOM	Finite Volume Community Ocean Model
FESOM	AWI Finite-Element/volumE Sea ice-Ocean Model
FRAM	Fine Resolution Antarctic Ocean Model
HOPE	The Hamburg Ocean Primitive Equation General Circulation Model
HYCOM	HYbrid Coordinate Ocean Model
LSG	The Hamburg Large Scale Geostrophic Ocean General Circulation Model
MICOM	Miami Isopycnic Coordinate Ocean Model
MITgcm	M.I.T. General Circulation Model
MOHID	MOdelo HIDrodinâmico
MOM	GFDL Modular Ocean Model
MOMA	MOM for Array Processors
OCCAM	Ocean Circulation and Climate Advanced Ocean Model
NEMO	Nucleus for European Modelling of the Ocean
OPYC	The Ocean IsoPYCnal General Circulation Model
POM	Princeton Ocean Model
POP	The Parallel Ocean Program
ROMS	The Regional Ocean Modeling System
Veros	Versatile Ocean Simulator in Pure Python

Table 1: Types of Ocean models

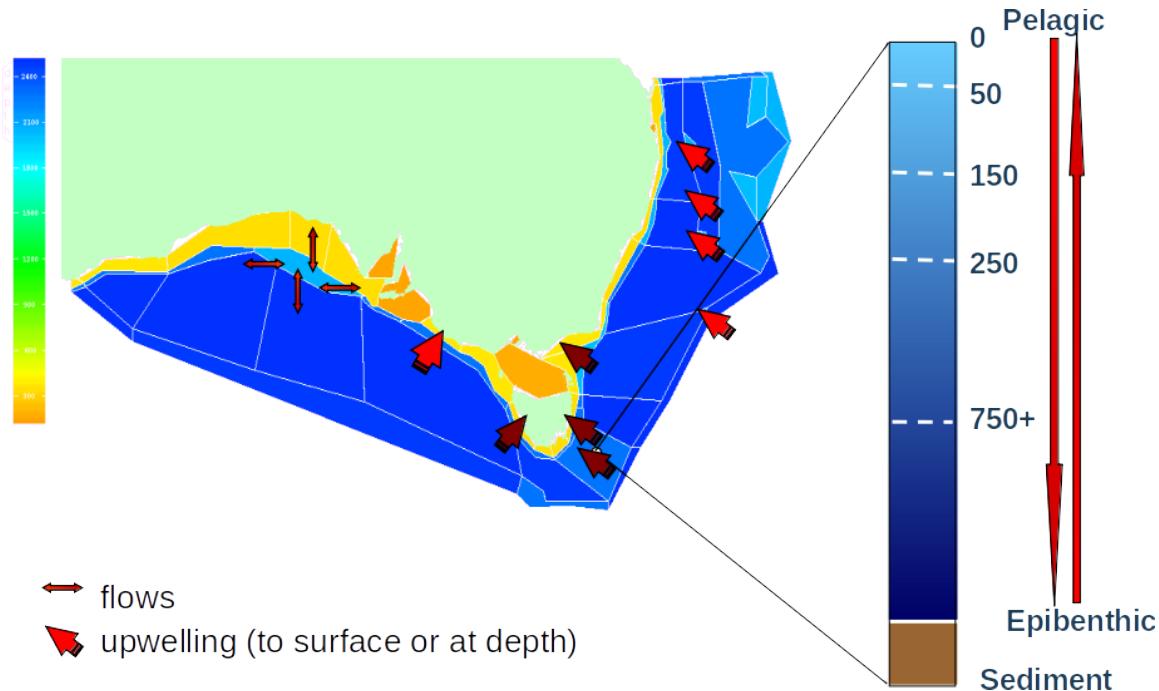
Boxes & Faces



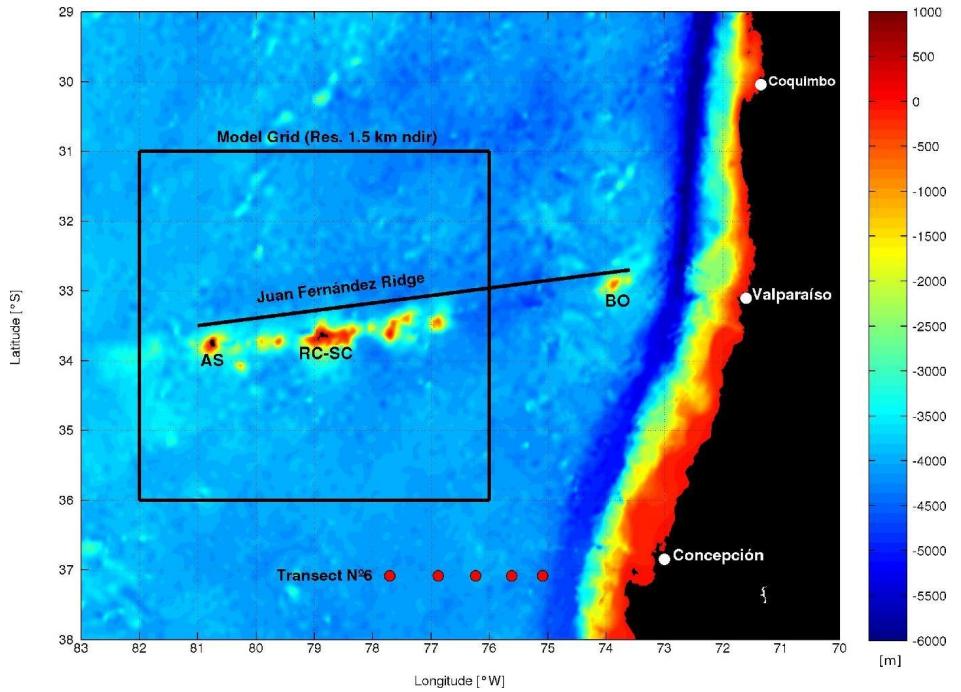
Dispersion: Advection + diffusion



Hydrodynamic

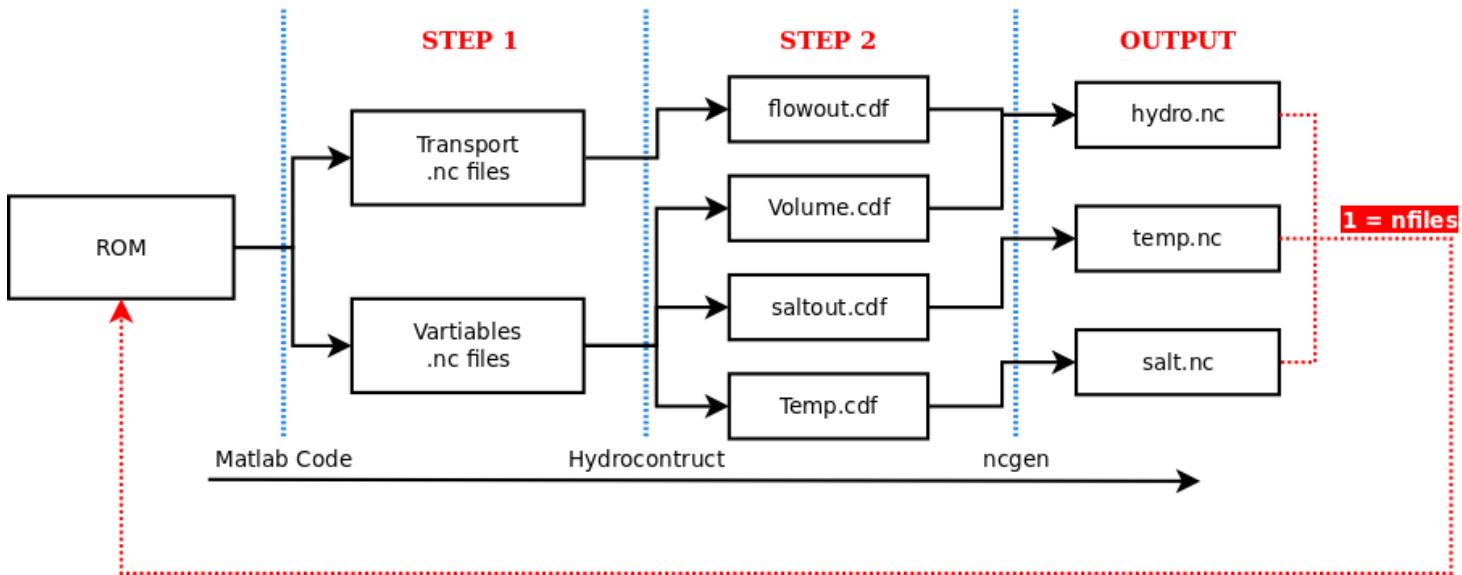


From ROMS to Atlantis

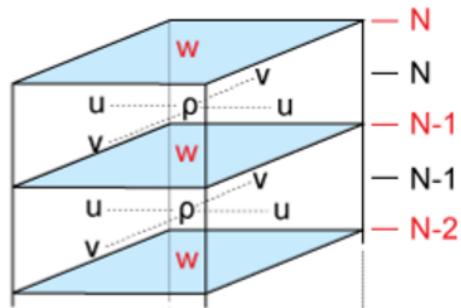
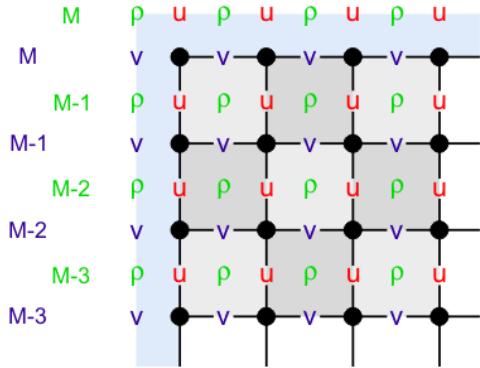
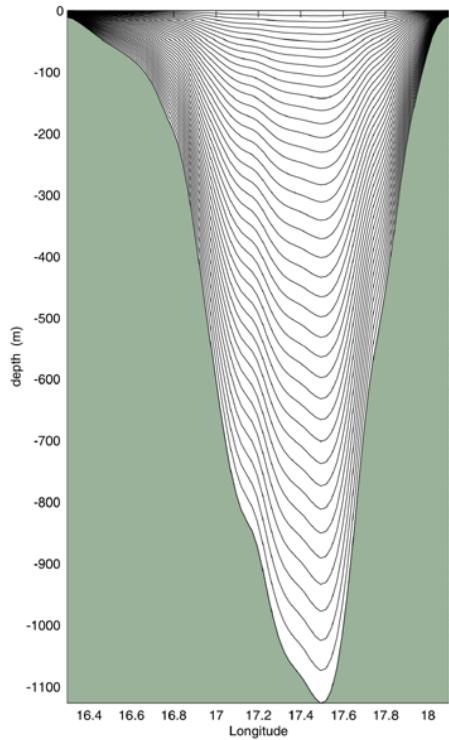


modified from: Medel *et al.* 2018

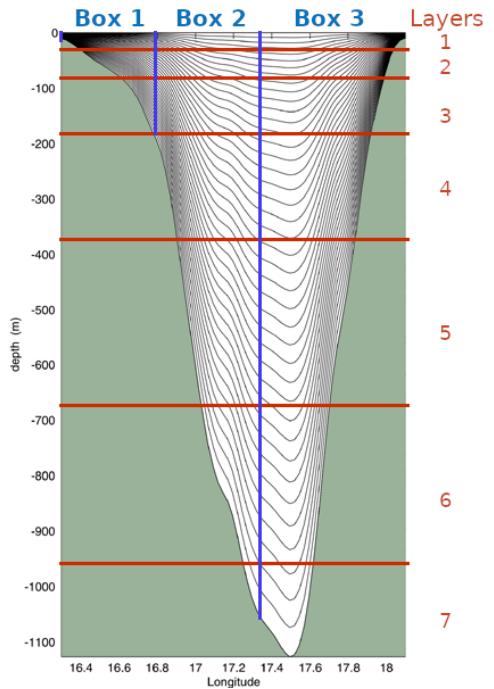
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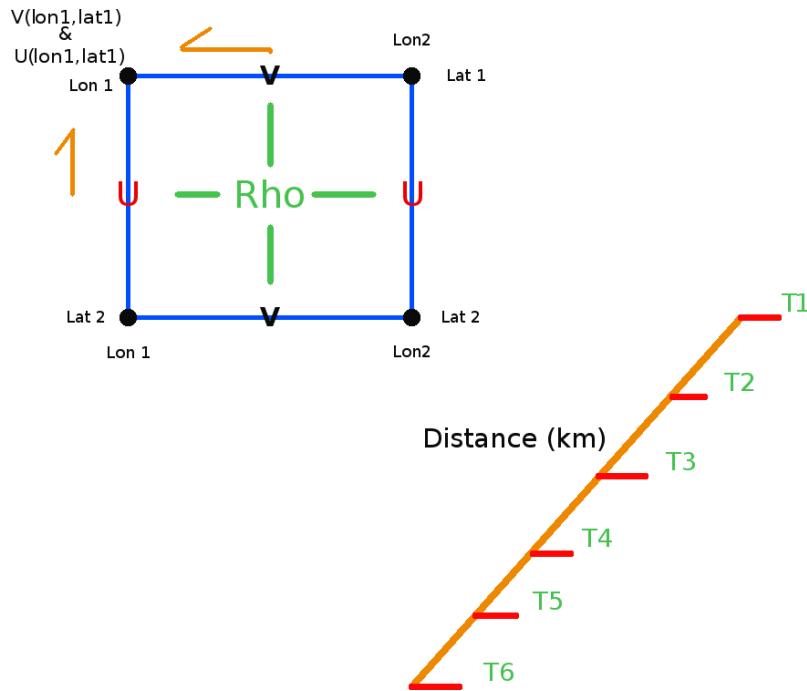
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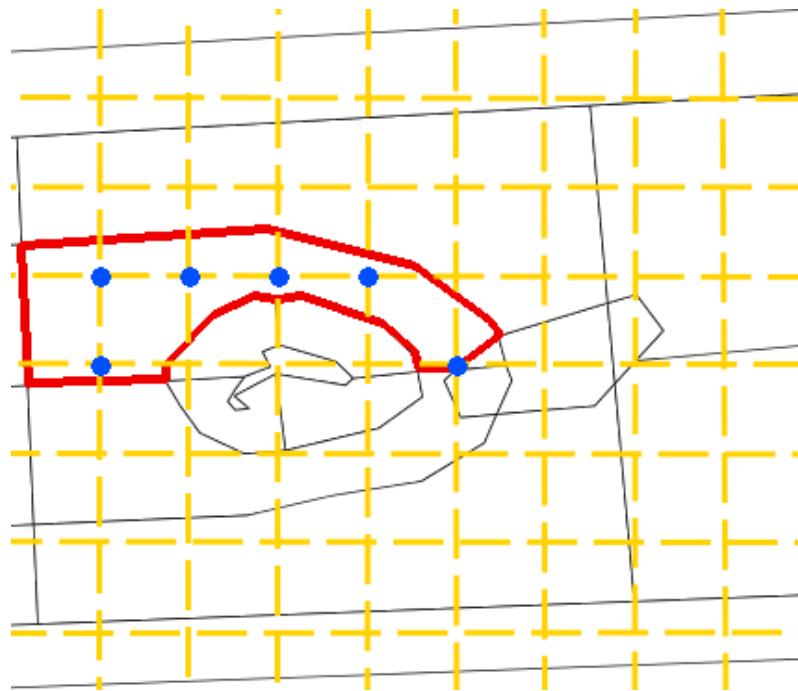
From ROMS to Atlantis



From ROMS to Atlantis

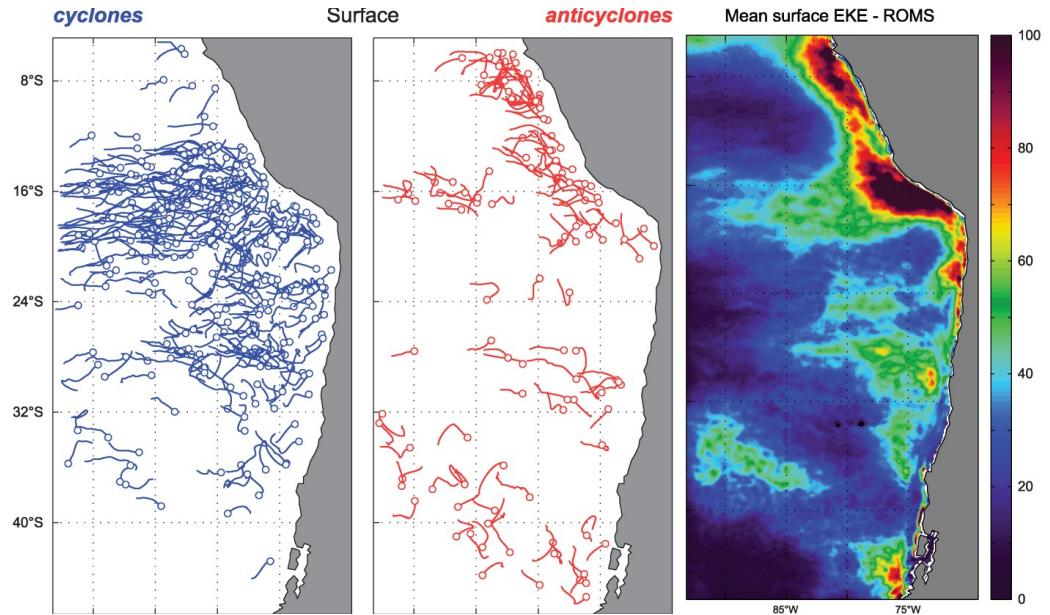


From ROMS to Atlantis



Eddies

- interpolate between quarterly values at site
- scale production accordingly



modified from: Combes *et al.* 2015

Thank You

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