

Global modelled ocean sources and sinks

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3. **ETH:** Heather Graven & Niki Gruber
4. **LSCE:** Laurent Bopp
5. **UEA:** Erik Buitenhuis & Corinne Le Quéré
6. **WHOI:** Scott Doney & Ivan Lima
7. **PARK:** Geun-Ha Park & Rik Wanninkhof

Access: <http://lgmaweb.env.uea.ac.uk/lequere/reccap/>

Model overview

Model	Ocean model	BGC model	Forcing
Bergen	MICOM (isopycnic)	HAMOCC	NCEP
CSIRO	OGCM	P-based	NCEP
ETH	CCSM	BEC	NCEP
LSCE	NEMO	PISCES	NCEP
UEA	NEMO	PlankTOM5	NCEP
WHOI	CCSM	BEC	NCEP
PARK	diagnostic model		

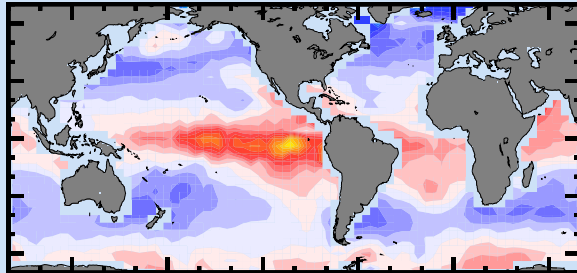
Model fields available

netcdf format, World Ocean Atlas Grid, CMIP5 name/unit conventions

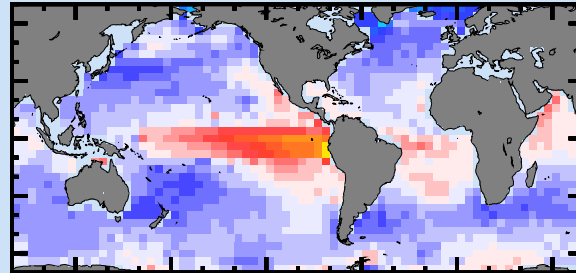
	BER	CSI	ETH	LSC	UEA	WHO	PAR
Basic data:							
Air-sea CO ₂ flux	X	X		X	X	X	X
Additional data:							
Surface:							
Surface pCO ₂	X	a			X	X	X
Air-sea pCO ₂	X	X			X	X	a
DIC	X	a			X	X	
Alkalinity	X	a			X	X	
Biological export	X	a			X	X	
Primary Production					X	X	
Sea surface temperature	X	a			X	X	
Sea surface salinity	X				X	X	
Mixed layer depth	X	a			X	X	
Interior:							
DIC	a	a			X	X	
Alkalinity	a	a			X	X	
Temperature	a	a			X	X	
Salinity	a	a			X	X	
Additional runs:							
Constant climate	X				X	X	
Pre-Industrial CO ₂		X		a			(X)

sea – air pCO₂ (uatm)

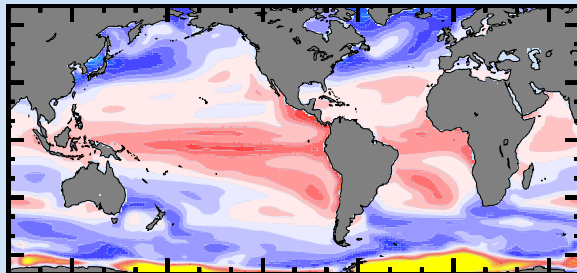
Takahashi et al. 2010



Park et al. 2006



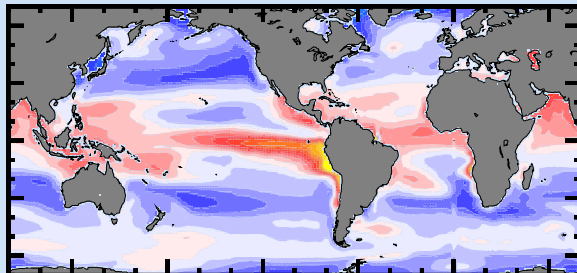
Model 1



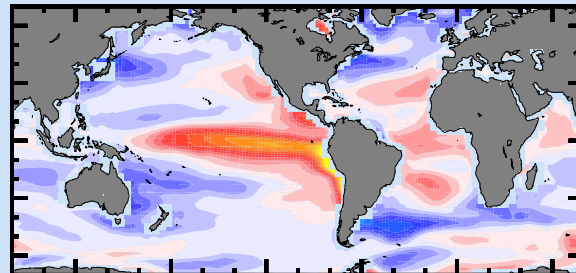
Model 2



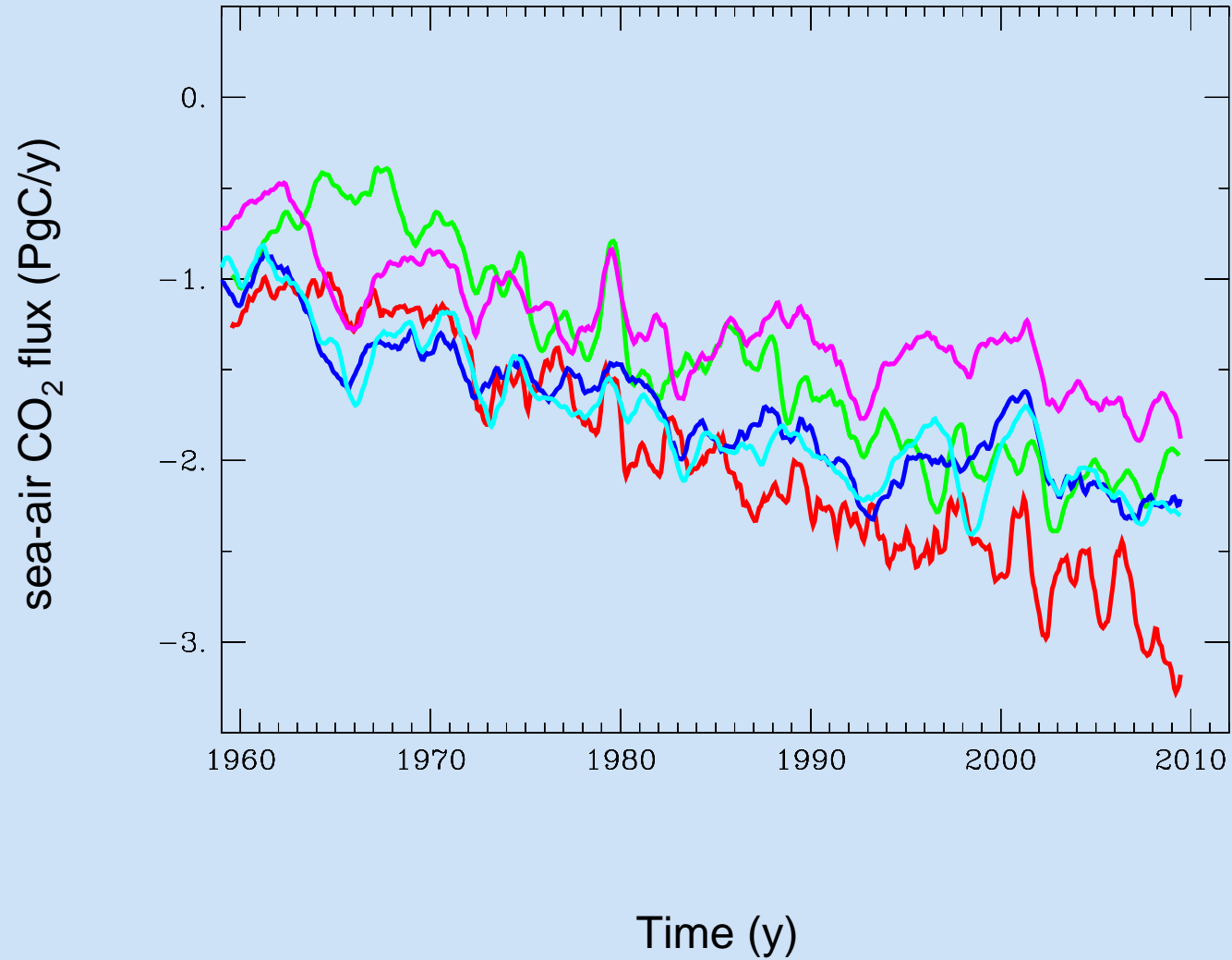
Model 3



Model 4



Global Ocean



	<i>observations</i>	<i>ocean inversions</i>	<i>atm inversions</i>	<i>process models</i>
mean & season				
• amplitude	X	X	x	x
• drivers	x			X
IAV				
• amplitude	x		x	x
• drivers	x			X
trends				
• amplitude & direction	x		x	x
• response to CO ₂				X
• response to climate	x			X
