

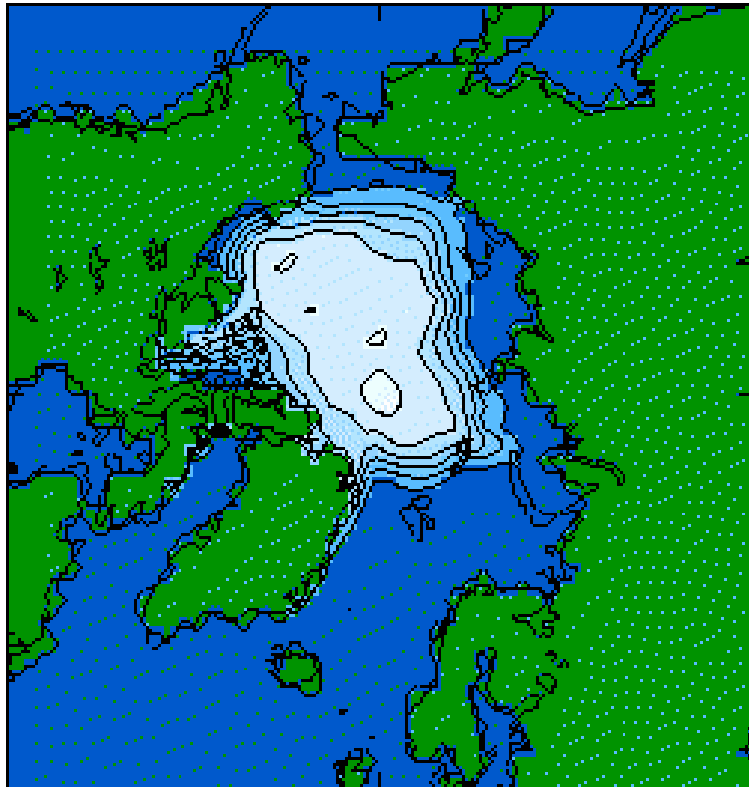


Strategies for managing for biodiversity in the face of Climate Change



Lara J. Hansen and Emily Lewis-Brown, WWF

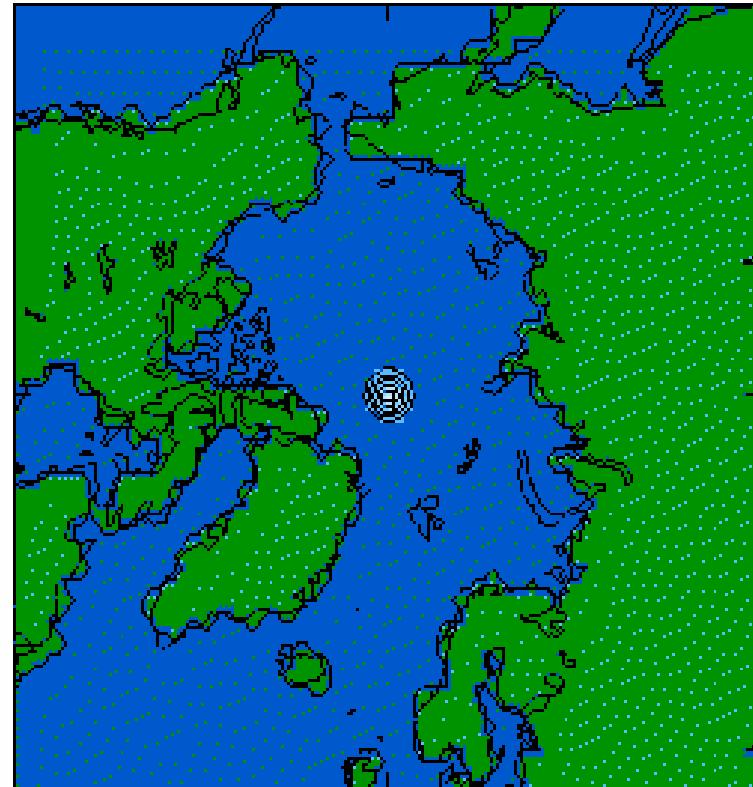
Arctic summer sea-ice could disappear by 2080s



Present Day



0 0.15 0.3 0.45 0.6 0.75 0.9

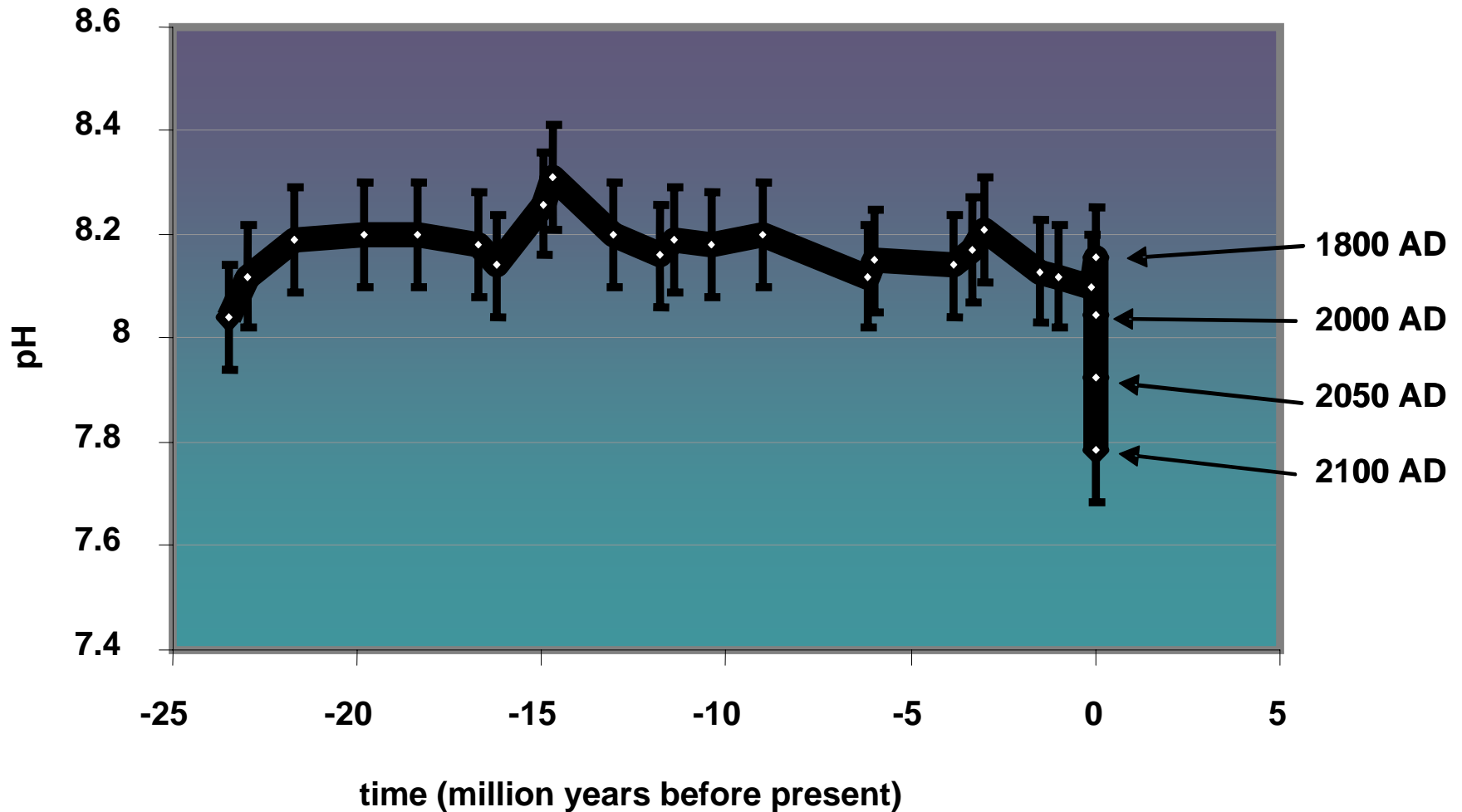


2080s



0 0.15 0.3 0.45 0.6 0.75 0.9

Ocean Acidification








Predicted Future (~2065) Surface Ocean Aragonite Saturation State

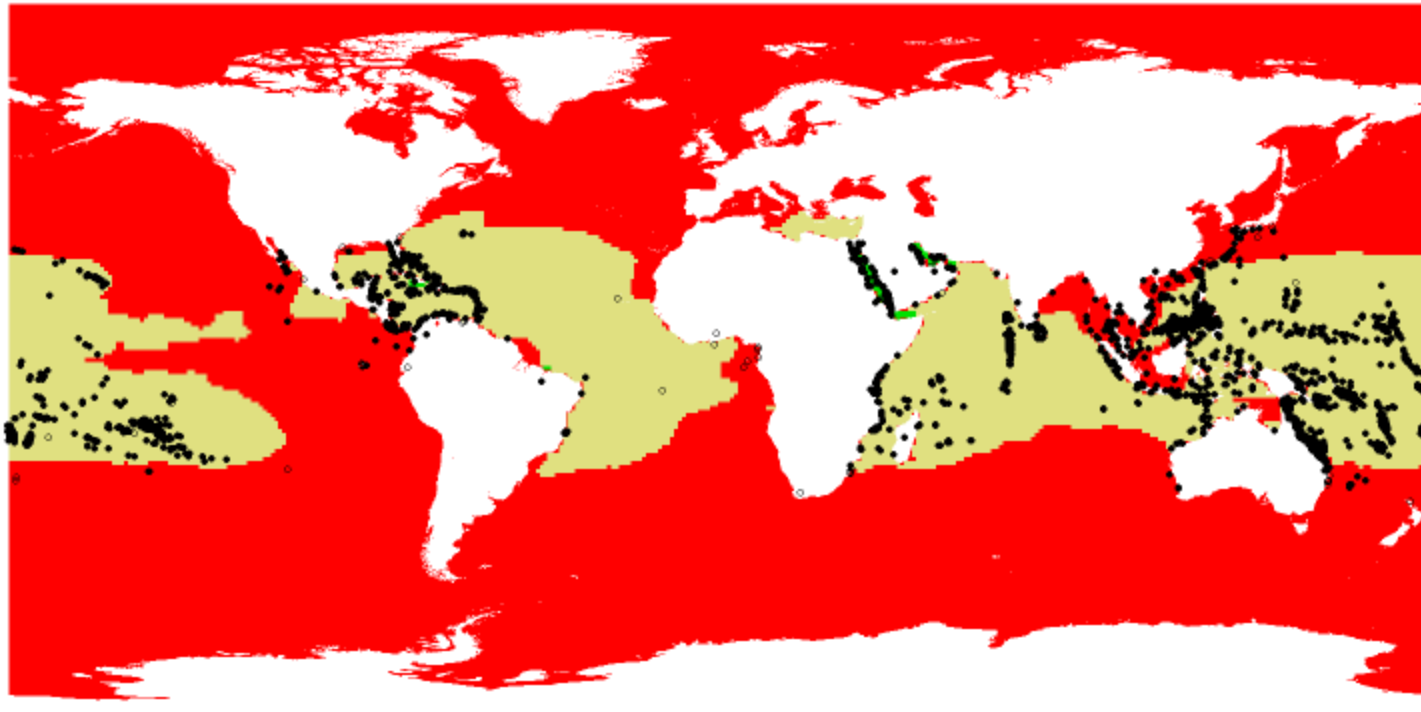
References: 5, 7

ReefBbase.shp

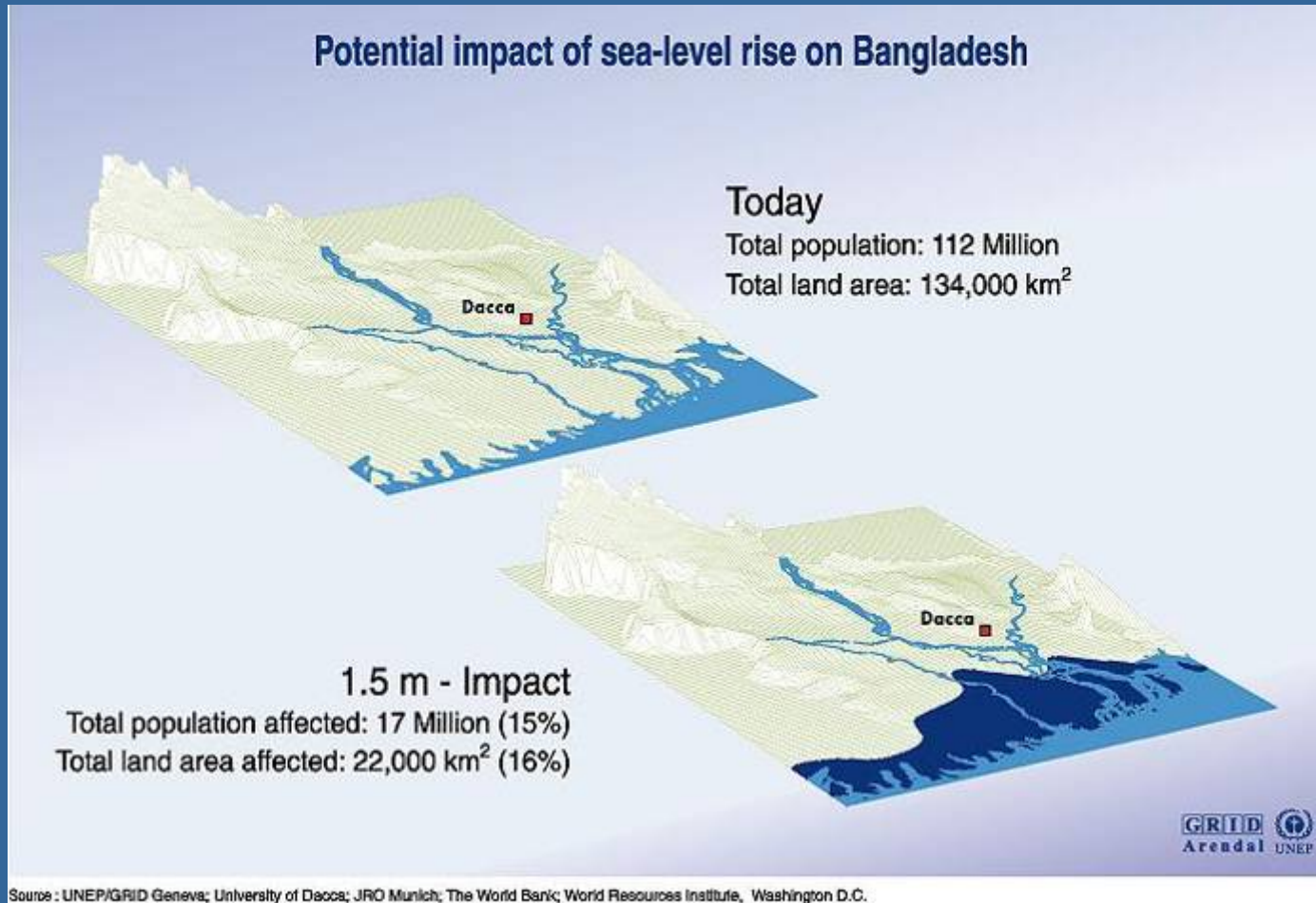
- Coral Reef
 - Reef Community
- Country.shp

Saturation State Future

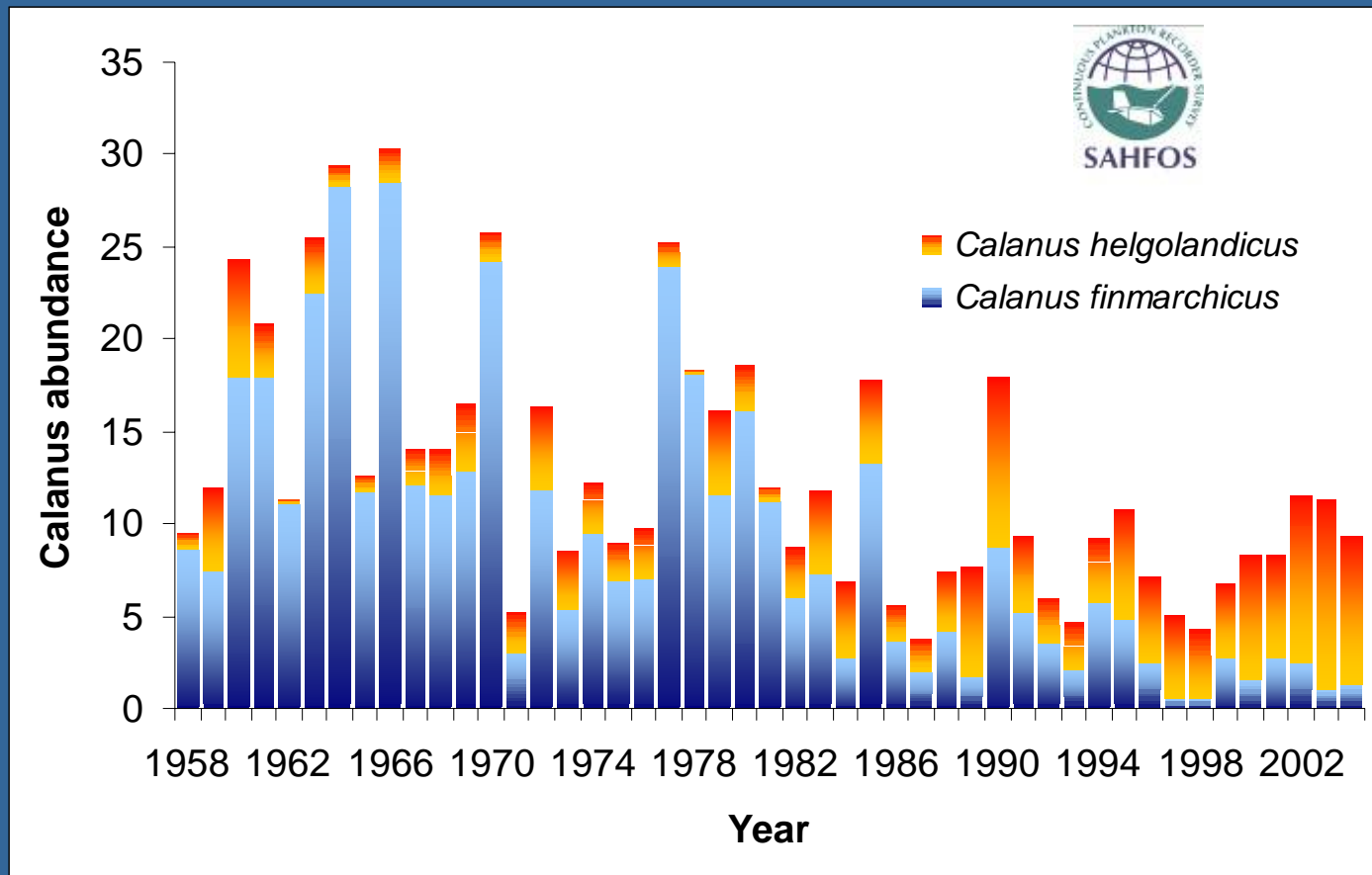
	> 4.0	Optimal
	3.5 - 4	Adequate
	3 - 3.5	Marginal
	< 3.0	Extremely Low
		No Data



Bangladesh with 1.5m Sea Level Rise

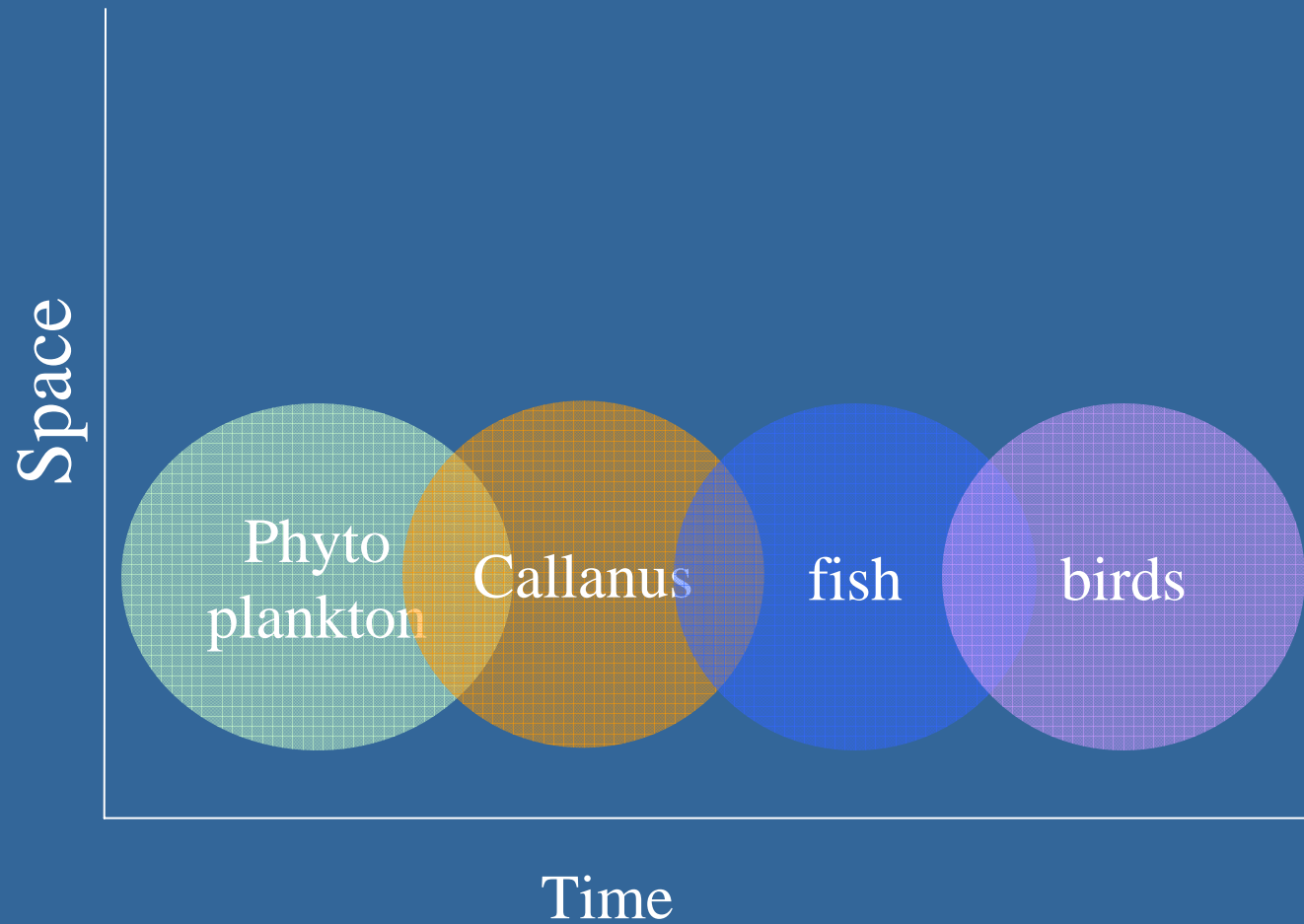


Regime Shift in the NE Atlantic



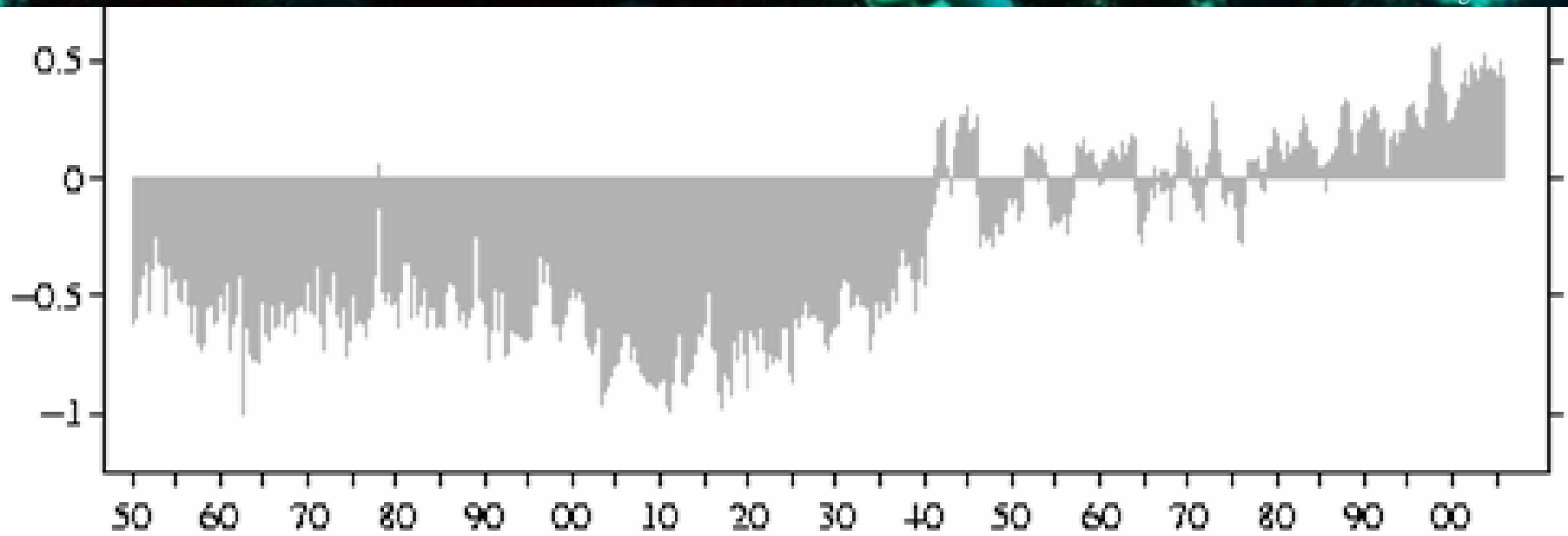


Trophic cascade and mismatch





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Global mean SST anomalies (°C) 1850 – February 2006

JISAO, UW



Coral Bleaching at work

How many people rely on reefs for food ?

500,000,000

Along with a host of other factors...

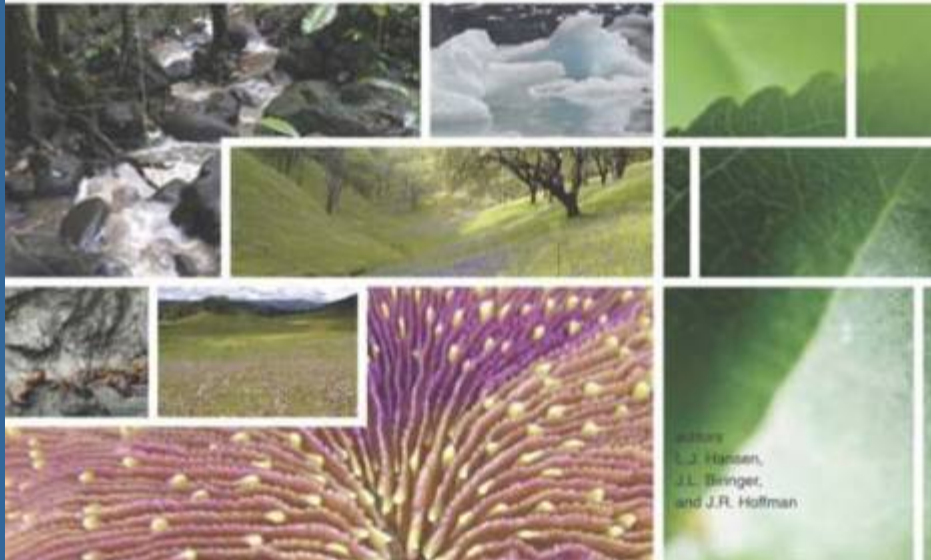


The Amazon





BUYING TIME:
A User's Manual for
Building Resistance and
Resilience to Climate Change in
Natural Systems



editors
L.J. Hansen,
J.L. Srinivasan,
and J.R. Hoffman

- 1) Reduce Greenhouse Gas Emissions
- 2) Protect Adequate and Appropriate Space
- 3) Limit all non-climate stresses
- 4) Active adaptive management and test strategies



1) Adaptation is futile without mitigation



Land clearance CO₂ > Transport CO₂





2) Protecting adequate and appropriate space



Utilize natural

Resistance and Resilience

MPA selection, design & area



3) Reduce non-climate stresses on natural systems

Pollution &

Habitat Degradation



©WWF/Kjell-Arne LARSSON

Agriculture & Habitat
Fragmentation



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Unsustainable Harvest



Invasive
species



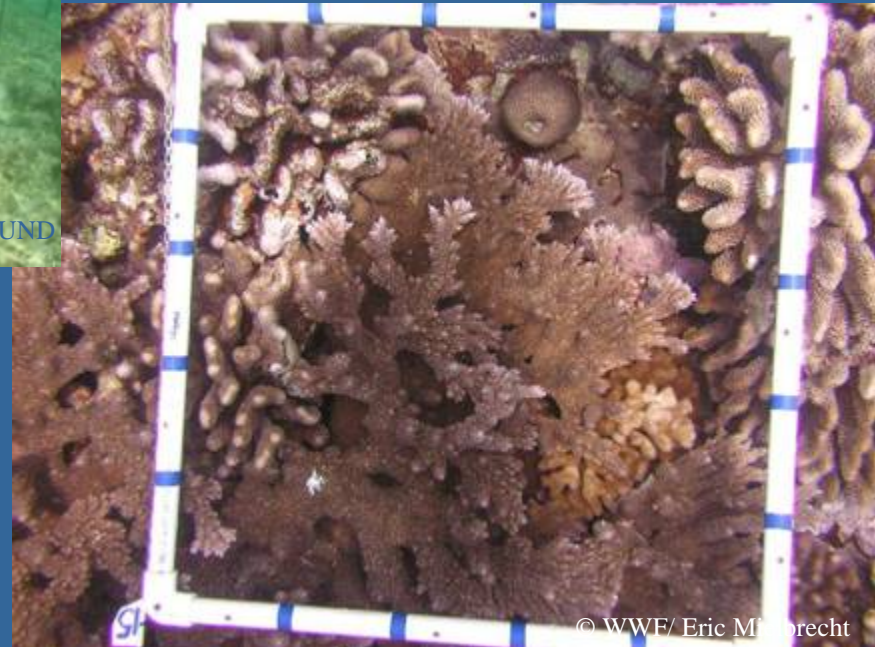
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4) Employ adaptive management and start testing strategies



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Fiji climate witness program





Median Wetland Values by Function (WWF, 2004)

Wetland Function	Median Wetland Economic Value (US\$ ha ⁻¹ year ⁻¹)
Flood control	464
Recreational fishing	374
Amenity/recreation	492
Water filtering	288
Biodiversity	214
Habitat nursery	201
Recreational hunting	123
Water supply	45
Materials & fuel wood	59



US \$70 Billion



WWF Sepik IRBM project





Thank you

