

The Richness and Splendors of the Malaysian Seas

Zulfigar Yasin

GIFT 2011

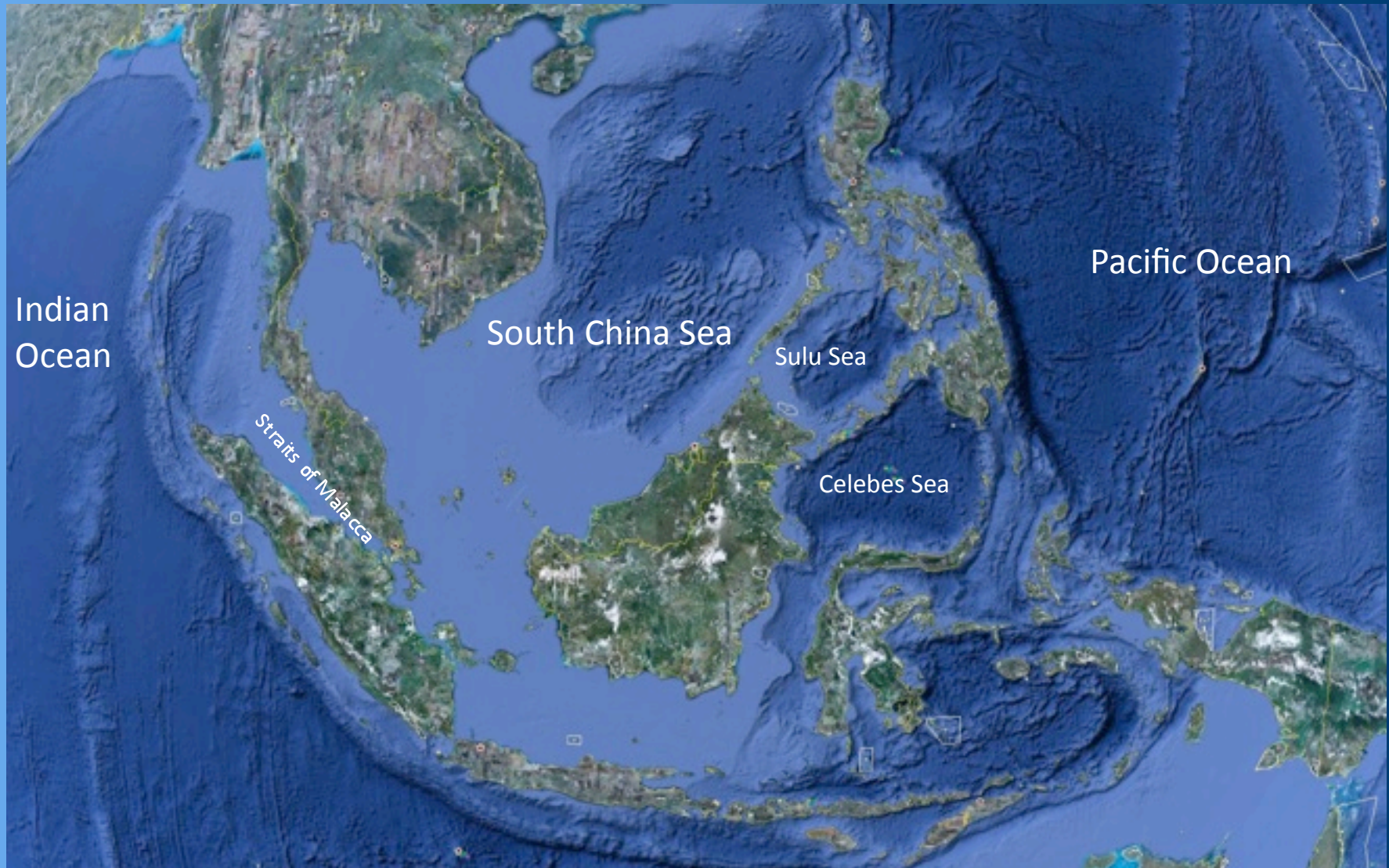
Ocean Acidification

Geosciences Information for Teachers Workshop

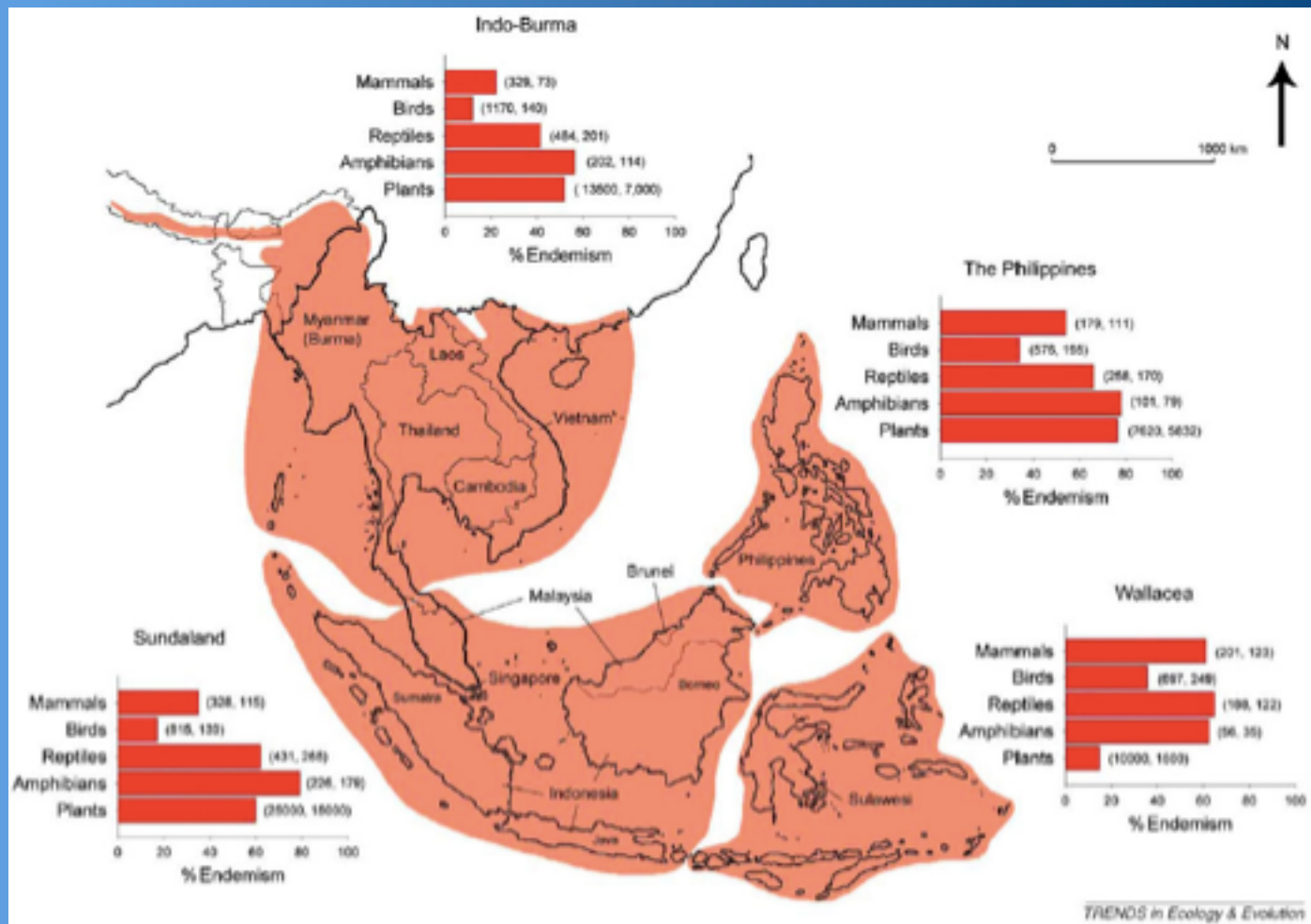
Penang, Malaysia, June 23-24



The seas surrounding us



The four 'biodiversity hotspots' for terrestrial Southeast Asia.





If the diversity of corals
can be used as an index...

**The worlds
richest area in
Marine
Biodiversity
includes the
waters of SEA**

Why protect marine biodiversity

- Malaysia is a maritime nation with a traditional maritime heritage and culture
- A people responsible to the richest and most diverse marine realm on the planet
- The basis of new biotechnology frontiers amongst its other uses
- It is inherently linked to our life in providing food, shelter and services

It is now under threat from:

- The rising temperature of the sea
- Ocean acidification





Photos by Zulfigar Yasin



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Water depth at Terumbu Siput (South China Sea)

0.5 metre

1 metre

3 metre

10 metre

25 metre

100 metre

2000 metre



Photo by Zulfigar Yasin



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Diving off the wall



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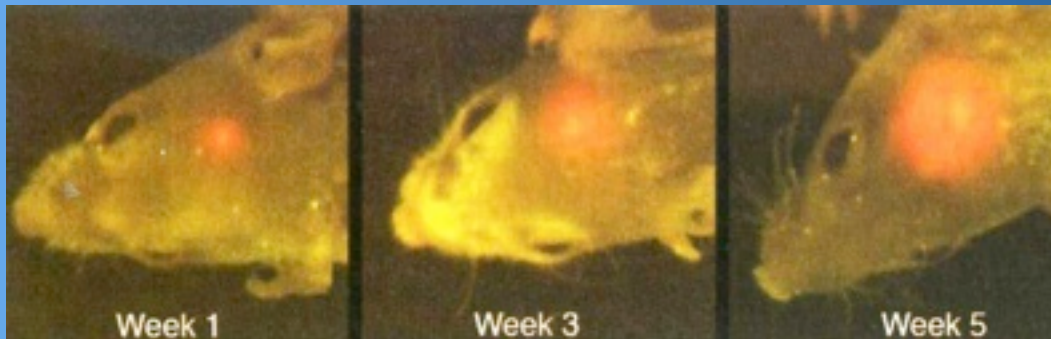
Fluorescent mushroom coral



Photo by Zulfigar Yasin

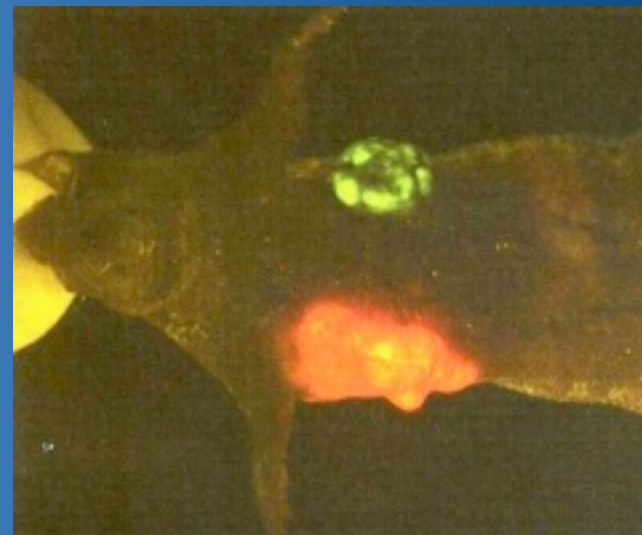
Flourescent sea anemone, Mabul

Uses of the fluorescent protein



A live mouse containing the gene for red fluorescent protein in brain tumor cells

A live mouse with lung tumors labeled with red and green fluorescent protein



Photos from Pieribone and Gruber (2005)

Video : David Gallo

What are the threats
to marine biodiversity?

Main threats now

1. Pollution and human induces threats
2. The rise in sea level
 - Increase in sea surface temperature
 - Ocean acidification

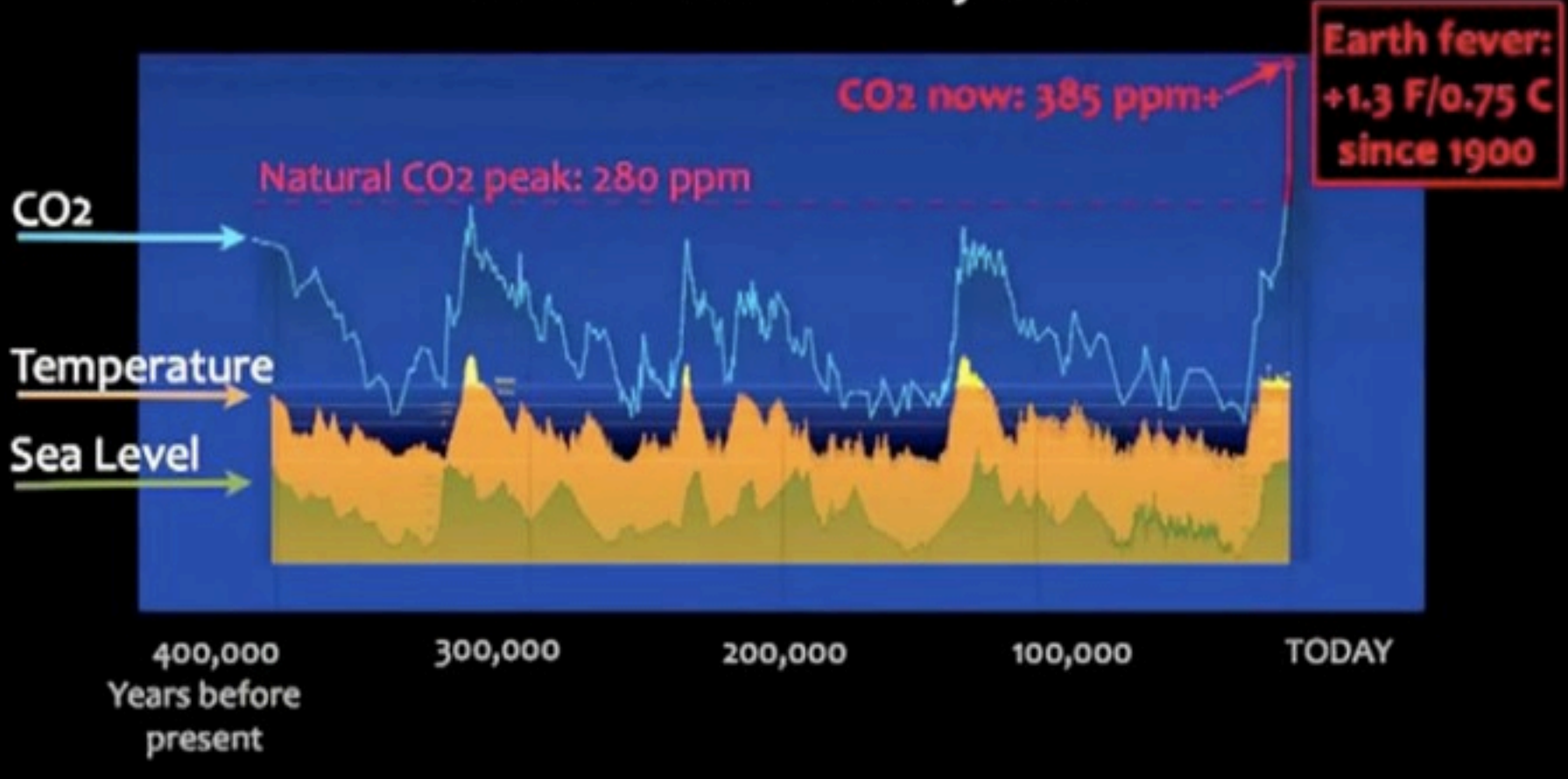


Photo by Zulfigar Yasin



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Earth's Climate Rhythm



Video : James Balog



Source: TED.com

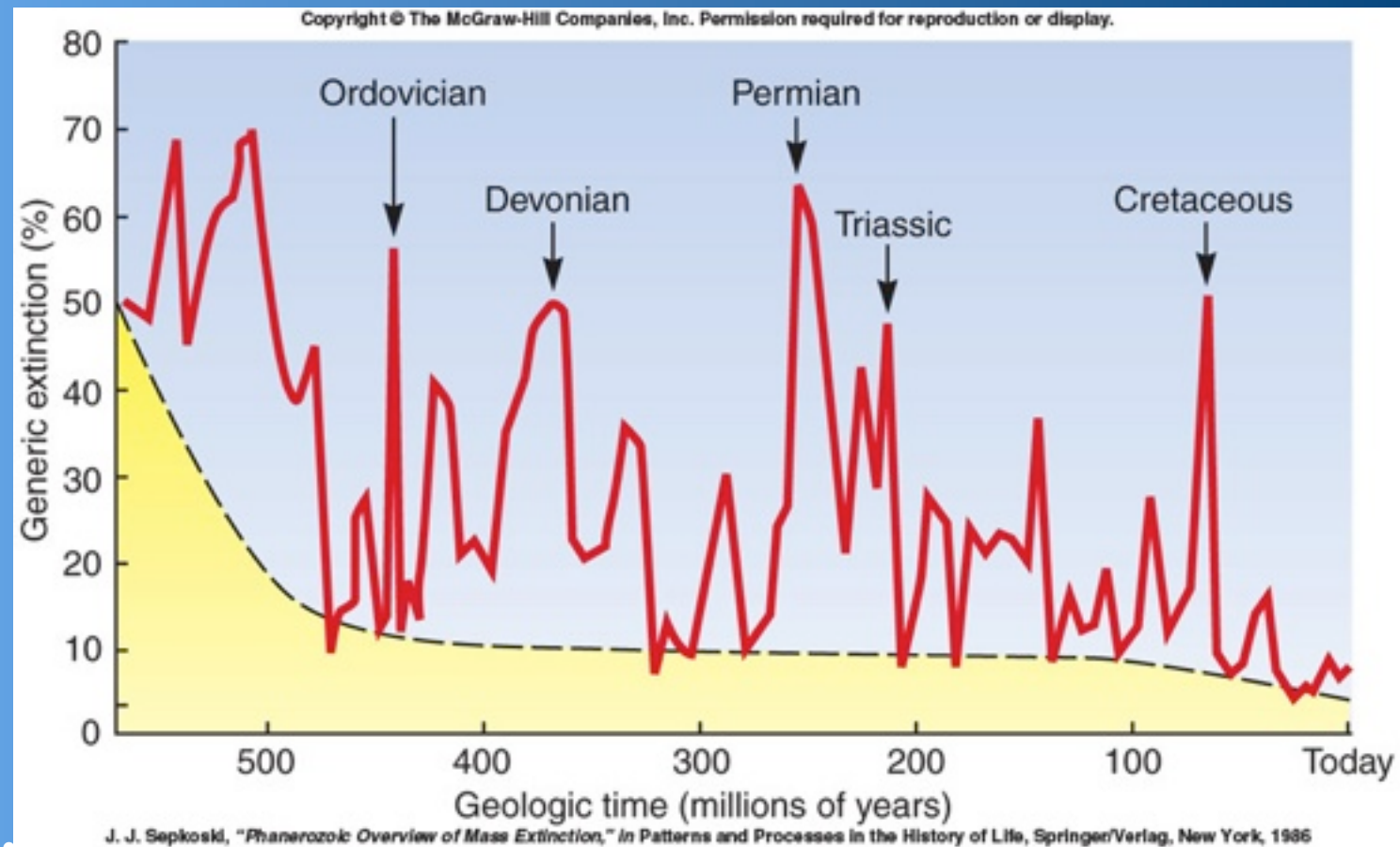
Invasive species threaten local biodiversity



Photo from National
Geographic Society

MASS EXTINCTIONS: PHANEROZOIC EXTINCTION PATTERNS

Marine invertebrates and protozoans versus time.



- * Excursion correlate with divisions in geological time scale.

Are we on the verge of another mass extinction?



1960's



1980's

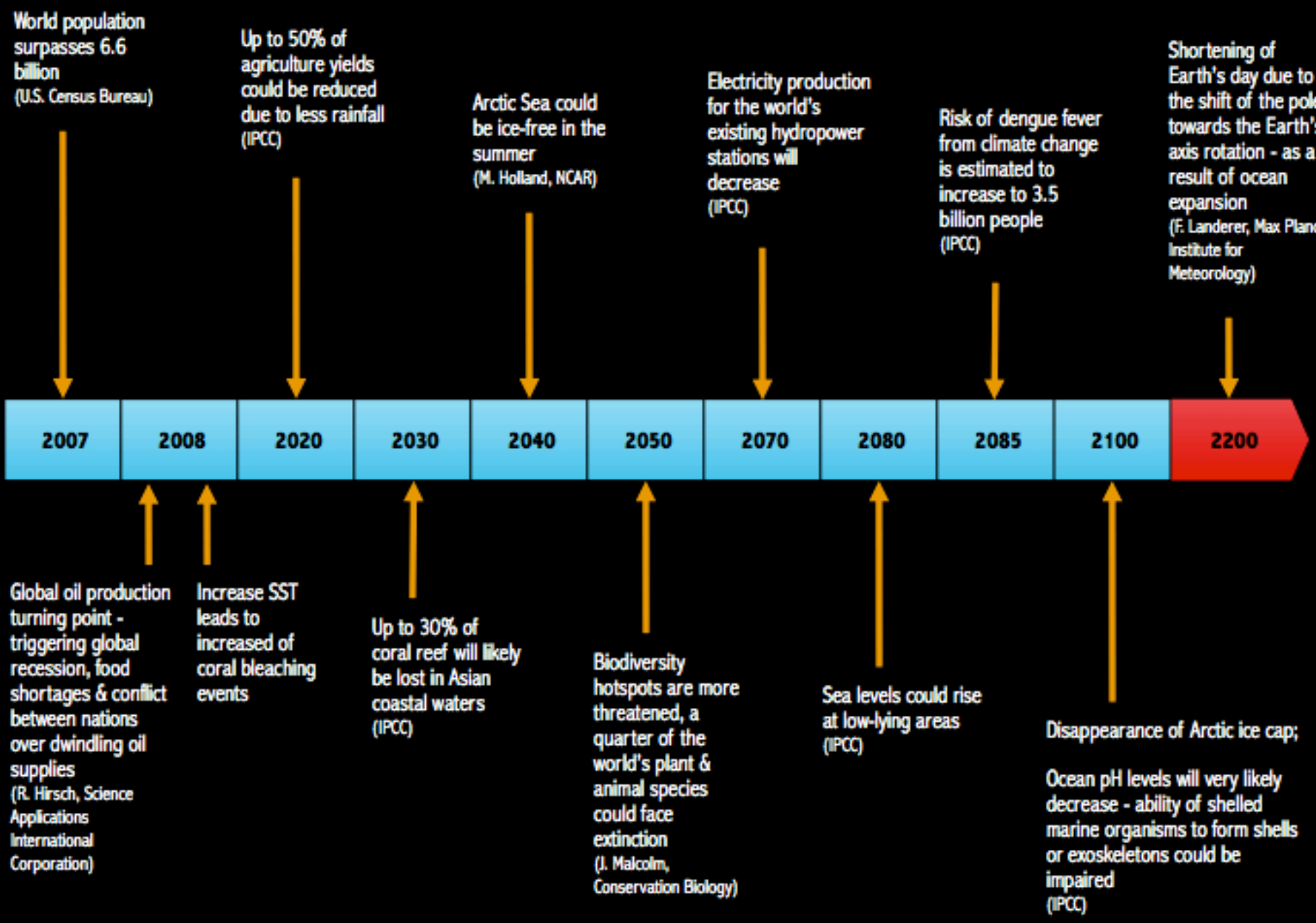


2000's



2020's ???

Timeline of Climate Change



Let's educate our children and our society

- We need to **talk** and change perceptions
- Be **prepared** to meet the challenges of a changing sea
- Climate change, Ocean Acidification and Biodiversity studies should be a **major theme** in the school curriculum
- It needs to be made a **mainstream topic**
- It needs to be made a **political agenda**

“If you think education is expensive wait till you know the price of ignorance”.

Thank you

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