

Climate Change Induced Migration

UNSW • ENVSI011 • 3 May 2013



Guest Lecture

Photo: Pip Starr

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PLANET **PREPARE**

2008 World Vision
Preparedness Study

Protect Development
Research Priorities
Empower Communities
Partner And Network
Advocate Justice And Change
Reinforce Disaster Defences
Educate Children



http://wvasiapacific.org/downloads/publications/PlanetPrepare_LowRes.pdf

Island of Matsungan, Papua New Guinea

Chief Kela: “What will
the future hold for our
children and
grandchildren?”

Matsungan, Papua New Guinea: Island Chief John Kela (right) standing on what he says was formerly dry ground.

Photo: Johannes Luetz



**Island of Torotsian,
Papua New Guinea**

Photo: Johannes Luetz



**Island of Torotsian,
Papua New Guinea**

Labutali, Papua New Guinea



Photo: Johannes Luetz

Group of environmental or climate change related forced migrants who abandoned their coastal village “because of rising sea levels.”

Photo: Johannes Luetz



Puwamo, Papua
New Guinea

Albert Nai: “The bush is better than the beach!”
(At his new home with two of his grandchildren)

Mohammad Shamsuddoha:
“Bhola – Bangladesh’s biggest island – is eroding. From a size of 6,400km² in the 1960s, Bhola is now only half its original size.”

*(General Secretary
Equity & Justice
Working Group)*



**Bhola Island,
Bangladesh**

Tajumuddin, Bhola, Bangladesh: (Photo: Johannes Luetz)



Present: 100,000 displaced p.a.

SLR 1m: 65 million?

SLR 3m: 92 million?

SLR 5m: 128 million?

(Rajan, 2008)

Bhola Island, Bangladesh

Tajumuddin, Bhola, Bangladesh: (Photo: Johannes Luetz)

Abdul Mannan: “The place where I was born lies 5 kilometres out in the sea. I’ve already moved my home and family four times.” Community elder Abdul Mannan (centre) points out signs of erosion.



Abdul Mannan:

“People are constantly moving back. This family left last week. Only the toilet pit is left.”

**Bhola Island,
Bangladesh**

Tajumuddin, Bhola, Bangladesh: (Photo: Johannes Luetz)

Bridge to “nowhere” (2011)



Show field research video footage:

File name “Bangladesh I”:
55:00 (1min) – Bridge to “nowhere”


(Photo: Johannes Luetz)



← Google Earth: School building still visible

Blue dot (accurate to 3m) indicates our GPS position supposedly 100m from shore

(Photo: Johannes Luetz)



Student from that very same school pointing to where class rooms used to be 6 months ago

Show field research video footage:

File name “Bangladesh 2”:

31:20 (seconds) – Google maps!

34:00 (3min) – student

This is the same location at the GPS derived Google Earth “blue dot” (accurate to 3m)

(Photo: Johannes Luetz)



Show field research video footage:

File name “Bangladesh 5”:

46:00 (1min) – Dhaka tenants, settlements

59:00 (30sec) – Bhola-CEGIS (6km@61min)

00:00 (3min) – INDIA I: erosion/ accretion

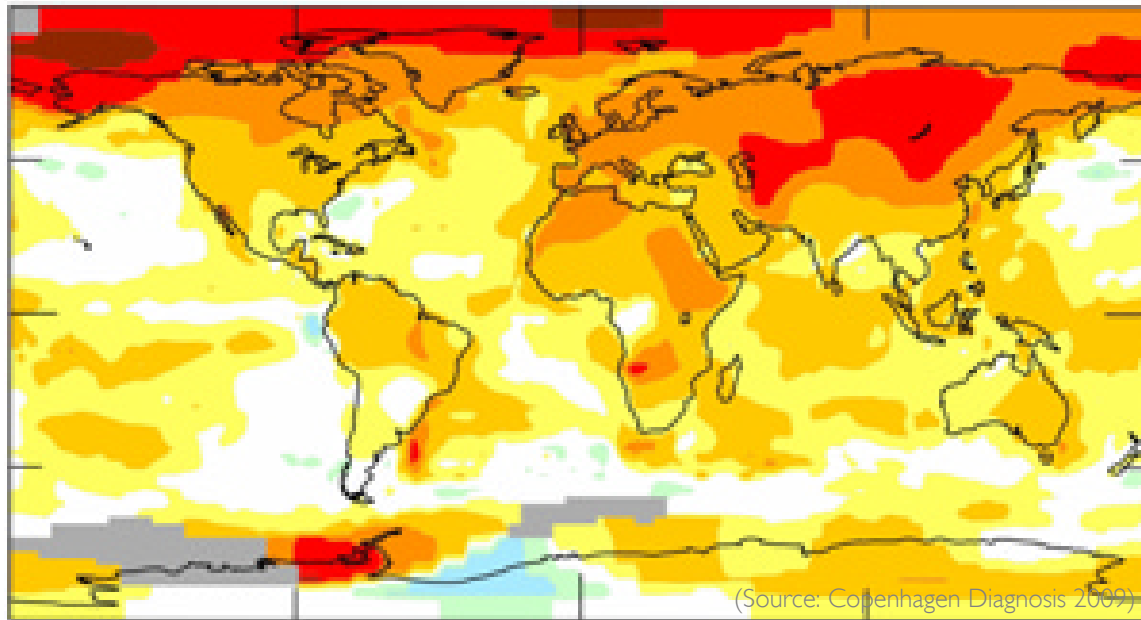
**Md. Faruk, migrant from
Bhola Island interviewed at
Dhaka slum**

(Photo: Johannes Luetz)



Adapted from Milliman *et al.* (1989).
Presentation by Sir John Houghton 7 Sep 2011

Mean temperature change between 1950's and 2000's



Among top 10 warmest years
2001
2002
2003
2004
2005
2006
2007
2008
2009

“Climate change will make it harder to manage the world’s water. People will feel many of the effects of climate change through water. The entire water cycle will be affected. While the world as a whole will get wetter as warming speeds up the hydrological cycle, increased evaporation will make drought conditions more prevalent. Most places will experience more intense and variable precipitation, often with longer dry periods in between. The effects on human activity and natural systems will be widespread.”

—*World Bank, World Development Report 2010*



South Africa
Western Cape
21 July 2002

Photo: NASA



South Africa
Western Cape
21 July 2003

Photo: NASA



Sinazongwe, Zambia

What looks like a desert or seashore is a field where crops were planted last season. Floods washed away both crops and soil, leaving only sand and a bleaker outlook on the future.



Photo: Jon Warren / World Vision

DRIEDUP

Kerkorisogal, Kenya: Children learn English under a tree, taught by teacher James Nakure Etot (36). Kerkorisogal is named for the river that runs through it. But the river hasn't flowed in a year and a half. Ekurichanait Naborkut (34), head teacher at Kerkorisogol School, says hunger often hits his classroom hard: "When there is no food, the children become sleepy and are absent."



Photo: World Vision Philippines

Cainta / Pasig, Philippines: Two days after Typhoon Ketsana/Onday's landfall, World Vision Philippines, with the help of a Coast Guard helicopter, drops 75 relief packs. Flood waters remain high, trapping thousands of people. (September 2009)

WATERED **DOWN**

**Precipitation rate
increase by 5-10%
per °C warming**

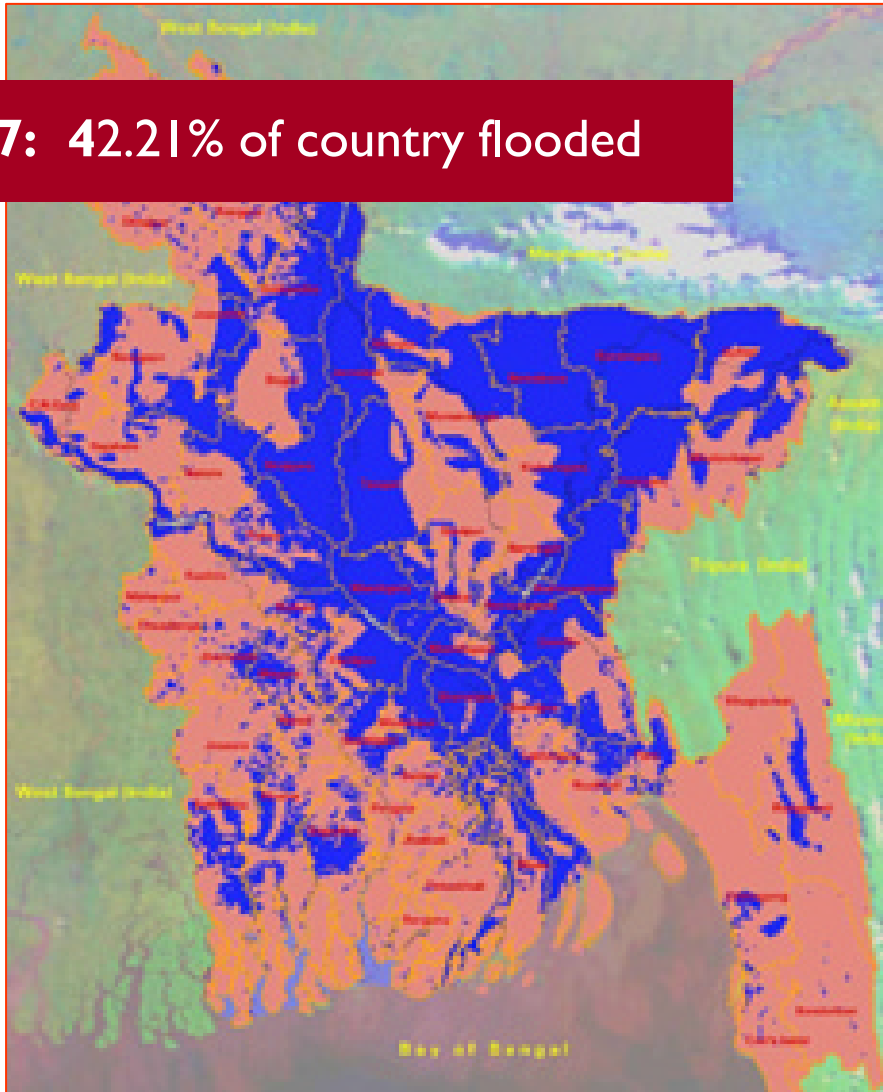
“
When it
rains, it
pours”



Khailshabunia (Bangladesh) under water

Photo: Amio Ascension / World Vision

2007: 42.21% of country flooded



**Bangladesh,
world's largest
river delta:**
One-third floods
annually during
the monsoon.
Extreme floods
cover up to two-
thirds of the
country.

Bangladesh Space Research and Remote Sensing Organization (SPARRSO). Satellite image: August 2,3,4,5,7 & 8, 2007

**Tropical Storm Ketsana over the
Philippines, 26 September 2009**

**Study: 1°C global
warming = 30%
increase in
tropical cyclones?**

Photo: National Oceanic and Atmospheric Administration (NOAA)

<http://www.chrispforr.net/phils/survivors/survivors.htm>



Show field research video footage:

File name “Philippines 5”:

20:30 (1min) – Typhoon belt shifted south

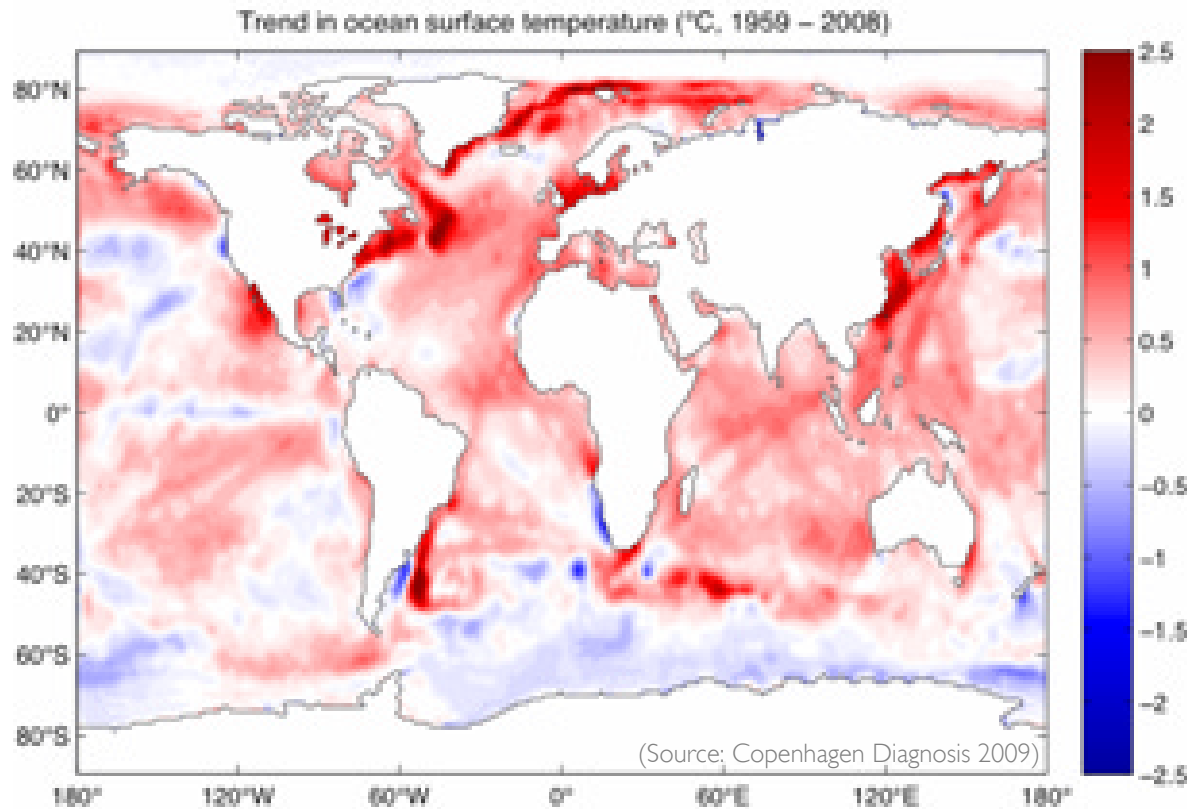
31:00 (1min) – Wealth accounting

File name “Philippines 8”:

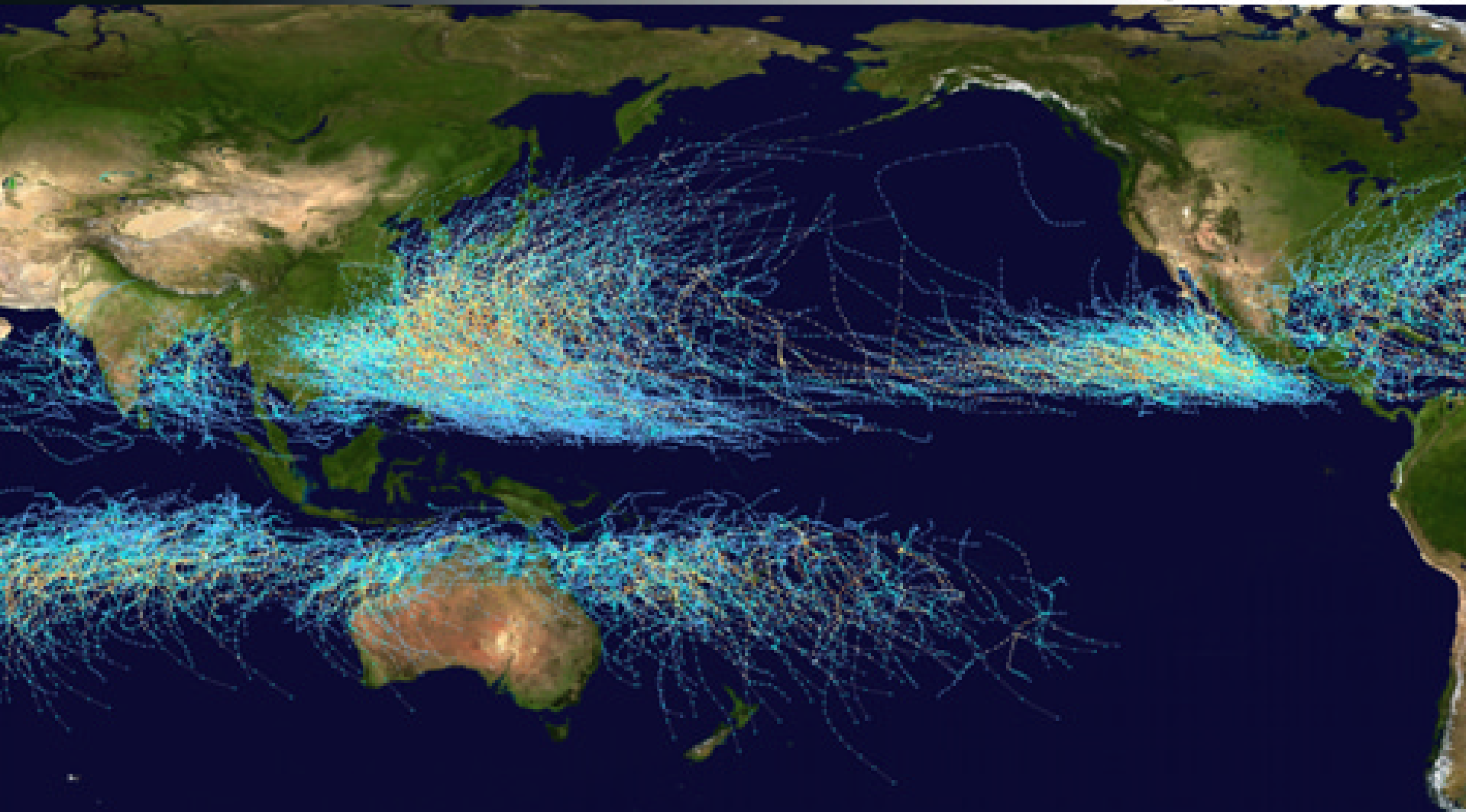
05:00 (1min) – Severe Tropical Storm Washi

(Photo: Chris Pforr)

Ocean heat uptake 50% higher than previous calculations



2007:
warmest year
ever
recorded



Hurricane Tracks 1985-2005

Photo: NASA / Nilfanion

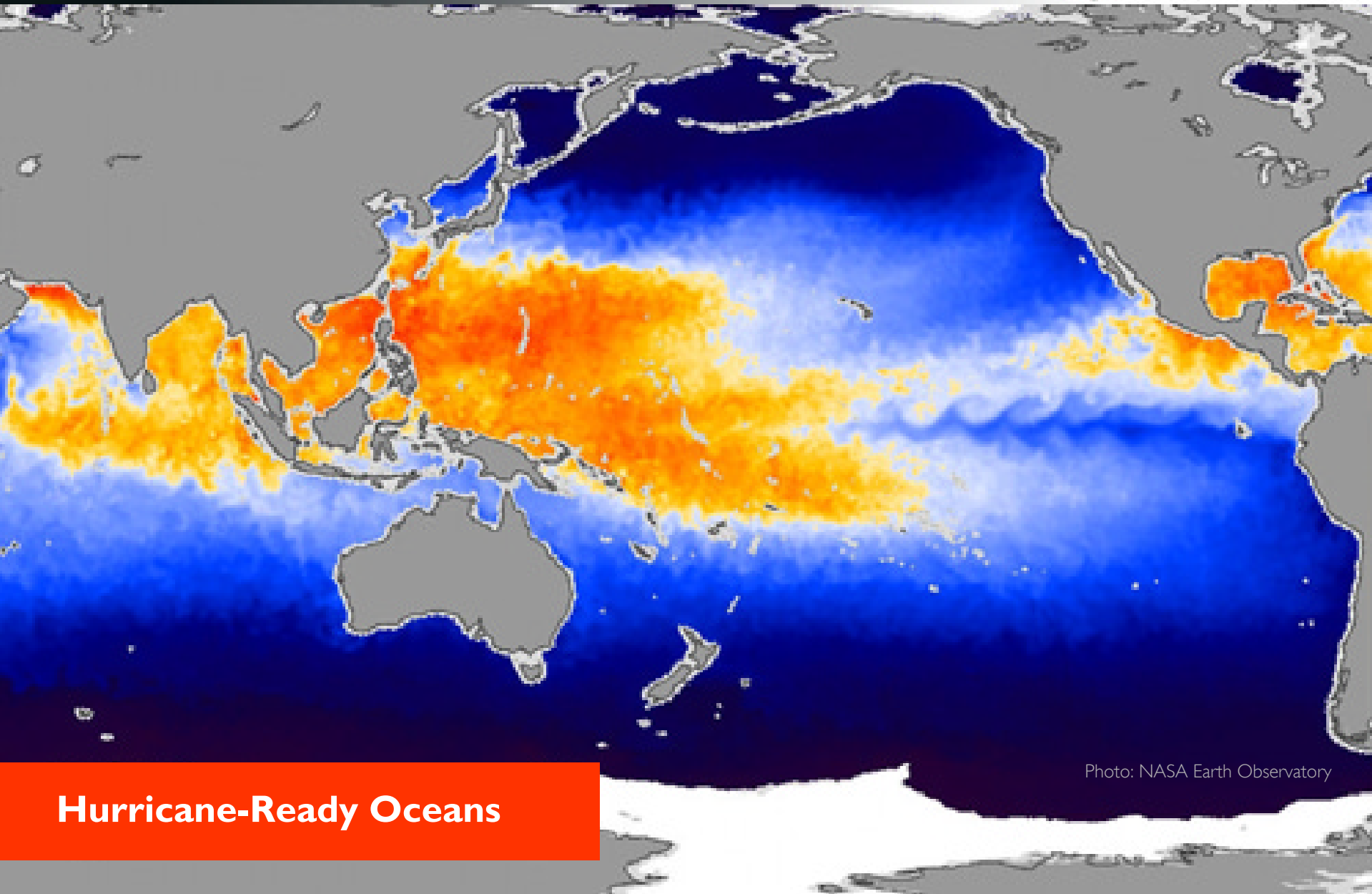


Photo: NASA Earth Observatory

Hurricane-Ready Oceans

Storm Surges

Before Cyclone Nargis

Photo: NASA/MODIS Rapid Response Team

15 April 2008

Storm Surges: Most lethal aspect of wind storms. Hydrological conditions can lift sea level by multiple metres and drive a massive flood of sea water many kilometres inland.

Storm Surges

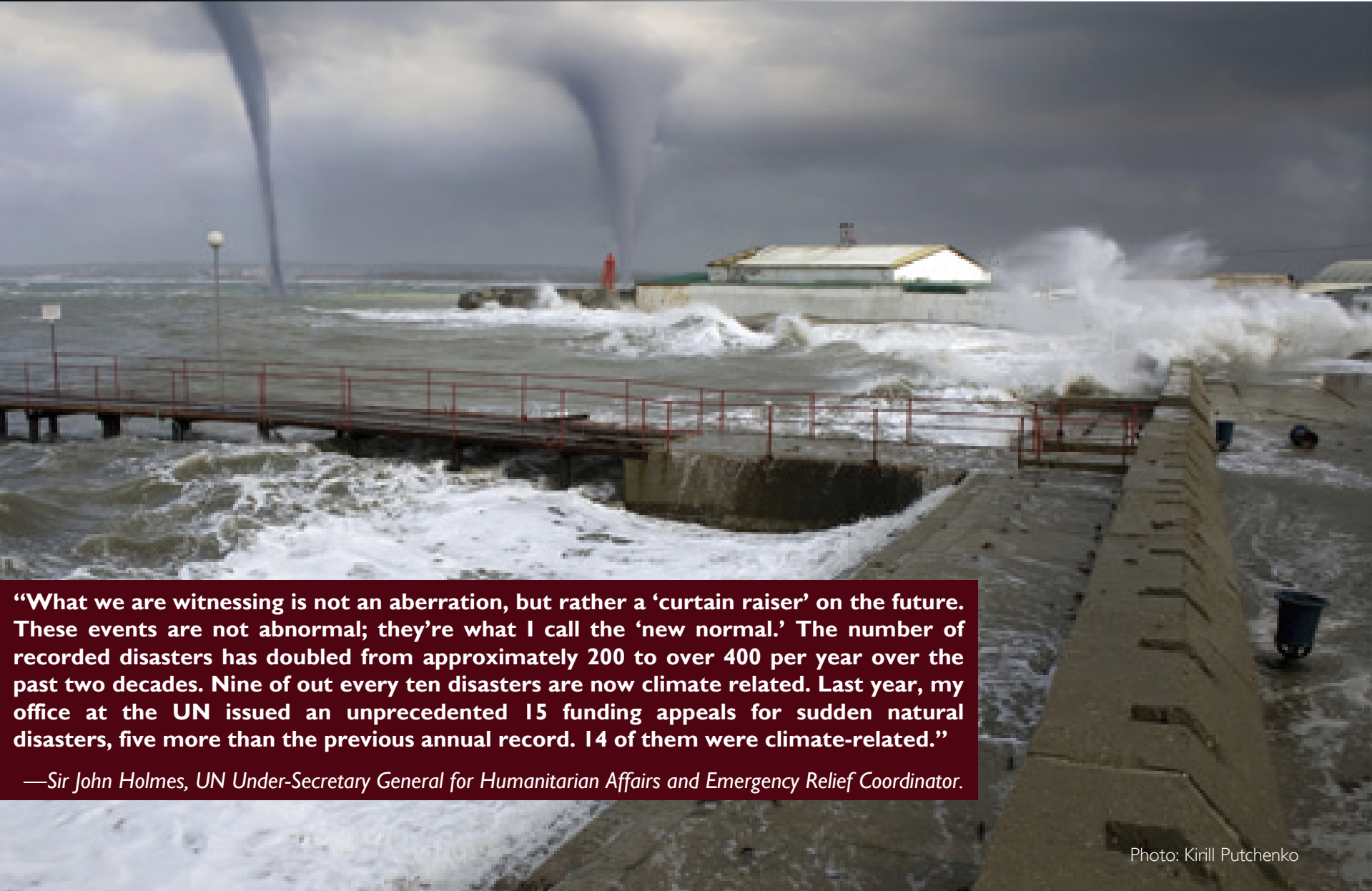
After Cyclone Nargis

Photo: NASA/MODIS Rapid Response Team

5 May 2008

World Bank Natural Disaster Hotspots Report:
“By far the most certain aspect of climate change that will influence surge characteristics is global-mean-sea-level-rise ... The overall conclusion is that the surge hazard will evolve significantly during the 21 century.”

Stronger Storms?



“What we are witnessing is not an aberration, but rather a ‘curtain raiser’ on the future. These events are not abnormal; they’re what I call the ‘new normal.’ The number of recorded disasters has doubled from approximately 200 to over 400 per year over the past two decades. Nine of out every ten disasters are now climate related. Last year, my office at the UN issued an unprecedented 15 funding appeals for sudden natural disasters, five more than the previous annual record. 14 of them were climate-related.”

—Sir John Holmes, UN Under-Secretary General for Humanitarian Affairs and Emergency Relief Coordinator.

Photo: Kirill Putchenko




Jakarta: One of many cities that needs to prepare for sea level rise. With 40% of the city below sea level, there have already been calls to relocate the Indonesian capital to Bandung, 180km away.



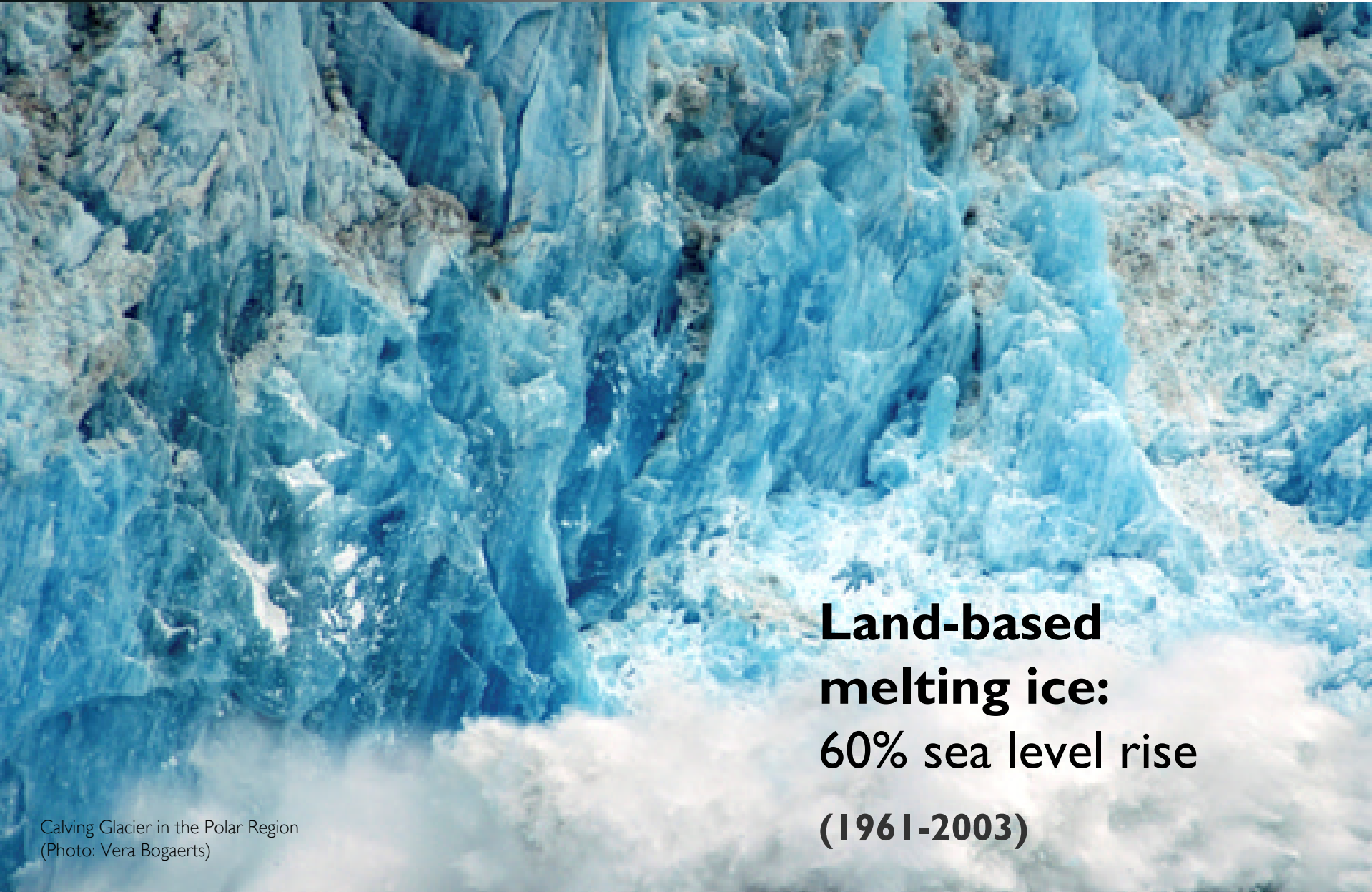
Photo: Abi Hardjatmo

Jakarta: With its 13 rivers floods in Jakarta can be devastating. The February 2007 flood displaced 450,000 people. More than 70% of the city was inundated.



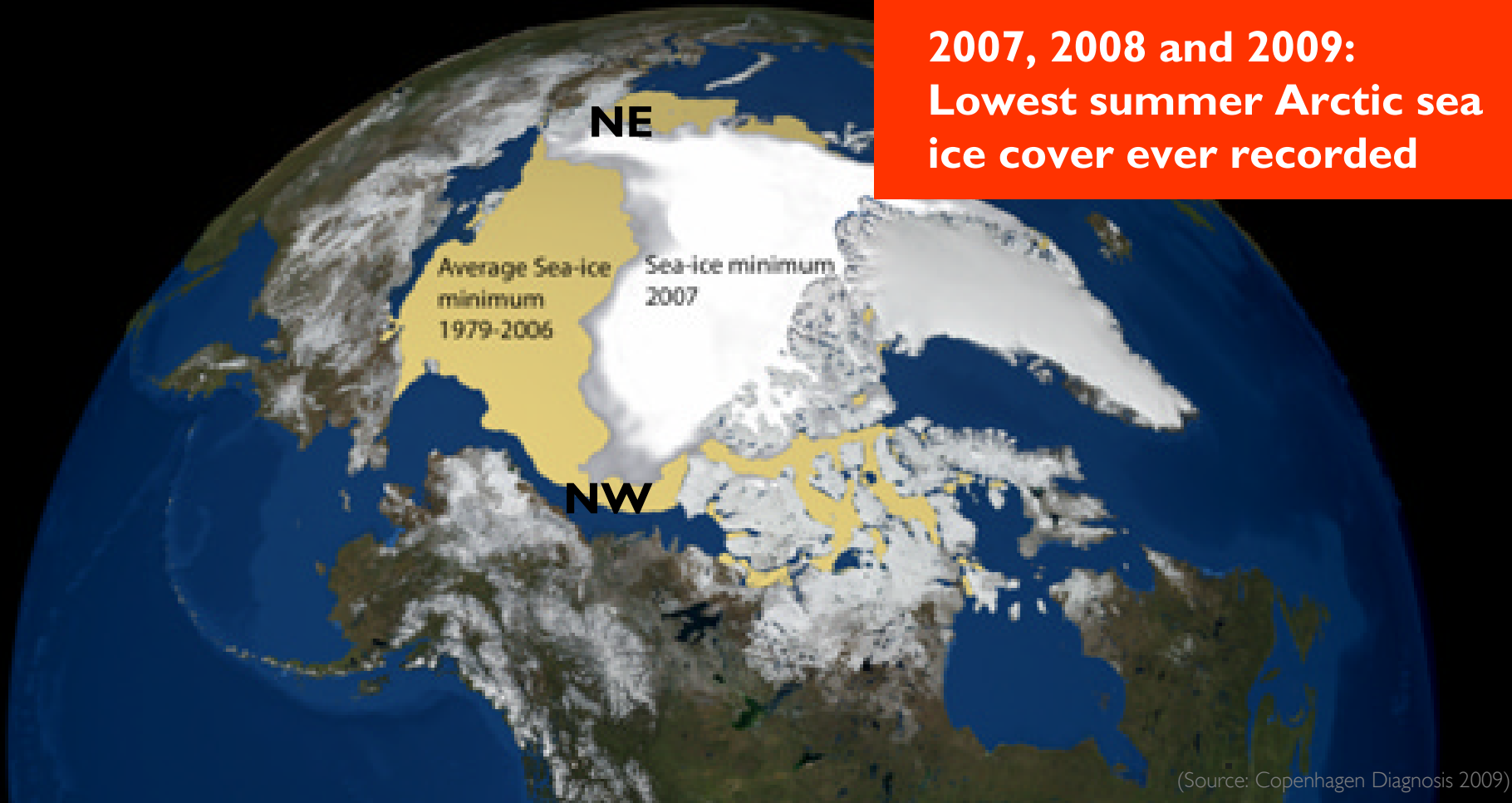
**Thermal
expansion:
40% sea level rise
(1961-2003)**

Photo: Tammy Peluso

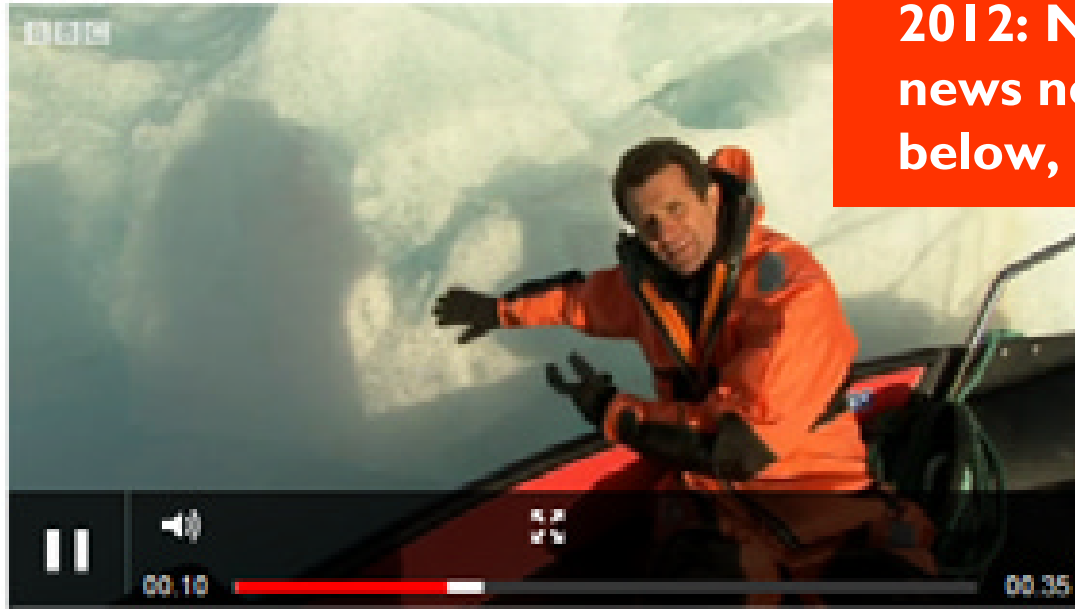


**Land-based
melting ice:
60% sea level rise
(1961-2003)**

Calving Glacier in the Polar Region
(Photo: Vera Bogaerts)



Minimum arctic sea-ice decline from 1979 to 2007



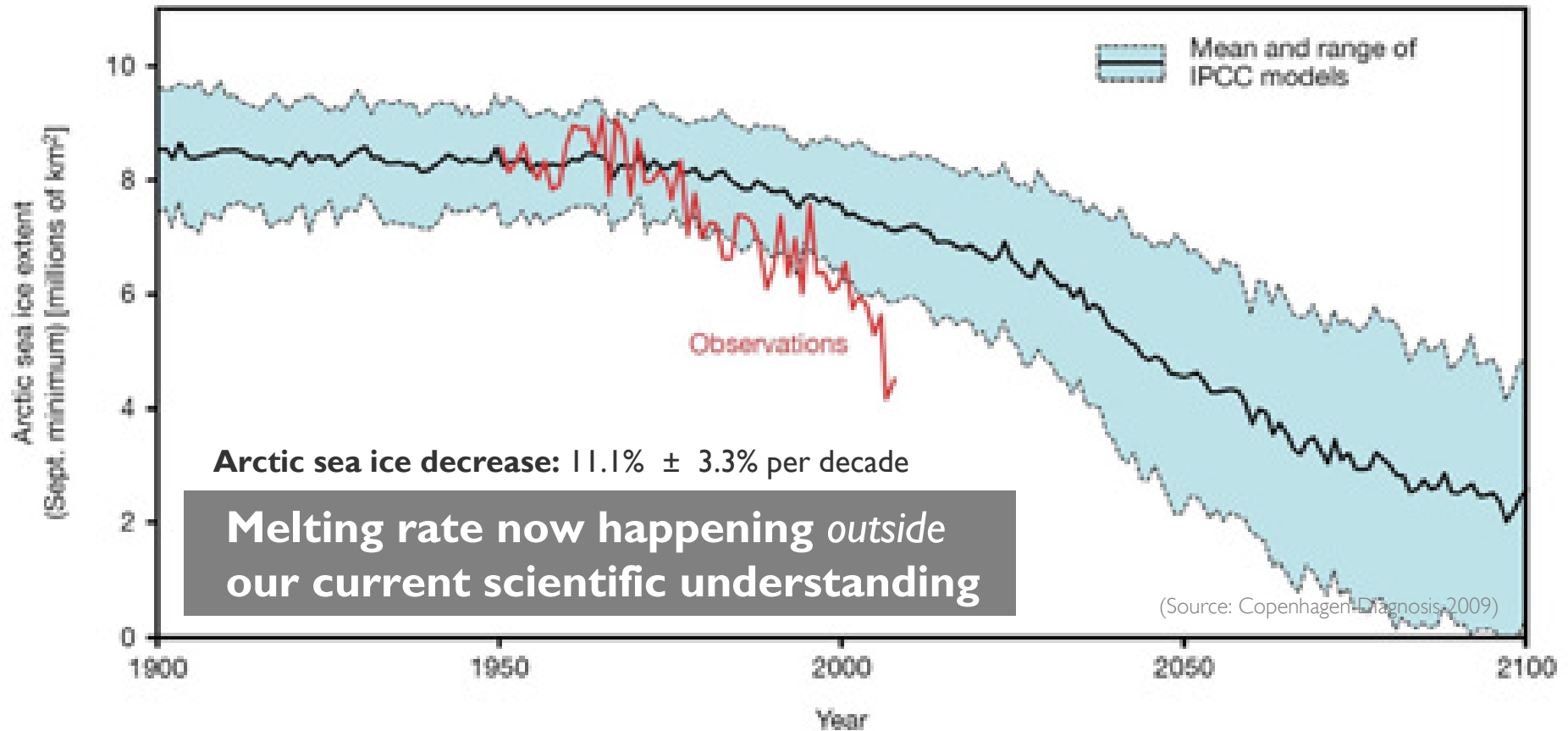
2012: New record, in the news now... (see video links below, only a few days old)

<http://www.bbc.co.uk/news/uk-19498018>

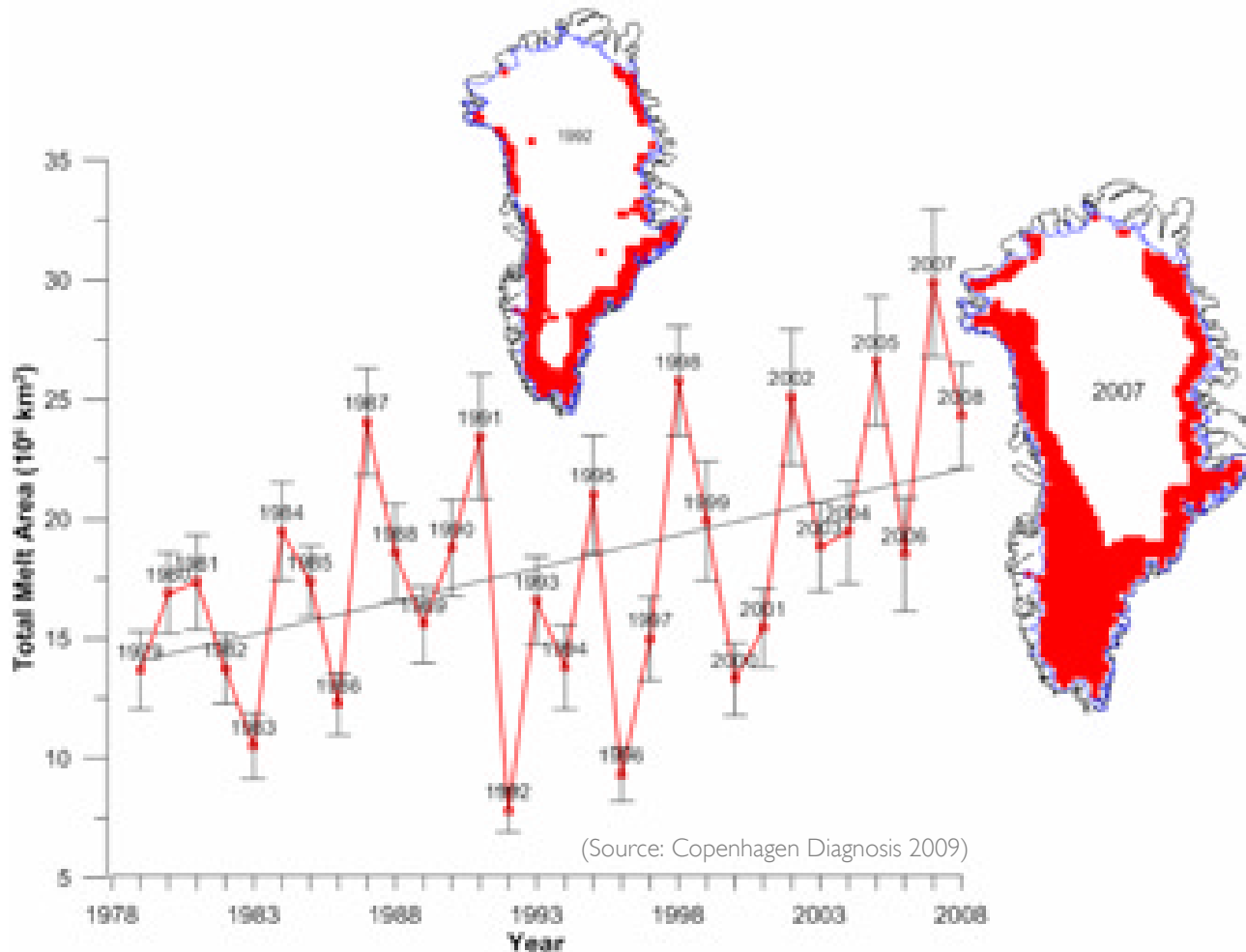
→ <http://www.bbc.co.uk/weather/features/19417327>

→ <http://www.bbc.co.uk/news/world-europe-19508906>

Observed and modeled Arctic sea-ice decline



Greenland ice-melt since 1979



2002-2009:
Greenland ice mass
loss doubled

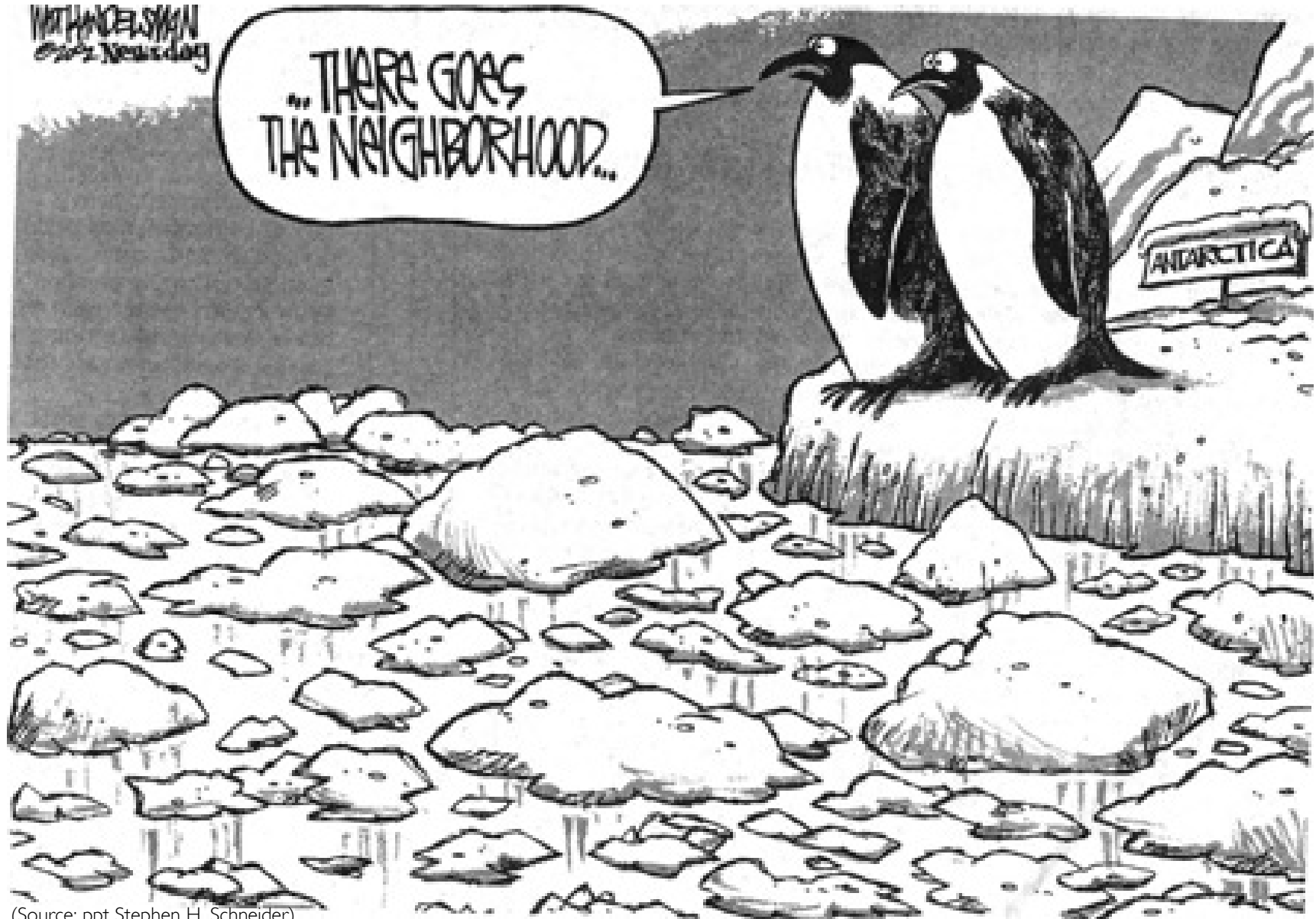
2007:
melting area 50%
of total ice sheet

6.6 metres:
Greenland's total
SLR potential

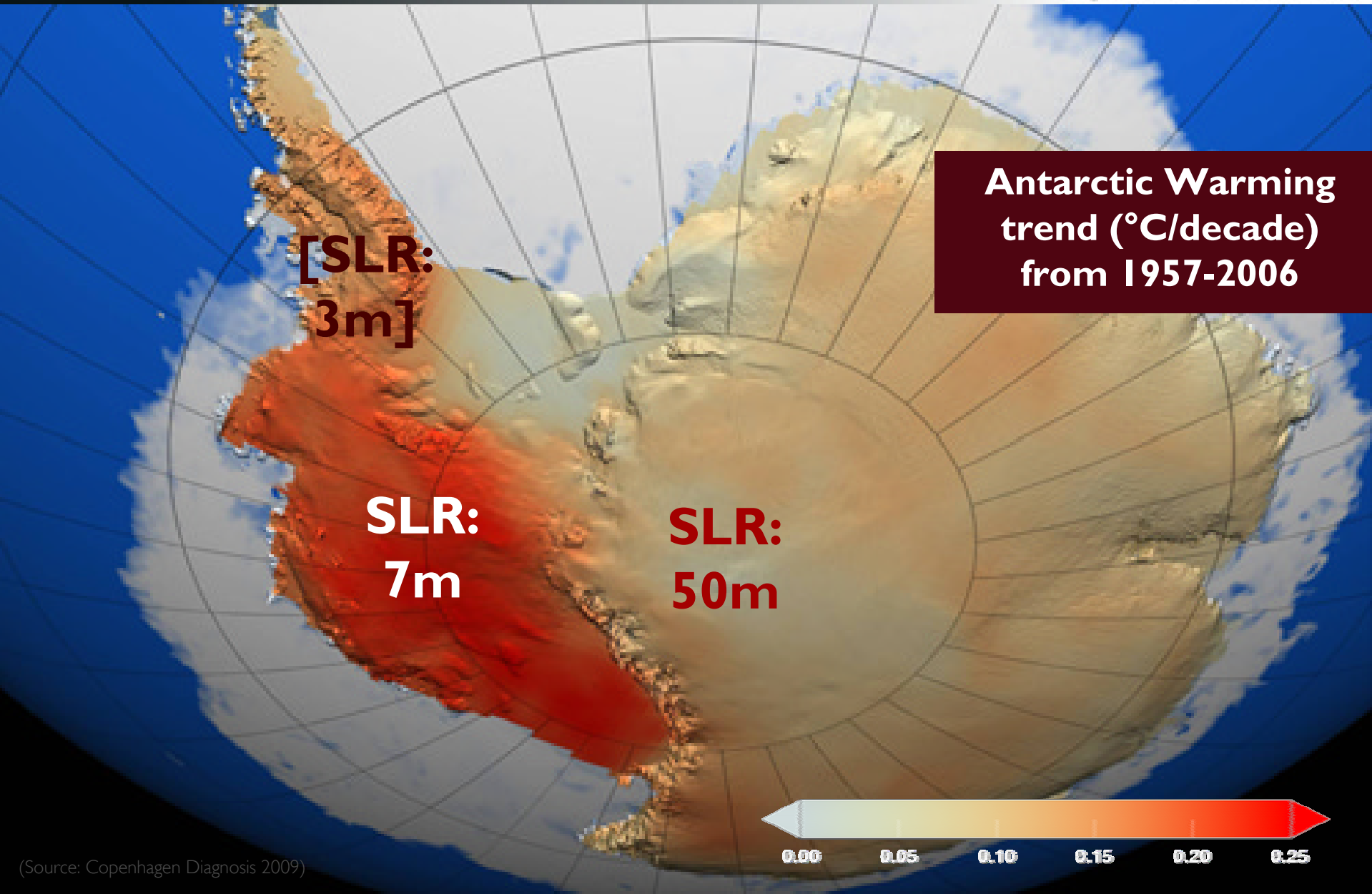
While Arctic sea-ice decline is sea level neutral, proximity to Greenland is a cause for concern

Ice-Free Arctic Summers?



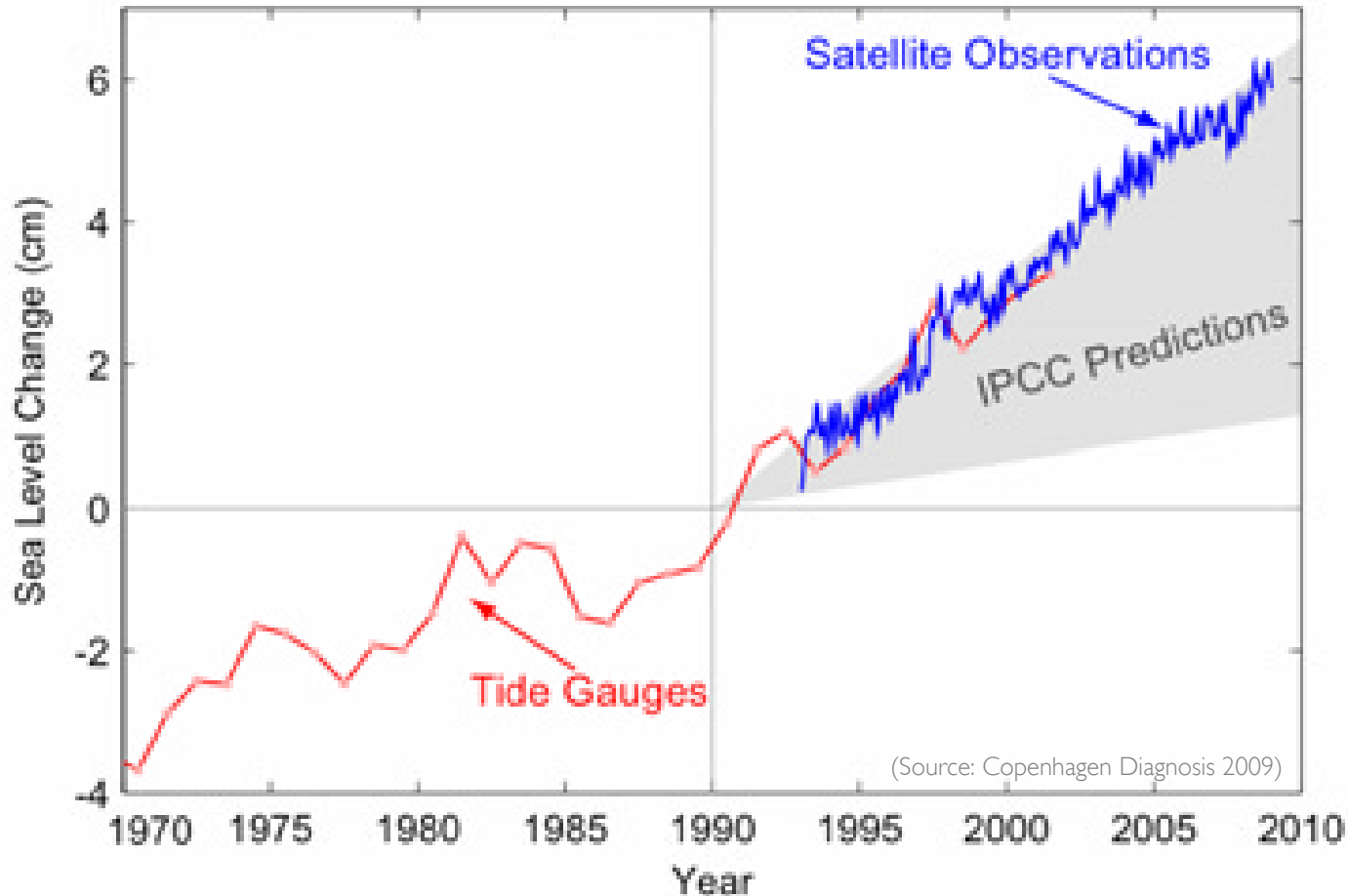


(Source: ppt Stephen H. Schneider)



(Source: Copenhagen Diagnosis 2009)

Global sea level change 1970-2010

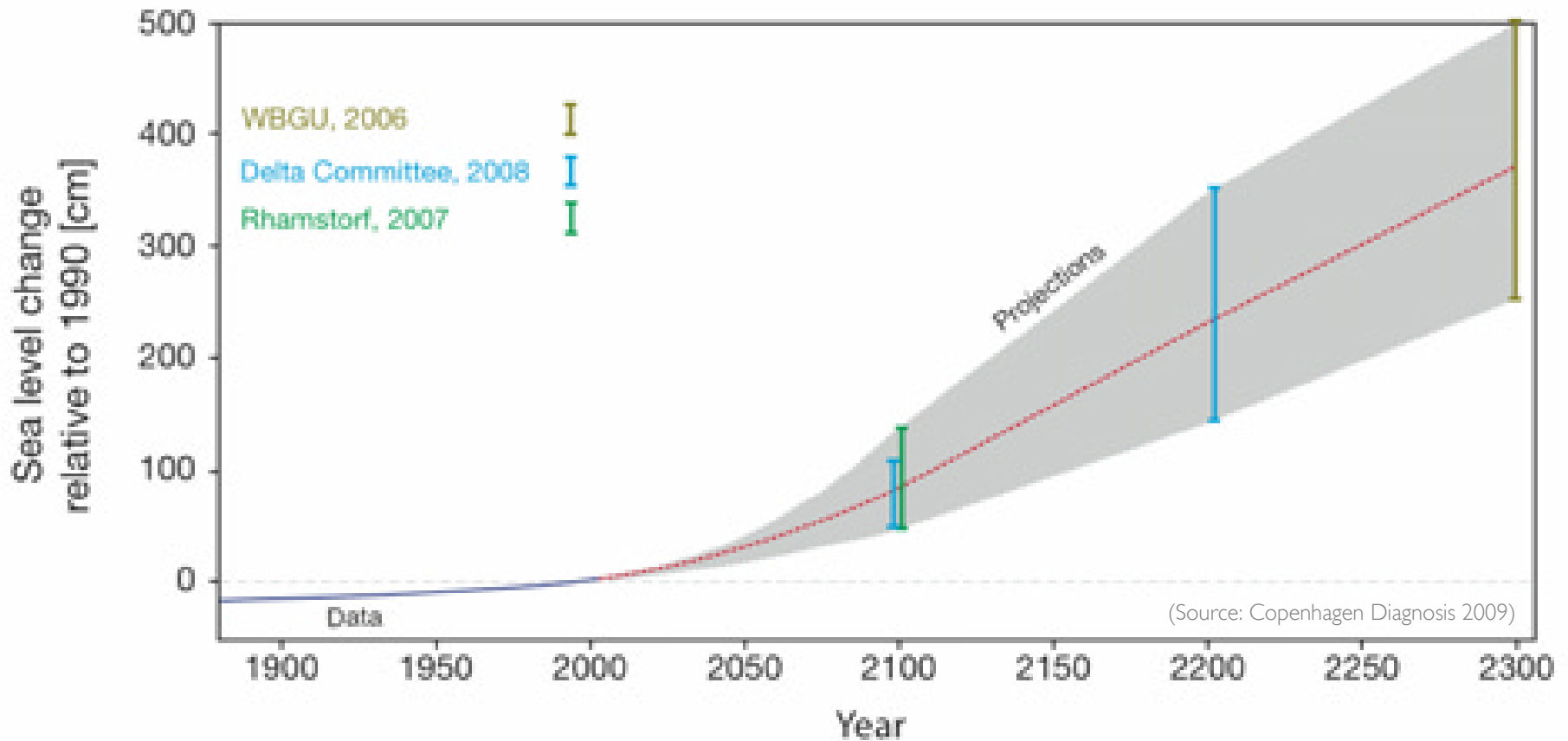


**SLR by
2100:
1-2m**

**Last 15
years:
5cm SLR ~
80% faster
than IPCC**

**SLR by
2300:
up to 5m**

Future sea-level projections





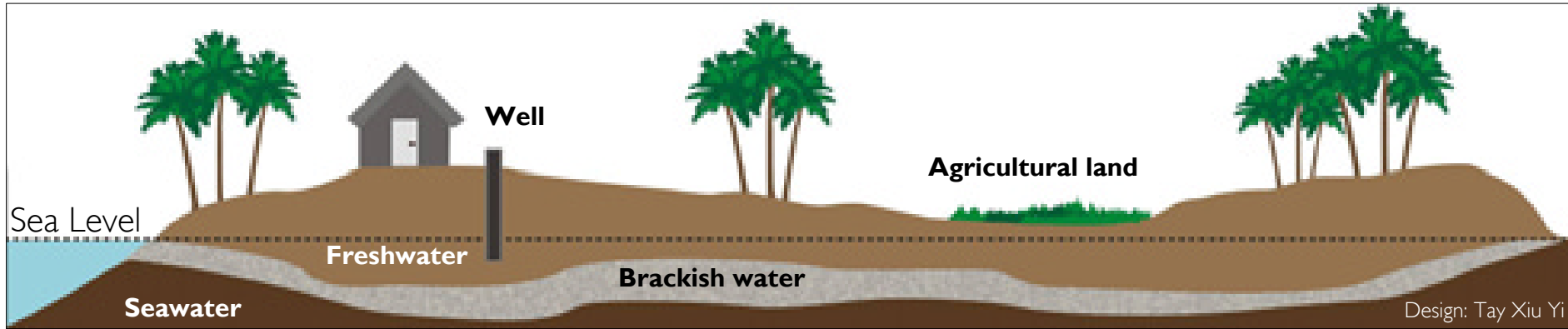
WATER
IS LIFE

Intergovernmental Panel on Climate Change (IPCC)

Island near Fiji (Photo: Wikipedia)

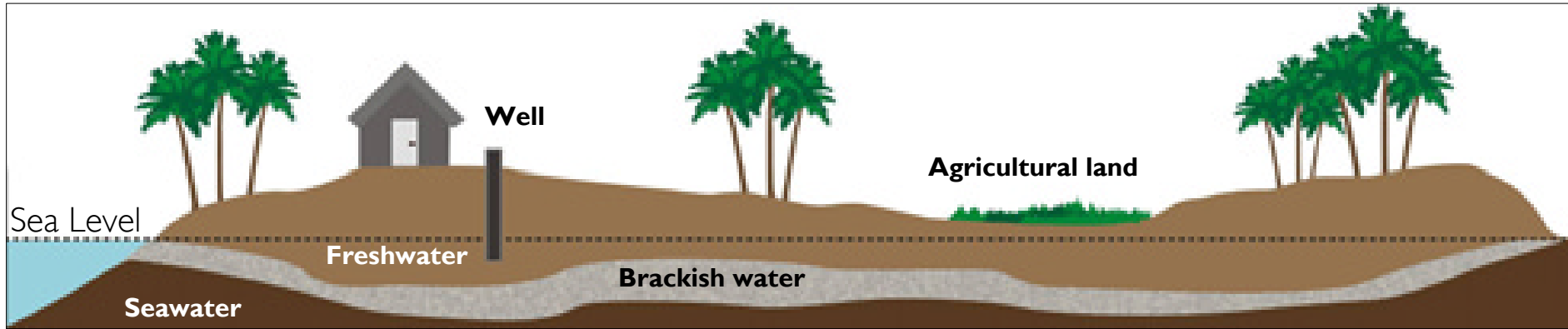
Fourth Assessment Report, 2007: “By mid-century, climate change is expected to reduce water resources in many small islands ... to the point where they become insufficient to meet demand during low-rainfall periods.”

Figure 1: Initial sea level



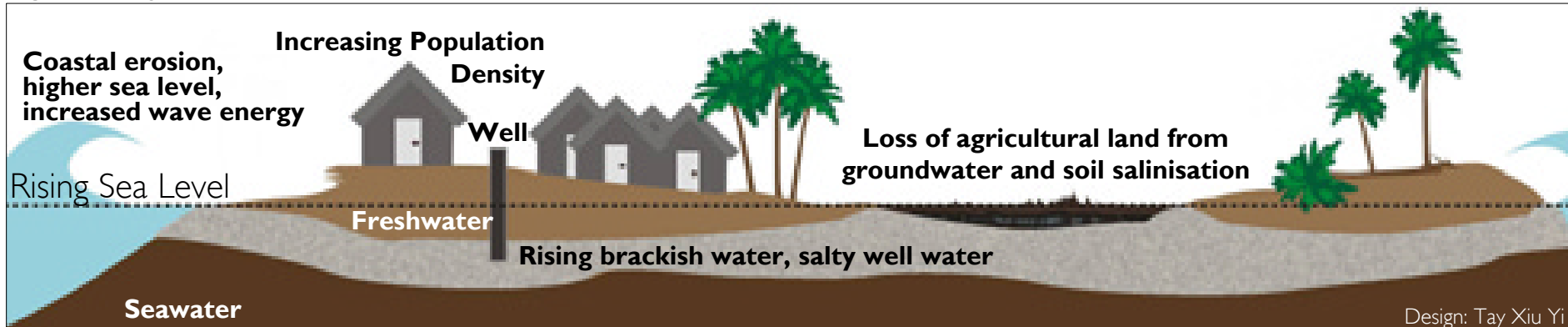
Island Submergence

Figure 1: Initial sea level



Island Submergence

Figure 2: Rising sea level



“Overtopping”



CARTERET ATOLL

Photos: Tulele Peisa, Courtesy Pip Starr and Ursula Rakova

Photo: Johannes Luetz



**Island of Petats:
Contaminated
Open Well**

Papua New Guinea: Island of Petats, contaminated open well

Luke Rutsie (36), Petats: “The well water tastes very salty – islanders now use it only for cooking and bathing.”

Island of Pororan: Contaminated Closed Well



Photo: Johannes Luetz

Papua New Guinea, island of Pororan,
contaminated closed well

Francis Giran (59), Pororan: “The well water has become salty and unfit for consumption. This World Vision-built pump is brown with rust.”



<http://youtu.be/KBq2jNrD-yg> OR

<http://tv.unsw.edu.au/video/bolivia-leaving-the-land>



Any other suggestions?

“climate refugees”,
“environmental refugees”,
“climate migrants”, “climate
exiles”, “climate evacuees”,
“climate displacees/
dislocatees”, “forced
migrants”, “climigrants” ...

Definitional difficulties

The list of suggestions is long and growing, and examples listed here are incomplete: “climate refugees” (eg, Biermann and Boas 2010; FOE 2007, Walker 2009, EJF 2012), “climate change refugees” (eg, Docherty and Giannini 2009, p. 361; Bob Brown 2008, Sachs 2007), “refugees” (Hansen 2008, p. 2), “environmental refugees” (eg, Ehrlich and Ehrlich 2013, p. 4; Brown 2011, pp. 72-83; Kent and Myers 1995, Bell 2004, Tickell 1989), “eco-refugees” (Cournil 2011, p. 359), “environmental and climate change refugees” (Dupont and Pearman 2006, p. 55), “sea-level refugees” (WBGU 2006, p. 61), “rising-sea refugees” (Brown 2011, pp. 73, 193), “desert refugees” (Brown 2011, p. 77), “water refugees” (Brown 2011, p. 79), “climate refugees” (eg, McAdam 2012, Bettini 2012, Hartmann 2010), “displaced persons (refugees)” (Westing 1992), “environmentally-displaced persons” (Lopez 2007), “climate migrants” (eg, Gibb and Ford 2012, Leal-Arcas 2012, Rajan 2008), “climate change migrants” (Shamsuddoha and Chowdhury 2010, pp. 3-7), “climate exiles” (eg, Wei 2011), “climate change exiles” (Byravan and Rajan 2006), “environmentally-induced [displaced] populations” (UNHCR 1996), “environmental migrants” (eg, IOM 2007, p. 1 paragr. 6; IOM 2008, p. 399; also CEEMA 2010, p. 5), “climate evacuees” (Cournil 2011, p. 359), “environmental migrants/refugees” (Renaud et al 2007, pp. 14-17), “climate-change victims” (Popovski and Mundy 2012; UNU 2011), “ecomigrants” (Wood 2001, pp. 43f), “ecological migrants” (ADB 2012, p. 9), “environmentally displaced persons [or people]” (eg, Cournil 2011, p. 359; UNHCR 1996, p. 9; UNFCCC 2007, ADB 2012, p. 9), “[climate] displaced people” (eg, NRC 2009), “climate change-induced displaced people” (McAdam 2011, p. 18), “forced migrants” (Brown 2007, p. 8), “climate change forced migra[n]ts” (Brown 2008, p. 31), “climate-induced displace[d people]” (Castles 2010), “persons displaced by climate change” (Kälin 2010, p. 97), “[people] forced to leave their homes due to sudden-onset climate-related natural disasters” (UN-OCHA 2009, p. 15); “survival migrants” (Betts 2010), “climigrants” (Bronen 2008b, p. 31; Bronen 2010, p. 89).

(Literature Review, Luetz 2013, pp. 29-30)

Associations: Labels and societal perceptions

“Refugee”

- “Refugee” good semantic fit: people “seek refuge; run *from*”
- No choice
- Last resort
- Reactive
- Public empathy?
- Perceived as “helpless”?
- **“Victimisation”?**

“Migrant”

- “Migrant” more legally precise: “people run *to*”
- Free will
- Form of Adaptation
- Proactive
- Public mistrust?
- Perceived “freeloaders”?
- **“Opportunism”?**

CLIMATE CHANGE REFUGEE: “... *an individual who is forced to flee his or her home and to relocate temporarily or permanently across a national boundary as the result of sudden or gradual environmental disruption that is consistent with climate change and to which humans more likely than not contributed.*” (Docherty and Giannini, 2009)

CLIMATE REFUGEE: “... *people who have to leave their habitats, immediately or in the near future, because of sudden or gradual alterations in their natural environment related to at least one of three impacts of climate change: sea-level rise, extreme weather events, and drought and water scarcity.*” (Biermann and Boas 2007, 2008)

ENVIRONMENTAL REFUGEES: *“... persons who can no longer gain a secure livelihood in their traditional homelands because of environmental factors of unusual scope, notably drought, desertification, deforestation, soil erosion, water shortages and climate change, also natural disasters such as cyclones, storm surges and floods. In face of these environmental threats, people feel they have no alternative but to seek sustenance elsewhere, whether within their own countries or beyond and whether on a semi-permanent or permanent basis.” (Myers and Kent 1995, pp 18-19)*

ENVIRONMENTAL MIGRANTS: *“Environmental migrants are persons or groups of persons who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad” (International Organization for Migration IOM, 2007).*



“ there could be perhaps as many typologies as there are papers on the subject. ”
(Richard Black, 2001)

Disaggregational difficulties:

1. No direct “causal link” of linear nature between environmental degradation and population displacement
2. Cannot uncouple “contributing causes”
3. Factors interrelated: environmental degradation triggers migration – migration causes environmental degradation
4. Future fallout depends on actions taken today

Bottom Line: relative causal attribution is very difficult to establish



“ When global warming takes hold, there could be as many as 200 million people overtaken by disruptions of monsoon systems and other rainfall regimes, by droughts of unprecedented severity and duration, and by sea-level rise and coastal flooding. ”

(Norman Myers, 2005)

3. Predictive problems

Country or Region as analysed by Myers and Kent	Projected number of “environmental refugees”
Bangladesh	13 million
Egypt	16 million
China	73 million
India	20 million
Island States	1 million
“Agriculturally Dislocated”	50 million
Total	173 million

(Myers and Kent, 1995)

3. Predictive problems

Displacement – selected sources, projections, timeframes

Source	Projection	Timeframe
IPCC (2001)	150 million	2050
Myers (1995 and 2005)	200 million	2050
Myers (2006)	250 million	2050
Nicholls (2004)	50-200 million	2080
IOM (2009)	200 million	2050
Stern Review (2006)	150-200 million	2050
Christian Aid (2007)	1 billion	2050

21st century trend...?

Under international law, a “refugee” is a person who...

“ ... owing to well-founded fear of persecution for reasons of race, religion, nationality, membership of a particular social group or political opinions, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country, or who, not having a nationality and being outside of the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it. ”

—1951 Convention relating to the Status of Refugees,
Art. 1A(2), 1951, as modified by the 1967 Protocol).

Currently accepted definition of “IDPs”

“ ... persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border. ”

—*Guiding Principles on Internal Displacement*,
E/CN.4/1998/53/Add.2.)

Problem components

1. Definitional difficulties
2. Disaggregational difficulties
3. Predictive problems
4. Legal limbo

= Knowledge gaps

Problem implications

1. NO agreed definition
2. NO agreed attribution
3. NO agreed forecasts
4. NO agreed framework

**= Little or no input
from primary
stakeholders (ie,
climate migrants)**

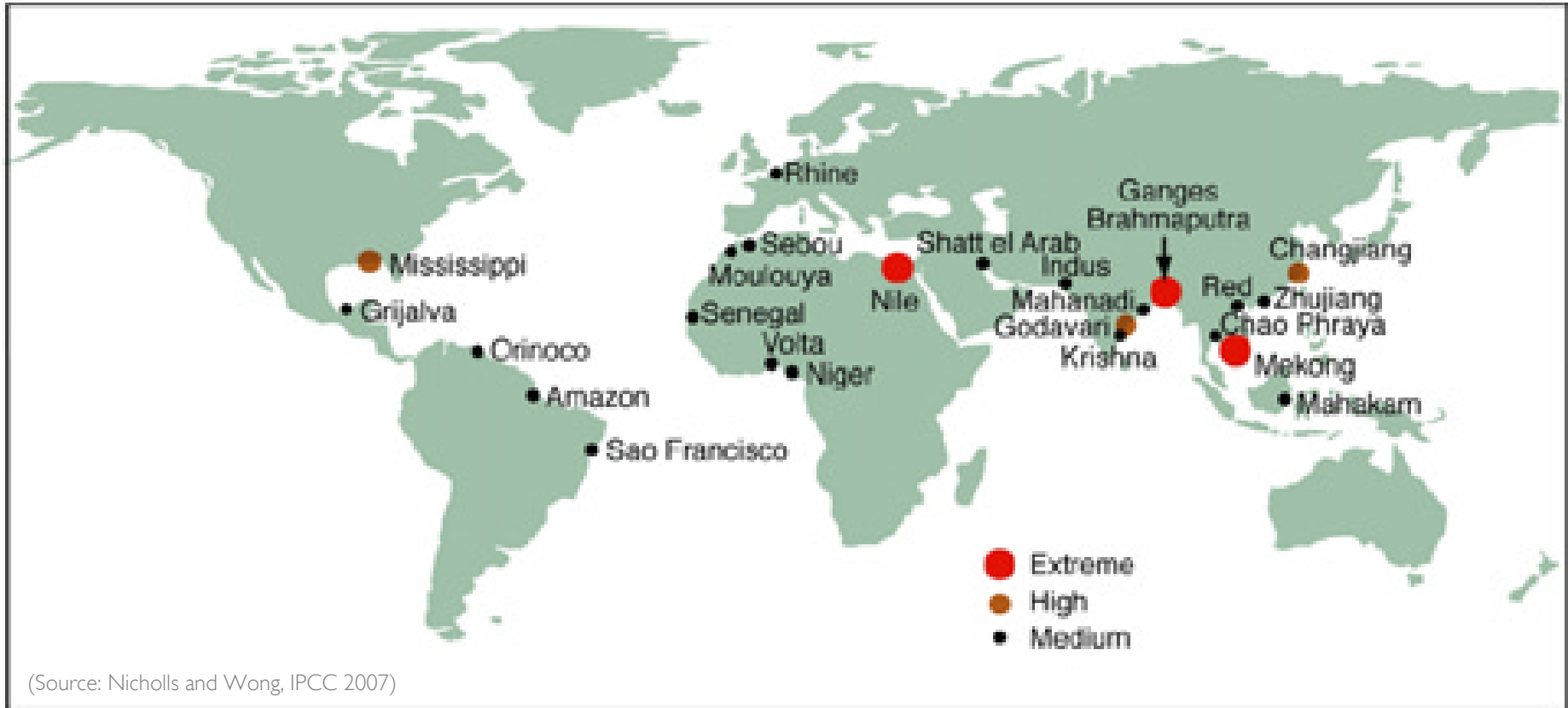
“ The objective of public policy should not be to prevent migration, but rather to ensure that it can take place in appropriate ways and under conditions of safety, security and legality ... [which] makes it all the more urgent to carry out **in-depth micro-level empirical research** to understand the changes that are taking places, how they affect various groups, and what response strategies their groups adopt.

”

—S. Castles, *In: Afterword: What Now? Climate-induced Displacement after Copenhagen*, [Ed.] Jane McAdam, 2010

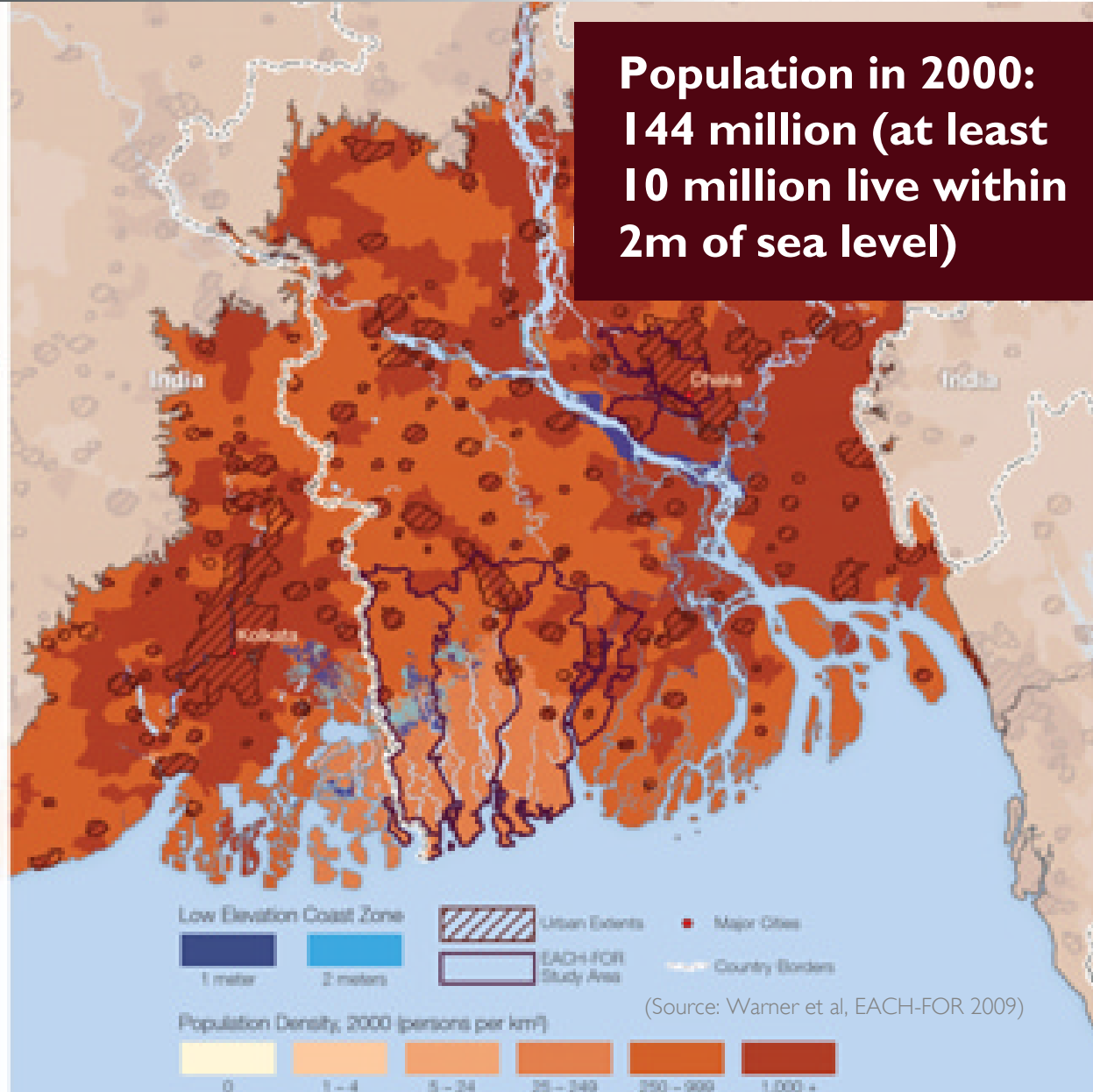
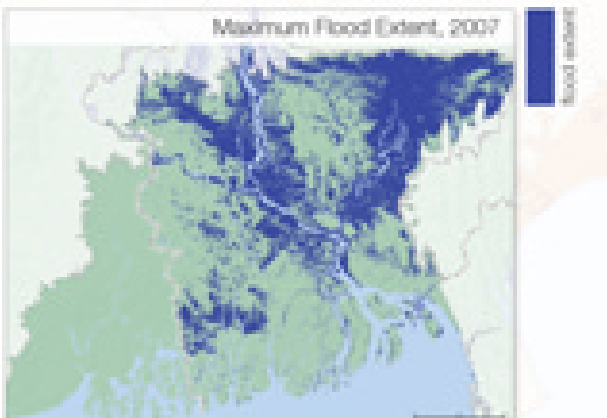
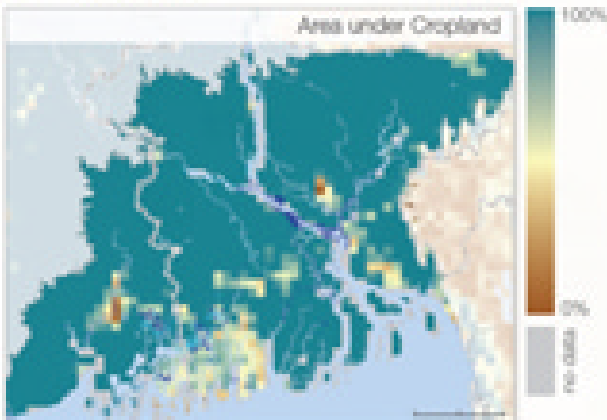
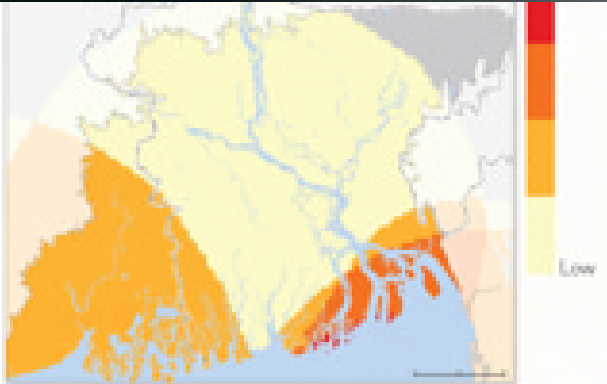
Four “Hot Spot” Categories:

1. Densely settled deltaic regions
2. Low-lying small island developing states (SIDS)
3. Coastal megacities
4. Glacier-fed / water-stressed inland regions



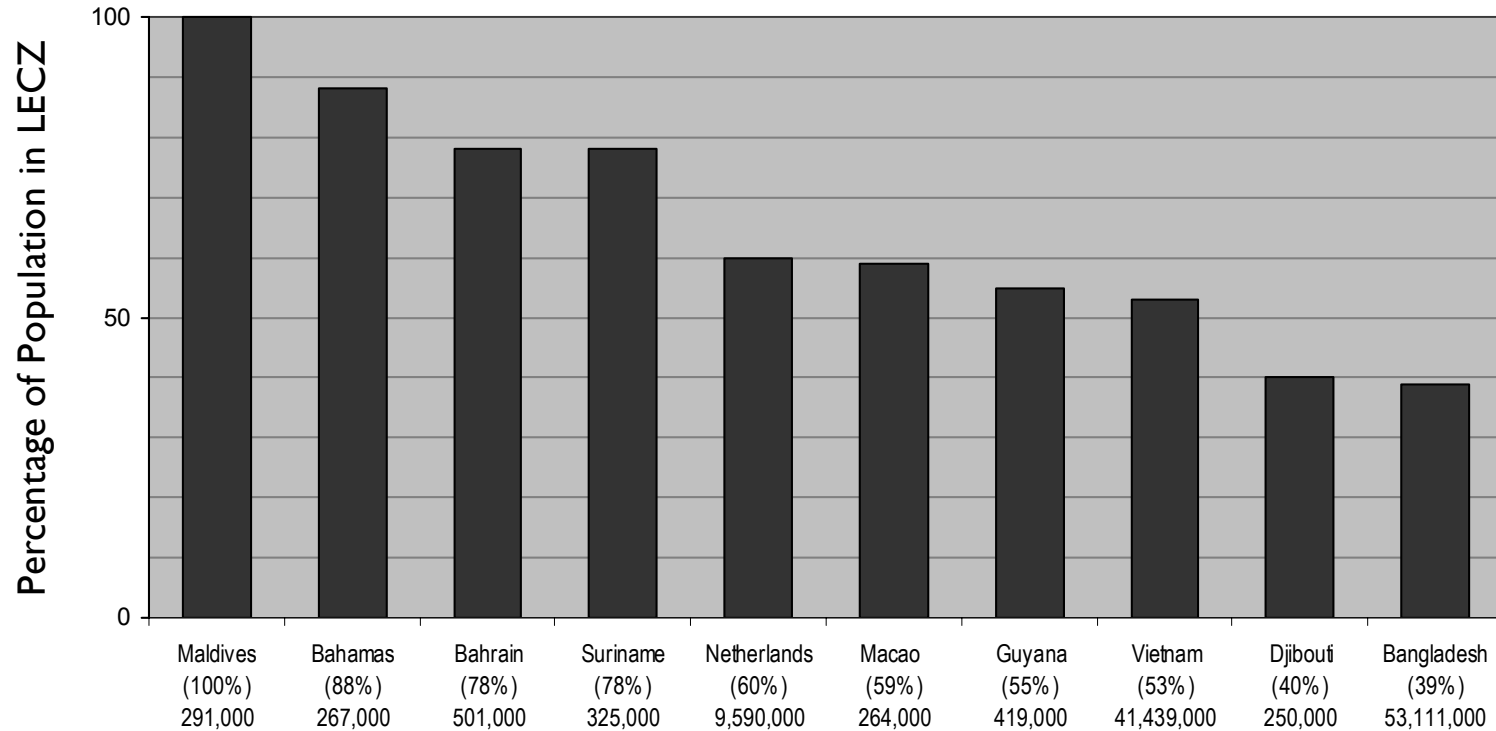
Relative vulnerability of coastal deltas: population potentially displaced by current sea-level trends to 2050 (Extreme > 1 million; high 1 million to 50,000; medium 50,000 to 5,000)

The Ganges Delta



(Source: Warner et al, EACH-FOR 2009)

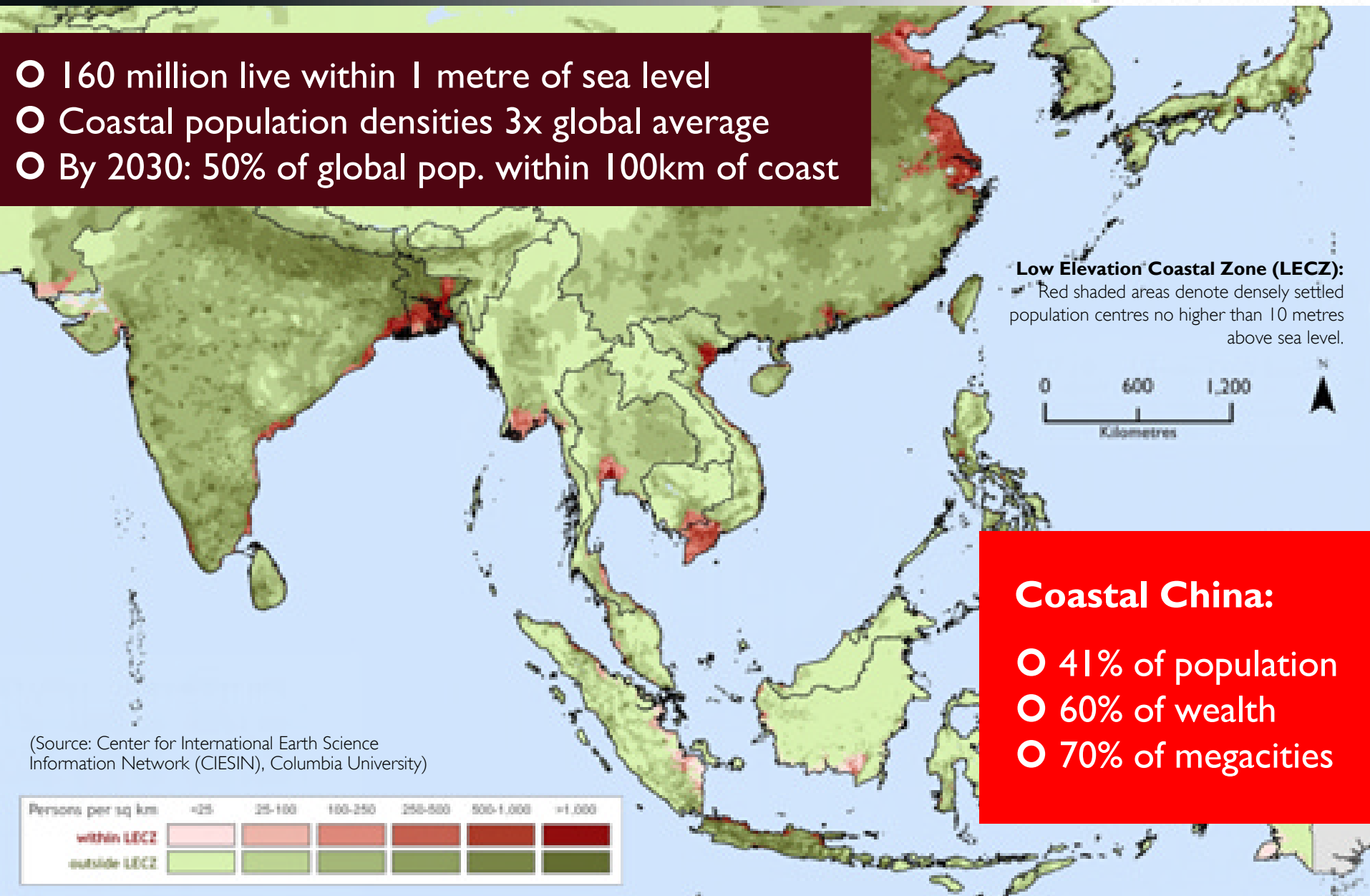
Top ten countries ranked by share of population (%) in the Low Elevation Coastal Zone (LECZ)



Note: According to the methodology of the study, countries with fewer than 100,000 people living in the LECZ (ie, below 10m above sea level) are excluded. This includes 15 small island states with population shares exceeding 39%. (McGranahan et al, 2006)

Coastal Development

- 160 million live within 1 metre of sea level
- Coastal population densities 3x global average
- By 2030: 50% of global pop. within 100km of coast

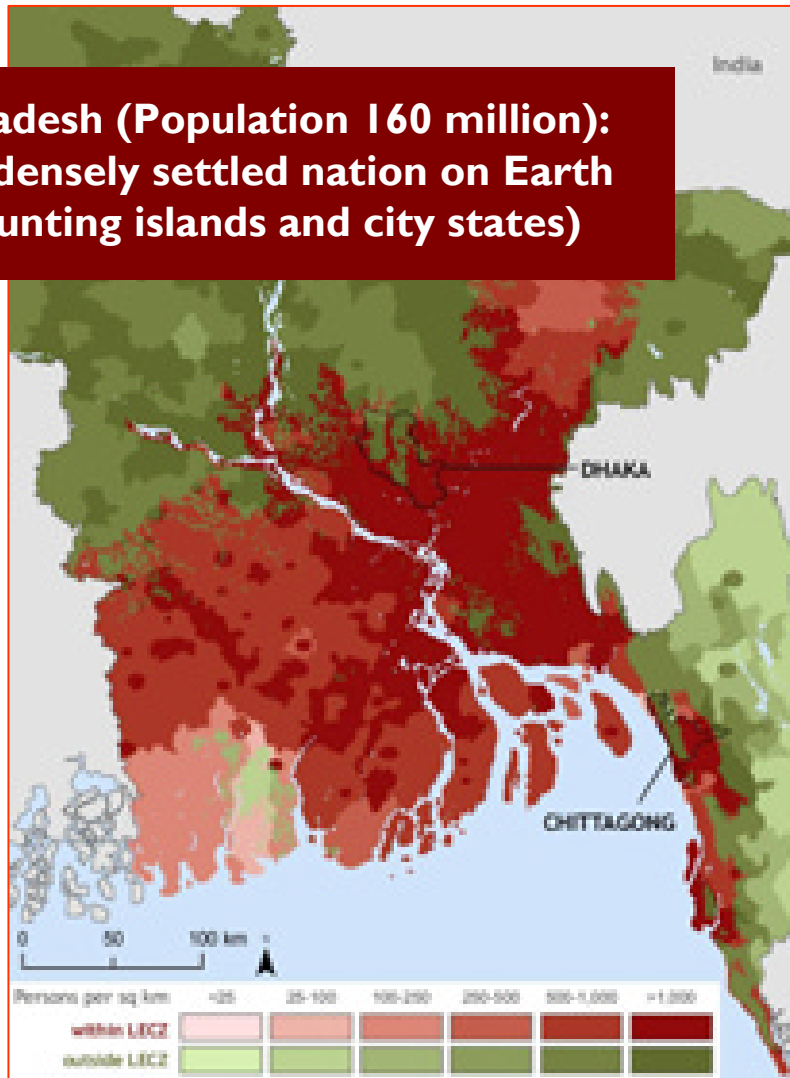


(Source: Center for International Earth Science Information Network (CIESIN), Columbia University)

Coastal China:

- 41% of population
- 60% of wealth
- 70% of megacities

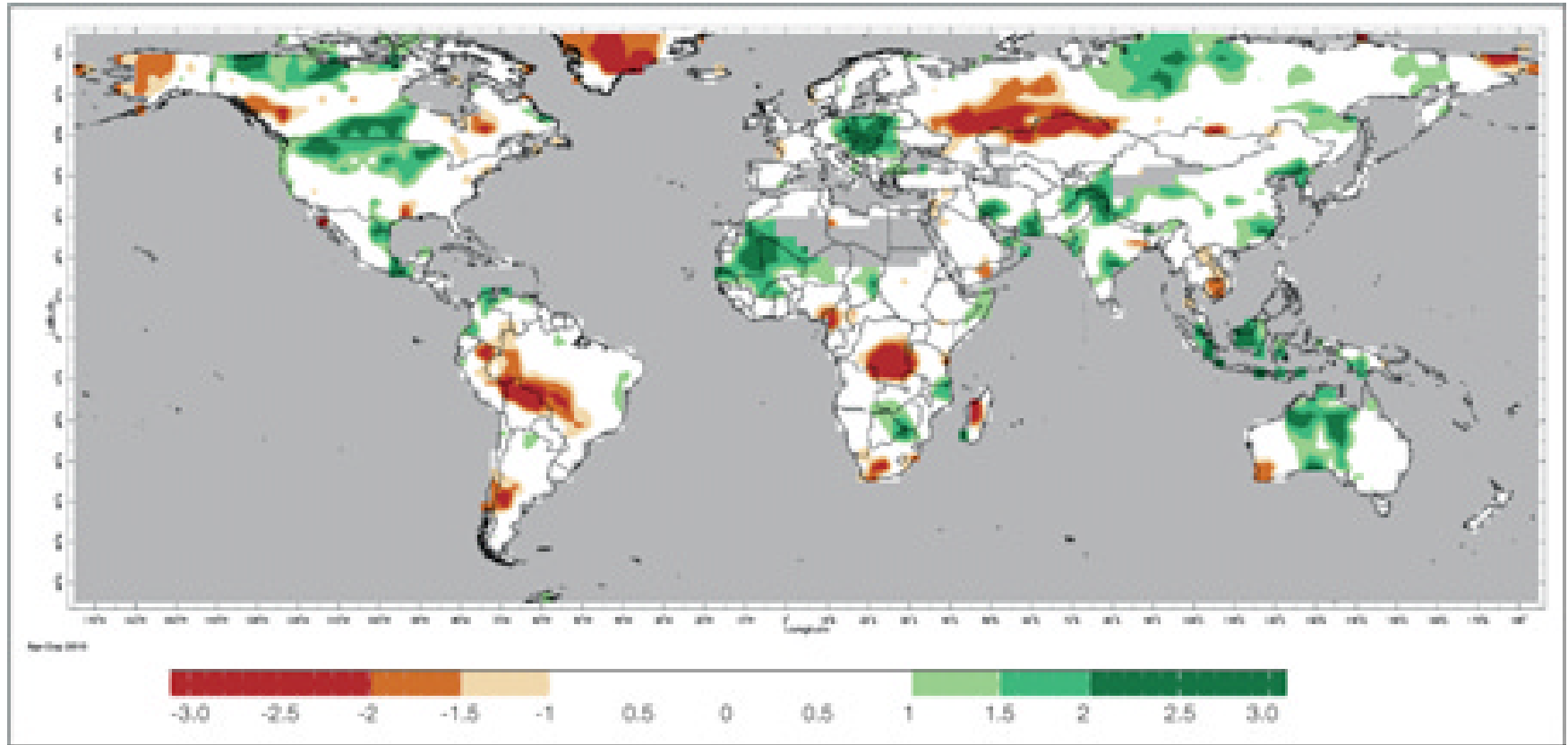
**Bangladesh (Population 160 million):
most densely settled nation on Earth
(discounting islands and city states)**



Low Elevation Coastal Zone (LECZ): Dark red shaded areas denote densely settled population centres no higher than 10 metres above sea level.

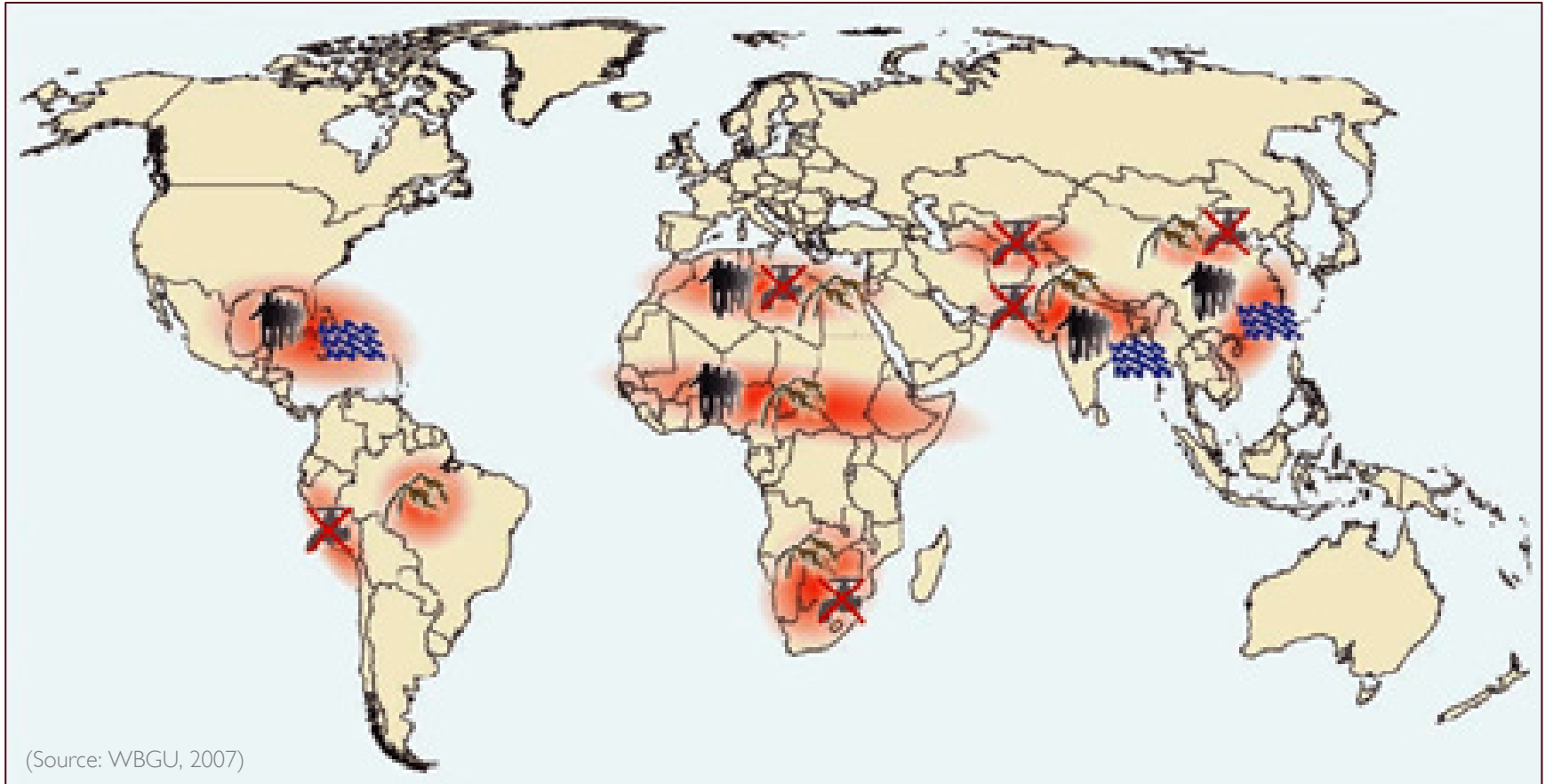
Graphic: Centre for International Earth Science Information Network (CIESIN), Columbia University

Global map: dryness/wetness



Source: UNISDR (2011, p. 58)

Video stream: <http://news.bbc.co.uk/2/hi/science/nature/8394324.stm>



Conflict constellations in selected hotspots

- | | | | | | |
|---|---|---|--|---|---------|
|  | Climate-induced degradation of freshwater resources |  | Climate-induced decline in food production |  | Hotspot |
|  | Climate-induced increase in storm and flood disasters |  | Environmentally induced migration | | |

Declining Water Supply?

La Paz, Bolivia

Photo: Johannes M Luetz



Abandoned houses



(Photos: Johannes Luetz)



(Photo: Johannes Luetz)

“Our results reveal that hundreds of millions of people in the developing world are likely to be displaced by Sea Level Rise within this century.”

(World Bank Policy Research, 2007)



“
When we talk about a one metre rise in global sea level we are also talking about 500 million people who are going to have to look for new homes. So far we don't have any instruments to manage this. ”

(Professor Hans Joachim Schellnhuber CBE, Director Potsdam Institute for Climate Impact Research, Chairman German Advisory Council on Global Change WBGU, Senior Advisor to the German Government, 2008)



Photo: Pamela Sitko

“If emissions follow a business-as-usual scenario, sea level rise of at least two meters is likely this century. Hundreds of millions of people would become refugees.”

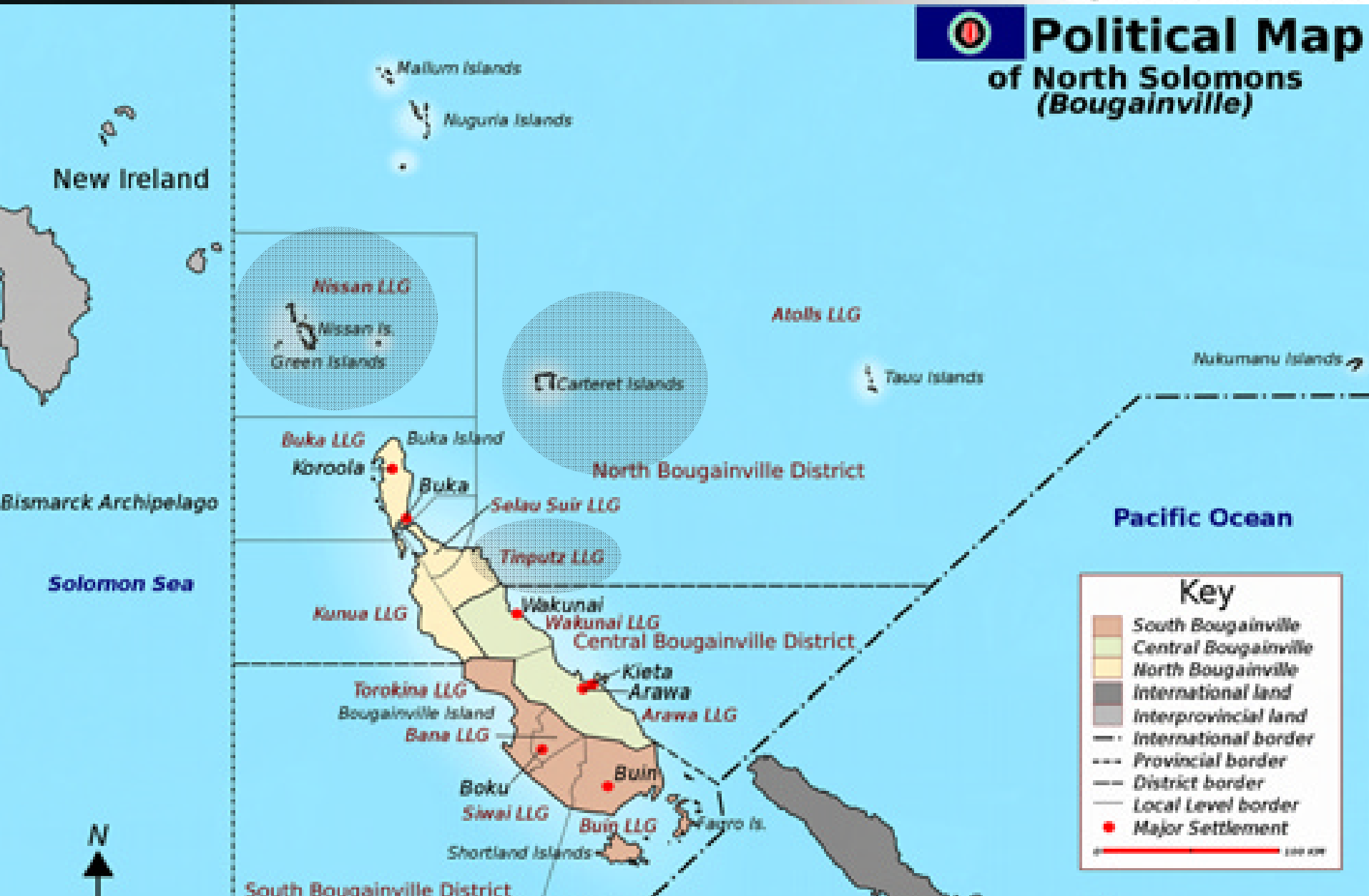
(Dr. James Hansen, Director NASA Goddard Institute, Adjunct Professor Columbia University)

How should such forced migration be managed ?



(Photo: Johannes Luetz)

Political Map of North Solomons (Bougainville)



Key

- South Bougainville
- Central Bougainville
- North Bougainville
- International land
- International border
- Provincial border
- District border
- Local Level border
- Major Settlement

0 100 km



There once was an island (trailer feature documentary)

<http://youtu.be/M7akwGUtGDw>

- Semi-structured interviews
- Trial data generation
- Observe issues raised
- Focus questionnaire





Ursula Rakova, Carteret Islander and Director of Tulele Peisa NGO, Papua New Guinea

Huene, Tulun Atoll

Photo: Pip Starr

Ursula Rakova: “After Huene was sliced in two, my family settled on Huene One (right). There are three houses there. On Huene Two (left) there are only gardens. The channel keeps widening.”

Carteret Atoll, Papua New Guinea



Carteret Islander and Director of Tulele Peisa NGO, Papua New Guinea

Photo: Pip Starr

Ursula Rakova: “Storm surges regularly overtop our islands – then the sea and low-lying land become ‘level.’ Resettlement is underway. It is so sad to leave.”

Huene Island, Tulun Atoll



(Photo: Johannes Luetz)







Island of Buka

Photo: Johannes Luetz

ISLAND ADAPTATION THROUGH SEA WALLS?



Photo: Pip Starr

Show field research video footage:

File PNG I:

- 18:00 (1min) – Han Island
- 19:20 (15sec) – drowning trees
- 22:45 (45sec) – coconut, land lost
- 26:00 (30sec) – flooded sea walls

ISLAND ADAPTATION THROUGH SEA WALLS?



<http://www.vimeo.com/4177527>



The President's Dilemma

<http://youtu.be/nZLWqa5irog>

Circling Han Island in “banana boat” – coconut tree stump, evidence of sea level rise and diminishing island size ...



“

This [is] about the injustice of sea level rise ... on average you have about a metre of sea level rise by 2100, ... all over the globe. But the ... very vicious thing is, that this sea level rise will be distributed in a highly inhomogeneous way across the planet. [...] Elementary physics – if Greenland is losing mass, that means its gravitational pull for seawater will be diminished – that means, around Greenland, sea level may even drop, in particular for the north-eastern part of the American continent, while ... the Pacific Islands ... that haven't done anything to contribute to global warming, will again get the brunt of it, will get all the water which is released from Greenland. [...] And those who are most responsible for that, northern Europe, northern America, will be spared sea level rise, at least for a while. So you see nature can be extremely unfair, if humanity is sort of provoking that injustice.

”

Professor John Schellnhuber CBE, Director Potsdam Institute for Climate Impact Research, Chairman German Advisory Council on Global Change WBGU, Senior Advisor to the German Government, Session 1 at ~ 51:00
@ <http://www.fourdegrees2011.com.au>



Environment and non-environment related drivers reinforce each other




Malé, Maldives

Malé, Maldives: As the country with the lowest "highest point" on Earth the Maldives is extremely vulnerable to rising sea levels, 80% of land area is less than 1 metre above sea level. (Photo: Shahee Ilyas)

Mohamed Nasheed, President Maldives, 2009:

“We do not want to leave the Maldives, but we also do not want to be climate change refugees living in tents for decades.”

Dhuvafaaru, Maldives



Island of Dhuvafaaru, Maldives
(Photo: Johannes Luetz)



Dhuvafaaru, Maldives

Island of Dhuvafaaru, Maldives
(Photo: Johannes Luetz)



Dhuvaafaru, Maldives

Island of Dhuvaafaru, Maldives
(Photo: Johannes Luetz)



Show field research video footage:

File name “Maldives 4”:

04:00 (1 min) – Abandoned Hathifushi Island

23:00 (1 min) – Skipper, stuff, storm surge

48:00 (1 min) – Faridhoo: highest point on M.

Island of Hathifushi, Maldives
(Photo: Johannes M Luetz)



Show field research video footage:

File name “Maldives 5”:

40:00 (7min) – Minister Aslan Interview

File name “Maldives 6”:

18:30 (45sec) – Hulhumalé from the air

(Photo: Wendy Barrón Pinto)

Thank You!

PhD Sponsors:



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Director Centre for Refugee Research