

Hot new world: Climate change and the need for global solutions

Lecture at the Millbrook School,
Millbrook, NY

(Earth Day, 22 April 2011)



Christiana Figueres, Executive Secretary
UNFCCC Secretariat

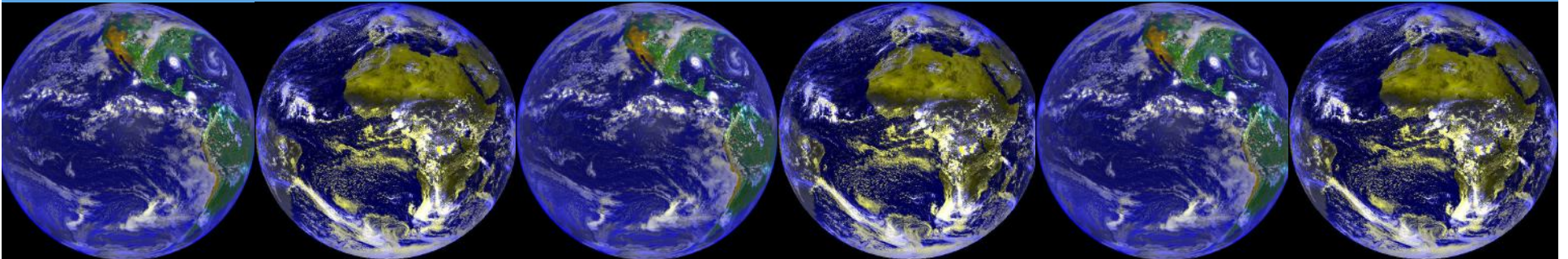
“We should all be concerned about the future because we will spend the rest of our days there.” (Charles F. Kettering)

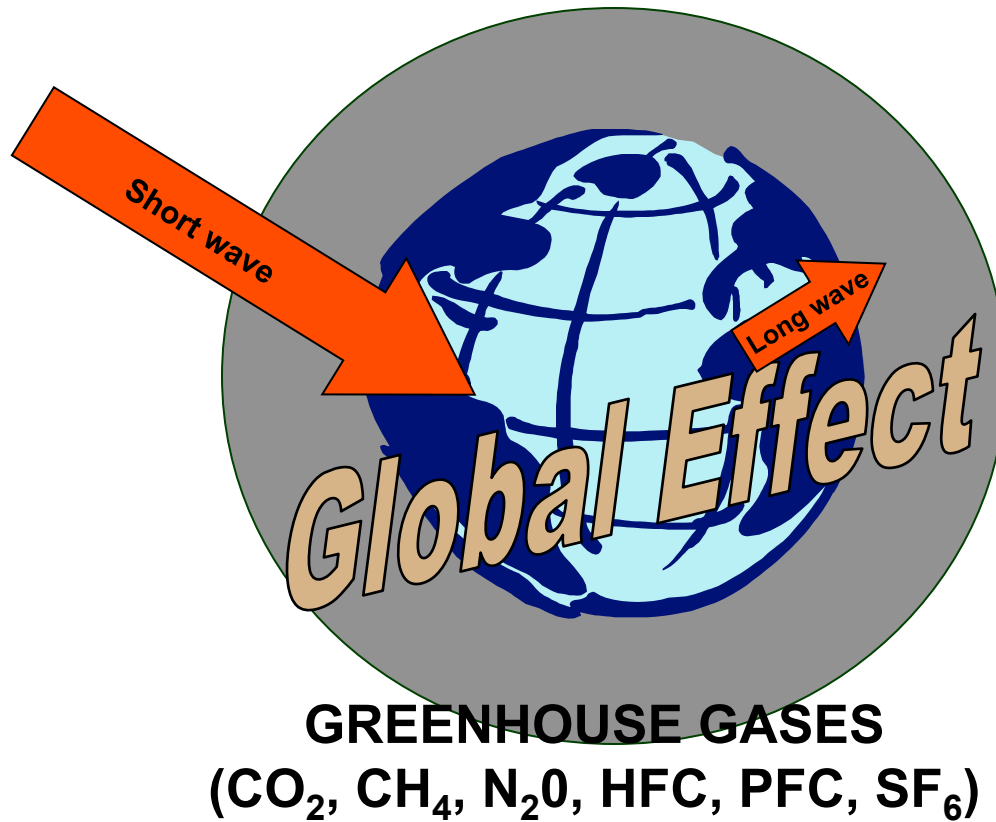


- **What do we know?**
 - **Why does it matter?**
 - **Why should I care?**

- **What is being done?**
 - **What can I do?**

What do we know?

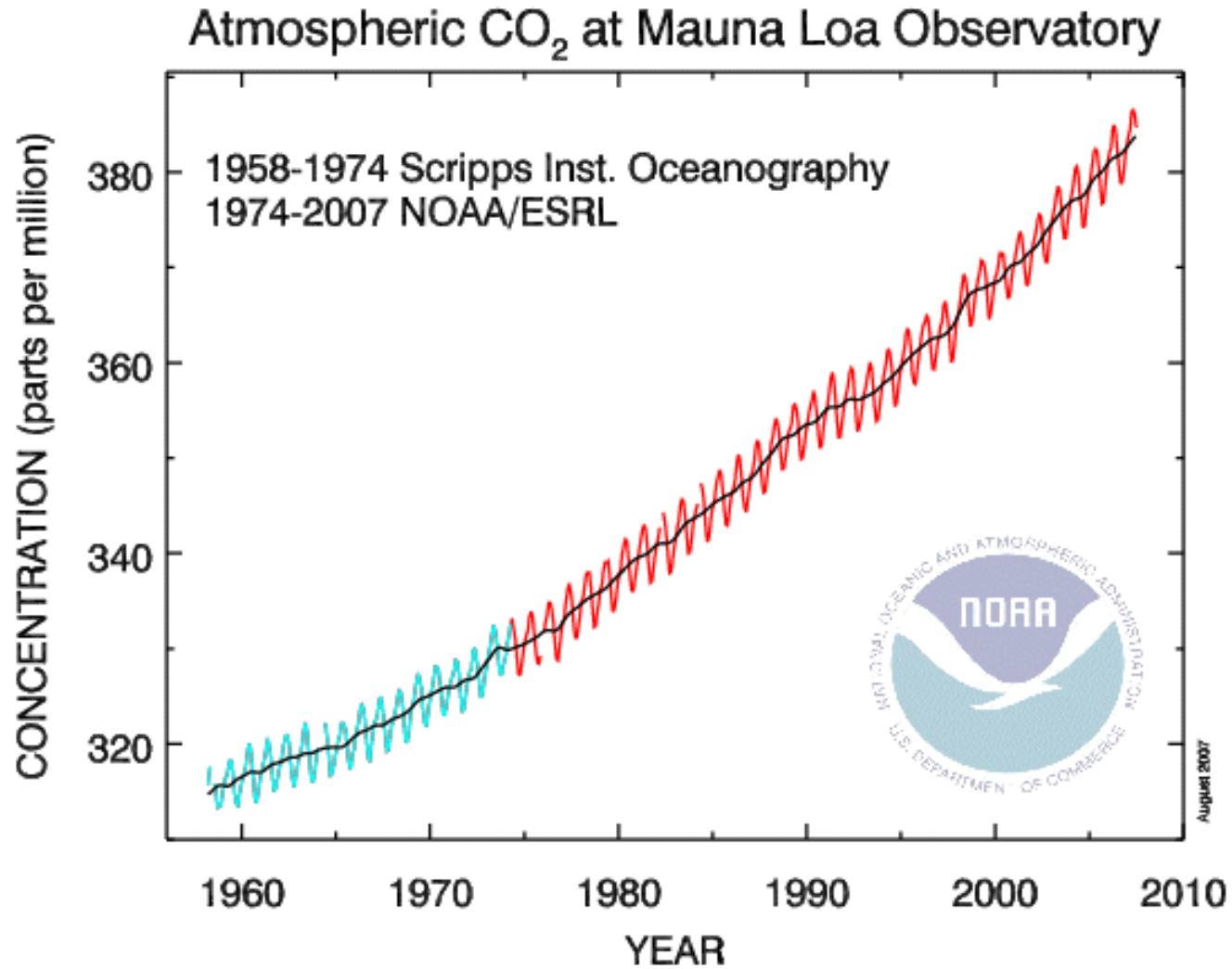




FACTORS:
Fossil fuels
Deforestation
Industry
Agriculture

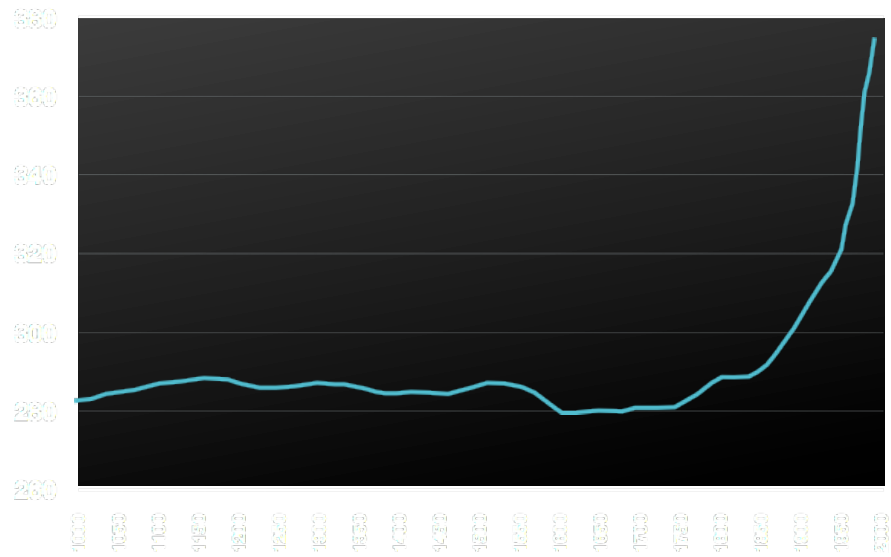


Atmospheric CO₂ at Mauna Loa Observatory

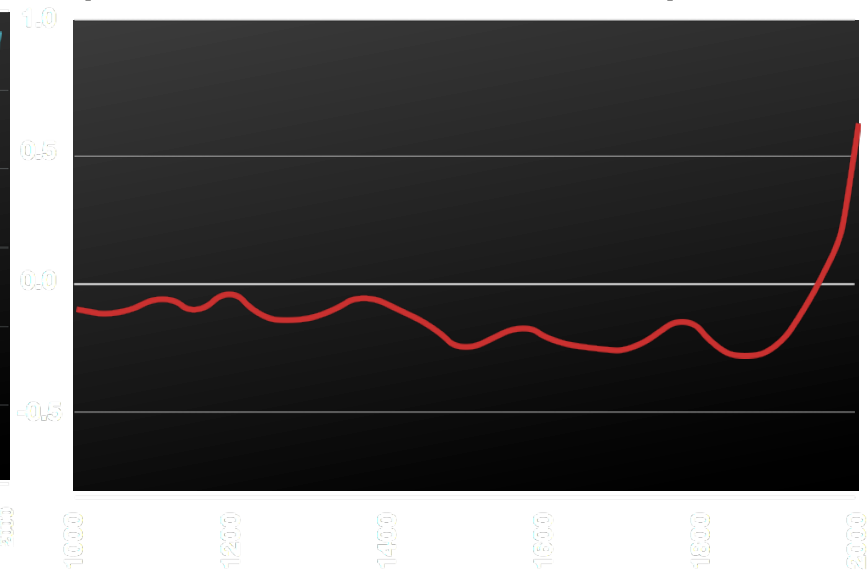


1000 Years of CO₂ and Global Warming

CO₂ Concentrations



Temperature (Northern Hemisphere)



Observed changes

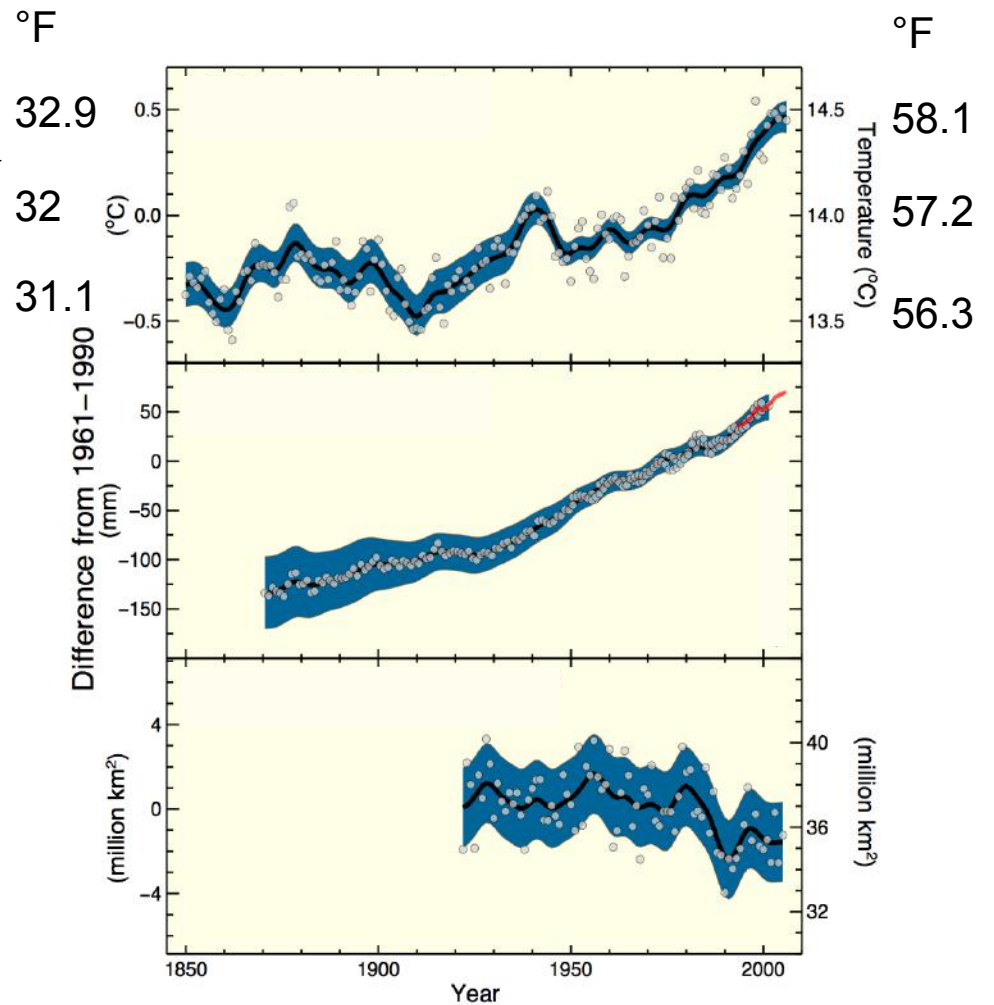
Global average temperature



Global average sea level



Northern hemisphere snow cover



Observed sea ice changes 1979-2005



Ice coverage at the North Pole has shrunk to roughly half



Source: NASA

United Nations Framework Convention on Climate Change



Why does it matter?



The poor in all countries will suffer the most...

- 25,000 people die of hunger or hunger-related causes every day.
- 1.1 BILLION people don't have proper access to water; 2.6 billion people lack basic sanitation.
- 1.6 billion people— a quarter of humanity— live without electricity.

Their lives will be made far worse by climate change.



... including those in the United States.

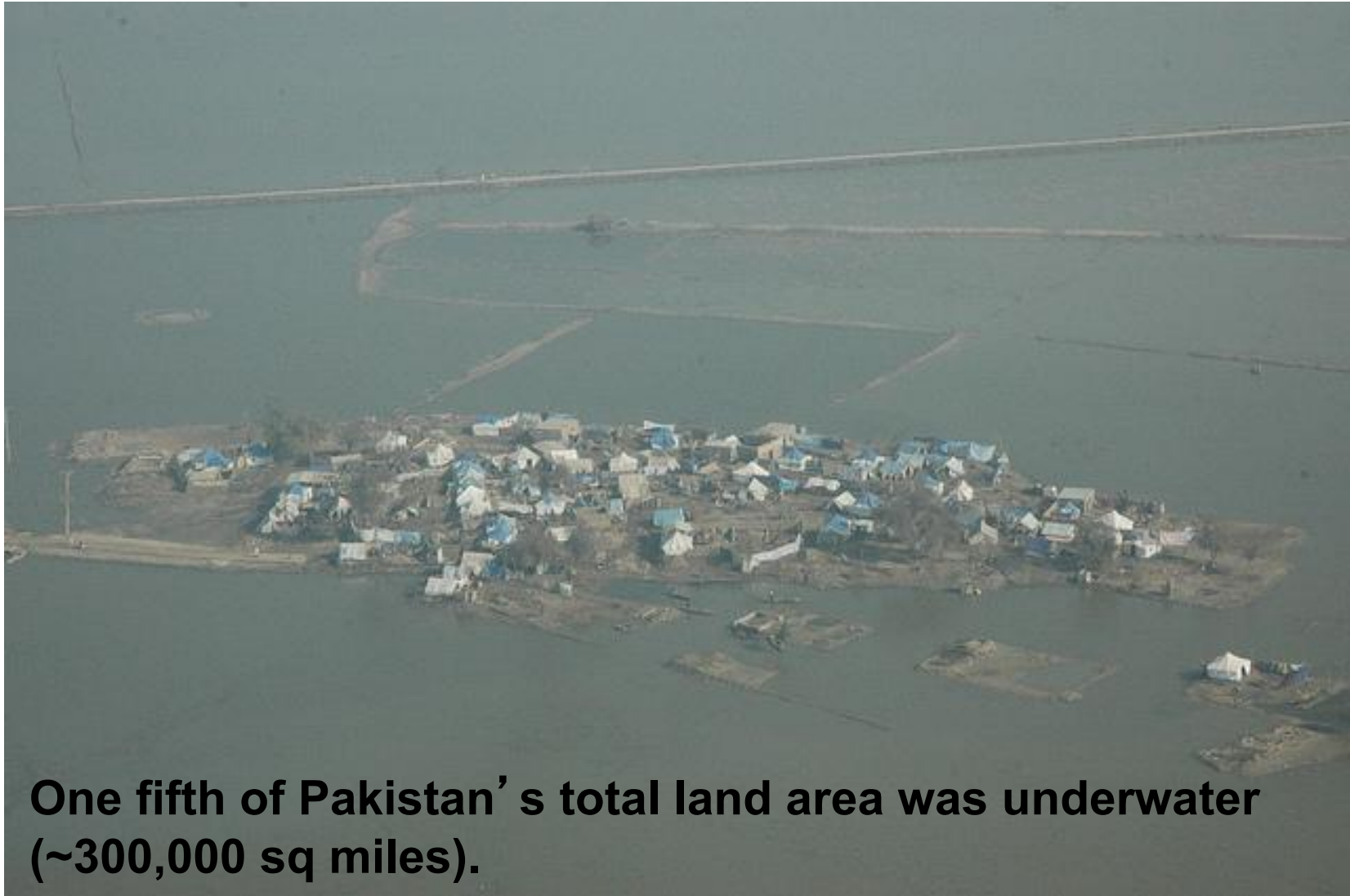
- African Americans living in LA are almost twice as likely to die as other Los Angelenos during a heat-wave.
- Minorities and the poor already breathe dirtier air than others living in the United States, and are more likely to lack health insurance. Higher temperatures hasten chemical interactions that produce smog-- impacting them the most.
- Those in the billion-dollar agricultural industry face threats to their jobs as climate change begins to change the interaction between crops, weeds, pests and pesticides.

Climate change threatens everyone's basic needs

- **Health**— mosquito-borne diseases; heat-related illnesses
- **Security implications**
 - Drinking water
 - Food security
- **Intensity and frequency of extreme events**
 - Storms, hurricanes, drought, floods.



IMO: Pakistan's confirmed climate change flood



One fifth of Pakistan's total land area was underwater (~300,000 sq miles).





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IMO: Pakistan's confirmed climate change flood



Why should I care?

Alaskan Glaciers: Then and Now(ish)

Muir Inlet, Glacier Bay National Park and Preserve, Alaska (1941 – 2004)



Muir Inlet 1941



Muir Inlet 2004

Alaskan Glaciers: Then and Now(ish)

Plateau Glacier, Wachusett Inlet, Saint Elias Mountains, Alaska (1961 – 2003)



Plateau Glacier 1961



Plateau Glacier 2003

Alaskan Glaciers: Then and Now(ish)

Pedersen Glacier, Kenai Mountains, Aialik Bay, Alaska (mid 1920s to 1940s – 2005)



Pedersen Glacier Between the mid-1920s and the early 1940s



Pederson Glacier 2005

Alaskan Glaciers: Then and Now(ish)

Bear Glacier (aerial view), Kenai Mountains, Kenai Fjords National Park, Alaska (2002 – 2007)

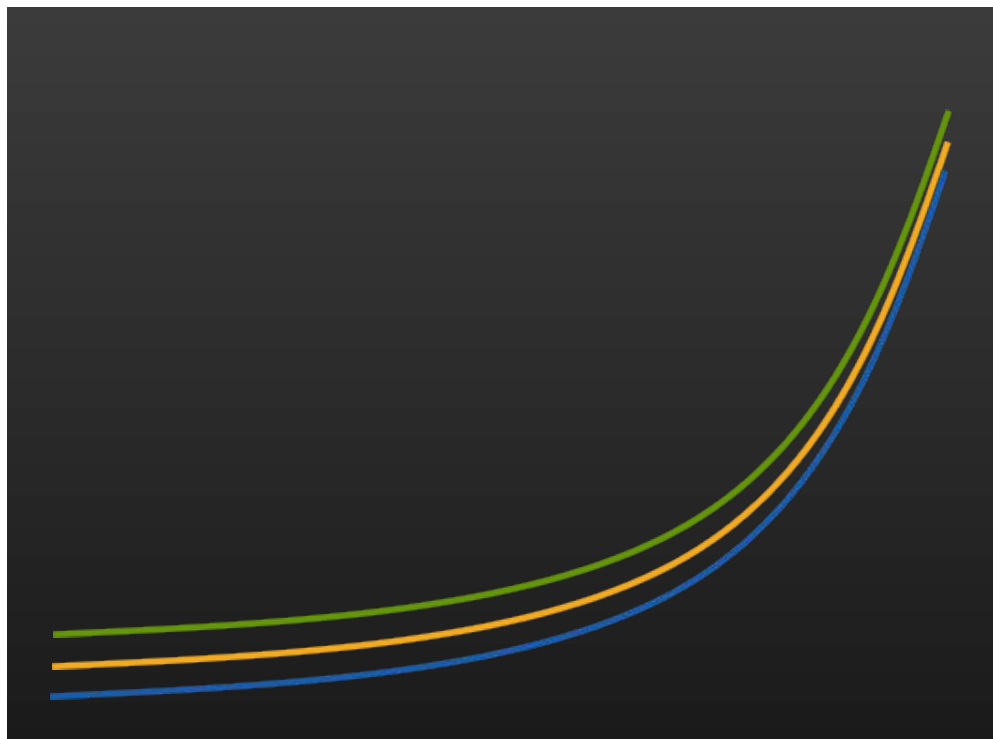


Bear Glacier 2002

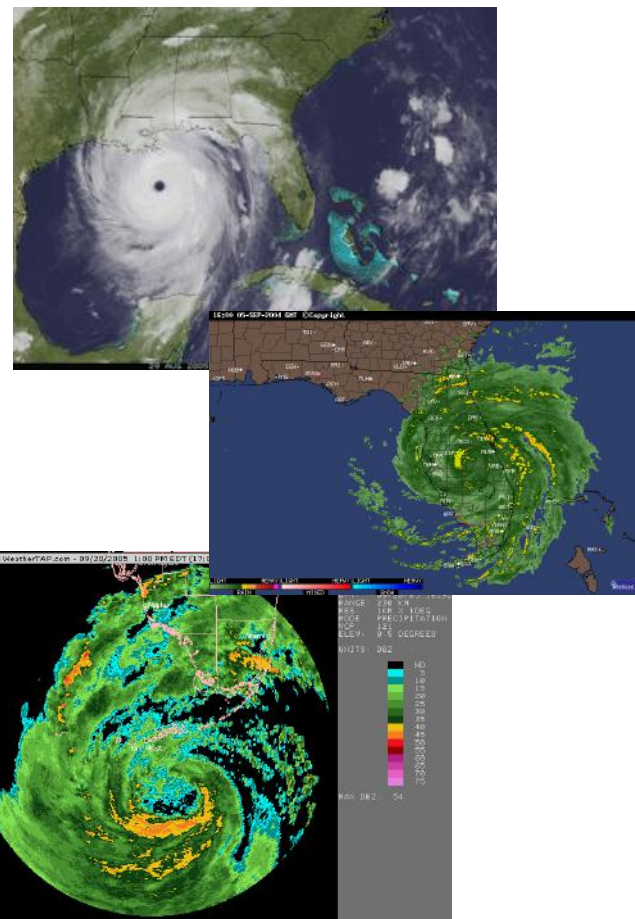


Bear Glacier 2007

Unusual hurricanes...



- Water Temperature
- Wind Velocity (shear) due to increased water temp. disparity
- Storm moisture content



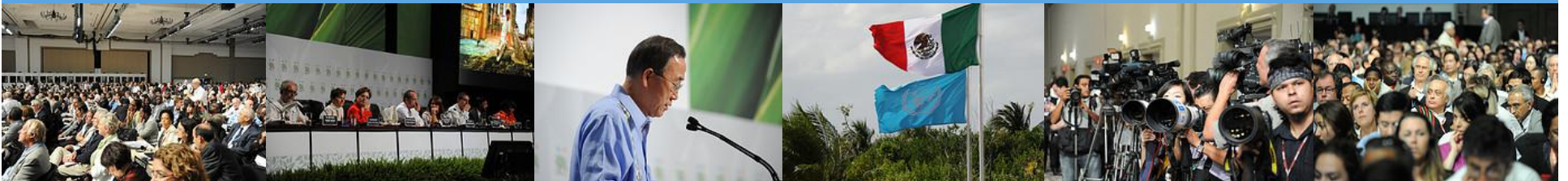
NY with 2 m rise



Because US vulnerable to climate change

- The U.S. has an overall **vulnerability** factor of **High**, which is similar to China, Indonesia, Iran, Philippines, and Thailand.
- The U.S. is projected to be hit by some of the **largest losses in economic terms**.
- The U.S. and China together are projected to incur **more than half the global damage due to climate change**.

What is being done?



United Nations Framework Convention on Climate Change

- **Earth Summit 1992 Rio de Janeiro**
- **Stabilize the GHG concentrations at a level which allows human and ecosystem adaptation.**
- **195 countries**
- **3-4 negotiating sessions per year**
- **Annual Conference of the Parties COP**
 - COP 15 Copenhagen
 - COP 16 Cancun
 - COP 17 Durban



Two main pillars of work

Mitigation

- Human intervention to reduce the sources of greenhouse gases, or enhance the sinks of GHGs.

Adaptation

- Taking measures to reduce the negative effects by making sustainable adjustments.

But, of course, with 195 countries, there' ll be... differences.

- **Industrialized countries** FEAR the price tag of cutting carbon emissions, loss of trade competitiveness; want large developing countries to do more.
- **Developing countries** FEAR targets imposed through sneaky means; fear action will constrain growth; still have a suspicion towards developed countries, not least because of finance (not delivered in the past).
- **Small Island developing countries** FEAR that too little ambition will lead to their end.
- **Oil producing countries** FEAR the adverse effects of response measures.

Cancun Agreements

- **A Green Climate Fund**
 - Long-term funds for developing country support
- **Technology Mechanism**
 - Technology Committee and Climate Technology Centre
- **Adaptation Framework + Committee**
- **Registry**
 - Voluntary emission reduction plans of developing countries

What's missing?

- **Deeper emission reductions**
 - Present level of ambition is only 60% of what is needed to stay below 2 degree Celsius
- **Certainty**
 - Legal agreement binding all countries to ensure a stable environment
 - No single country can tackle climate change on its own– climate change is a global problem that needs a global solution.

What can I do?

LOTS. YOU CAN DO LOTS.

KNOW YOUR SCIENCE AND GEOGRAPHY...

Don't JUST rely on the news for your information on climate change. It may be wrong.

KNOW WHAT POLITICAL LEADERS ARE DOING...

All your leaders, from the White House to your Mayor. Power means responsibility.

EXERCISE YOUR POWER AND TAKE RESPONSIBILITY...

You are consumers, future leaders, future homeowners, future... everything. Choose how you live, choose whom you work for, choose what you buy... and you choose the kind of world you want to live in.



Each generation has its defining battle.

- Your grandparents → World War II
- Your parents → Cold War
- **You** → **Climate Change**

Addressing climate change is the
defining battle of your generation.

THANK YOU

@Cfigueres

