35th U.S. Coral Reef Task Force Meeting Washington , D.C. U.S. Department of the Interior (South Auditorium) February 18, 2016

Climate Change

PARIS2015 UN CLIMATE CHANGE CONFERENCE COP21.CMP11



"I did grow up in Hawaii. There are coral reefs in Hawaii that when I was growing up, were lush and full of fish, that now, if you go back, are not." President Obama on harms caused by climate change, September 2015



IPCC - Fifth Assessment Report – Coral Reefs (2015)

- -The Ocean has absorbed about 30% of CO2 emitted by humans.
- -This uptake of CO2 led to an estimated 26% increase in ocean acidity. -Coral reefs are one of the most vulnerable marine ecosystems.
- -Over half of world's reefs are under medium to high degradation risk; under the 4.5 degree scenario, the degradation risk increases to 2/3rd. -Mass coral bleaching and mortality, triggered by positive temperature anomalies, are the most widespread impacts.
- -Abundance of reef-building corals has decreased by over 80% on many Caribbean reefs, with a dramatic phase shift from corals to seaweeds.



 pCO_2 (μ atm)

Building Resilience

- -Coral reefs help protect the shoreline from destructive force of storm surges & hurricanes -- highlighted in 2014 Priority Agenda on Resilience
- -Marine protected areas and fisheries management can increase ecosystem resilience and increase the recovery of coral reefs after climate change impacts, such as mass bleaching.
- -In long term, limiting ocean warming and acidification is central.
- -Locally, controlling the input of nutrients and sediment from land is an important tool because nutrient enrichment can increase coral bleaching and pollutants can increase acidification.
- -US government promotes resilience with 2013 Executive Order 13653:
- Creates Task Force with state, local and tribal leaders.
- Over 30 Federal agencies now have Climate Change Adaptation Plans.
- Manages lands and waters for climate preparedness and resilience.
- **Provides information, data and tools** for climate change resilience.

Four Pillars of Paris

1) <u>AN AGREEMENT</u> – that is lasting, applicable to all, sustainable, which can assess and revise commitments.

2) <u>INDCs</u> -- intended nationally determined contributions.



3) **FINANCE AND TECHNOLOGY** -- to support developing countries that are vulnerable or in need of help.

4) <u>NON-STATE PLAYERS</u> -- engagement by sub-nationals, companies, and civil society, through Lima-Paris Action Plan.

The Paris Agreement Key Elements

- Strengthen long-term ambition with well below two degrees Celsius goal and global peaking
- Establish a universal approach, locking in fiveyear target cycles, and ratcheting up ambition over time
- Putting in place enhanced transparency system for all countries, with greenhouse gas inventories for first time & report on progress against targets
- Enhanced focus on adaptation
- Underscoring commitment to climate finance and technical assistance for developing countries

International Cooperation





- Extensive cooperation with China, leading to key joint presidential announcements.
- Bilateral assistance, especially with India and "low emissions development strategies"
- Over \$7.5 billion in "fast start" assistance from 2009-2012, and now pledge of \$3 billion to Green Climate Fund

Climate Change Regimes



The U.S. Intended Nationally Determined Contribution

PRESIDENT OBAMA IS COMMITTED TO CUTTING U.S. CARBON POLLUTION BY 26-28% BY 2025





Some Basis for Long-Term Optimism

SINCE 2013, GLOBAL CARBON POLLUTION FROM THE ENERGY SECTOR HAS REMAINED FLAT WHILE THE GLOBAL ECONOMY GREW BY 3%



#ActOnClimate

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THANK YOU

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