

VULNERABILITY
&
ADAPTATION
WORKSHOP
OVERVIEW & OUTLINE

Project Manager

9/15/2009

INTRODUCTION

- **Climate change is based on human activities that results in an abnormal concentration of greenhouse gases in the atmosphere. Carbon dioxide produced from the combustion of fossil fuels is the main greenhouse gas that is causing an increase in the earth's surface temperatures.**

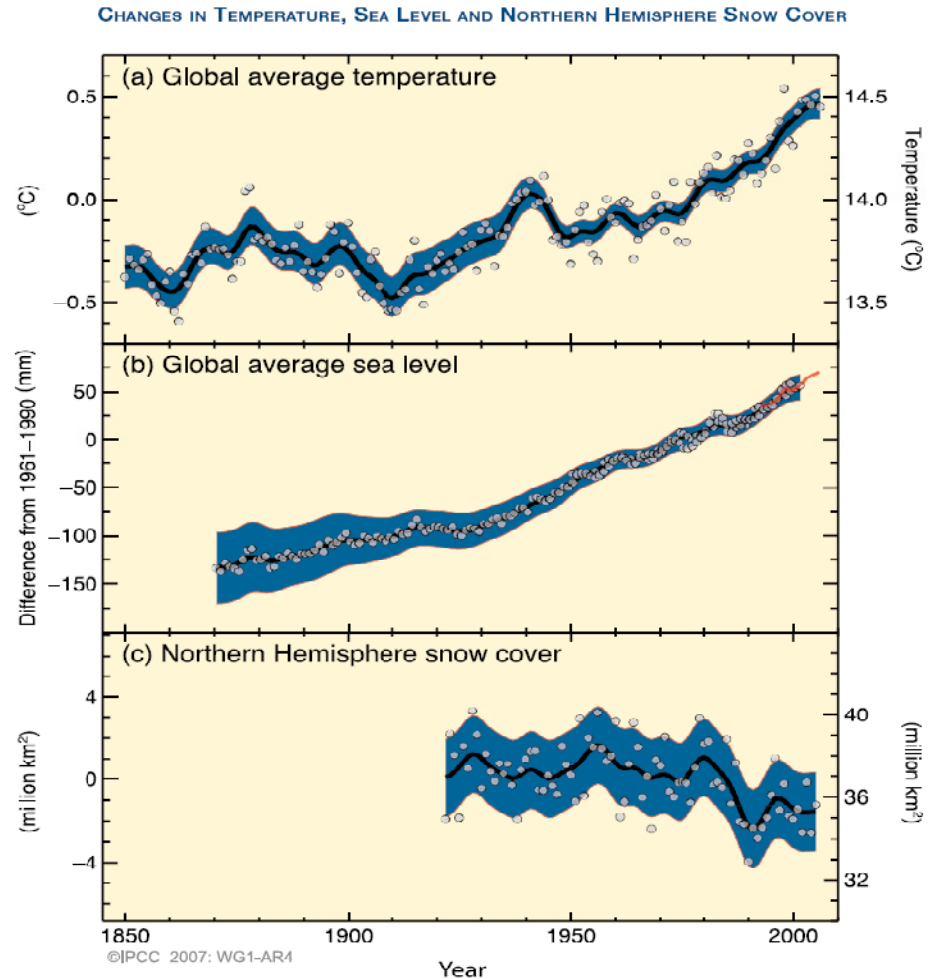
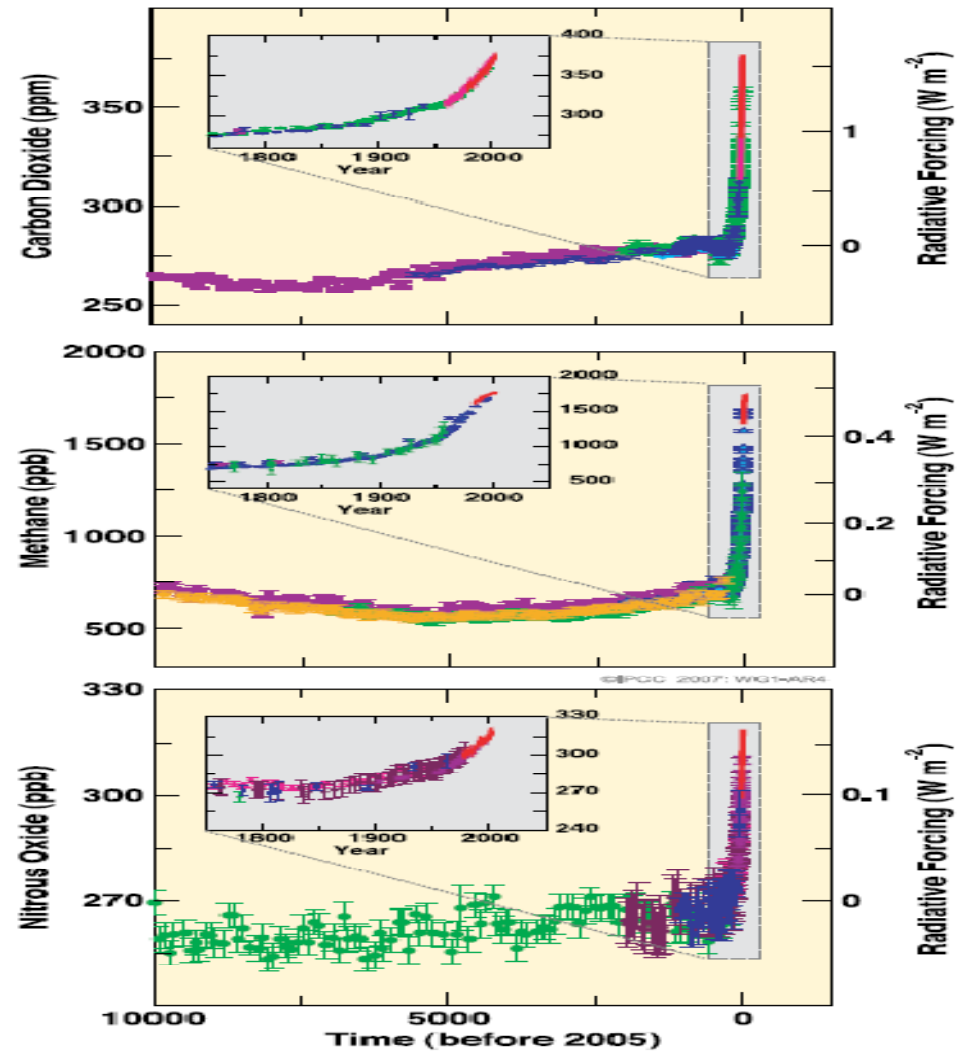


Figure SPM.3. Observed changes in (a) global average surface temperature, (b) global average sea level from tide gauge (blue) and satellite (red) data and (c) Northern Hemisphere snow cover for March-April. All changes are relative to corresponding averages for the period 1951–1990. Smoothed curves represent decadal average values while circles show yearly values. The shaded areas are the uncertainty intervals estimated from a comprehensive analysis of known uncertainties (a and b) and from the time series (c). (FAO 3.1, Figure 1, Figure 4.2, Figure 5.13)

INTRODUCTION

- Carbon dioxide produced from the combustion of fossil fuels is the main greenhouse gas that is causing an increase in the earth's surface temperatures.

CHANGES IN GREENHOUSE GASES FROM ICE CORE AND MODERN DATA



Fourth Assessment Report

Rising Temperatures

- **Eleven of the last 12 years rank among the 12 hottest on record (since 1850, when sufficient worldwide temperature measurements began)**
- **Over the last 50 years, “cold days, cold night, and frost have become less frequent, while hot days, hot nights, and heat waves have become more frequent.”**

Increasingly Severe Weather (storms, precipitation, droughts)

- **The intensity of tropical cyclones (hurricanes)) in the North Atlantic has increased over the past 30 years, which correlates with increases in tropical sea surface temperatures**
- **Storms with heavy precipitation have increased in frequency over most land areas. Between 1900 and 2005, long-term trends show significantly increased precipitation in eastern parts of north and south America, northern Europe, and northern and central Asia.**

Fourth Assessment Report

- **Droughts have become longer and more intense and have affected larger areas since the 1970s, especially in the tropics and subtropics.**

Melting & Thawing

- **Since 1900 the Northern Hemisphere has lost seven percent of the maximum area covered by seasonally frozen grounds**
 - **Mountain glaciers and snow cover have declined worldwide**
- List achievements and progress since last status update was given**

Fourth Assessment Report

- **Satellite data since 1978 show that the extent of Arctic sea ice during the summer has shrunk by more than 20 percent.**

Rising Sea Levels

- **Since 1961 the world's oceans have been absorbing more than 80 percent of the heat added to the climate, causing ocean water to expand and contribute to rising sea levels. Between 1993 and 2003 ocean expansion was the largest contributor to sea level rise.**
- **Melting glaciers and losses from Greenland and Antarctic ice sheets have also contributed to recent sea level rise.**

ADDITIONAL FINDINGS ON FUTURE CLIMATE CHANGE

- **Full range temperature increases of 1.1 to 6.4 degrees Celsius (2-11.5 degree Fahrenheit) by the end of the century**
- **Warning is expected to be greatest over land and at most high northern latitudes, and least over the Southern Ocean and parts of the North Atlantic**

ADDITIONAL FINDINGS ON FUTURE CLIMATE CHANGE

- **Tropical cyclones are likely to become more intense, with higher peak wind speeds and heavier precipitation associated with warmer tropical seas.**
- **Increases in the amount of precipitation at the higher latitudes are very likely, while decreases are likely in most subtropical land regions.**
- **Extreme heat, heat waves and heavy [precipitation are likely to continue becoming more frequent.**

ADDITIONAL FINDINGS ON FUTURE CLIMATE CHANGE

- **Sea ice will continue to shrink in the Arctic and Antarctic. Some projections show that by the latter part of the century late –summer Arctic Sea ice will disappear entirely.**
- **Increasing atmospheric carbon dioxide concentrations will lead to increasing acidification of the ocean with negative repercussions for all shell-forming species and their ecosystems.**
- **Global average sea-level will rise between 18 -59 centimetres (7-23 inches) above 1980-1999**

NC PROCESS

Article 4 paragraph of the UNFCCC make it a commitment for all Parties to develop, periodically update, publish and make available to the COP in accordance with Article 12.

- **Jamaica's national circumstances for the year 2005**
- **National greenhouse gas inventories;**

NC PROCESS

- **A general description of the steps taken or envisaged to implement the Convention including:**
 - **National and where applicable regional programmes to mitigate climate change;**
 - **The application and diffusion of climate friendly technologies;**
 - **Research and systematic observations**
 - **Education, training and public awareness;**
 - **Capacity building;**
 - **Information and networking;**
 - **The integration of climate change into social, economic and environmental policy;**

NC PROCESS

- **Measures to facilitate adequate adaptation to climate change;**
- **Measures to mitigate climate change**
- **Other relevant information including projects for financing including specific technologies, materials, equipment, techniques or practices that would be needed to implement such projects**

NC PROCESS

- **Constraints and gaps and related financial, technical and capacity needs in respect to the preparation of the national communication.**
- **The INC was submitted in 2000. The SNC will be completed in 2008 and will be submitted in 2009.**



OVERVIEW OF THE WORKSHOP

The sectors that are reported on include:

- **Water Resources**
- **Coastal Resources**
- **Human Settlement**
- **Agriculture**
- **Human Health**



The component was divided into three packages as follows

- **Package1: Climate Scenarios & Human Health**
- **Package2: Water Resources & Agriculture**
- **Package3: Coastal Resources & Human Settlements**

Activities

Policy and institutional issues

1. Identify the key policy issues the V&A study aims to address including:

- the scale of risks associated with projected climate change;
- identification of priorities for adaptation;
- The development of a national adaptation strategy.

2. Identify the expected outputs on the basis of the project document to include:

- impacts assessment at the sectoral level for the given priorities identified in the project document;
- National adaptation strategy, including policies, programs and projects.

Activities

Policy and institutional issues (cont.)

3. Develop a clear strategy to link the V&A outputs to national development planning. This would include, among others:

- assessment of institutional arrangements/stakeholders engagement required to facilitate linking the outcome of the V&A studies to sector or national planning;**
- Framework for assessing how the above linkage can be monitored and measured in the short and long terms, for instance through the development of practical indicators.**