

Climate Change and Human Security for Vulnerable Groups



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Carbon Cycle : The big regulator

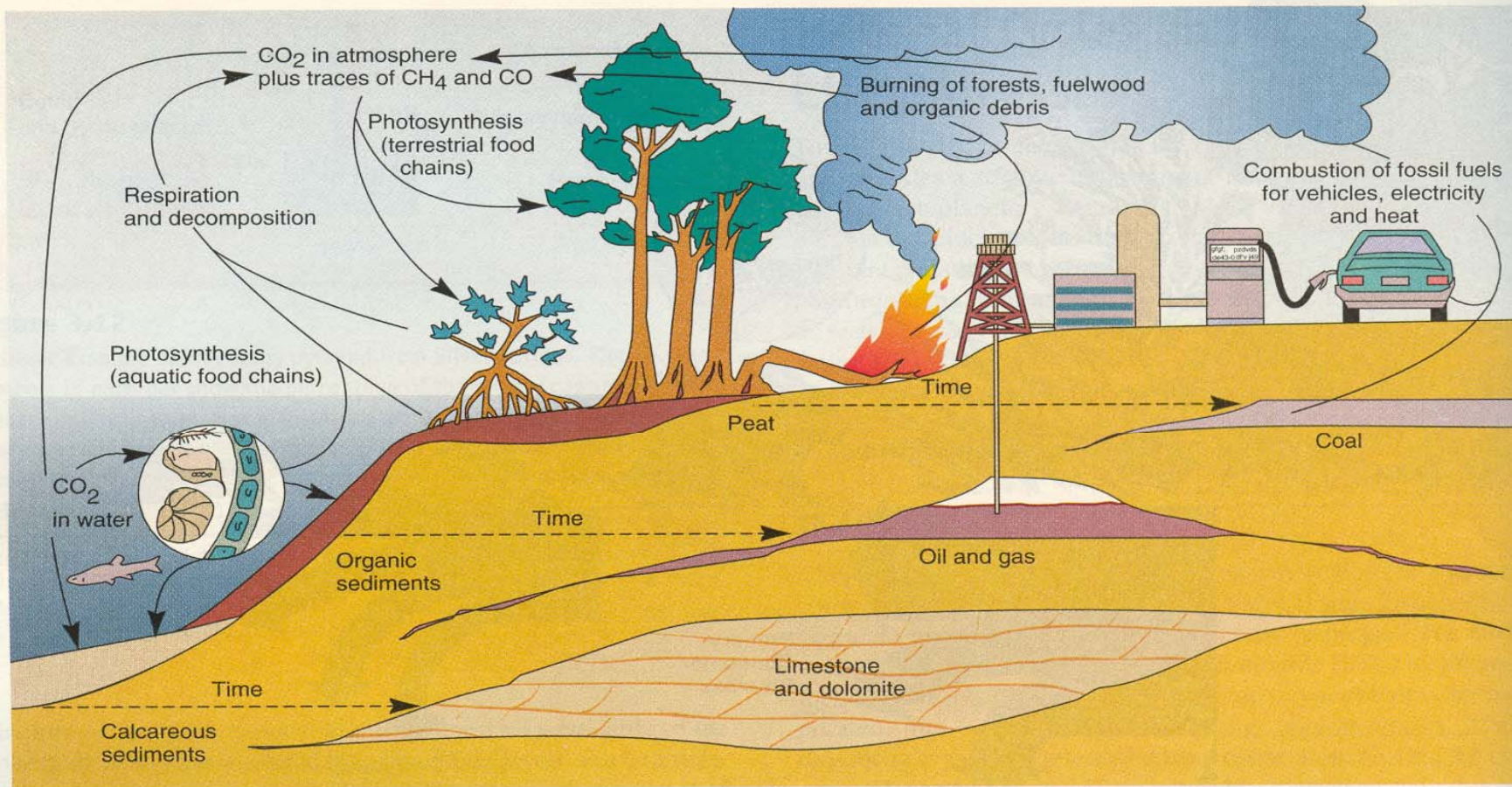
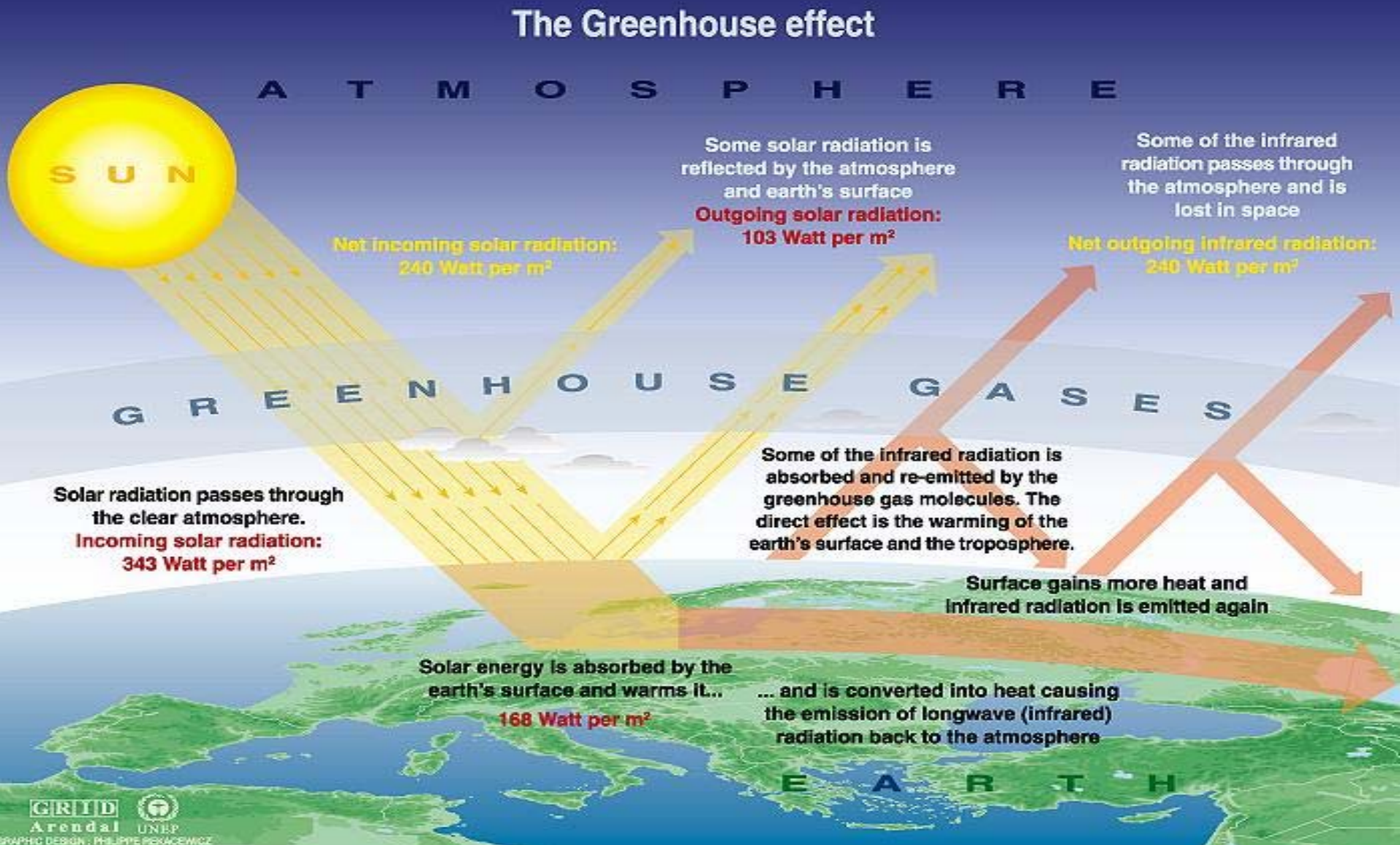


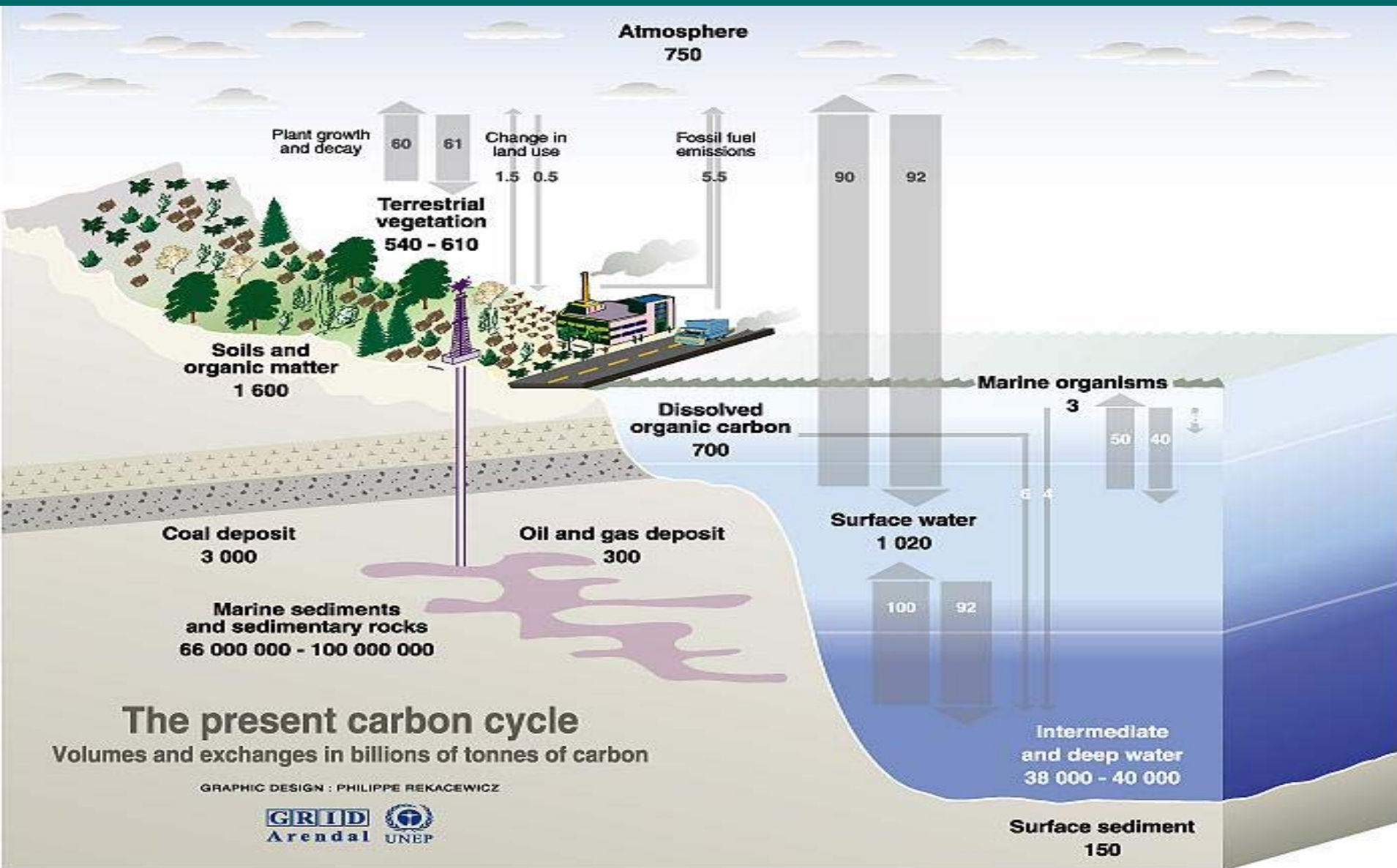
Figure 3.15

Atmospheric carbon dioxide is the "source" of carbon in the carbon cycle. It passes into ecosystems through photosynthesis and is captured in the bodies and products of living organisms. It is released to the atmosphere by weathering, respiration, and combustion. Carbon may be locked up for long periods in both organic (coal, oil, gas) and inorganic (limestone, dolomite) geological formations, which are, therefore, referred to as carbon "sinks."

Gases and Greenhouse Effect: Is it always bad?



Carbon Dioxide and Climate Change: What's going wrong?



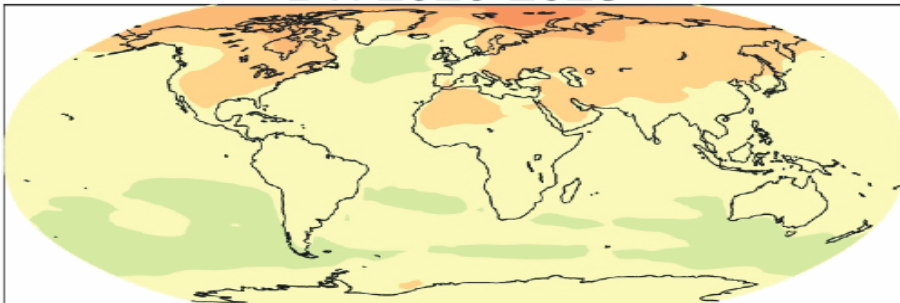
Sources: Center for climatic research, Institute for environmental studies, university of Wisconsin at Madison; Okanagan university college in Canada, Department of geography; World Watch, November-December 1998; Climate change 1995, The science of climate change, contribution of working group 1 to the second assessment report of the intergovernmental panel on climate change, UNEP and WMO, Cambridge press university, 1996.

United Nations Framework Convention on Climate Change (UNFCCC): Time for Global Action

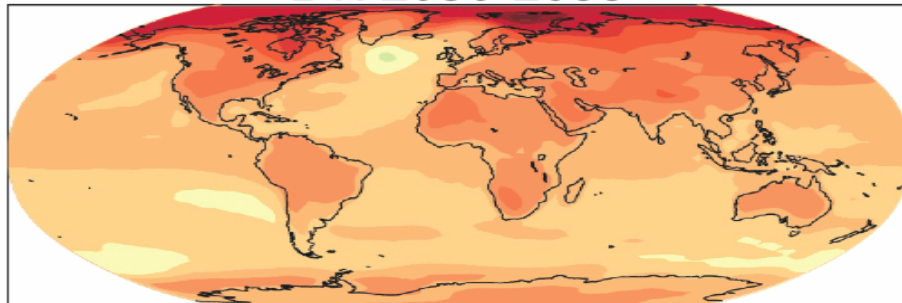
- Kyoto Protocol : 2005-2012, A limit up to the greenhouse effects. Tools for reduction
 - Tradable Pollution Permits
 - Clean Development Mechanisms (CDMs)
 - Joint Implementation (JT)
- National Reports
- Intergovernmental Panel on Climate Change (IPCC)

Fourth Assessment Report (2007) of the Intergovernmental Panel on Climate Change (IPCC)

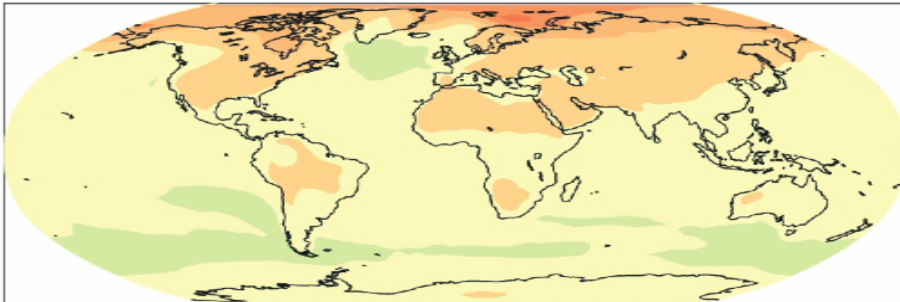
B1: 2020-2029



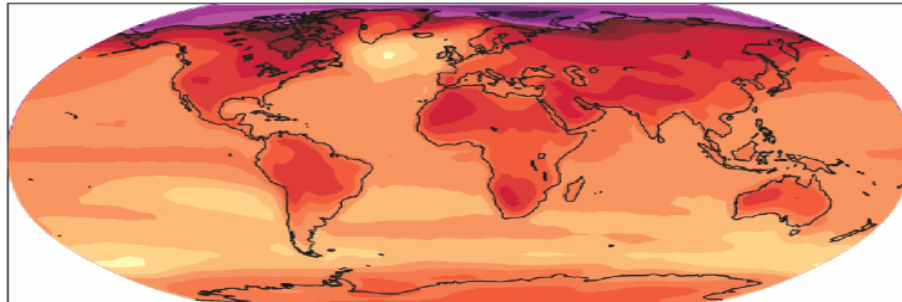
B1: 2090-2099



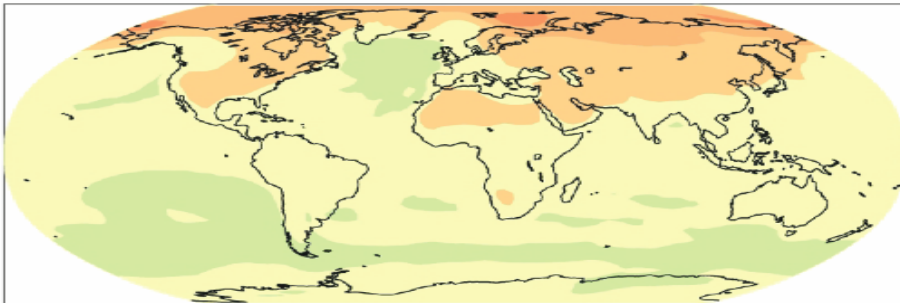
A1B: 2020-2029



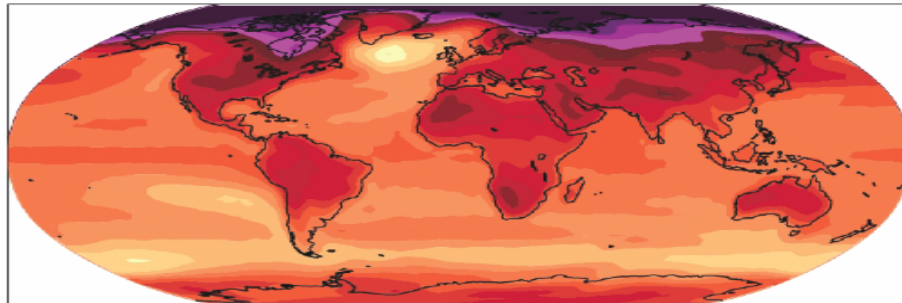
A1B: 2090-2099



A2: 2020-2029



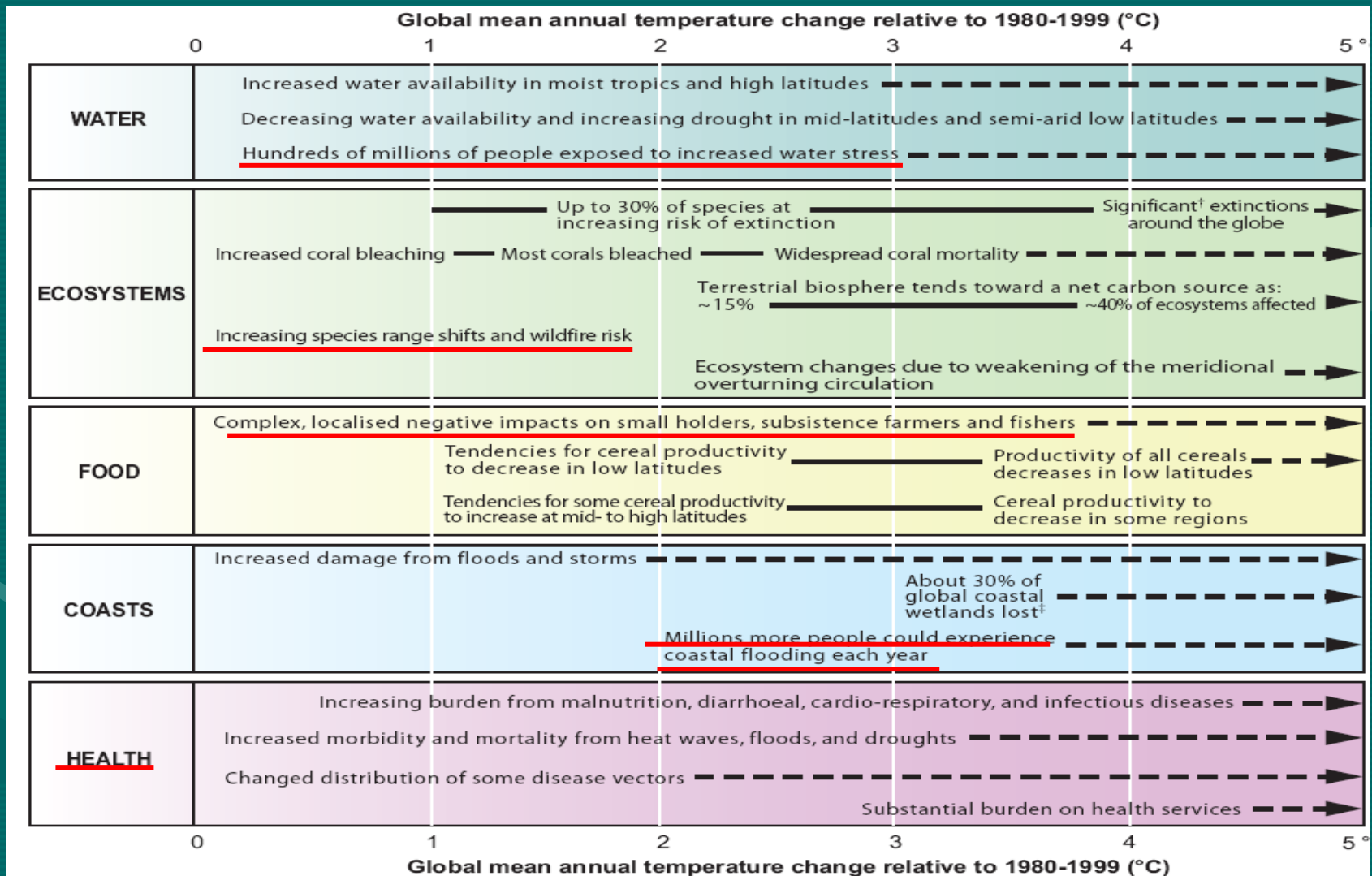
A2: 2090-2099



Warning hints of IPPC 4th Report

- Within the following 20 years an increase of 0.2C per decade is foreseen according to Special Report on Emission (SRES) scenarios
- Even if all emissions kept constant at 2000 levels, a warming of about 0.1C is expected for the next decade
- Previous estimations of IPCC for an increase from 0.15 to 0.3 °C per decade are now validated with observations of 0.2C

Climate change and Vulnerability



Vulnerability and socio-economic implications

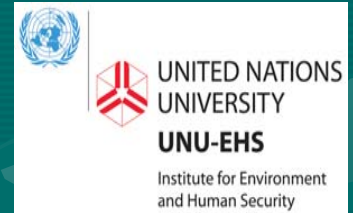
- “Within these countries, the poorest, who have the least resources and the least capacity to adapt, are the most vulnerable” (*Poverty and Climate Change, 2003, OECD*)
- Hellenic Ministry of Foreign Affairs (MFA)– in the context of Greece’s presidency of the Human Security Network for 2007/2008, undertook the tracing of *vital threatens* and *social vulnerabilities* in poor regions :
 - *Migration and displacement due to hardened living conditions*
 - *Exacerbation of gender inequalities (women)*
 - *Malnutrition and poor health to childhood*
 - *Overall impacts of climate change and development of cooperating strategies*

The MFA appointed ELIAMEP as scientific expert to coordinate the undertaking of **four individual policy papers** in the above thematic areas. Emphasis on the demonstration of **representative case studies** from countries which could be aided through the Hellenic Aid program of MFA

Development of 4 policy papers (and summaries)

- The development of the policy papers has been already assigned to the following highly accredited organizations :

a. the Institute for Environment and Human Security of the United Nations University (UNU-EHS), Study: Climate change effects and human security at volatile regions with specific reference to environmentally forced migration. Cases: Egypt (drought) Mozambique (flood), Vietnam from SE Asia.



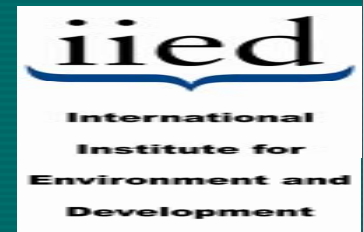
b. the Women's Environment and Development Organization (WEDO), Study: Gender equality and women. Cases: Ghana, Senegal and Bangladesh



c. the UNICEF- INNOCENTI, Study: Effects in childhood, Case studies: Southern Sudan, Morocco and field experiences from Asian countries related to tsunami recent event



d. the International Institute for Environment and Development (IIED), Study: Development of cooperating strategies



Structure of the four policy papers

- Adaptation of the analysis to 4th Assessment IPCC scenarios
- Approaching of security in childhood through a multidimensional prism (food, sanitation, societal degradation etc.)
- Correlation about economic development and climate change effects with reference to the case study/ies
- Usage of quantitative models for the demonstration of the effects
- Capability of socioeconomic estimation of the climate change effects in the case/s selected
- Provision of tangible recommendations for the Hellenic Aid and broadly aid mechanisms

Action Plan of Climate Change and Human Security Project

- Designing of Guidelines for the confrontation of climate change impacts to vulnerable groups in developing regions
- Development of a compilation research with the current up to date reports, publications and alike from International Organizations, Research Institutions, NGOs about climate change and socioeconomic effects
- Editing and binding of the studies in an integrated policy paper which will be presented in a high-level conference held within the annual meeting of Human Security Network in May 2008.

Compilation Study: Are they all alerted?

Research Institutes in the forefront

- It seems that almost all the high ranked research organisations /associations /networks are alerted or they want to be acknowledged as alerted
- The flagship of research is represented by Assessments Reports of IPCC. The most fruitful outcome of 4th Assessment Report- Policy and Technical Summaries: What do they say?
- Great improvisation from last assessment (2001), impacts are already observed but high lack of regional projections. Does everyone agree on that?
- Mostly, yes. However, it is anticipated (Arctic Council, 2004) that a possible scenario of up to 2C' increase will territorially proved to be beneficial in
 - a. Expanding Marine Shipping,
 - b. Increasing Access to Resources
 - c. Enhance Agriculture and Forestry
 - d. Enhance Marine Fisheries

Compilation Study: In policy making, EU head of Climate Change

- 1st European Climate Change Programme (ECCP I, 2001). EU acts one body: stricter targets than on a country basis. Focus on energy supply and consumption, transport, industry & research
- EU takes the lead and adopts rigid measures in ECCP II (2005) aviation, CO₂ and cars, carbon structure and storage and review of EU Emission Trading Scheme
- However, no specific concern for vulnerable groups. Financing bodies of EU are focused on subsidizing mitigation and adaptation measures. But it is only them...

Compilation Study: Banking and Development Agencies take the lead in financing measures

- Development and Aid Banks seem to be in the cutting edge of leading application measures for combating climate change
- World Bank focused on mitigation, proactive and reactive adaptation and ultimate damages of climate change affect growth, especially in developing countries
- European Bank for Reconstruction and Development heavy investment on renewable sources and socioeconomic support for vulnerable groups in East Europe
- African Development Bank focus on the energy increase in Sub-Saharan Africa, transition to low carbon economy and application of adaptation measures to Climate Change
- Why do they care for?
 - a. Instability to world economy – predictability of 2%-5% loss of global GDP in the next 10 years if no measures are undertaken
 - b. Demand stagnant, approach even the wealth countries due to the extreme weather phenomena
 - c. Social divergence, infrastructure deteriorates in a very high pace
- Aforementioned threatens also underlined by world leading International Organizations

Compilation Study: International Organizations' warnings on vulnerability

- Most extensive publication and information on vulnerability in human population and climate change addressed in Organization for Co-operation and Economic Development (OECD). Target point, domestic Policy Frameworks for Adaptation to Climate Change in the Water Sector, Coastal Zones. Strong consideration of increased investing uncertainty
- The Food Agricultural Organization (FAO) highlights with narrower but more in-depth analysis, rural vulnerability and shows the distribution of rural populations in various agro-ecological environments
- A rather noble network is established by the Organisation for Security and Cooperation in Europe (OSCE) entitled as the Environment and Security Initiative- ENVSEC" for managing conflict and risk. The network is comprised by OSCE, Programme (UNEP), The United Nations Development Programme (UNDP), The United Nations Economic Commission for Europe (UNECE), The Regional Environment Center for Central and Eastern Europe (REC) and the North Atlantic Treaty Organization (NATO). However, mostly analysis on Central Asia and South Eastern Europe with regard to impacts from ex-industrialization, regional conflicts and not climate change

Compilation Study: Where the targeted vulnerable groups are mentioned? *Women and Children*

- Women are directly highlighted by The World Conservation Union (IUCN), one the need to provide support and capacity building for women in enhancing their adaptive capacity (i.e. poverty alleviation projects, sharing information through networks etc.)
- FAO stresses that the participation in decision making and politics, and access to decision makers is not always equal for men and women and this may affect their participation and the representation of their ideas in short- and long-term decision making on climate change
- The World Health Organisation (WHO) indicates the health effects derived in a aftermath from natural disasters to childhood. As noted, the number of deaths associated with flooding is closely related to the life-threatening characteristics of floods and to the behaviour of victims. Injuries are likely to occur after a flood disaster, as residents return to dwellings to clean up damage and debris.

Compilation Study: Where the targeted vulnerable groups are mentioned? Environmentally Induced/Forced Migrants

- A rare terminology to be met, due to the absence of institutional frame for environmentally induced/forced migrants
- Only once met in FAO where mentioned that migration due to climate change occurs in developing regions where men tend to migrate for work while women spend more time collecting fuel and water. Also, men and women have different access to resources, including physical resources like land, social resources like networks, and financial resources like income-generating work and credit.
- Seems that the Climate Change and Human Security project offers a significant contribution to scientific community and policy makers

Compilation Study: Should the so called vulnerable groups be exposed to climate change analysis?

- (+) women seem to get in a really worsening situation than the other family due to extreme weather conditions
- (-/+) children although vulnerable, have more options to endure climate change effects due to donor/aid mechanisms
- (?) environmentally induced/forced migrants, a new field which needs further research and definition

Potential Output of the Climate Change project

- Adaptation vs mitigation : distinction
- Institutional measures for the empowerment of administrative bodies
- Socio-economic tools for the enhancement of market driven approaches in small scaling level
- Funding mechanisms aiming at alleviating poverty
- Strengthening information and assessments