CRACOW UNIVERSITY OF ECONOMICS
1925

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Reconceptualization of Security in the Early 21ˢᵗ Century

© Hans Günter Brauch

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10. Fourth Green Sustainable Revolution

1. Reasons for Reconceptualization of Security

1st thesis: Three reasons triggered reconceptualization of security

– **Protests in Poland in 1980 & End of the Cold War (symbolic: fall of the Berlin Wall, 9 November 1989)**

– **Globalization: New opportunities and threats of personal (9/11/2001) & structural violence (global financial crisis of 2008 and Euro debt crisis of 2011)**

– **Transition from the Holocene to the Anthropocene: Transition of geologic time**

2nd thesis: Since 1994 a major shift has occurred from state-centred to people-centred human security concepts!

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1.1. A Classical Definition in Political Science & International Relations

- Arnold Wolfers (1962), realist pointed to two sides of security concept:

- "Security, in an objective sense, measures the absence of threats to acquired values, in a subjective sense, the absence of fear that such values will be attacked".
  - Absence of "threats": interest of policy-makers;
  - Absence of "fears": interest of social scientists;
  - for contructivists: Reality is socially construc-ted; security is what actors make of it!

2. Contextual Changes vs. Conceptual Innovations

- **What has changed? Three Contextual Changes**
  - **End of Cold War (1989: 11/9)**
  - **American Trauma (2001: 9/11)**
  - **Global Financial Crisis (2008 and 2011)**
- **What has changed? Conceptual Innovations**
  - **Objective, subjective to intersubjective security: Constructivism & Reflexivism**
  - **Three centres of innovation on security:**
    - **Copenhagen: Ole Wæver**
    - **Aberystwyth: Ken Booth**
    - **Paris: D. Bigot**
  - **Wæver's theory of securitization**

2.1. Which Contextual Change?

- **1989-1991: End of the Cold War (East-West-Conflict): 9 November 1989: Fall of Berlin Wall**
  - **Widening**: from 2 to 5 security dimensions
  - **Deepening**: from national to human security
  - **Sectorialization**: energy, food, health, water security
- **11 September 2001: Increased Vulnerability of U.S.**
  - **G.W. Bush: Shrinking on** weapons of mass destruction, terrorists
  - **Transatlantic dispute on goals: Terrorism vs. Climate Change**
  - **B. Obama: Widening: multilateralism, hard & soft security issues**
- **2008, 2011: Economic crises: social vulnerability**
  - **Crises, Globalization: high economic** & **social vulnerability**
  - **Economic & financial insecurity: increase in food insecurity, poverty: food price protests, hunger riots**
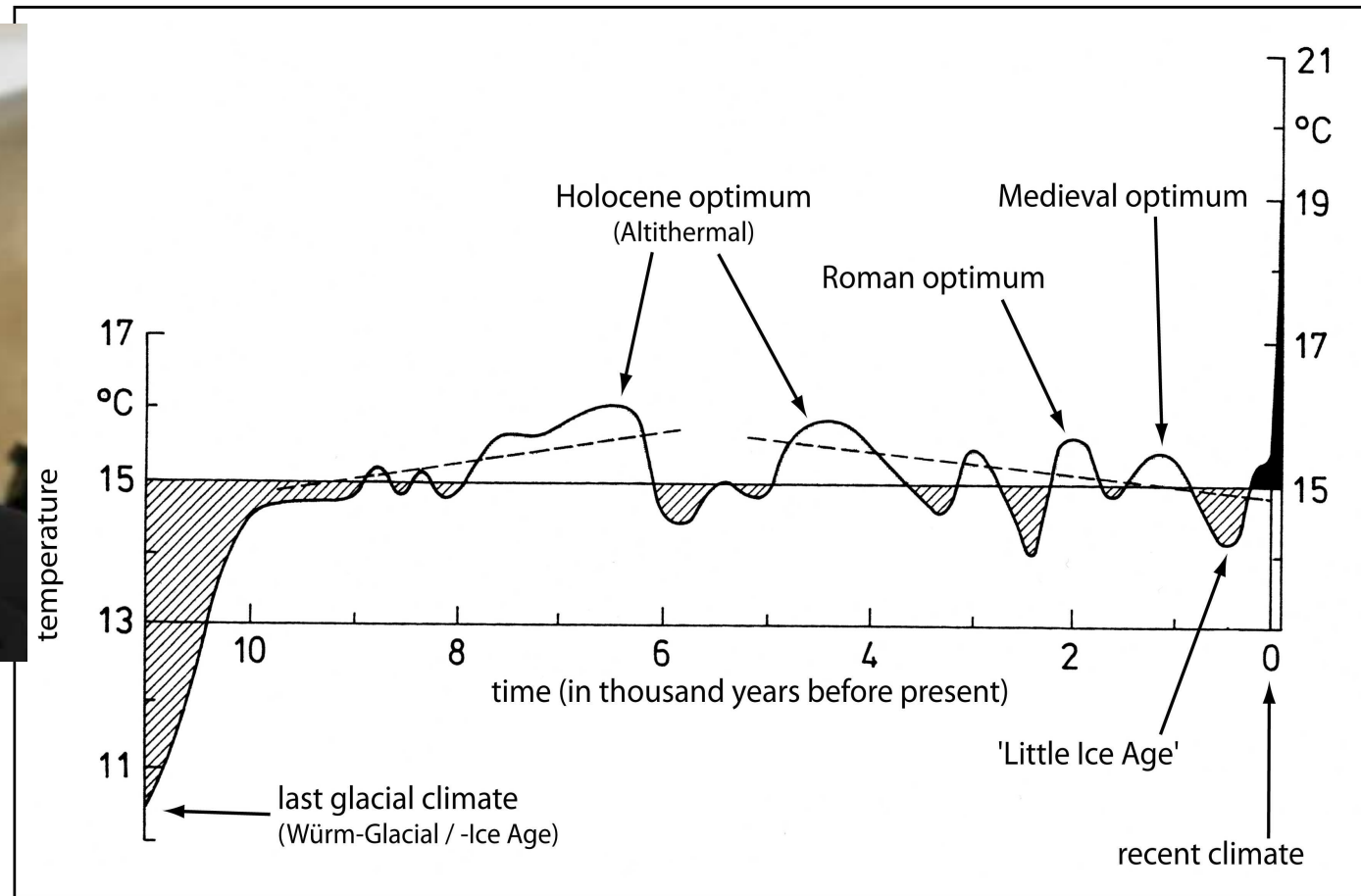
2.2. Globalization: Terrorism, Drugs, Global Financial Crisis

- **Globalization: new actors and processes**
  - Non-state actors: terrorists, organízed crime (trafficking of humans, drugs, weapons etc.)
  - Uncontrolled financial flows and speculation:
  - 2008/2009: Global Financial and Economic Crisis
- **Change from Holocene to Anthropocene**
  - **Global Environmental Change:** global climate change, transformation of the security threat: from „them" to „us", „we are the threat & victim" but both are not identical: requires global equitable solutions

2.3. From the Holocene (12.000 years b.p.) to the Anthropocene (1784 AD)

**Paul Crutzen, Nobel Laureate for Chemistry (1995)**

Chart: temperature (°C) vs time (in thousand years before present)

Labels on chart:
- Holocene optimum (Altithermal)
- Roman optimum
- Medieval optimum
- last glacial climate (Würm-Glacial / -Ice Age)
- 'Little Ice Age'
- recent climate

In Geology/geography: Holocene era of earth history since end of glacial period (10-12.000 years ago, Anthropocene, since industrial revolution (1784, J.Watt's invention of steam engine: anthropogenic climate changte: burning of coal.oil,gas➔GHG increase

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2.4. Anthropogenic Climate Change in the Anthropocene Era (1750 to present)

1958-1974 Scripps Inst. Oceanography
1974-2008 NOAA/ESRL
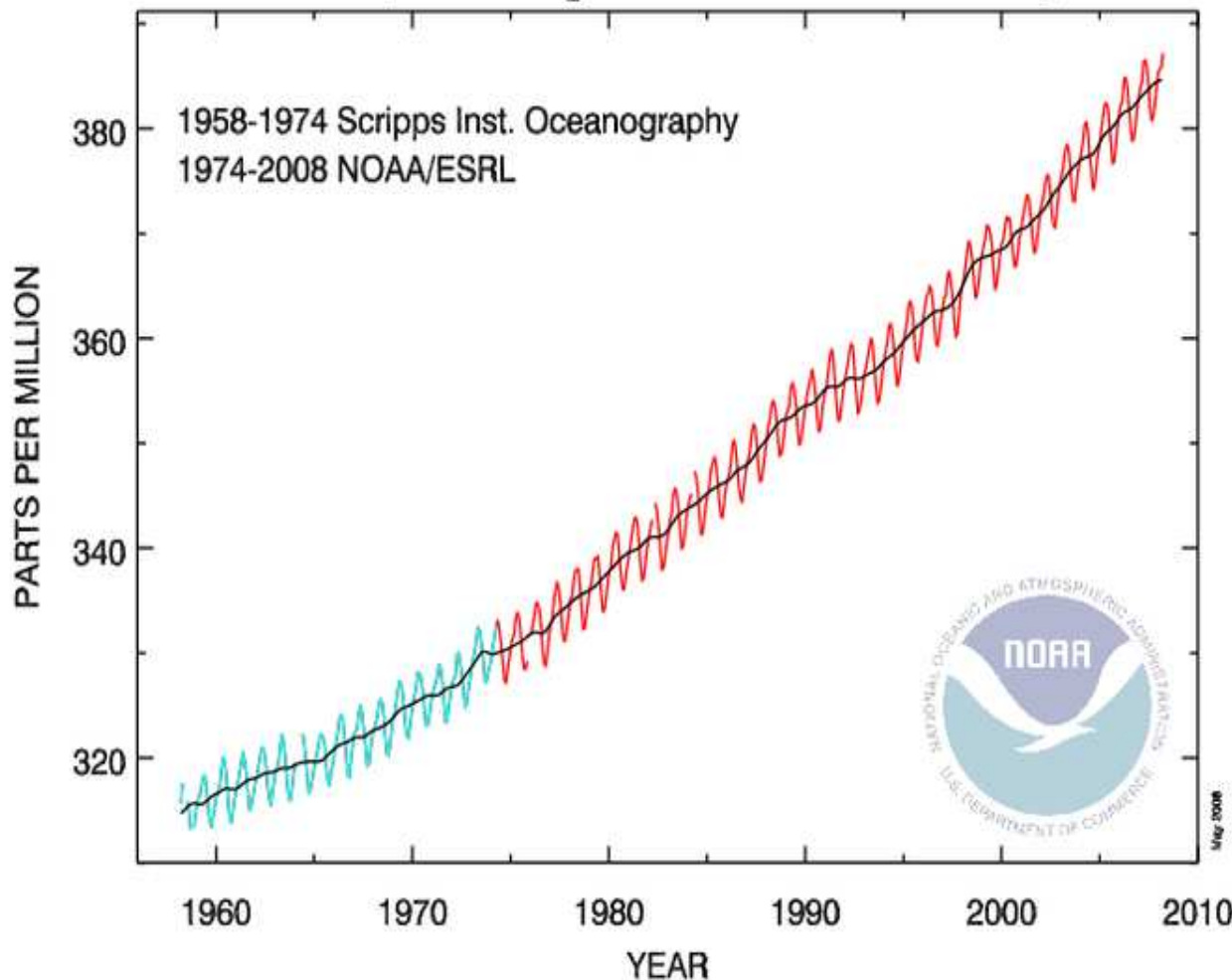
- **GHG concentration in the atmosphere**
- **1750: 279 ppm, 1987: 387 ppm**
- **1/3: 1750-1958: 279 to 315 ppm**
- **2/3: 1958-1987: 315 to 387 ppm**
- **1958-2011: 315-393 ppm**

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3. Widening, Deepening & Sectorialization of Security

- **Response: Widening, Deepening and Sectorialization of Security**

  – **Widening: from political, military to economic, societal and environmental**

  – **Deepening: from state-centred to human-centred perspective**

    • **From national to human security**

  – **Sectorialization:**

    • **energy, food, health, water and soil security**

3.1. Widening of Security Concepts: Towards Environmental Security

4 trends in reconceptualisation of security since 1990:

- **Widening** (dimensions, sectors), **Deepening** (levels, actors)
- **Sectorialisation** (energy, food, health),
- **Shrinking** (WMD, terrorists)

Dimensions & Levels of a Wide Security Concept

Security dimension ⇒ ⇓ Level of interaction	Mili-tary	Political	Economic	Environ-mental ⇓	Societal
Human individual ⇒			Food sec. Health sec.	Cause & Victim	Food sec. Health sec.
Societal/Community				⇓⇑	
National	Narrow: Cold War		Energy se.	⇓⇑	Food,health
International Regional			Water security	⇓⇑	Water security
Global/Planetary ⇒				GEC	

4. From International & National to four Pillars of Human Security

- **International Peace & Security**: League of Nations (1919):"high contracting parties"; UN Charter (1945): "*We the peoples of the United Nations*"
- **National Security:** new U.S. concept World War II, post WW II: National Security Act (1947), before: goal defence, means: Army (War Dep.), & Navy Dept.
- **Alliance Security:** NATO (1949-), WP (1955-2001)
- **Common Security** (Palme Report 1982)
- **Environmental Security** (Brundtland 1987, Gorbachev 1988)
- **Cooperative Security:** Brookings Institution (1990's)
- **Human Security:** UNDP (1994): 4 pillars of HS
  - **Freedom from fear: humanitarian law agenda (Norway, Canada)**
  - **Freedom from want: development agenda (Japan & developing c.)**
  - **Freedom to live in dignity: democratic governance, human rights**
  - **Freedom from hazard impacts: natural hazard & disaster agenda**

4.1. Human Security Network Members

NATO	EU	Third World
Canada		Chile
Greece Slovenia	Austria Ireland	Costa Rica Jordan Mali Thailand South Africa (observer)
Norway	Switzer-land	

Anti-pers. Landmines, Intern. Criminal Court, pro-tection of children in armed conflict, control of small arms & light weapons, fight against transnat organized crime, human development, human rights educat., HIV/AIDS, implement. of intern. hu-manitarian & human rights law, conflict prevention, since 2008 climate change (Greek presidency)

The Network has an interre-gional & multiple agenda perspective, strong links to civil society & academia.

The Network emerged from landmines campaign at a Ministerial, Norway,1999.

Conferences at Foreign Ministers level in Bergen, Norway (1999), in Lucerne, Switzerland (2000), Petra, Jordan (2001) Santiago de Chile (2002), Graz (2003), Bamako, Mali (May 2004),Canada (2005), Thailand (2006), Slovenia (2007), Greece (2008); Ireland (2009), Costa Rica (2010), Switzerland (2011)

5. Sectorialization of Security Concepts

Coined by International institutions

- **to legitimate their activities in terms of security**
- **to securitize climate change impacts**

Securitizing Water: water security concepts

Securitizing Food: food security concept

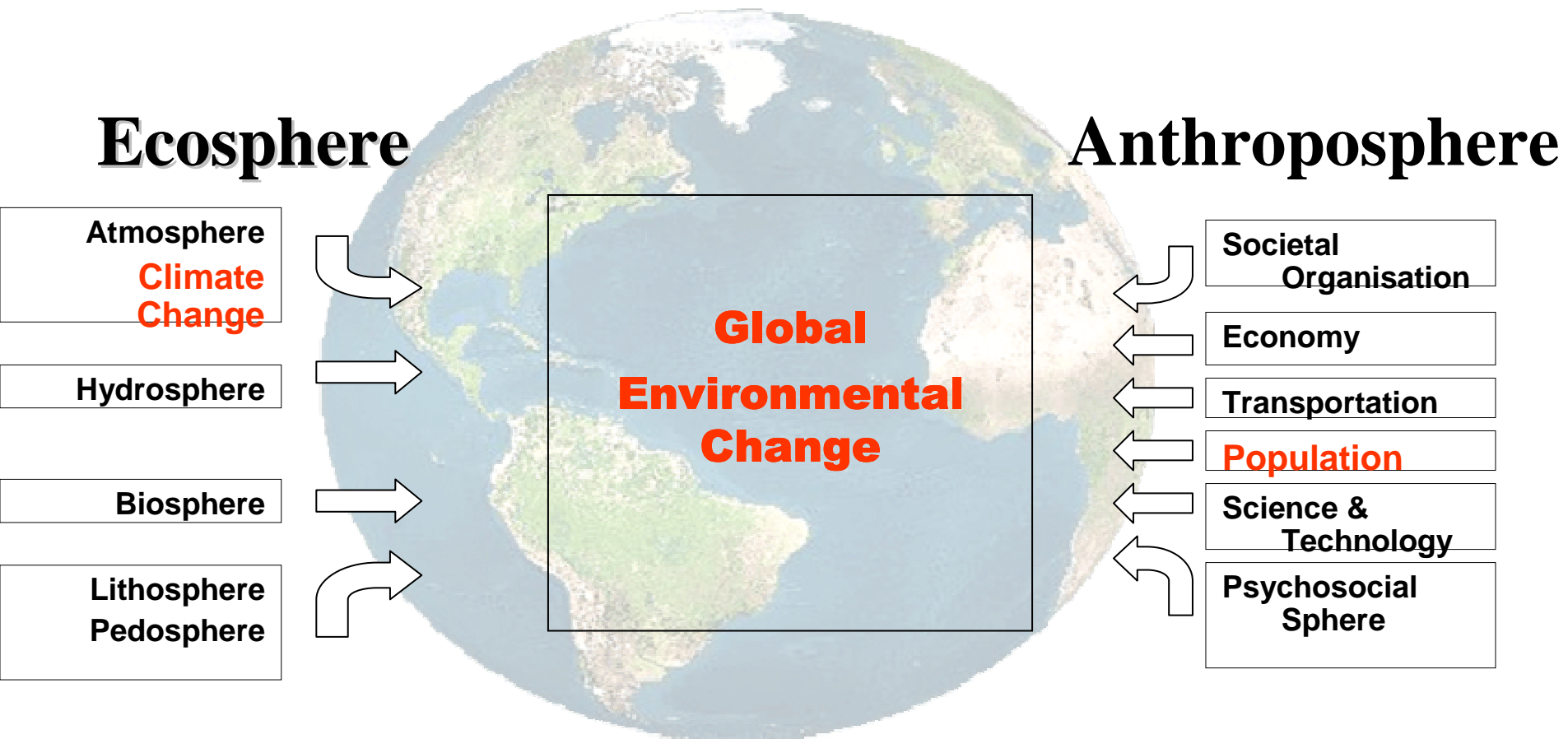**Securitizing Soil:** desertification and the new soil security concept

Securitizing Health: health security concepts

Securitizing Energy: demand vs. supply security

6. Global Climate Change and International, National & Human Security

- Since 1970/80s: '*global environmental change*' (GEC) a new topic in natural and social sciences

- Since late 1980s and 1990s policy efforts on:
  - Climate Change: 1988: issue of G7; 1990: UN GA mandate; 1992: Rio summit: UNFCC (1992) and Kyoto Protocol (1997)

- Since 2000: both are considered as security issues
  - Since 2000: climate change seen as a security threat/risk
  - Since 2007: two debates on climate change & security
    - **UN vs. EU Debates: climate change and international security**
    - **US debate on climate change: new threats for national security**

6.1. Global Environmental Change (GEC)

Ecosphere

Atmosphere
Climate Change

Hydrosphere

Biosphere

Lithosphere Pedosphere

Global Environmental Change

Anthroposphere

Societal Organisation

Economy

Transportation

Population

Science & Technology

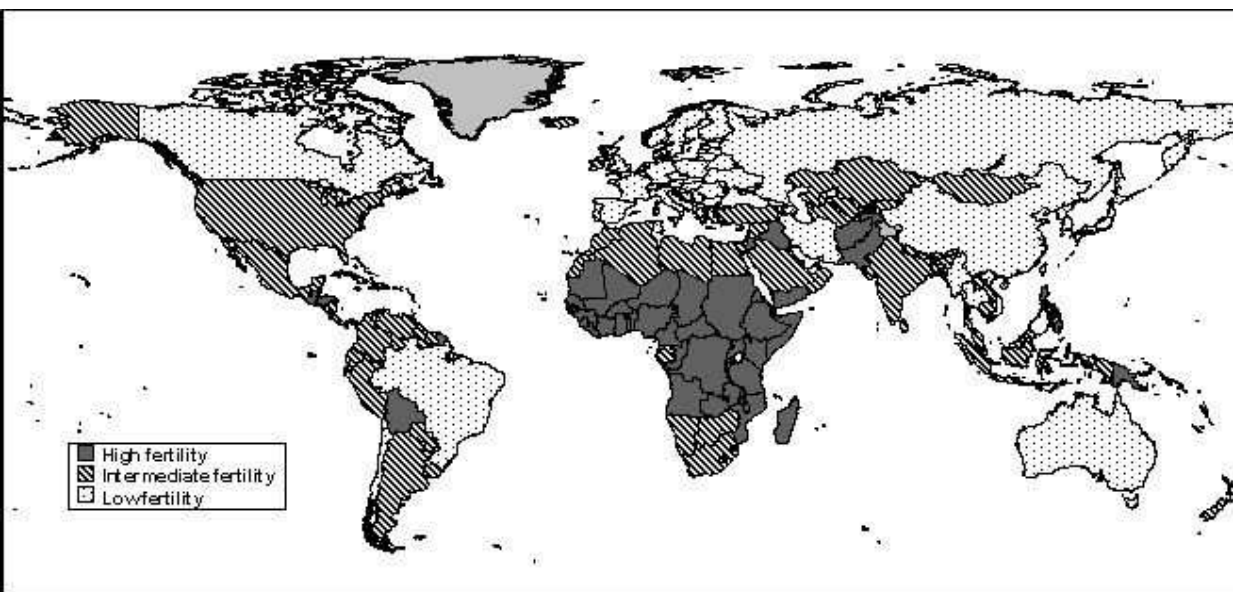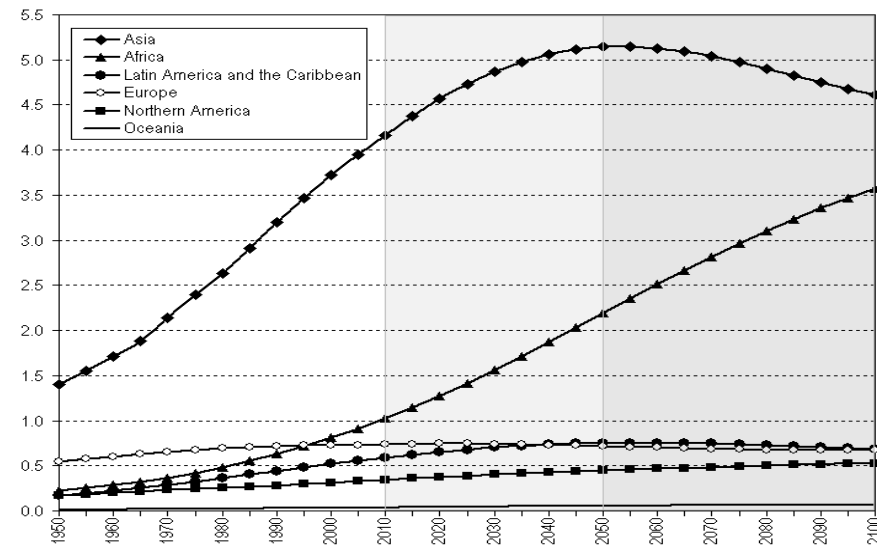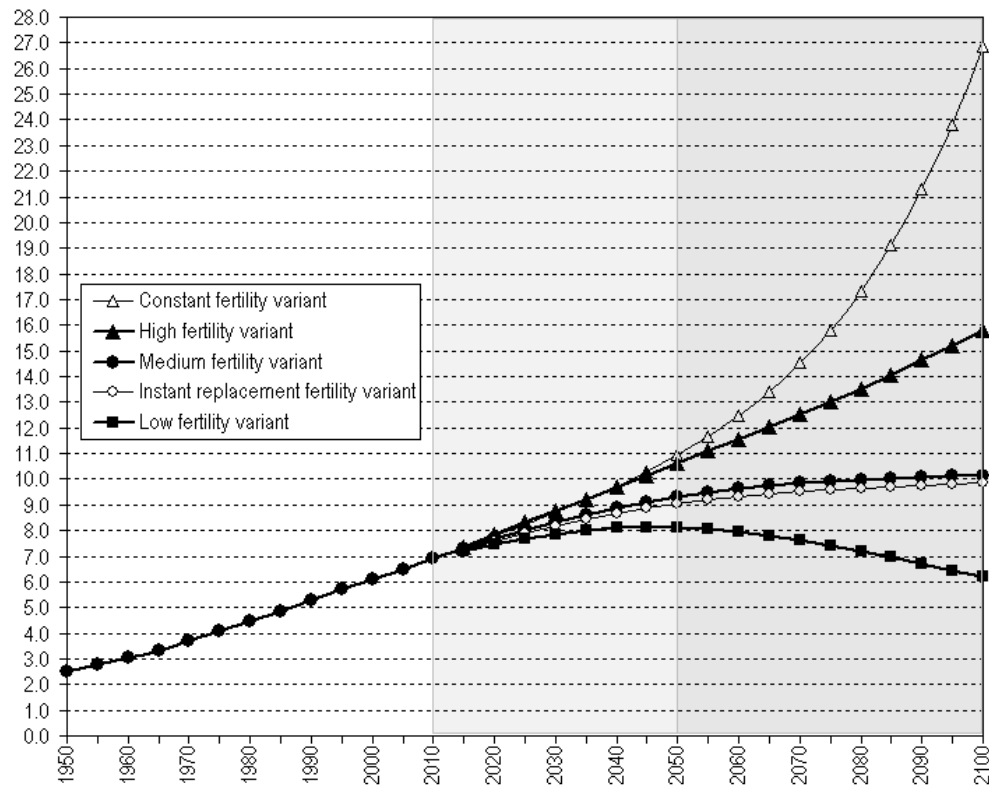Psychosocial Sphere

GEC poses a threat, challenge, vulnerabilities and risks for human security and survival.

6.2. Population Projection (2010)

- Med. projection: 2050: 9 b, 2100: 10 b

- Asia & Africa highest increase

- Highest fertility rate in environ-mental hotspots

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6.3. Global Climate Change: 2001-2007
Temperature Increases & Sea Level Rise

Climate Change Impacts: Temperature & Sea level Rise

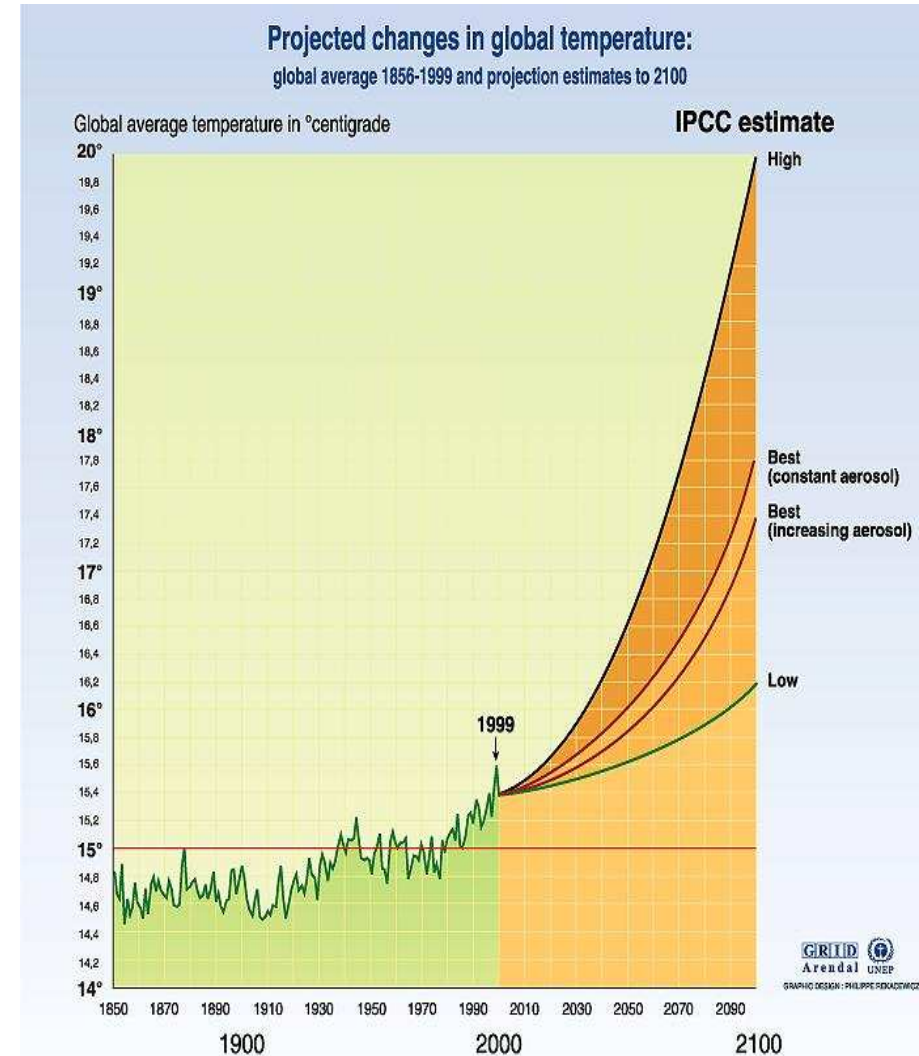❖ **Global average temperature rise in 20th century: + 0.6°C**

Projected temperature rise:

❖ **TAR (1990-2100):+1.4-5. 8°C**

❖ **AR4 (07):+1.1-6.4 (1.8-4)°C**

Sources: IPCC 1990,1995,2001,2007

Sea level Rise:

❖ **20th cent.: +0,1-0,2 metres**

❖ **TAR: 21st century: 9-88 cm**

❖ **AR4 (2000-2100): 18-59 cm**

Trend in global average surface temperature

Positive deviation (in °C)   Negative deviation (in °C)

Source: School of environmental sciences, climatic research unit, university of East Anglia, Norwich, United Kingdom, 1999.

Projected changes in global temperature:
global average 1856-1999 and projection estimates to 2100

Global average temperature in °centigrade   IPCC estimate

High

Best (constant aerosol)

Best (increasing aerosol)

Low

1999

Source : Temperatures 1856 - 1999: Climatic Research Unit, University of East Anglia, Norwich UK. Projections: IPCC report 95.

6.4. Global and Regional Change in Temperature (IPCC 2007, WG 1, AR4, p. 11)

©IPCC 2007: WG1-AR4
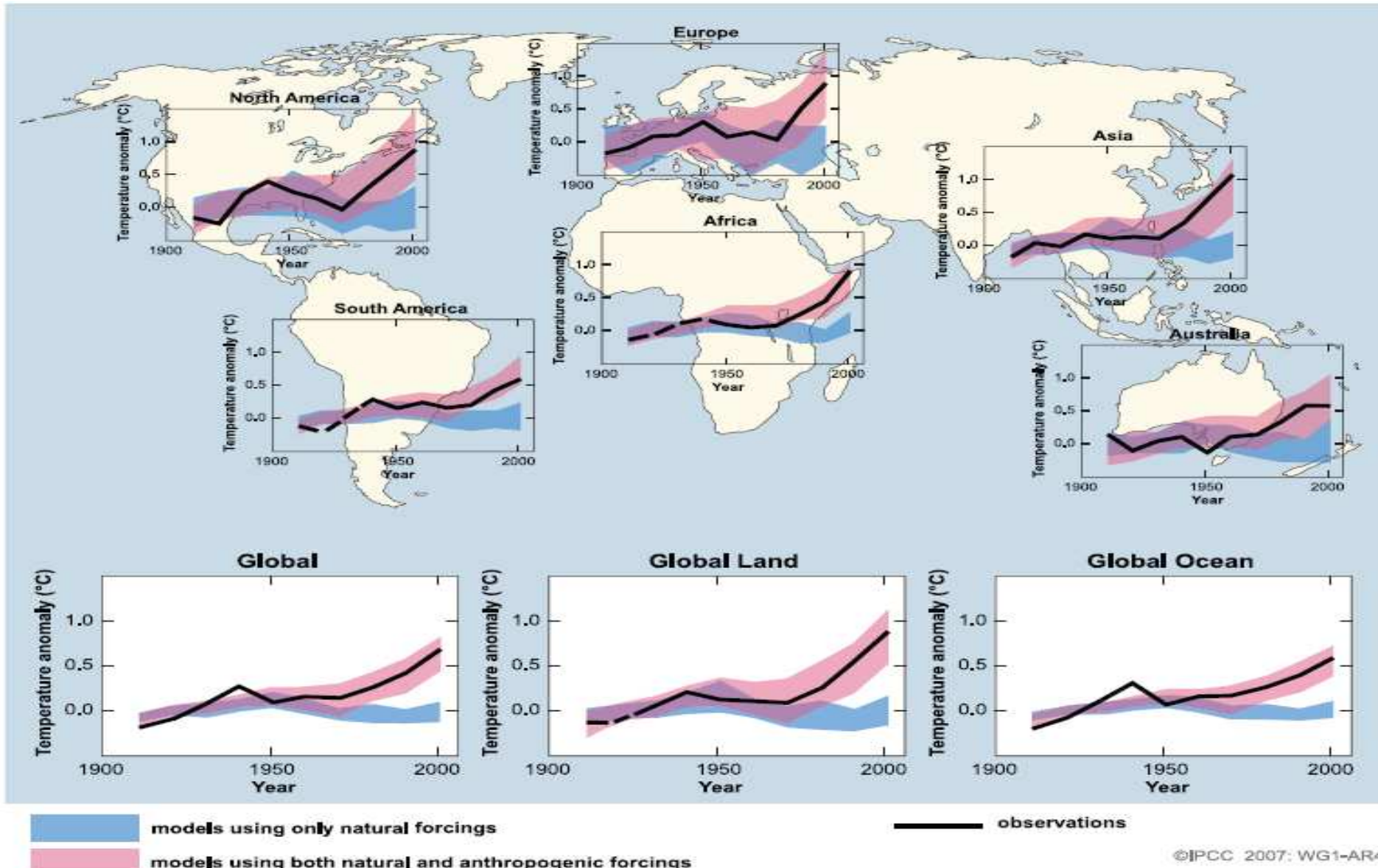
6.5. Anthropogenic Climate Change in the Anthropocene (1900-2100)
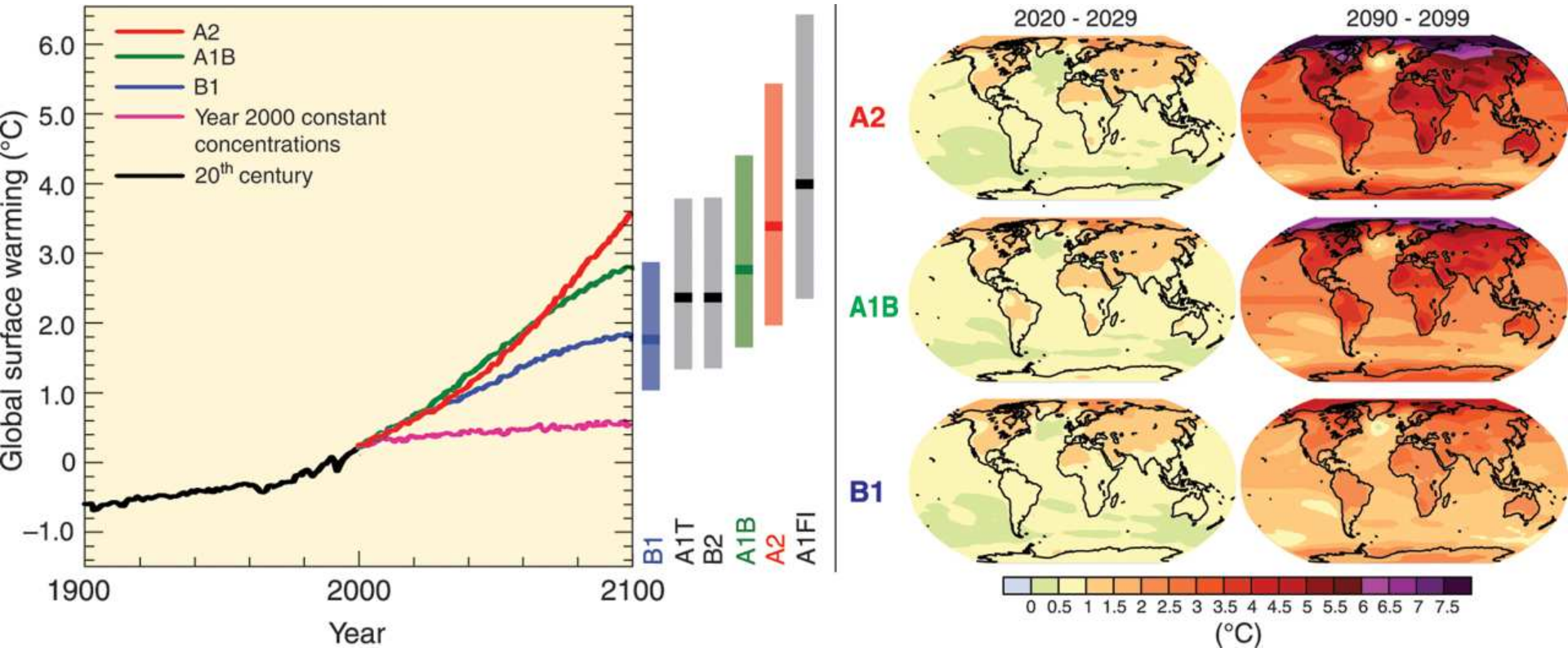
- **Three Regimes for Temperature Increase**
  - +2℃: **certain**: EU Stablization goal (**decision in Copenhagen COP 15)**
  - +4℃: **probable, without immediate Stabilizartion Measures**
  - +6℃: **possible** (business as usual) **(catastrophe scenario)**

6.6. Projected Increase of Sea Level Rise (IPCC chair, Pachauri, 2008)

Stabilization level (ppm CO_2-eq)	Global mean temp. increase (^oC)	Year CO_2 needs to peak	Global sea level rise above pre-industrial from thermal expansion (m)
445 – 490	2.0 – 2.4	2000 – 2015	0.4 – 1.4
490 – 535	2.4 – 2.8	2000 – 2020	0.5 – 1.7
535 – 590	2.8 – 3.2	2010 – 2030	0.6 – 1.9
590 – 710	3.2 – 4.0	2020 – 2060	0.6 – 2.4

6.7. Projections and model consistency of relative changes in runoff by end of 21st century
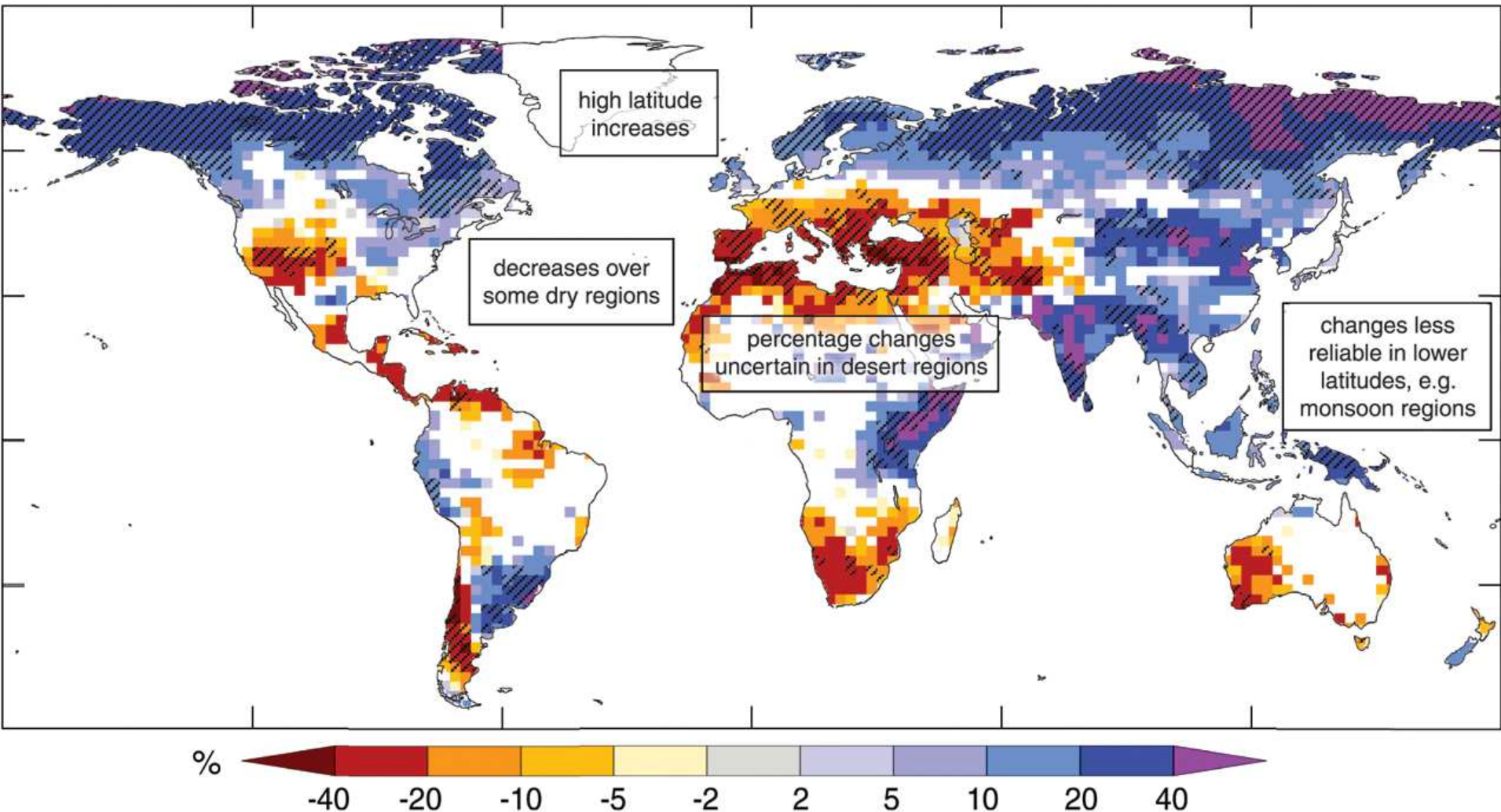
6.8. Climate Change as an Issue of International Politics and Security

Objective: climate change has influnced history for millennia

Subjective: perception of climate change as a scientific & political issue and as a security challenge

Scientization: Tyndal (UK) Arrhenius (Sweden 1896): scientific debate started in 1970s

Politicization Climate Change as an issue of IR since 1988

– 1988: Reagan Admin. put CC on agenda of G-7
– 1990: IPCC set up by UN General Assembly
– 1992: Rio Earth Summit: UNFCC signed
– 1997: Kyoto protocol approved (-5.1% by ,08)
– 2007: Bali Road Map to COP 15: Copenhagen

Securitization of Climate Change (since 2000

– Problem of environmental security: BMU (2002)
– Problem of **national security** (UK, USA, 2004, 2007)
– Problem of **international security**: UNSC (2007, 2011),UN-GA, SC (2009)
– Problem of human security (GECHS, 2005; HSN: Greece 2007/2008) 23

6.9. EU Paper: Climate Change & International Security (March 2008)
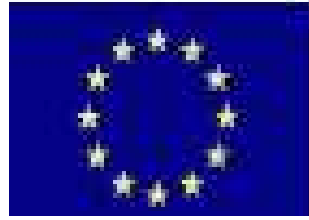
- **Cliamte change … as a threat multiplier of existing trends, tensions and Instability, that overburdens fragil and conflict prone states and regions**
- **Seven intern. Security threats from climate change**:
  - 1) Resource conflicts (Water, soil, food);
  - 2) Economic damage and Risks for coastal cities;
  - 3) Loss of territory and border conflicts;
  - 4) environmentally-induced migration;
  - 5) Situations of fragility and radicalization
  - 6) Tensions on energy supply
  - 7) Pressure on international politics
- **Regions, where these threatds become manifest**
  - Africa, Middle East, South Asia; Central Asia, Latin America, Arctic.
- **Central challenge: Environmental Migration**

6.10. UN: Climate Change and International Security

17 April 2007: UN Security Council: tabled by Ms.Beckett (UK)

3 June 2009: UN General Assembly Resolution:

- 1. *Invites* the relevant organs of the United Nations, as appropriate and within their respective mandates, to intensify their efforts in **considering and addressing** climate change, including its possible security implications;

- 2. *Requests* the Secretary-General to submit a **comprehensive report** to the General Assembly at its sixty-fourth session on the **possible security implications of climate change**, based on the views of the Member States and relevant regional and international organizations.

August-September 2009: submission by states (31 replies)

- **11 September 2009: Report by Ban-Ki Moon**

- **20 July 2011 : UN Security Council: German EU presidency**

Opposition: G-77/China: for discussion as an environmental and sustainable development but not as a security issue!

6.11. Climate Change & National Security: USA

Climate changes as a threat for US national security Search for military answers & new DoD missions

- **Pentagon study** of Schwartz/Randall: (2003, 2004)
- **April 2007: CNA:** *National Security & the Threat of Climate Change* (April 2007): climate change as a threat multiplier in vulnerable regions for US security
- **November 2007,** *Center for Strategic and Intern. Studies* (CSIS); *Centre for a New American Security* (CNAS): *The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change*

US National Security Strategy 2010

- **The danger from climate change is real, urgent, and severe**. The change wrought by a warming planet will lead to new conflicts over refugees and resources; **new suffering from drought and famine; catastrophic natural disasters**; and the **degradation of land across the globe**. The United States will therefore confront climate change based upon clear guidance from the science, and in cooperation with all **nations—for there is no effective solution to climate change that does not depend upon all nations taking responsibility for their own actions and for the planet we will leave behind.**

6.12. Climate Change & Human Security
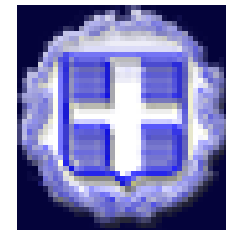
- **IHDP-GECHS** (Global env. change & human security)
  - **Symposium: climate change & human security (2005)**
  - **Synthesis conference: Research (1999-2009) in Oslo**
- **Greek Presidency of the Human Security Network (2007/2008)**
  - **Conference in May 2008 in Athens: Final declaration**
  - Impact of climate change on vulnerable groups: women, children, environmental migrants in developing countries
  - Policy paper: Climate change, human security and development
  - **3rd pillar of human security: "freedom from hazard impact"**
- **Friends of Human Security: Japan & Mexico: June 2009**

7. Addressing Linkages of Global Climate Change and Security

Objects of Security Analysis (Securitzation)
- Physical Effects: e.g. temp, rise
- Impacts: Sectors
- Societal Effects

Whether they pose:
- Objective Security Dangers
- Subjective Security Concerns
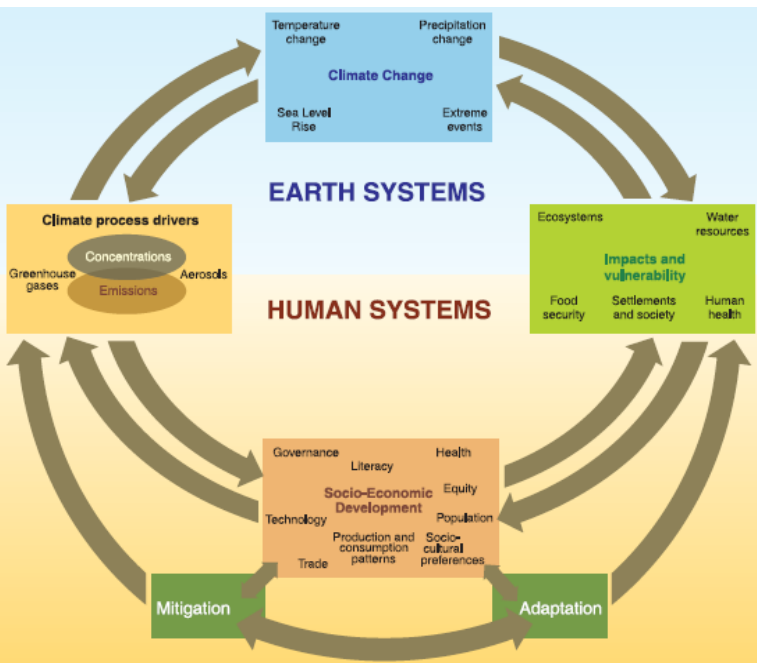
- **Three Schools or Approaches**
  - Dramatizers: Climate war
  - Sceptics: lack of research (PRIO)
  - Observations & future scenarios
- **Causal analyis**
  - Natural phenomena -> migration, crises, conflicts (violence)
    - 2nd phase: Homer-Dixon, Bächler
    - 4th phase: Oswald – Brauch - Dalby
- **Discourse analysis:** climate change
  - International security
  - National security
  - Environmental security
  - Human security

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7.1. Global Environmental Change & Impacts: PEISOR Model

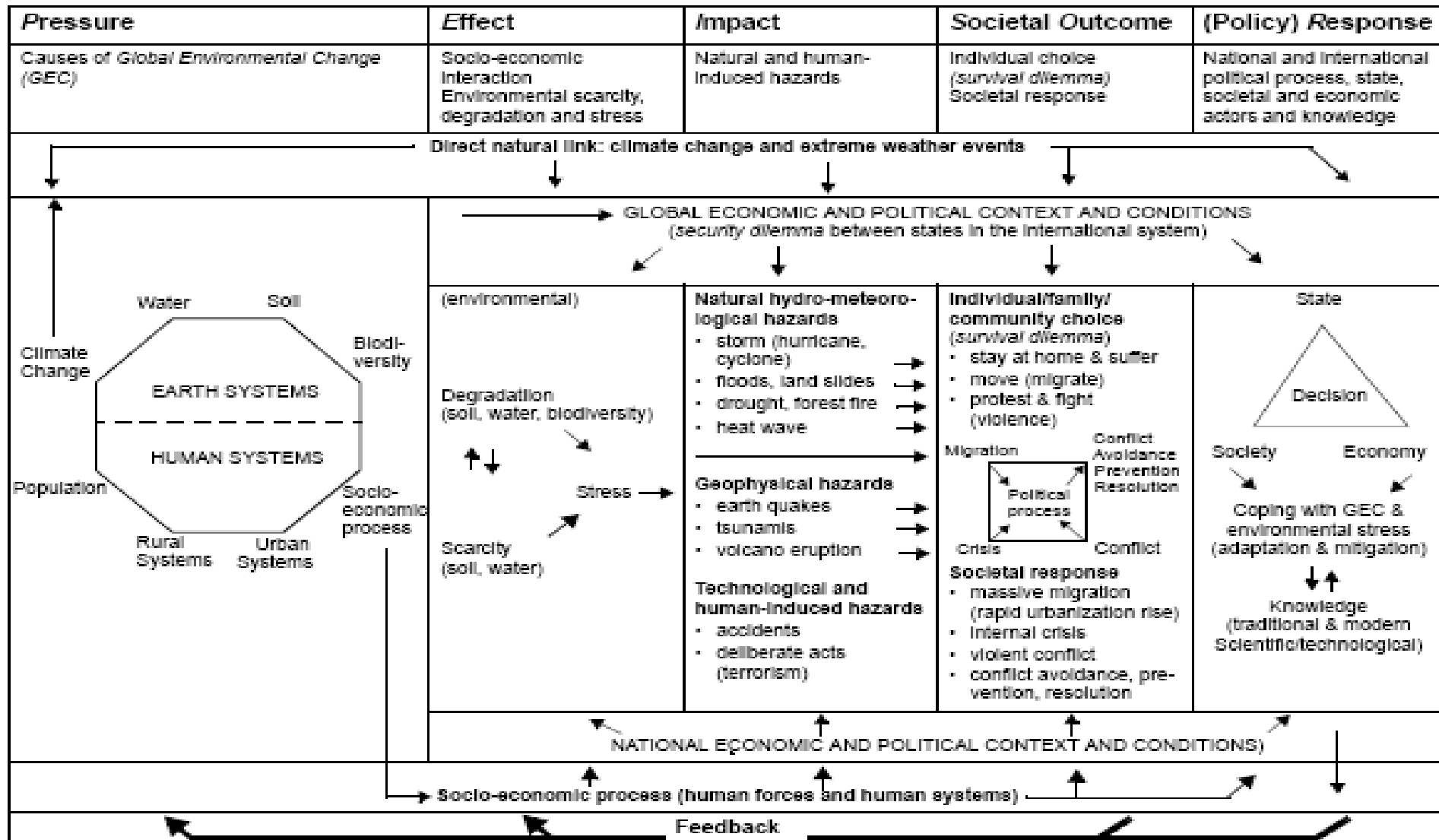| Pressure	Effect	Impact	Societal Outcome	(Policy) Response
Causes of *Global Environmental Change* (*GEC*)	Socio-economic interaction. Environmental scarcity, degradation and stress	Natural and human-induced hazards	Individual choice (*survival dilemma*) Societal response	National and international political process, state, societal and economic actors and knowledge

Direct natural link: climate change and extreme weather events

GLOBAL ECONOMIC AND POLITICAL CONTEXT AND CONDITIONS
(*security dilemma between states in the international system*)

Water   Soil
Climate Change
Biodi-versity
EARTH SYSTEMS
HUMAN SYSTEMS
Population
Rural Systems   Urban Systems
Socio-economic process

(environmental)

Degradation (soil, water, biodiversity)

Stress

Scarcity (soil, water)

Natural hydro-meteorological hazards
- storm (hurricane, cyclone)
- floods, land slides
- drought, forest fire
- heat wave

Geophysical hazards
- earth quakes
- tsunamis
- volcano eruption

Technological and human-induced hazards
- accidents
- deliberate acts (terrorism)

Individual/family/community choice (*survival dilemma*)
- stay at home & suffer
- move (migrate)
- protest & fight (violence)

Migration   Conflict Avoidance Prevention Resolution
Political process
Crisis   Conflict

Societal response
- massive migration (rapid urbanization rise)
- internal crisis
- violent conflict
- conflict avoidance, prevention, resolution

State
Decision
Society   Economy

Coping with GEC & environmental stress (adaptation & mitigation)

Knowledge (traditional & modern Scientific/technological)

NATIONAL ECONOMIC AND POLITICAL CONTEXT AND CONDITIONS)

Socio-economic process (human forces and human systems)

Feedback

Effect	Impact
Socio-economic interaction Environmental scarcity, degradation and stress	Natural and human-induced hazards

Direct natural link: climate change and extreme weath

GLOBAL ECONOMIC AND POLITIC
(*security dilemma* between stat

(environmental)

Natural hydro-meteoro-logical hazards
- storm (hurricane, cyclone)
- floods, land slides
- drought, forest fire
- heat wave

Degradatiion (soil, water, biodiversity)

Stress →

Scarcity (soil, water)

Geophysical hazards
- earth quakes
- tsunamis
- volcano eruption

Technological and human-induced hazards
- accidents
- deliberate acts (terrorism)

NATIONAL ECONOMIC AND POLITI

7.2. E: Effect & I: Impact

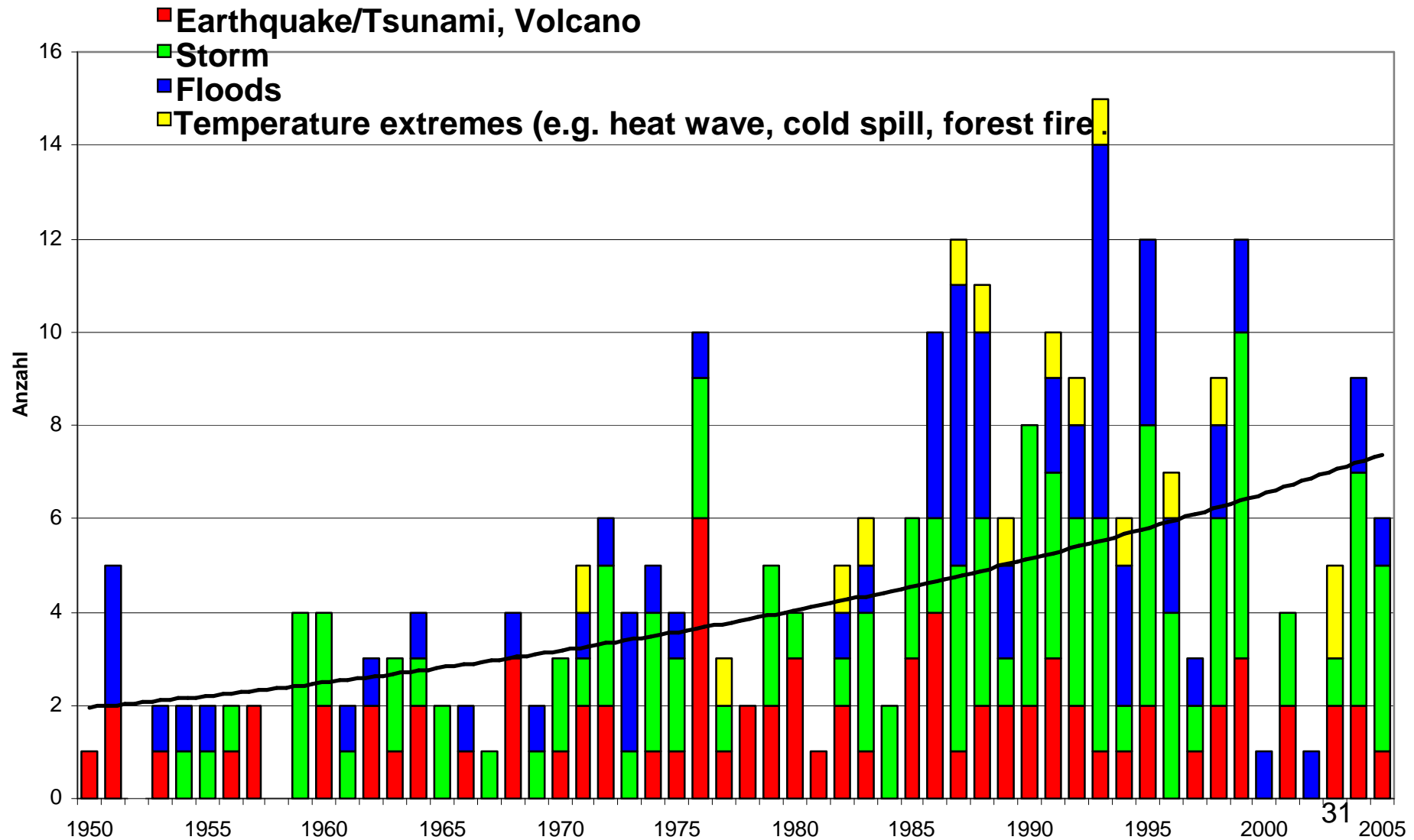- **E: Environmental security debate of 1990s**
  - Toronto school
  - Swiss school (ENCOP):
  - **Soil scarcity > degradation > environmental stress**
- **I: climate change -> extreme weather events**
  - Hydrometeorological hazards
    - **Drought (wind erosion)**
    - Heatwaves
    - Forest fires
    - Storms (hurricanes)
    - **Flash floods & landslights (wind & water erosion)**

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7.3. Global Impacts: Major Natural Disasters 1950 – 2005. Source: MunichRe, 2006
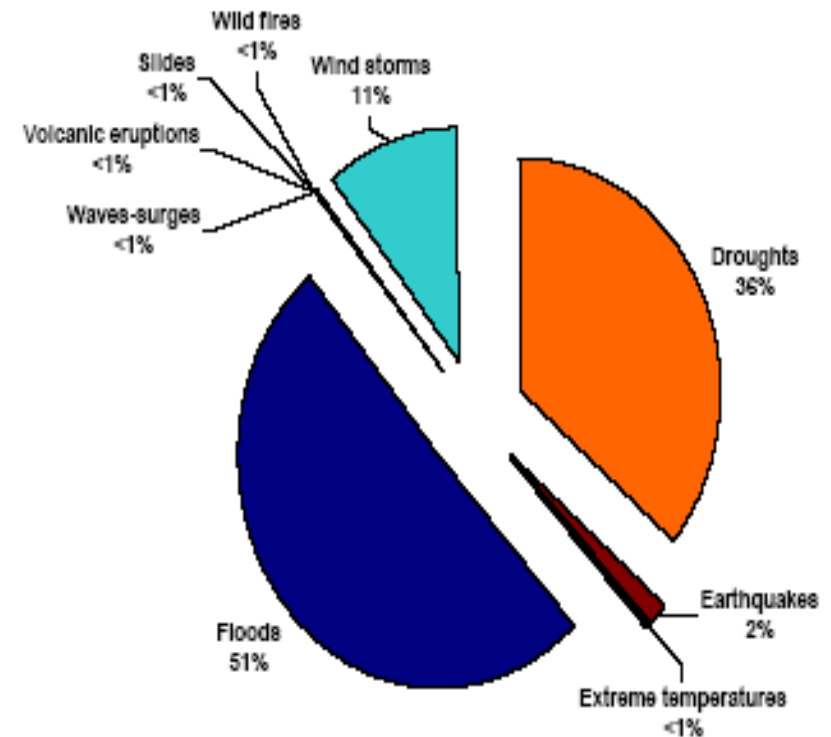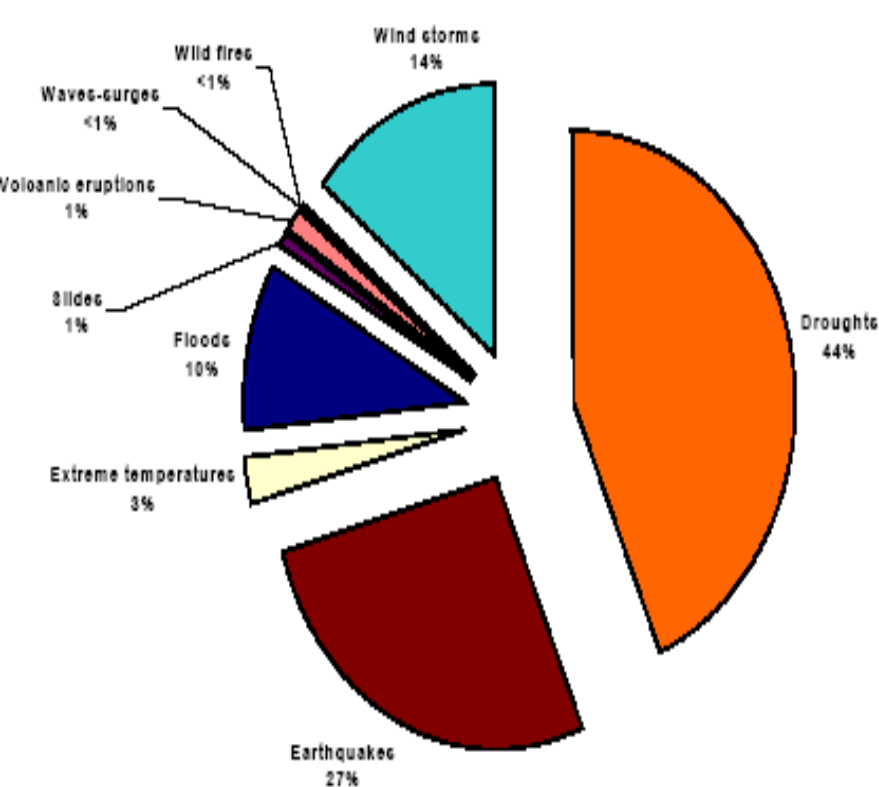
© 2006 NatCat*SERVICE*, GeoRisikoForschung, Münchener Rück

Legend:
- ■ Earthquake/Tsunami, Volcano
- ■ Storm
- ■ Floods
- □ Temperature extremes (e.g. heat wave, cold spill, forest fire.

Y-axis: Anzahl

7.4. of Natural Hazards Globally (1974-2003):
Reported Death: 2.066.273 persons
Affected persons: 5 076 494 541 persons

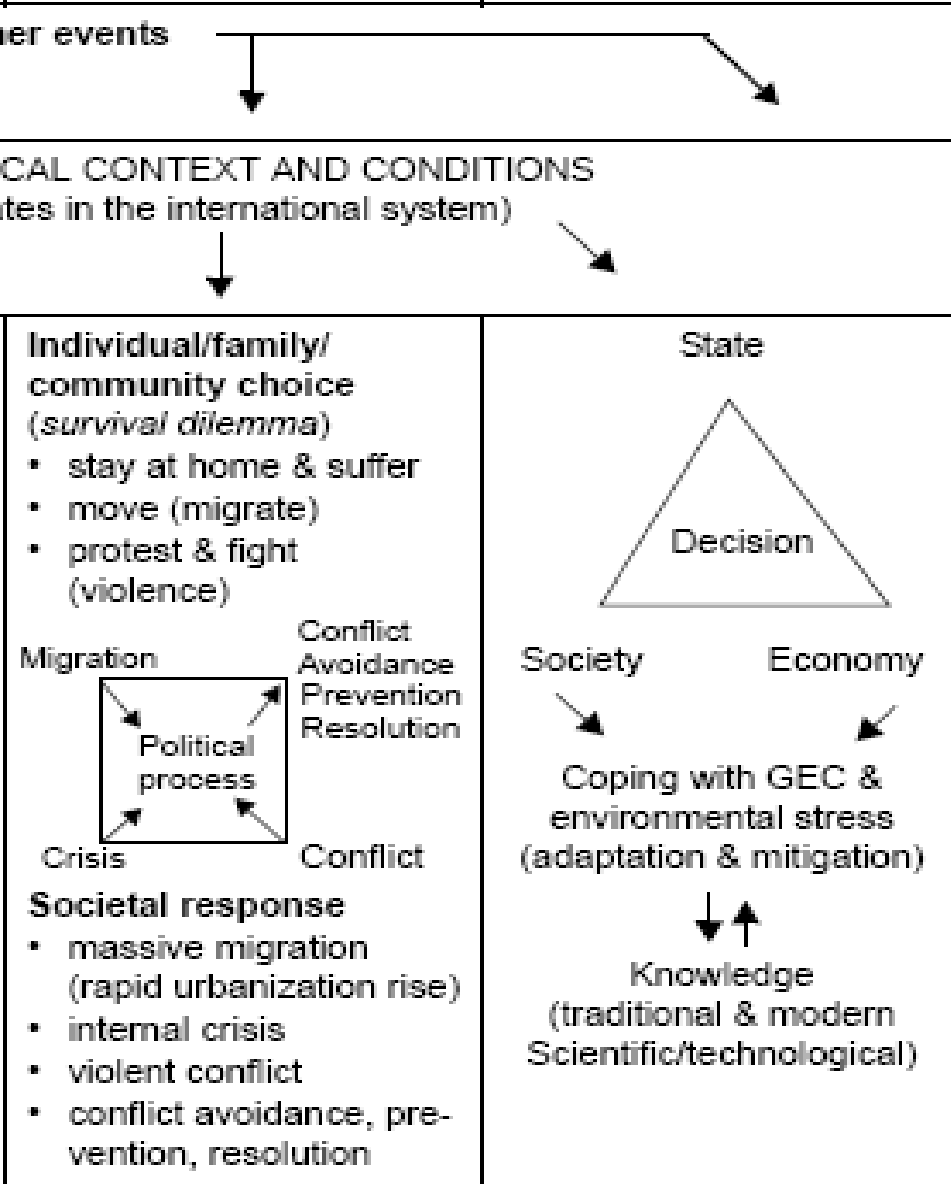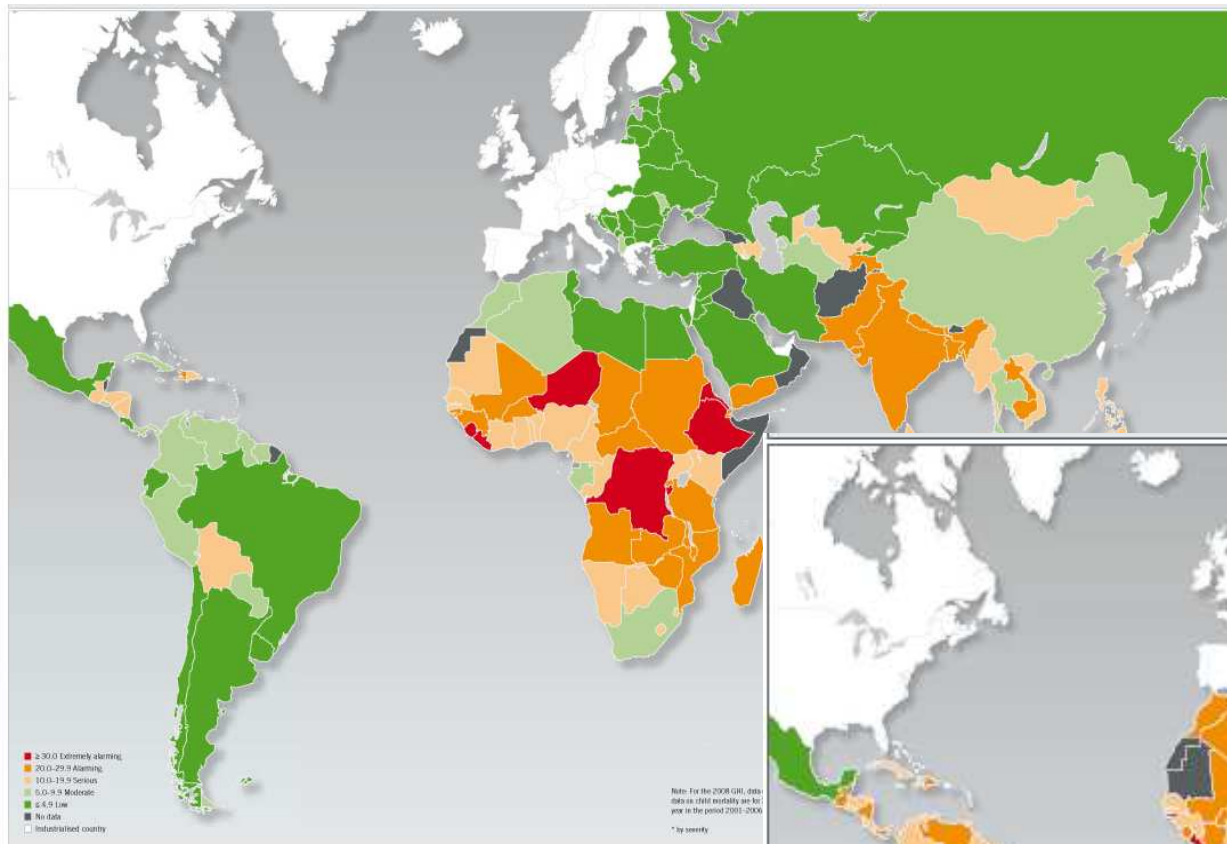(1) injured + homeless + affected

Source: © Hoyois und Guha-Sapir (2004)

Societal Outcome	(Policy) Response
Individual choice *(survival dilemma)* Societal response	National and international political process, state, societal and economic actors and knowledge

...er events

...CAL CONTEXT AND CONDITIONS
...tes in the international system)

Individual/family/ community choice *(survival dilemma)*
- stay at home & suffer
- move (migrate)
- protest & fight (violence)

Migration

Conflict Avoidance Prevention Resolution

Political process

Crisis   Conflict

Societal response
- massive migration (rapid urbanization rise)
- internal crisis
- violent conflict
- conflict avoidance, prevention, resolution

State

Decision

Society   Economy

Coping with GEC & environmental stress (adaptation & mitigation)

Knowledge (traditional & modern Scientific/technological)

7.5. SO: Societal Outcomes

- Individual level (choice)
  - Human security perspective
  - Survival dilemma of humans
- State/society level
  - Hunger, famine
  - Migration to urban slums
  - Rural-rural migration
  - Transborder migration
    - Seasonal (labour, nomads)
    - Permanent
  - Crises: domestic
  - Conflicts:
    - Peaceful protests
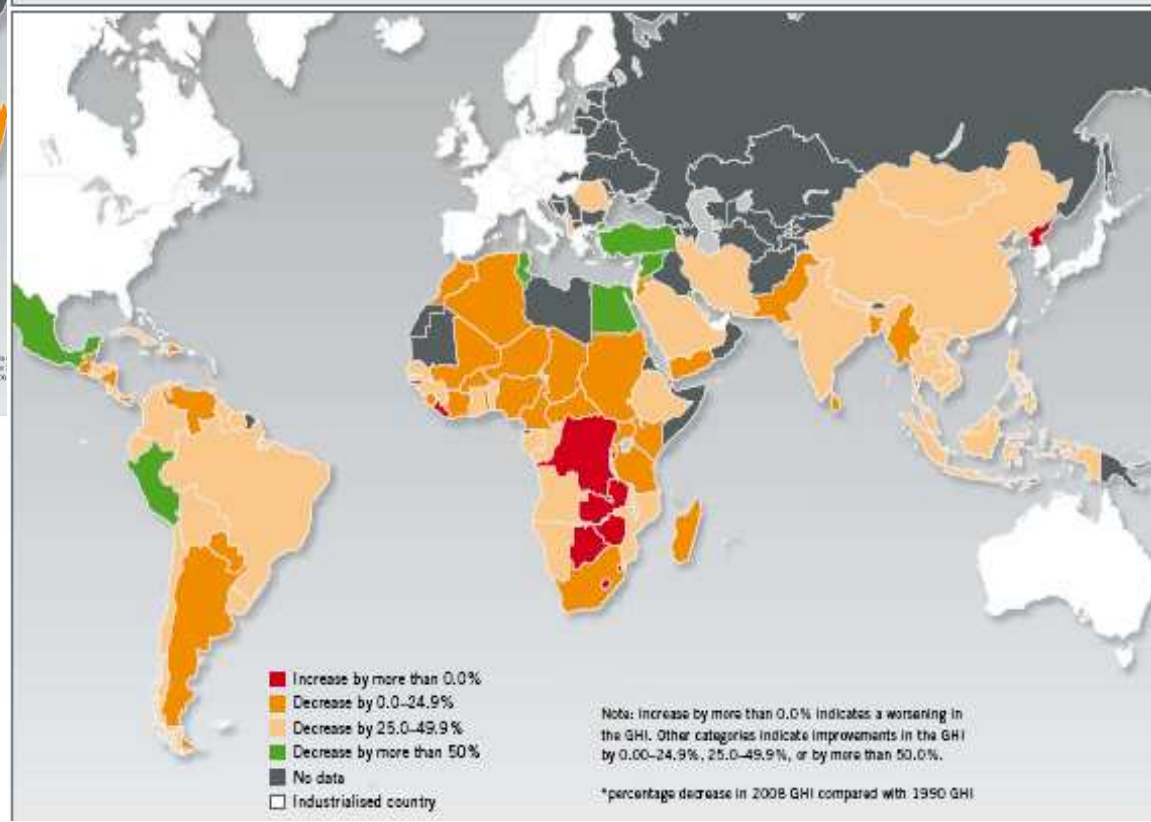   - Violent clashes
  - Complex emergencies

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7.6. Global Hunger Index 1990 & 2008

←2008 Global Hunger Index.
Country progress in reducing the Global Hunger Index between 1990 and 2008 ↓

Source: IFPRI, 2008

Increase by more than 0.0%
Decrease by 0.0–24.9%
Decrease by 25.0–49.9%
Decrease by more than 50%
No data
Industrialised country

Note: Increase by more than 0.0% indicates a worsening in the GHI. Other categories indicate improvements in the GHI by 0.00–24.9%, 25.0–49.9%, or by more than 50.0%.

*percentage decrease in 2008 GHI compared with 1990 GHI

7.7. Migration currents

Distance no object

Some of the world's more important current migration routes
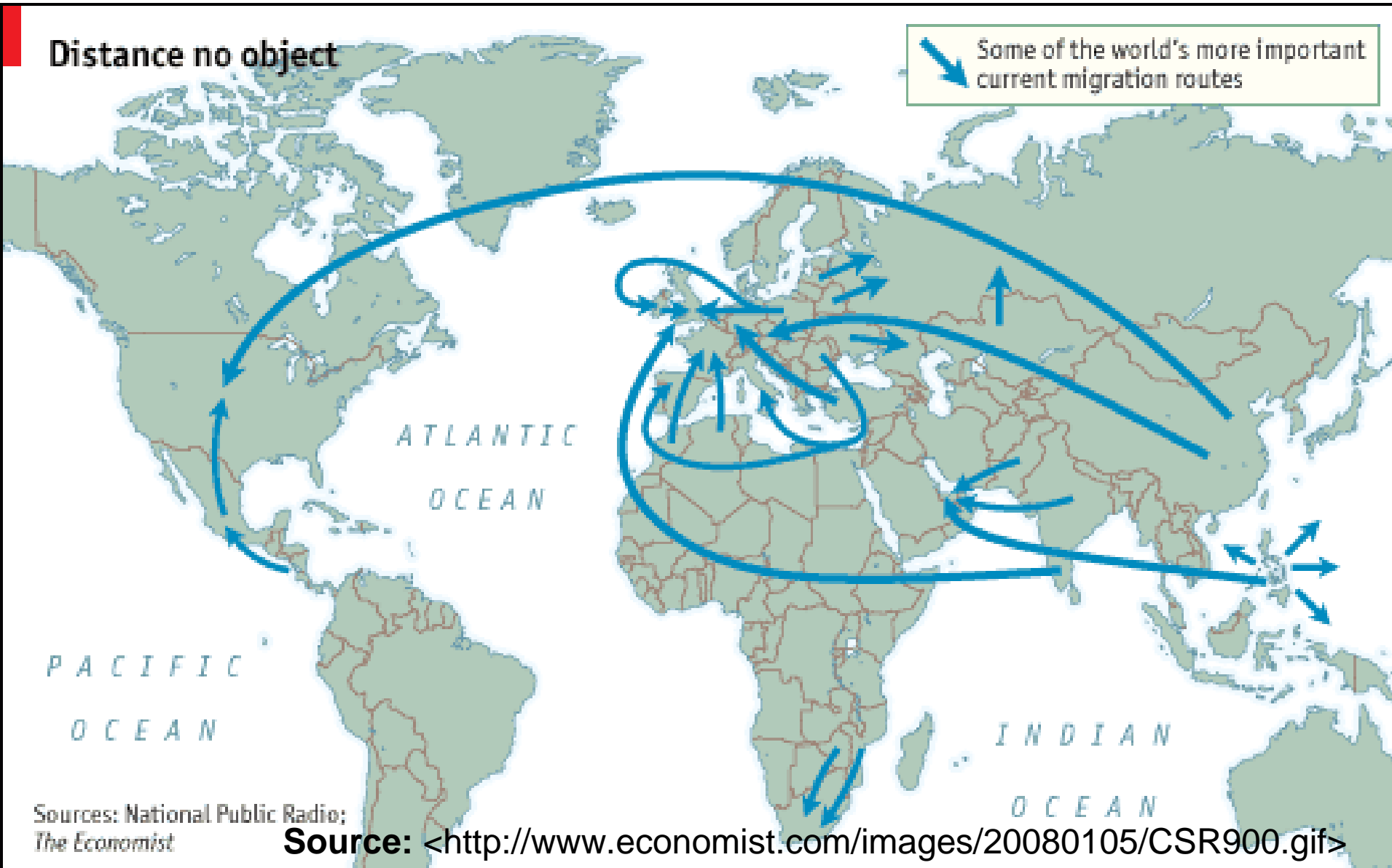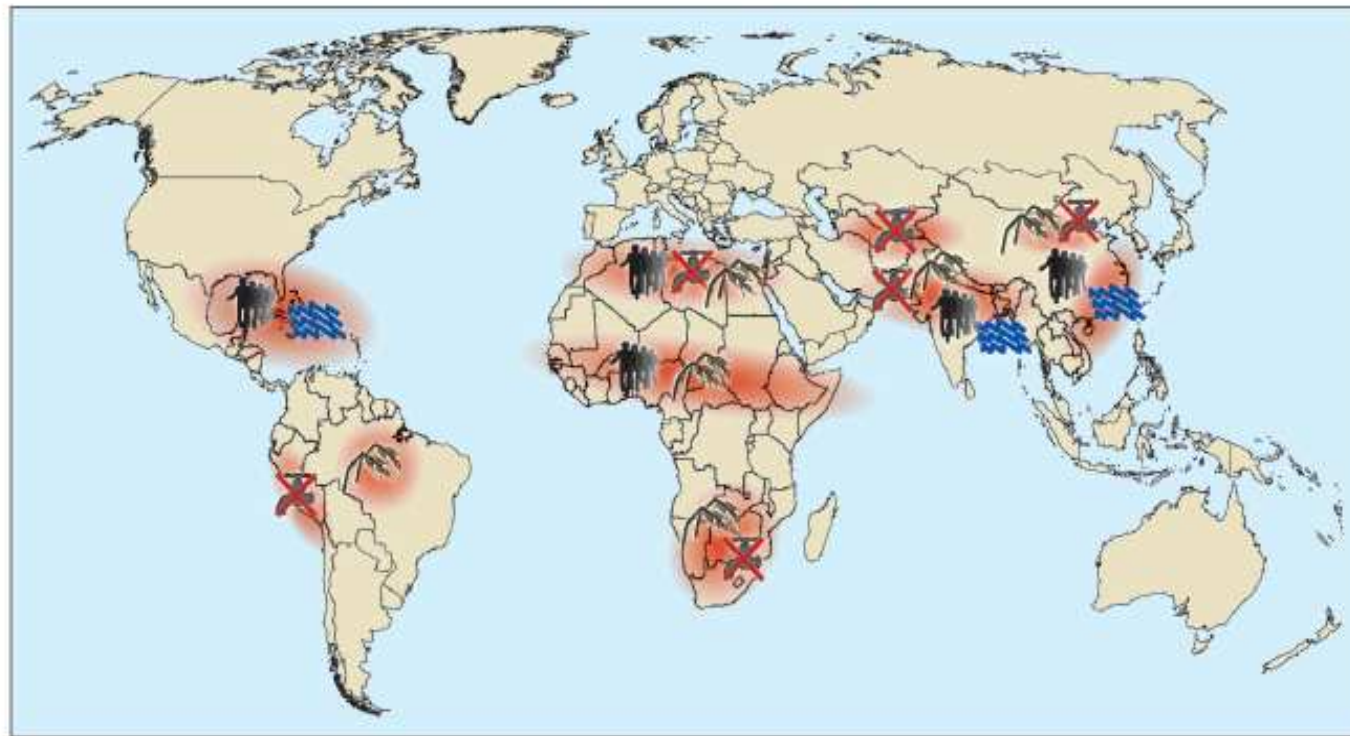
Sources: National Public Radio; *The Economist*

Source: <http://www.economist.com/images/20080105/CSR900.gif>

7.8. WBGU Study: Climate ‚Hotspots': 4 Conflict Scenarios

Figure 4.7: Regional hotspots and security risks associated with climate change. **Source:** WBGU (2008: 4). Reprinted with permission.

Conflict constellations in selected hotspots

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

- **Mediterranean**
  - Water
  - Food product.
  - **Migration**
- **South, Central and East Asia**
  - Water
  - Food product.
  - **Migration**
  - cyclone
- **Latin America & Caribbean** Wasser
  - Water
  - Food product.
  - **Migration**
  - hurricanes

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7.9. R   Policy Response to Security Danger posed by Global Change

- **How? Responsive vs. proactive action**
  - **Reponse:** cost of non-action (Stern Report)
  - **Proactive:** anticipatory knowledge, learning, action
- **What? Addressing causes (Pressure)**
  - **Earth system:** environmental quartett
  - **Human:** productive/consumptive behaviour
- **Responding to Effects & Impacts**
  - **Environmental stress**
  - **Climate-related natural hazards**
- **Addressing Societal Outcomes:** Migration/Conflicts

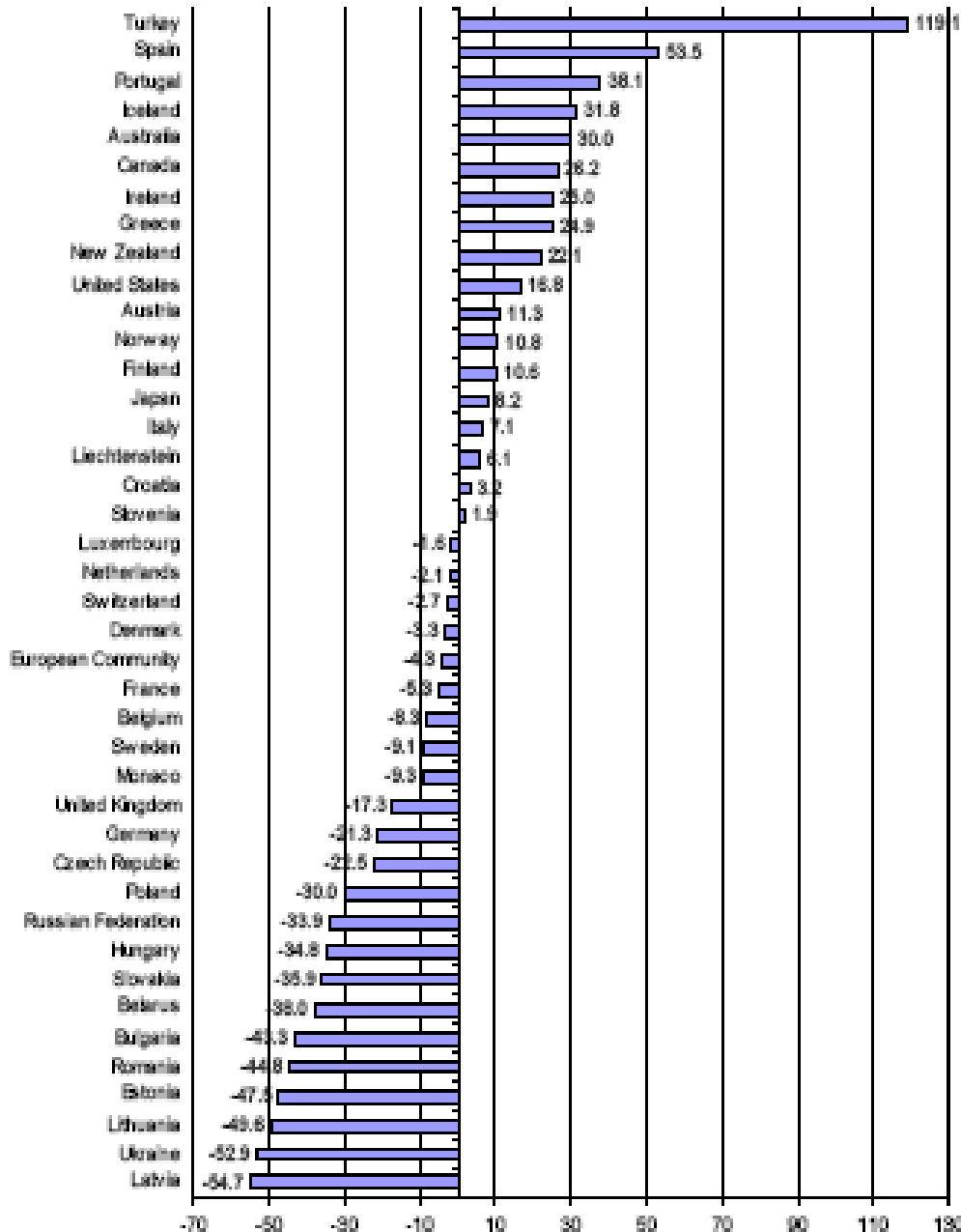# 8. Change in Earth History Securitization of Climate Change

- **Since 1994 a major shift occurred from state-centred (inter)national to the human security concepts that is widely used in policy declarations in the UN system.**
- **Theory of securitization** **was used for global security mapping of speech acts by policy makers (governments)**
- **Results of securitization of climate change are mixed:**
  - **Climate change was declared a threat of utmost importance: it was securitized by policy makers**
  - **But no extraordinary measures were launched to cope with the impacts of GEC and global climate change**
  - **Dominance: short-termism & interest dependence: bailout of financial sector; lack of political will & readiness to address security impacts of climate change**

8.1. Long-term Commitments vs. Short-term Policy Failure

- Commitment of the G-8: Heiligendamm: 50 % reduction of GHG by 2050, or 80% for OECD
  - **This requires in 40 years a fundamental change of the economy and society and of international relations and politics**
- Goal of UN Framework Convention on Climate Change (UNFCCC,1992), Kyoto Protocol (KP, '97)
  - UNFCC: stabilization of GHG emissions
  - KP: global GHG emission reduction of 5.1% by 2012 rel. to 1990
- Achievements: Policy implementation gap (figure)
- Copenhagen: COP 15 of UNFCCC, Dec. 2009
  - EU by 2020: -20% emissions, 20% renewables, 20%efficiency
  - US (Obama): - 17% (2005) -7% (1990) not approved by Congress
  - China: no legal commitment, but energy efficiency, renewables
- New Security Agenda: Non-military agenda for a sustainability transition & sustainable peace

Changes in GHG emissions excluding LULUCF (%)

Country	Value
Turkey	119.1
Spain	53.5
Portugal	38.1
Iceland	31.8
Australia	30.0
Canada	26.2
Ireland	25.0
Greece	24.9
New Zealand	22.1
United States	16.8
Austria	11.3
Norway	10.8
Finland	10.6
Japan	8.2
Italy	7.1
Liechtenstein	6.1
Croatia	3.2
Slovenia	1.5
Luxembourg	-1.6
Netherlands	-2.1
Switzerland	-2.7
Denmark	-3.3
European Community	-4.3
France	-5.3
Belgium	-8.3
Sweden	-9.1
Monaco	-9.3
United Kingdom	-17.3
Germany	-21.3
Czech Republic	-22.5
Poland	-30.0
Russian Federation	-33.9
Hungary	-34.8
Slovakia	-36.9
Belarus	-38.0
Bulgaria	-43.5
Romania	-44.8
Estonia	-47.5
Lithuania	-49.6
Ukraine	-52.9
Latvia	-54.7

8.2. GHG Reduction Implementation UNFCCC:
(21.10.2009) National Greenhouse Gas Inventory Data (1990-2007) for Annex Iparties (with reduction obligations)
Poland: -30% 40

9. New Peace & Security Agenda for the Anthropocene

For the transiion to the Anthropocene Era of Earth History we need for the 21st century

– **A Copernican Revolution in thinking for sustainability**

– **A "Fourth Sustainability Revolution"**

– **A Strategy for a sustainability transition**

– **New non-military security agenda**

– **New realistic conceptual visions as guidelines for action**

- **Vision of a sustainability transition**

- **Vision of a decarbonization of the economy**

- **Vision of efficiency revolution**

- **Vision of an energetic imperative**

9.1. Copernican Revolution in Thinking
Fourth Sustainable and Green Revolution in Action

We face two alternative strategies & visions

- **Hobbesian obsession & business as usual (1990-2010)**
- **Needed revolution in thinking and action for sustainability**
  - Clark/Crutzen/Schellnhuber (2004/2005). Copernican revolution towards sustainability: fundamental paradigm shift (Kuhn 1962)
  - Action Goals: A fourth sustainable and green revolution
  - Strategy: Transition towards Sustainability

Transition to fourth peaceful revolution (Anthropocene)

- **First Revolution: Agricultural: collectors to farmers**
- **Second Revolution: Industrial (1750)**
- **Third Revolution: Communication (after WW II)**
- **Fourth Revolution: Sustainable Green Revolution**

9.2. Policy Vision & Perspective:

Towards Sustainable Peace & Fourth Green Revolution

- **Goal: stabilization of temperature increase at 2°C in global average temperature by 2100:**
  - -50% global reduction of GHG, or 80% for OECD countries
  - Major transformation and decarbonization of the economy
- **Combination of sustainable development strategy & peace policy: sustainable peace to prevent that GEC issues pose a threat to international peace.**
- **Fundamental transformation & demilitarization of security is needed not a militarization of the environment, as we are the threat & solution.**

10. Global Human and Environmental Security Handbook for the Anthropocene

To advance these aims in the scientific discourse is a goal of a book series published by Springer

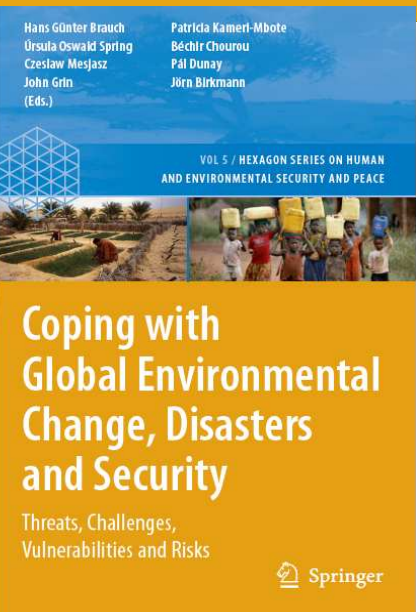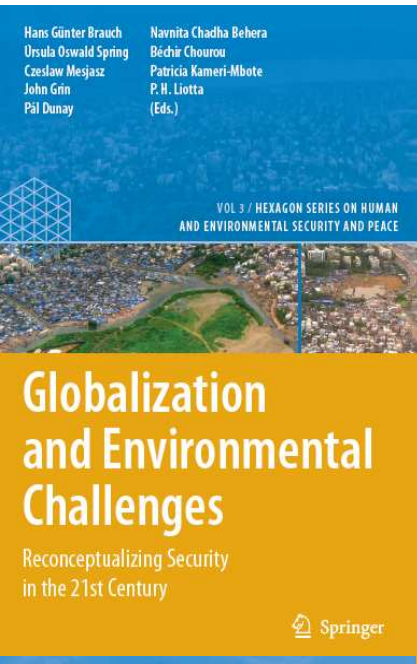– **Hexagon Book Series on Human and Environ-mental Security and PEACE (HESP)**

  <http://www.afes-press-books.de/html/hexagon.htm>

– **Global Environmental and Human Security Handbook for the Anthropocene (GEHSHA)**

  • **Globalization and Environmental Challenges (2008)**

  • **Facing Global Environmental Change (2009)**

  • **Coping with Global Environmental Change (2011)**

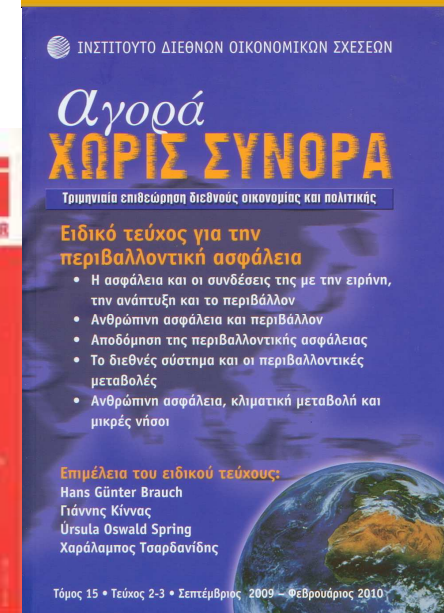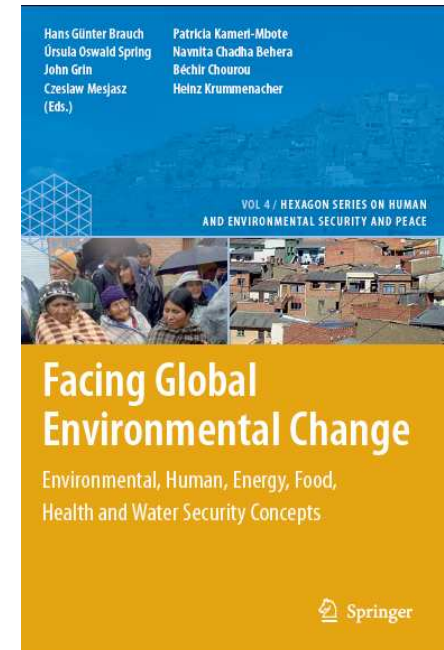 **contains 270 peer reviewed chapters by 300 scientific authors and policy-makers from 100 countries**

10.1. Environmental Security Handbook GEHSHA

I. **Globalization and Environmental Challenges**: 92 authors, 36 countries, 16 disciplines, former vice presidents, ministers, generals, diplomats (2008)

II. **Facing Global Environmental Change:** 132 authors, 49 countries on global debate and problems of environmental, human, energy, food, health, water security (2009)

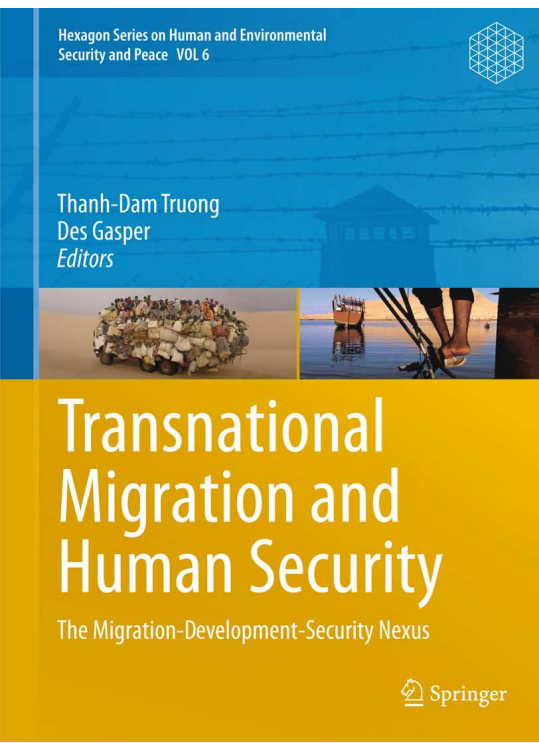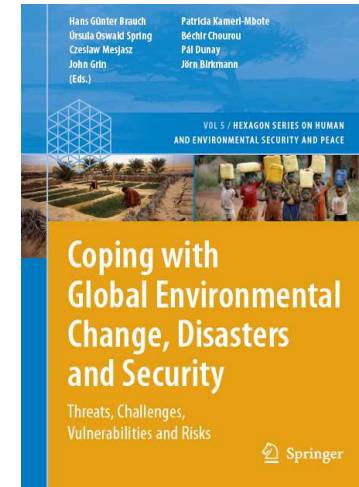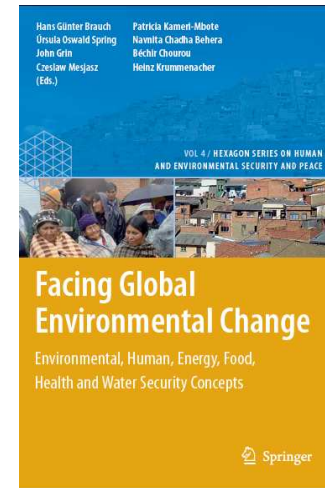III. **Coping with Global Environ-mental Change** *Disasters and Security – Threats, Challenges, Vulnerabilities and Risks* **(2011)**
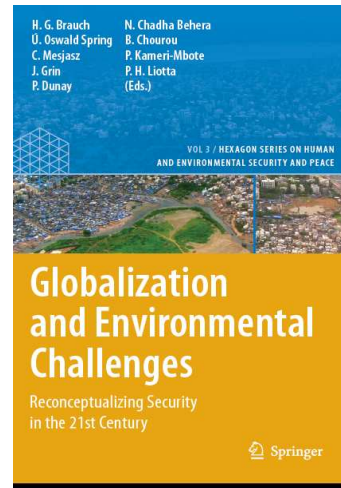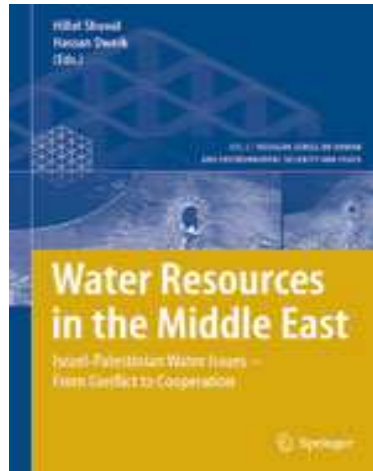
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Editors

Transnational Migration and Human Security

The Migration-Development-Security Nexus
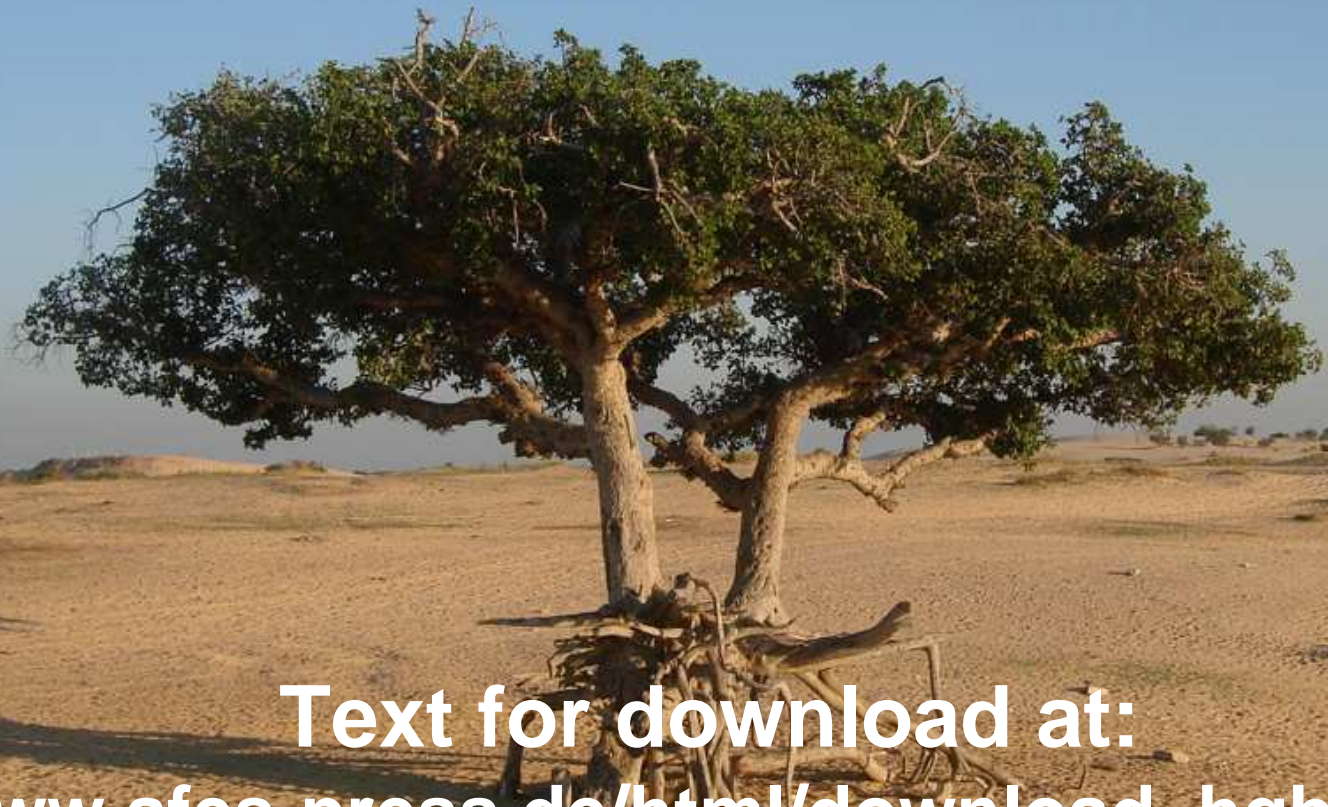
Scheffran, Jürgen; Brzoska, Michael; Brauch, Hans Günter; Link, Peter Michael; Schilling, Janpeter (Eds.): ***Climate Change, Human Security and Violent Conflict: Challenges for Societal Stability***. Hexagon Series on Human and Environmental Security and Peace, vol. 8 Berlin – Heidelberg – New York: Springer-Verlag, 2011).

Czeslaw Mesjasz: ***Stability, Turbulence or Chaos? Systems Thinking and Theory and Policy of Security***. Hexagon Series on Human and Environmental Security and Peace, vol. 9 (Berlin – Heidelberg – New York: Springer-Verlag, 2011), in planning.

Hexagon Series on Human and Environmental Security and Peace VOL 7

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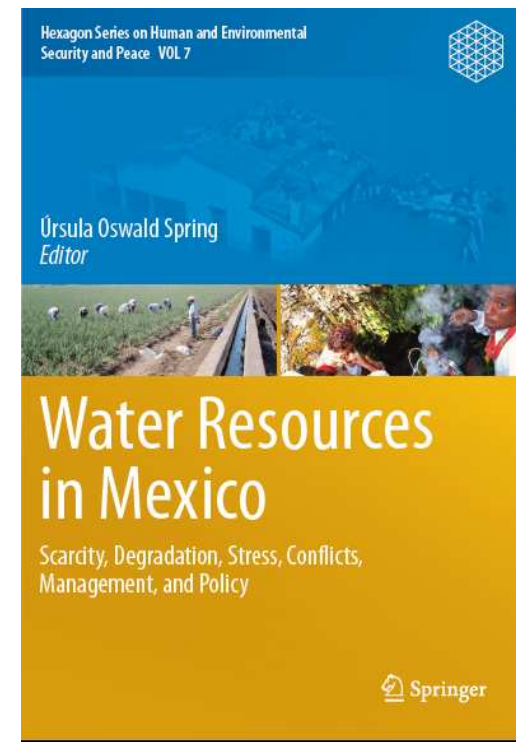
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