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A Transatlantic Agenda on Climate Security?

Nick Mabey, E3G

February 2009

Introduction



- **E3G:** Independent, non-profit European organisation working to accelerate the transition to sustainable development. Based in Europe, Washington on and Beijing.

My Background (abridged)

- **UK Prime Minister's Strategy Unit:**
 - Lead - Energy policy and climate change;
 - Lead - international security (UK strategy; organised crime; conflict prevention)
 - "Countries at Risk of Instability" – unclassified version "Investing in Prevention" 2005
- **UK Foreign Office:** Sustainable Development; G8; WSSD; Environment and Security
- **WWF:** Head of economics and development; Kyoto; WTO; Development Policy
- **London Business School/MIT:** macro and microeconomic modelling of energy systems and climate change

- Climate change and Security: A Growing Consensus?
- Understanding Policy Implications and Knowing Our Unknowns;
- Climate Security at Copenhagen
- Geostrategic Choices and Responses
- Preventing Climate Driven Instability
- A Transatlantic Climate Security Agenda for 2009

The Reality of Climate Security



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“The expanding Sahara desert had brought with it some cross-border problems ... nomadic Fulani cattle herdsmen arming themselves with sophisticated assault rifles to confront local farming communities...”

It was important that, from time to time, the Council evaluate the dangers of such confrontations. The deadly competition over resources in Africa could not be glossed over; be they over water, shrinking grazing land or the inequitable distribution of oil.”

L.K. Christian, Representative of Ghana,
UN Security Council debate on Energy and Climate
Change, 17th April 2007

A Security Sector Consensus?



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CNA Report “National Security and the Threat of Climate Change”

1. Climate Change is a serious national security threat
2. Threat multiplier, particularly in the most fragile regions of the world
3. Will add to tensions even in stable regions
4. Climate change, energy security, and national security are related

Who is Saying This? Not Environmentalists



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Governments

- UN Security Council 2007
- US National Intelligence Estimate 2008
- European Council 2008
- NATO 2008 onwards
- Australian ONA 2005 onwards
- UK DCDC, MOD, FCO and National Security Strategy
- German Planners 2005
- China and India Planners?

Non-Governmental Organisations

- Centre for Naval Analysis
- CSIS-Brookings; Woodrow Wilson;
- RUSI, IISS; Chatham House
- German Global Trends Institute
- ICG; International Alert; Christian Aid; IISD

Two Faces of “Climate Security”



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General

- Understanding climate change as a serious collective security challenge to all countries.
- Audience: General Public, Politicians and Security actors
- Outcome: greater focus on motivating urgency around mitigation and adaptation action

Security/Foreign Policy

- Understanding identifying climate change as a serious challenge to existing security postures and objectives.
- Audience: Foreign Ministries, military, development and “peacebuilders”
- Outcome: reorientation of existing strategic and operational approaches to account for climate change

European Processes



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- Climate Change was included in the EU Security Strategy 2003
- Climate Security Report from EU SGHR Solana to EU Council in March 2008
- European Commission Communication on an EU Arctic Strategy Nov 2008
- Case Studies (ME, Africa and Central Asia) and Road Map for implementation produced for European Council December 2008
- Climate Change highlighted in review of implementation of the EU Security Strategy December 2008



“ climate change is a "threat multiplier". Natural disasters, environmental degradation and competition for resources exacerbate conflict, especially in situations of poverty and population growth, with humanitarian, health, political and security consequences, including greater migration. Climate change can also lead to disputes over trade routes, maritime zones and resources previously inaccessible.”

EU SGHR Report on Implementation of the EU Security Strategy December 2008

Elements of the European Roadmap



“The EU is well suited to taking forward the climate security agenda. Climate change represents a fundamental challenge, and should be in the mainstream of EU foreign and security policies and institutions.”

- Recommendations for action in Middle East, Africa and Central Asia
- Climate security in all bilateral Planners discussions and Ministerial dialogues
- New analysis of the impact of climate change on EU energy security
- Second round of geographical analysis in policy sensitive areas including:
 - Afghanistan,
 - South Asia
 - the Caribbean
- Need to develop new tools and methods in risk analysis
- **Need for early engagement with US on this issue in 2009**

Does Europe Matter?



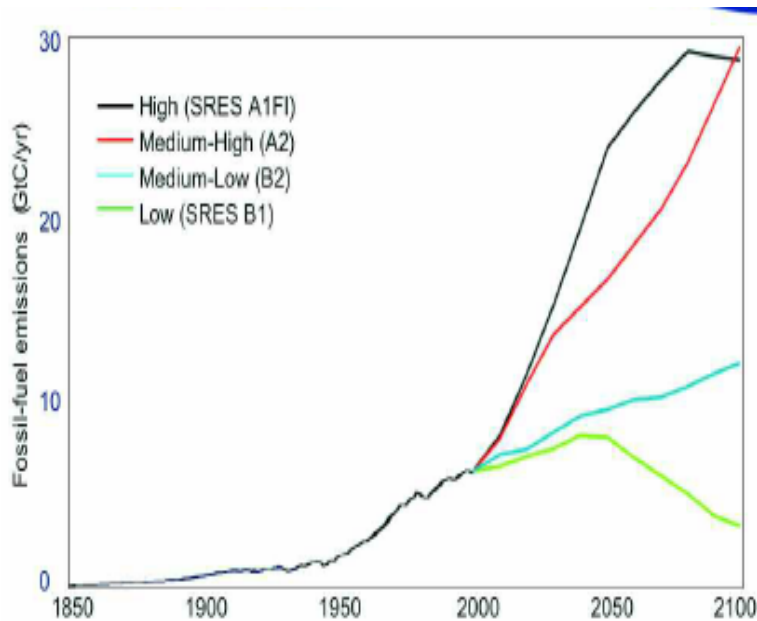
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- Traditionally Member States run security policy and the EU focuses on economic issues. MS continue to be important – UK and Germany are leaders on Climate Security thinking; FR less so.
- Coordination of foreign and security policy is growing – Lisbon treaty in 2009 improves this; EU FM & EU External Action Service.
- EU Battlegroup and humanitarian capability is growing; 20 EU missions to date with broad geographic scope.
- EU is a powerful actor in Northern and Southern Africa; weaker in Middle East, Central Asia and South Asia.
- EU is good at long term structural engagement deploying multiple policy tools – trade, aid, diplomatic agreements – particularly through Neighbourhood Agreements

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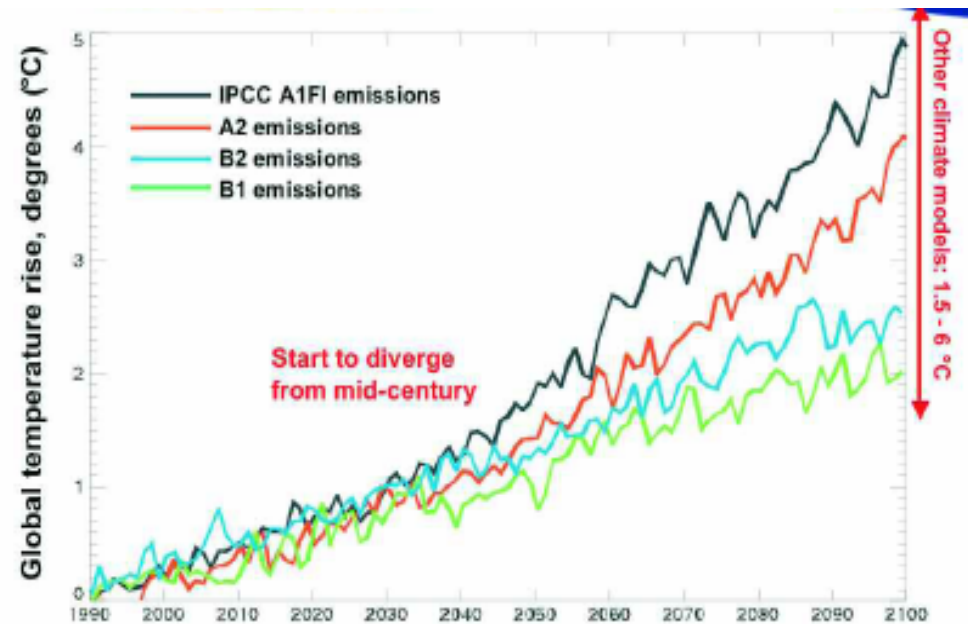
Large scale adaptation is needed for at least 40 years – even with the most aggressive mitigation measures

Emission Scenarios Diverge Radically ...



The low emissions scenario is consistent with a 450ppm (CO₂ eq) atmospheric concentration

But impacts only begin to slow after 2040



This effort would give a 50% chance of limiting temperature rise to 2C, and requires global emissions to peak by 2020

The past will not be a guide to the future



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- Climate change will change the broad strategic context for security policy on many levels. These changes will not fit neatly into patterns of past relations or threats – many will be new
- Climate change will change strategic interests, alliances, borders, threats, economic relationships, comparative advantages, the nature of international cooperation and the continued legitimacy of the UN.
- Climate change geopolitics will link old problems in new ways and require a more holistic approach to understanding threat assessment.
- Security policy will need to move to a preventive, risk based stance - not a reactive approach; there is no time to just learn by doing.
- Will require greater investment in information systems, preventive capacity/capability, and comprehensive operations.

Decision Support for Climate Security



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- Information is useful in so much that it allows choices and decisions to be made
- Key decisions exist on relative interests, alliances, investment in capability and priorities for action
- The scale and scope of information needed for **effective decision support** at each level differs
- Climate change projections are at least as reliable as other information used in medium/long term security planning
- Climate security research agenda needs to be driven by practical decision making needs

Levels of Security Analysis



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Geo-political

- Impact on country interests
- Impact on international relationships

Strategic Impacts

- Combined impacts on country and regional stability and conflict
- Combined impacts on national economic growth and development

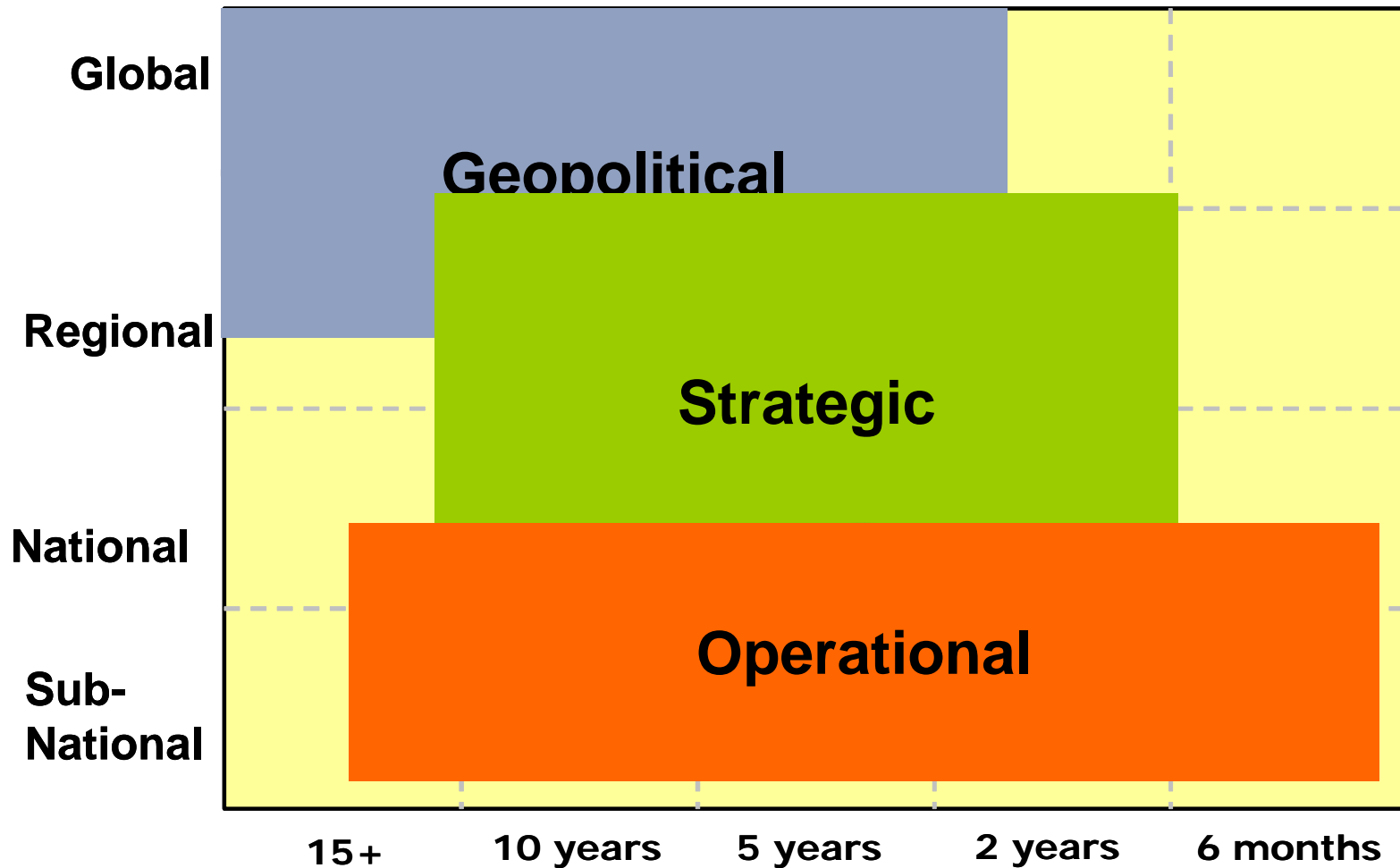
Operational

- Disaggregated and combined impacts on EU overseas assets and investments – military and development
- Disaggregated and combined impacts on EU overseas operations

Analytical Scope for Decision Support



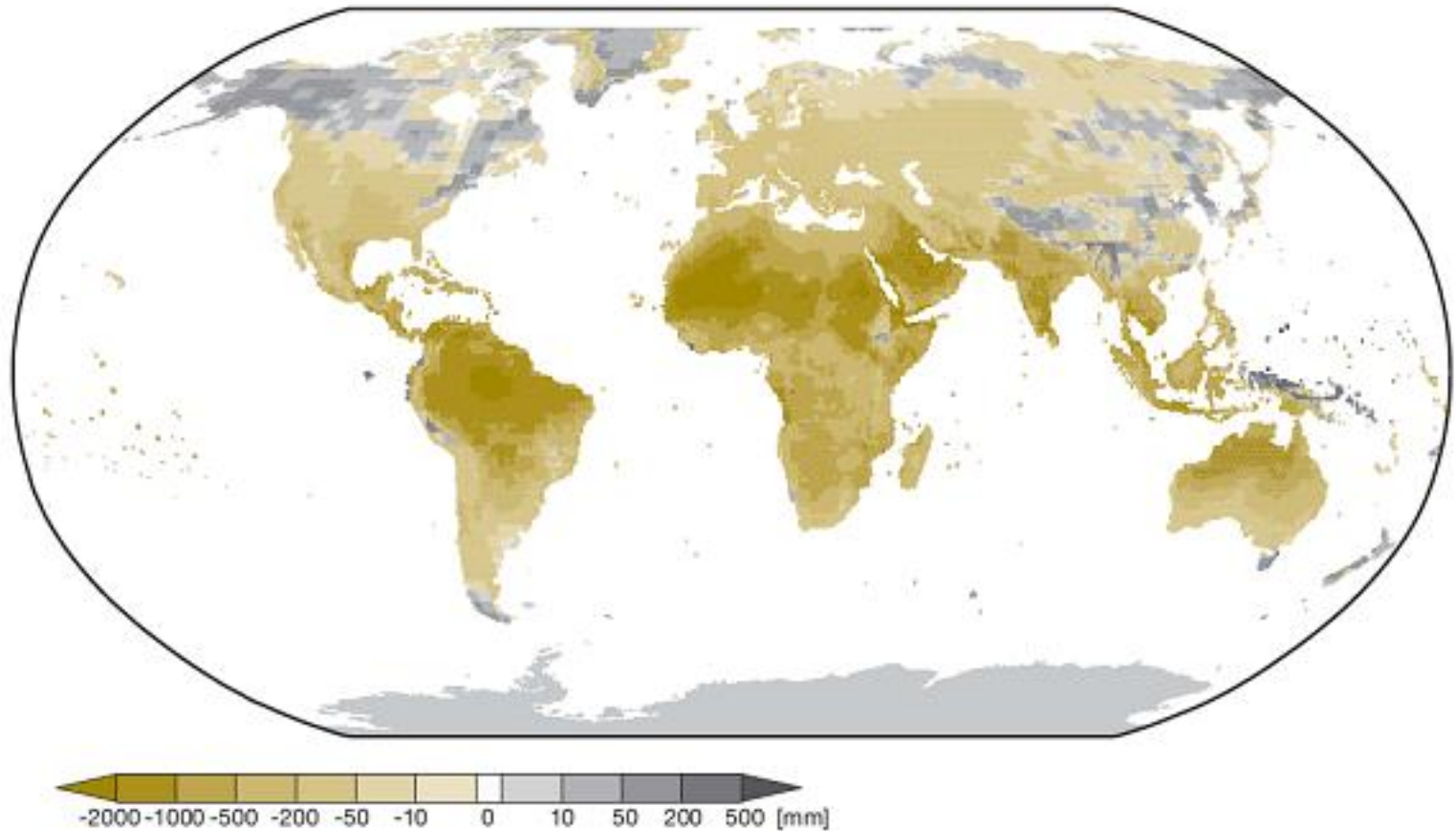
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Global Rainfall Changes 2040-70



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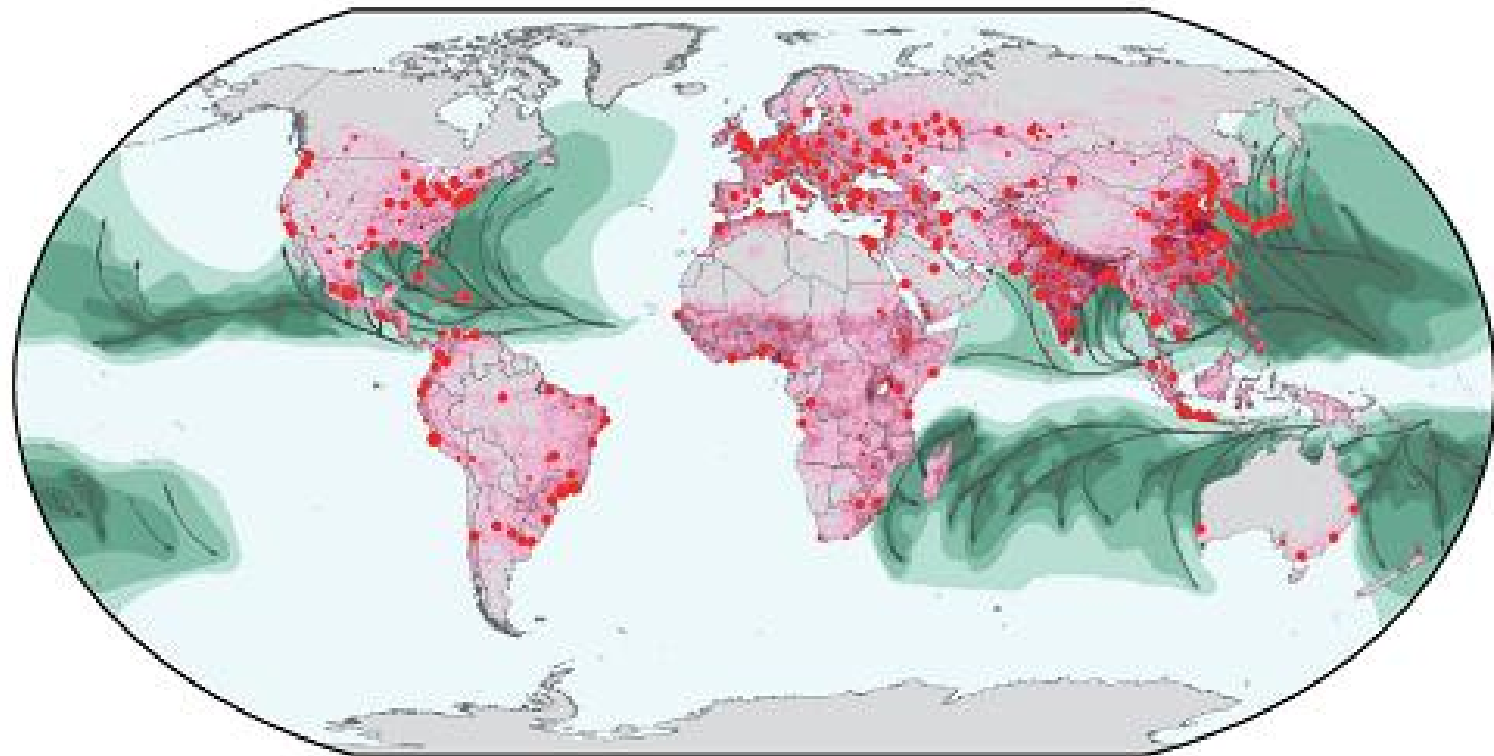


Source: WGBU (2007)

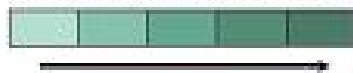
Global Cyclone Frequency 2040-70



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Tropical cyclones:
rising intensity and frequency



Population density, 2004



Inhabitants [millions]

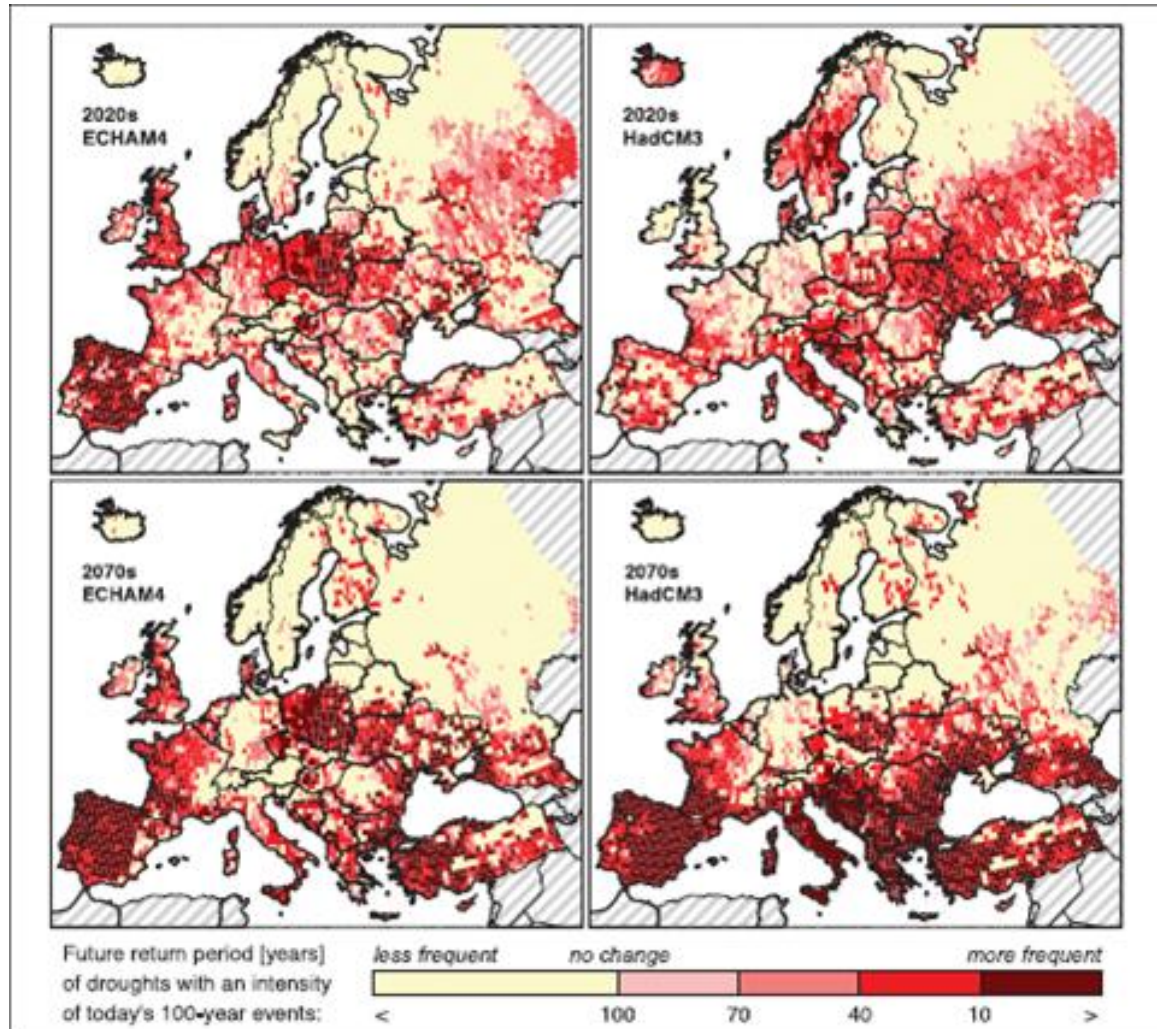


Source: WGBU (2007)

Frequency of 100 year drought in EU



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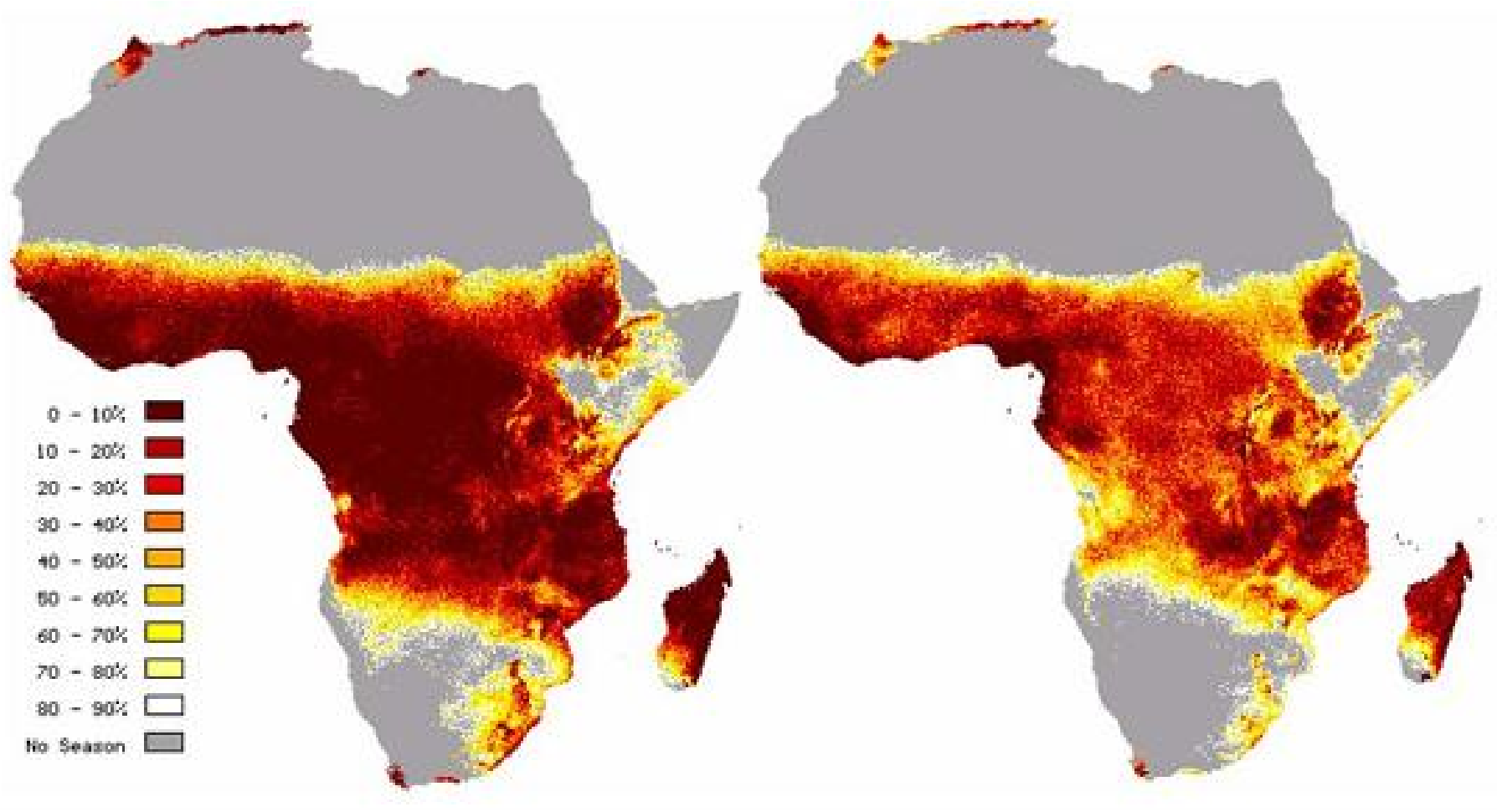
Increased Failure of Growing Season



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2000

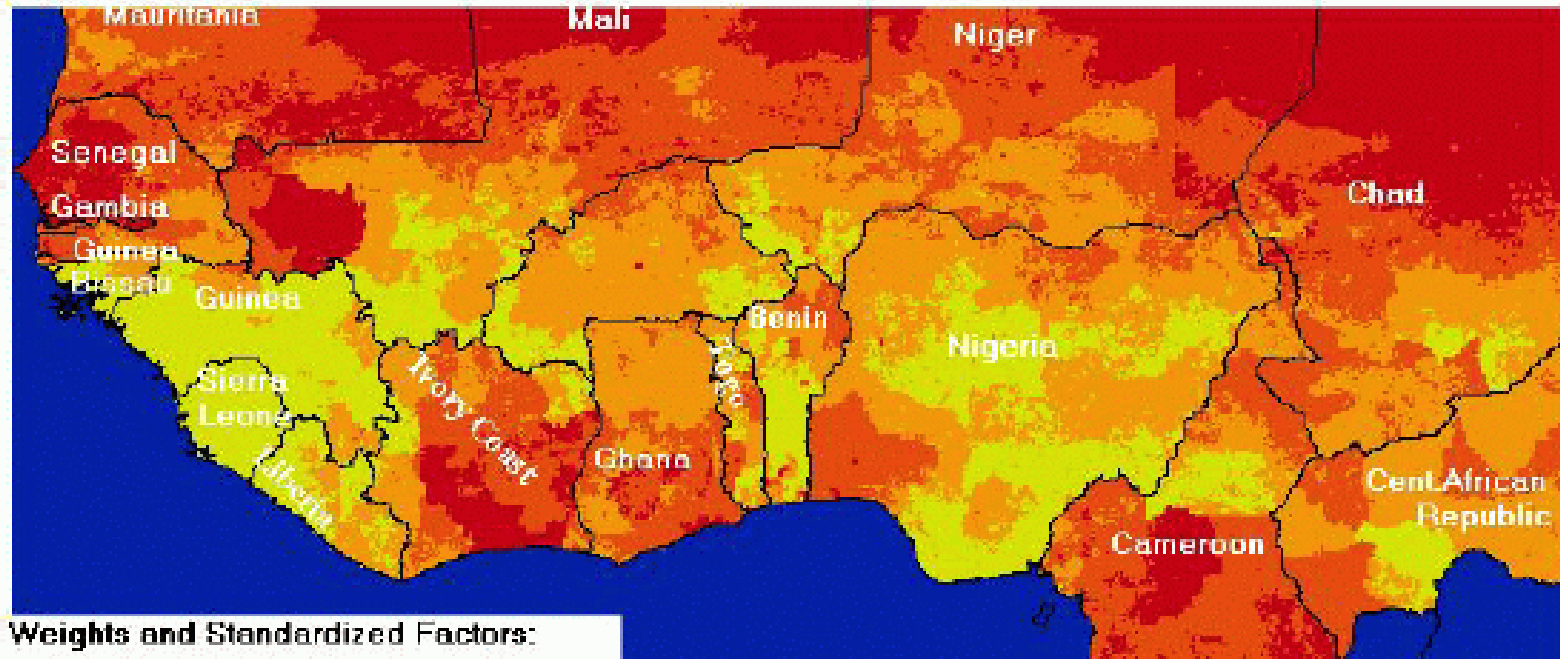
2050



Mapping Economic Vulnerability



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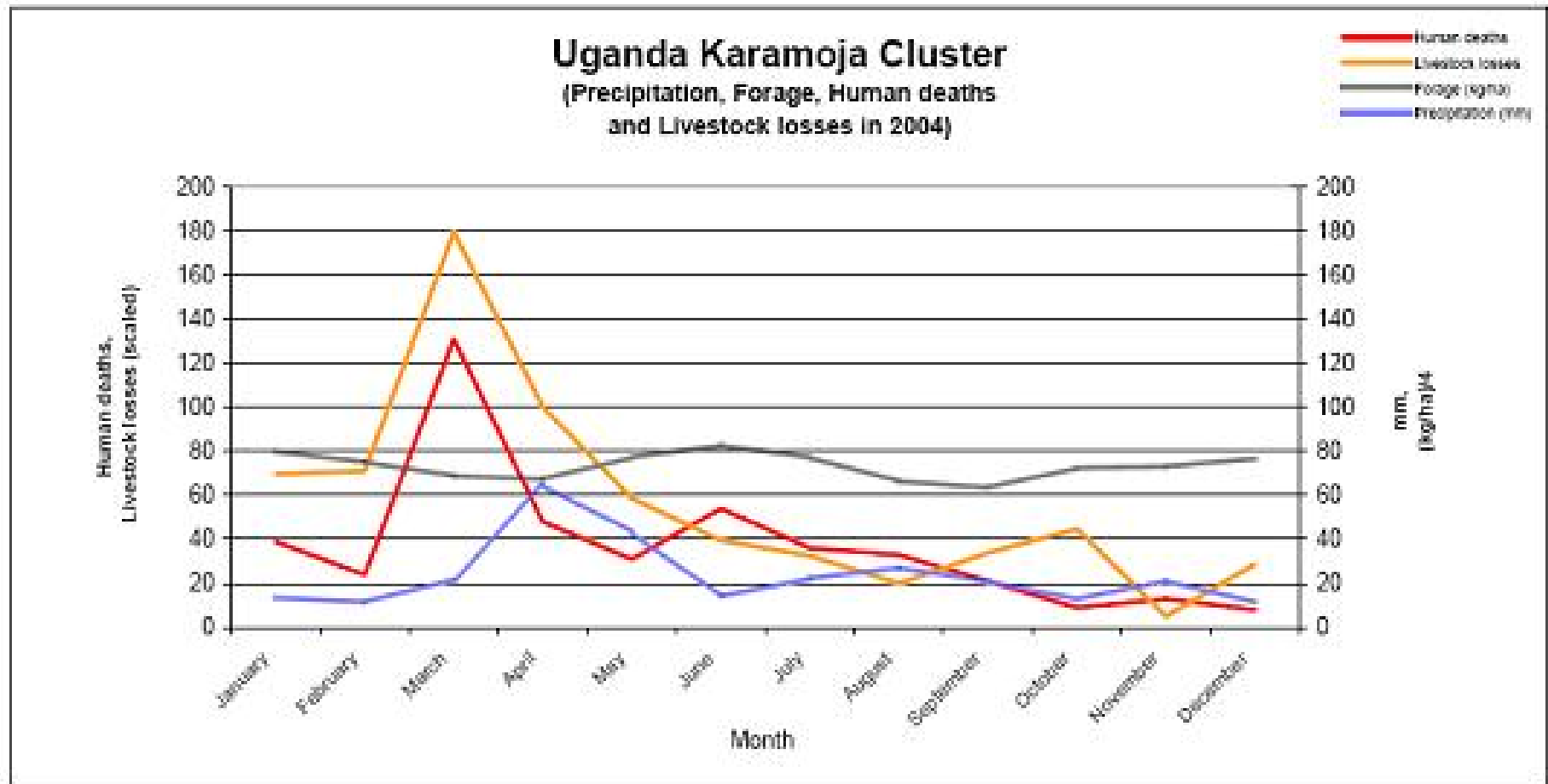
Weights and Standardized Factors:

- 0.14 Precipitation
- 0.14 Coeff. of Variability of NDVI
- 0.14 Supply as a Percentage of Demand
- 0.14 Market Accessibility
- 0.14 Percentage Cash Crop
- 0.14 Population Density
- 0.14 Percentage Crop Area

- Low Vulnerability
- Med Vulnerability
- High Vulnerability
- Very High Vulnerability

Multi-Attribute Analysis of Vulnerability 2

Detailed understanding of resource conflicts





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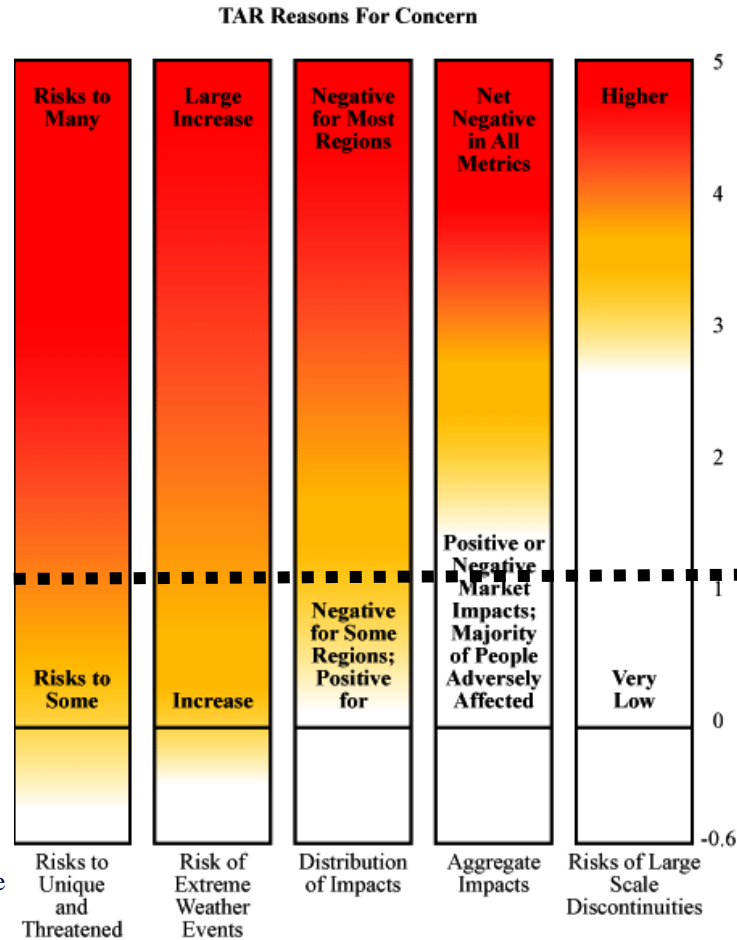
Climate Change: high costs but not an existential threat?



- Stern Review estimates cost of climate change to be between 5-20% of global GDP from 2050
- World Bank estimates that 40% of development aid investment is at risk from climate change
- Humanitarian costs could rise by 200% by 2015
- Weather disasters could cost as much as a trillion dollars in a single year by 2040



Where is the Risk Management Response to increasing Impact Estimates?



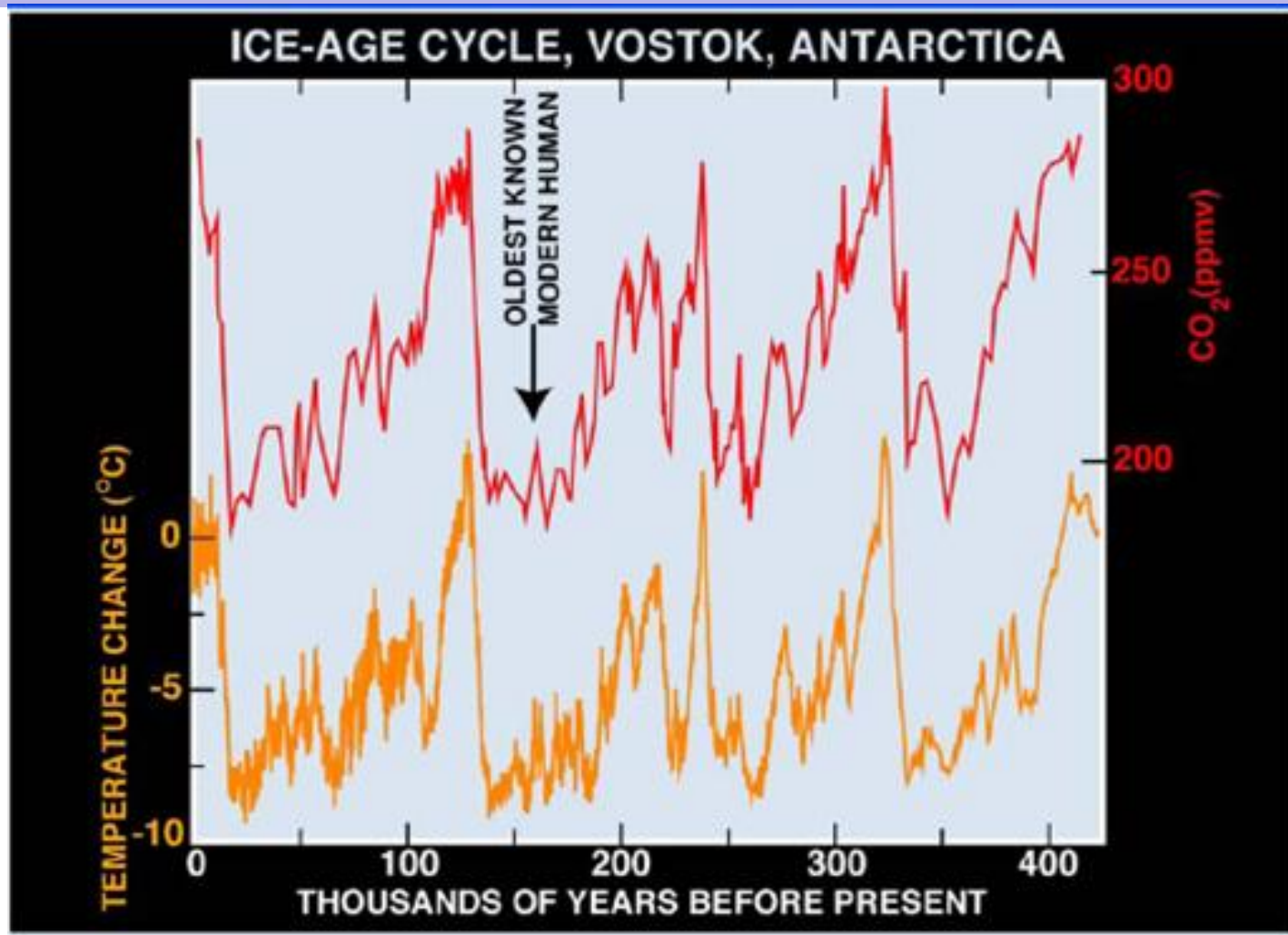
Increase in Global Mean Temperature after 1990-2000

Source: Smith et al., 2007 Dangerous Climate Change: An Update of the IPCC Reasons for Concern

There are surprises out there!



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Preserving Climate Security: Avoiding Climate Tipping Points



IPCC/Stern analysis did not include many of the most extreme impacts of climate change

- High impact scenarios: Atlantic conveyor slowdown; increased storm activity; monsoon variation;
- Cost of social instability and conflict
- Irreversible impacts (all accelerating): glacial melting; icesheet melting rates; ocean acidification
- Runaway climate change: Amazon forest dieback; tundra melt; release of methane hydrates;

**Stern acknowledges he underestimated the cost of climate change.
Real security issue is how we avoid passing these tipping points**

No Credible Security Guarantee under a Worst Case Scenarios



- Current climate change politics and policy does not adequately reflect credible worst case scenarios.
- Global emissions must peak by 2015-20 (perhaps earlier) to give 2C scenario
- A failure to acknowledge and prepare for the worst case scenario is as dangerous in the case of climate change as it is for terrorism and WMD proliferation.
- Worst case is a combination of **climate policy failure plus worst case climate science** combined with other resource pressures:
 - Security actors can give **no credible guarantee of current security levels** (consistent with global open economy)
 - Move to “defensive” adaptation response – capturing resource access
 - Global crash programme in nuclear fission

Probability of worst case scenario is not small!

Climate Security Scenarios



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Central scenario to 2020-2030

- Climate change multiplies instability risks in vulnerable and low resilience countries; Middle East, Africa, Central Asia, Small Islands
- Combined with energy and resource constraints will increase levels of conflict and “ungoverned spaces”
- Impacts can be mitigated with improve preventive strategies and interventions

Worst Case Scenario/Uncontrolled Climate Change post -2030

- Large scale social breakdown in major countries – China, India
- Inter-state tension/conflict over borders, water supply and migration
- Livelihoods untenable for hundreds of millions of people in Africa and Asia

Security environment cannot be guaranteed under uncontrolled scenario

The Security Sector at Copenhagen



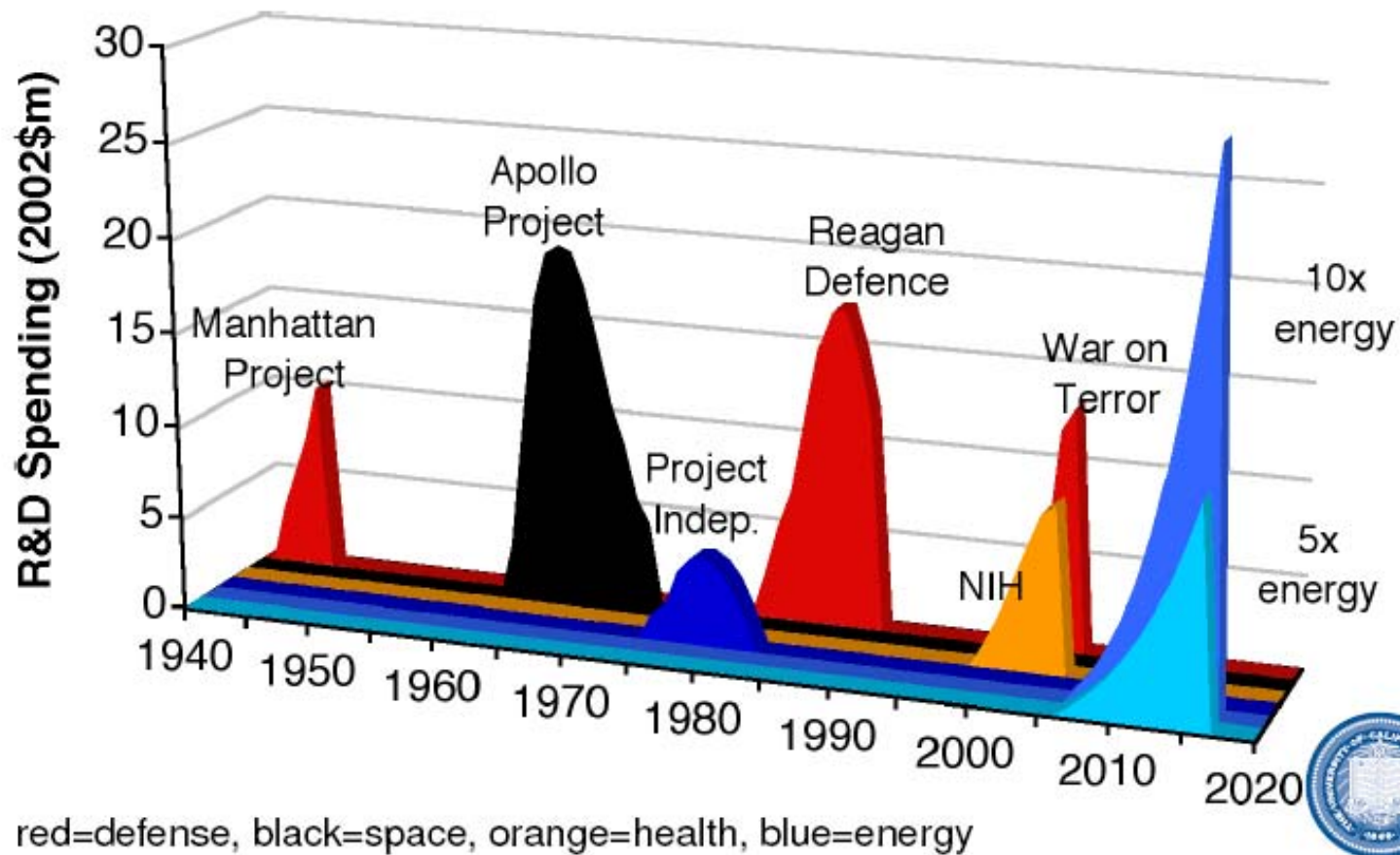
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- Communicate the security consequences of worst case scenarios to decision makers; no hard security solution to managing climate change risks
- Promote clearer strategic risk management approach to climate change policy; **what is the necessary outcome of Copenhagen in order to preserve climate security.**
- Argue for far higher investment in innovative and disruptive R,D&D to prepare for crash programme: CCS, CSP, solar, biofuels etc
- Engage in policy discussions for design of large scale collaborative R&D programmes inside timescales.

Not outside Historical R&D Precedents



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European Response



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- 2C threshold agreed as limit to avoid dangerous impacts and tipping points; committed to 80-90% reduction by 2050.
- Copenhagen agreement should take into account post-IPCC science on extreme impacts and be reviewed in 2016 after next IPCC.
- Target to quadruple global energy R&D spend by 2020 as part of Copenhagen agreement;
- €11 billion allocated to CCS demonstration in 2008, but economic stimulus packages generally weak on low carbon investment



A Transatlantic Agenda?

- Develop joint Worst Case Scenario Analysis: Chatham House/ Royal Society conference September 2009
- Develop clear risk management framework for understanding security implications of different Copenhagen outcomes; NIC plus EU, UK, Ge, Fr Assessment Staff?
- Joint development of global technology development strategy to hedge climate change risks

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The Political Face of Climate Security



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“Pacific island countries are likely to face massive dislocations of people, similar to population flows sparked by conflict. The impact on identity and social cohesion were likely to cause as much resentment, hatred and alienation as any refugee crisis.

...The Security Council, charged with protecting human rights and the integrity and security of States, is the paramount international forum available to us... the Council should review sensitive issues, such as implications for sovereignty and international legal rights from the loss of land, resources and people.”

Delegate of Papua New Guinea, UN Security Council Debate, April 2007

Geopolitical: Threats and Opportunities



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- Climate change could drive a more collaborative approach to international relations – extending to areas such as energy security, conflict prevention, development

Or

- Climate change could exacerbate tensions between and within countries, leading to a politics of insecurity as countries focus on protecting themselves against impacts

Geopolitical Issues: Climate change changes contexts, interests, threats and relationships



- **Mitigation policy:** balance of interests with China/India – from competition to cooperation; intellectual property rights; trade and investment policy.
- **Energy security:** move from producer to consumer relationships; managed transition in strategic producers (Russia; North Africa); politics of biofuels.
- **Nuclear proliferation:** large increased use of civilian nuclear power widespread, stresses on control of security and safety issues
- **Managing Borders and Neighbours:** Scramble for the Arctic; moving fisheries (collapse of the CFP!); managing migration and environmental refugees.
- **Global resentment:** increase in “anti-globalisation” resentment of developed world; Al-Qaeda statements;

Shifting to a low carbon economy can increase energy security



- Radical reductions in energy demand – especially space heating and cooling (-40% in EU gas demand by 2025?)
- New clean domestic sources of energy: EU 20% primary energy from renewables by 2020; plus coal with carbon capture and new nuclear.
- Investment in integrated intelligent grids and demand management
- Transportation revolution: much higher efficiency; new biofuels; plug-in hybrids. E.G. in 2007 European vehicle economy standards saved nearly 1% of EU GDP per year compared to the US.

But only if the politics of energy and climate security work together



- Trying generate two public goods- energy and climate security - from the same energy system
- Energy price rises have driven more investment in coal, biofuels and coal-to-liquids than efficiency – and swamp carbon prices
- Political priorities of energy security are driving investment into high carbon solutions using direct policy tools (spending, subsidy, regulation)
- Even Germany is planning up to 40 coal power plants- plus 40% renewables –both subsidised

Currently the politics of energy security is shaping energy markets far more than the politics of climate change

Security is Security is Security



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- You cannot achieve energy security by undermining other countries' climate security
- You cannot achieve agreement on climate security without guaranteeing energy security
- There is no military solution to climate security (or energy security?)

From Supplier Relations to Consumer Cooperation: the slow end of zero-sum politics?



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- Rising importance of climate security will increase the strength of relationships between large energy consumers, and result in a relative decline in relationships with energy producers
- Countries' energy and climate security will become more dependent on the deployment and development of clean technology in large energy consumers, rather than access to reliable supplies of conventional fossil fuels.
- This re-alignment opens up space for new types of international cooperation covering technology, investment, international standards, energy markets and cooperative legal frameworks for managing relationships with key energy producers.

The Mechanics of Consumer Cooperation



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- To meet decarbonisation targets developed world will need to transfer €70-100bn per annum to industrialising countries from 2012.
- Mixture of carbon market transactions, grant and loans
- Chinese firms will decarbonise China but will need more know-how and expertise through liberalisation of foreign investment in low carbon sectors e.g. construction.
- Support for transfers will depend on commitments to act e.g. pricing reforms; governance reforms; meeting sectoral efficiency targets; IPR protection; investment and trade liberalisation.
- Cooperation on decarbonisation will shift energy interests; EU helps deliver Russian gas exports to China?

Security Implications of a Nuclear Renaissance?



- Baseline IEA forecast
– 20% growth in capacity by 2030
- MIT forecast 400% growth by 2030; 50% in developing countries
- MIT forecast= 10% necessary mitigation activity to 2030

Box: Global Nuclear Build Programmes

Committed/Under Construction

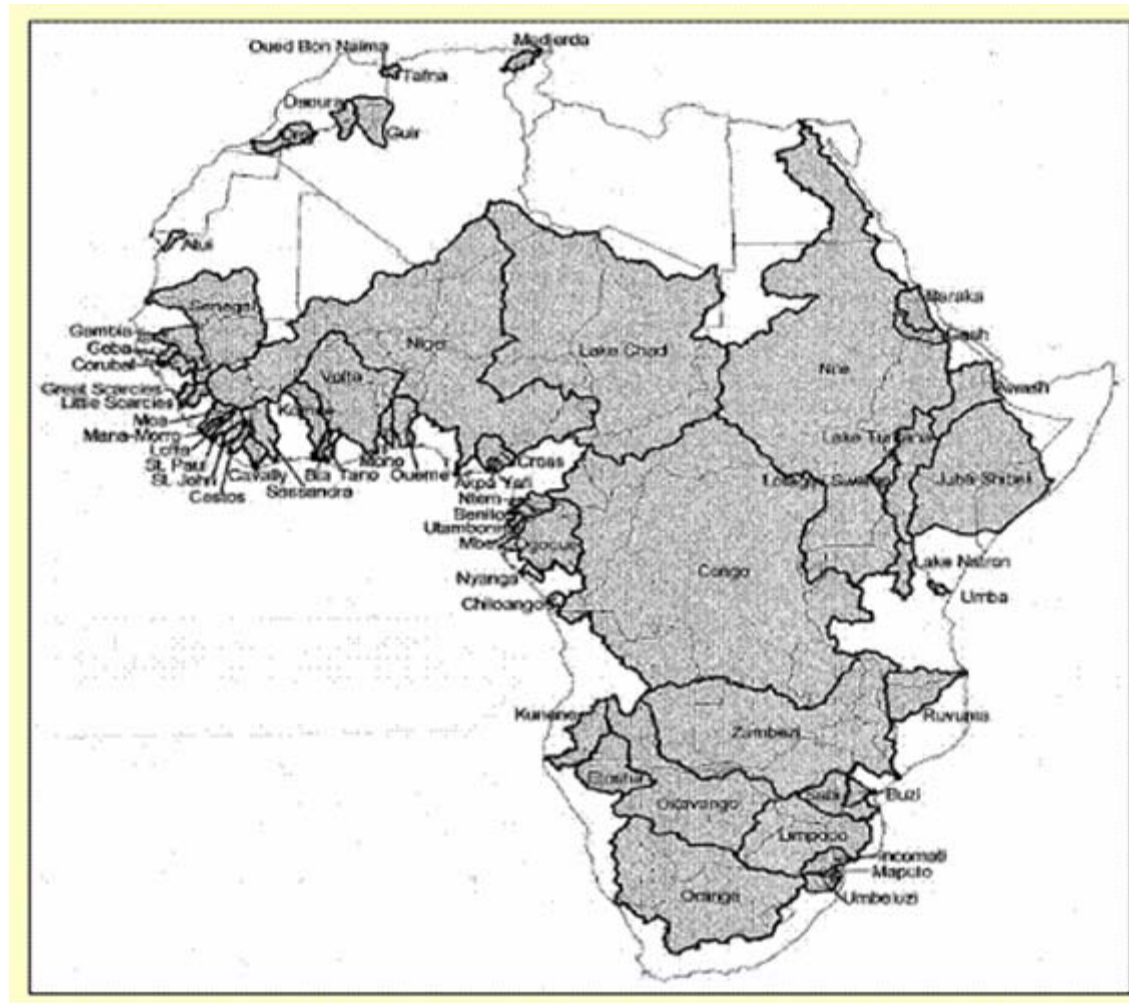
	Size	NPT?
China	15000 MW	Yes
India	5000 MW	No
Japan	14000 MW	Yes
Korea	11000 MW	Yes
Russia	30000 MW	Yes
Iran	2000 MW	Yes

Planning/Under Consideration

	Size	NPT?
Pakistan	600 MW	No
Indonesia	1300 MW	Yes
Vietnam	1000 MW?	Yes
Argentina	700 MW	Yes

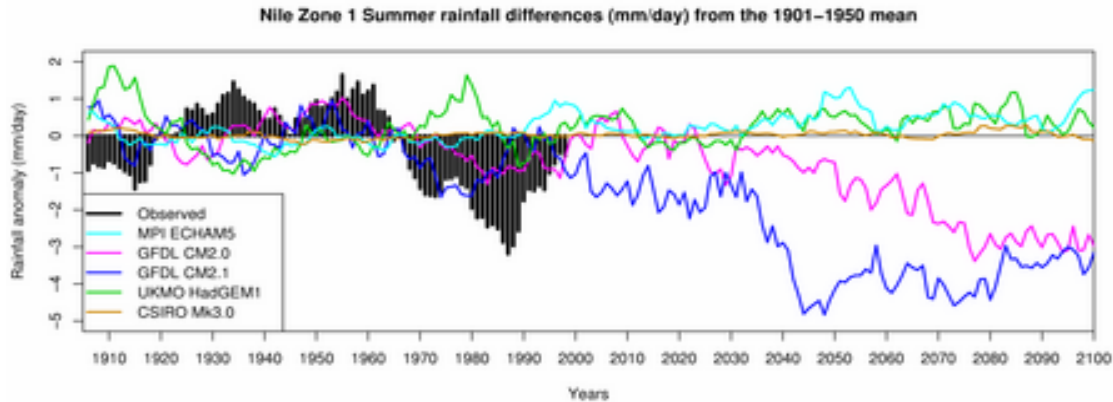
Countries considering new nuclear build include US, France, Nigeria, Israel, Kazakhstan and Egypt.
(Source: World Nuclear Association)

Boundaries and Resource Sharing: African Transboundary Water Management

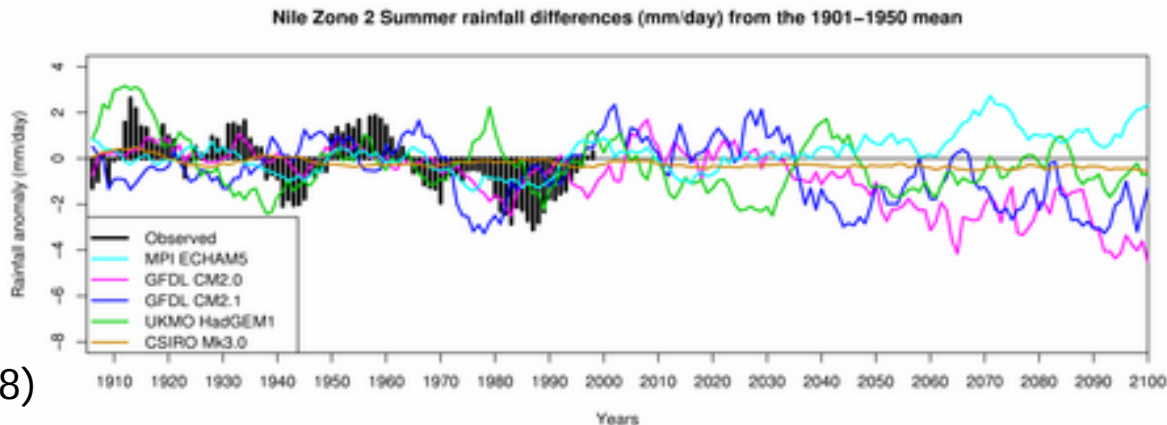


Uncertainty increases existing tensions – leading to conflict if not managed?

Projected rainfall in Eastern Sudan from selected climate models



Projected rainfall in Ethiopian highlands from selected climate models

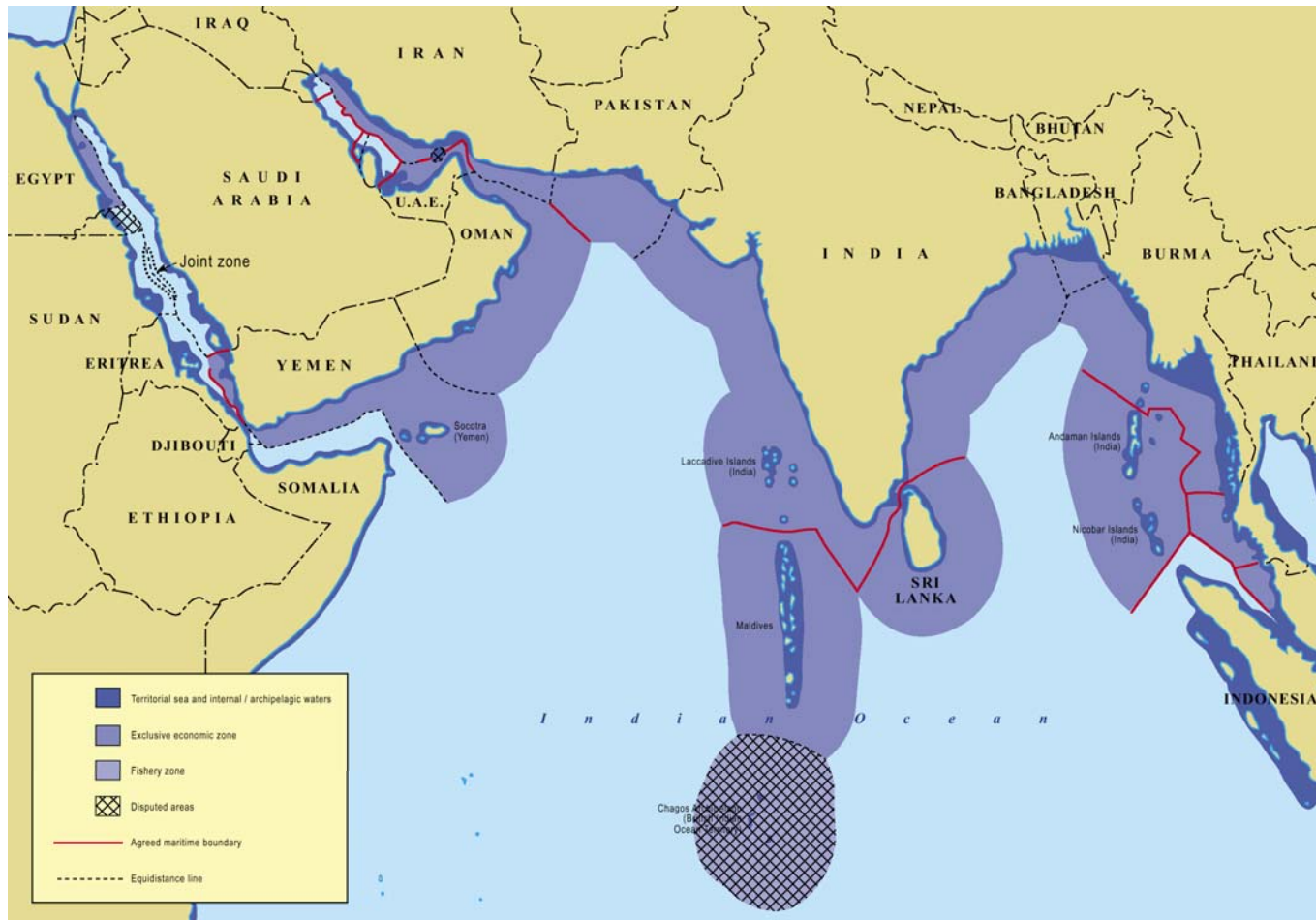


Source: Bates (2008)

Shifting Borders and Boundaries: Policy Responses?



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Where and How are National Interests Balanced?



- Will only achieve climate security if it is seen as a vital issue on a par with economic security, energy security, proliferation and regional relationships.
- Current prioritisation is much (or more!) a result of organisational structures, politics and inertia as it is strategic thinking.
- Very poor policy mechanisms in all major countries to reconcile these tensions; plays out in political debate and Heads decision-making.

How to embed these issues into the “machinery” of government? Role of the new NSC structure?

EU Responses to Geopolitical Challenges



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- EU-China Cooperation 2009: CCS Demonstration; Low Carbon Development Zones; IPR; Low carbon Free Trade Area?
- EU 2007 package on energy and climate security; agreed December 2008. Increasing aim to join up policy areas – critical path through Russia policy.
- November 2008 Communication, “The European Union and the Arctic Region” a first step towards an EU Arctic policy, including on environmental and geopolitical challenges.

Slow emergence of joined up agenda but hampered by traditional policy silos particularly between climate change and energy security/foreign policy (Russia!)



A Transatlantic Agenda?

- Bilateral EU-US discussions on engagement with China covering investment, technology and IPR issues. Move into G8 agenda?
- Joint work on the energy security implications of climate change and of decarbonisation, including impact on management of supplier relations.
- Joint analysis of the proliferation implications of high nuclear build and any conditionality needed in the Copenhagen agreement on funding. Acceleration of Gen IV programme on lower risk technologies?
- Agreement on how to handle key security related policy issues inside and outside UNFCCC framework:
 - Transboundary water management- adaptation funding conditionality?
 - Border issues – freeze at 1990 positions? Arctic and Law of the Sea?
 - Environmental refugees – framework for handling rights and responsibilities?

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Strategic Logic of Climate Driven Instability



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- Successful adaptation to climate change will be fundamentally challenged by borders, existing property rights (e.g. water) and vested interests
- Poor governance systems – especially communally controlled resource management – will amplify climate change impacts not damp them. “Adaptation” policies are not politically neutral.
- Impacts of climate mitigation policies (or policy failures) will drive political tension nationally and internationally; climate change driven deaths are different politically .
- In an increasingly interconnected world a wide range of interests will be challenged by security impacts of climate change: investment in China; drugs and Afghanistan/Caribbean; extremism and economic failure in N Africa; oil prices and Niger Delta/Mexico extreme events.

Response is better prevention/resilience but where to invest?

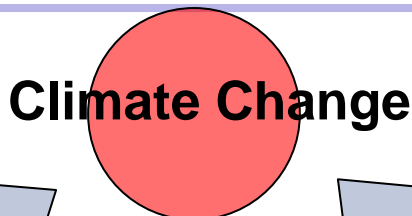


- Climate Change is another serious stressor in already unstable countries, regions and communities (Africa, ME, S Asia, SIDS)
- If worst impacts hit it will dominate most other factors by 2020-50 in many vulnerable countries, and earlier in vulnerable areas (e.g. Sahel)
- Its practical impact on policies to lower risks of conflict and instability can only be understood through comprehensive analysis – have yet to develop adequate tools to do this. Limited by weakness of broader conflict analysis tools and models.
- Responses imply a greater focus on governance, resource management, local conflict resolution capability etc. Key issue is providing analysis to practitioners allowing them to prioritise.

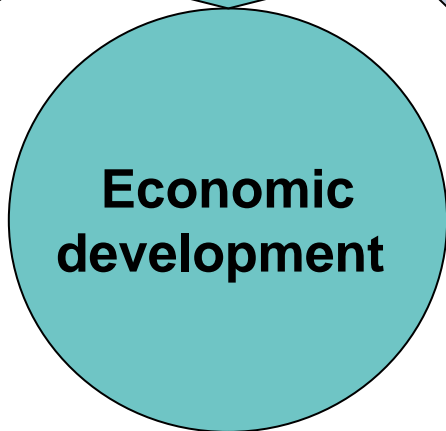
Targeting interventions is biggest challenge

Climate Change and Instability: We have yet to develop holistic analysis tools

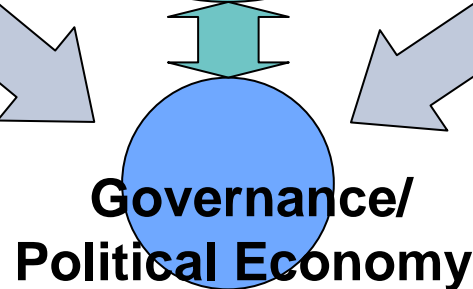
- Carbon price/trading
- Low carbon technology
- Impacts on energy production
- Impacts on resource value
- Biofuels and forest carbon sequestration



- Impacts on temperature and rainfall
- Sea level rise
- Extreme climate events



- Control of resource rents
- Energy system regulation
- Investment rules

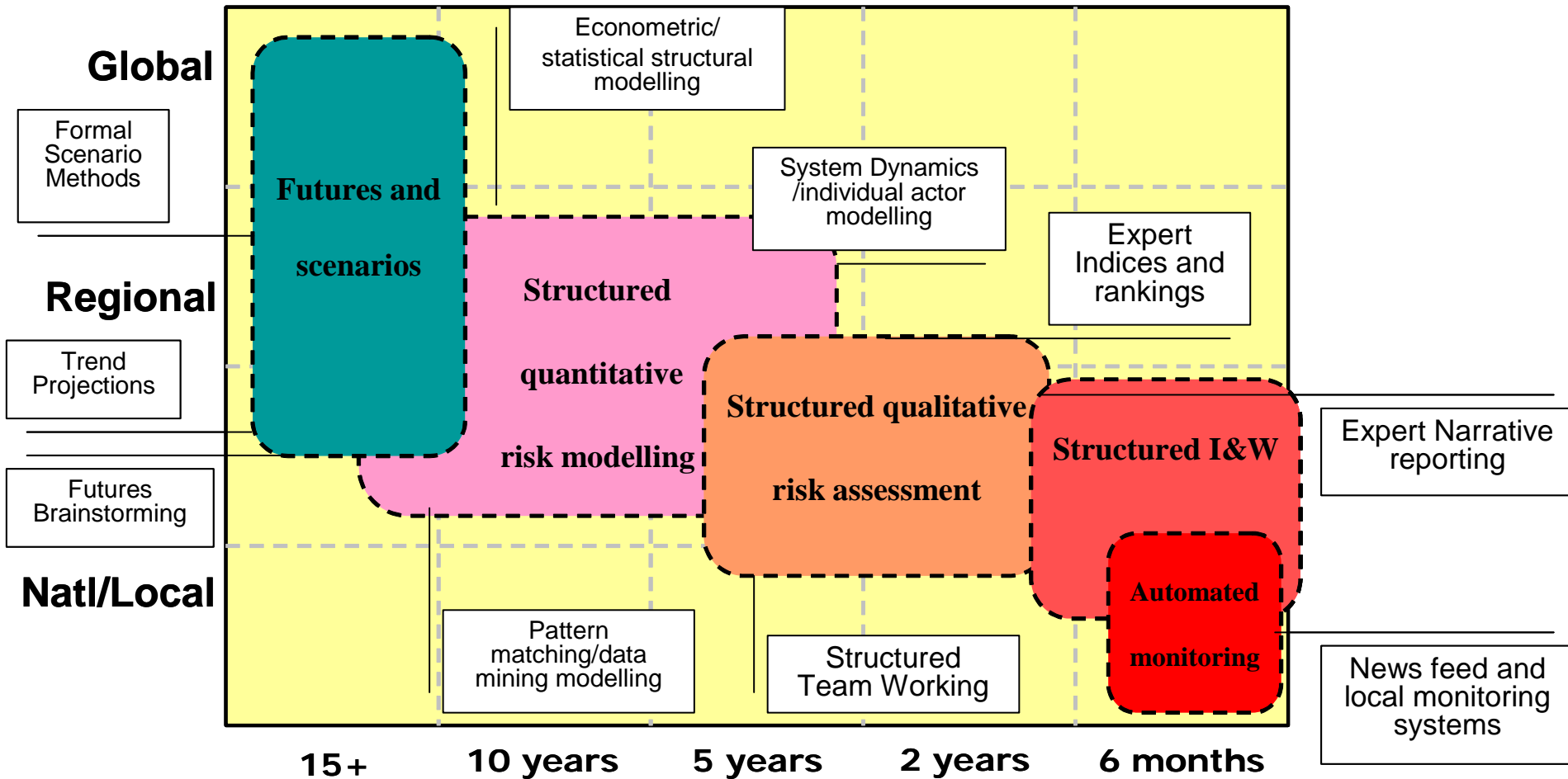


- Distributional impacts of resource changes
- Resilience of governance systems
- Effectiveness/equity of government responses

Multiple Risk Tools at Different Levels



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Five Critical Areas for Improvement



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- **Threat analysis:** understanding links between instability/ungoverned spaces a policy objectives e.g. counter-terrorism
- **Understanding adaptation policies as driver of conflict:** better understanding of how adaptation policies need to be designed to reduce rather than increase conflict risks.
- **Strategic geographic risk assessment:** more detailed understanding at regional level of stress drivers through “mapping and monitoring” studies
- **Dynamic economic modelling:** dynamic models of how convergence of climate volatility, resource scarcity and economic weakness can provide endogenous shocks in vulnerable countries; 2008 perfect storm energy, climate and food crisis.
- **Bottom-up data gathering:** improve reporting of tension and conflict through bottom-up conflict data collection/monitoring in vulnerable regions

European responses



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Africa

- Co-operation between the AU Situation Room and corresponding EU structures is being enhanced. There is scope to bring in a climate change dimension, using data provided by the strengthened observation networks for climate change and migration developed under the EU/Africa Action Plan for the implementation of the Africa-EU Strategic Partnership.

Middle East

- (i) strategies for sharing water resources in the Jordan Valley and Tigris-Euphrates, drawing on best practice in water management and conflict mediation; and
- (ii) assessment of likely impact of climate-related migration on North Africa.

Central Asia

- Through the Central Asia Strategy, we should address potential sources of conflict in the Fergana Valley and around the Aral Sea, including migration and ethnic tension. In doing so, we can build on the Central Asian Initiative for Sustainable Development, and Environmental Action Programme for Central and Eastern Europe Task Force (OECD).

Progress hampered by lack of strong leadership for climate mainstreaming, budget for developing new risk tools and Member State conservatism over potential role of EU External Action Agency

A Transatlantic Agenda?



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- Better sharing and review of regional/country case studies. Building unclassified platform with non-governmental actors - DoE initiative?
- Coordinate research programmes to improve tools and data collection
- Agree to joint strategic dialogue around key regions of concern: Sahel, Afghanistan and Caribbean?

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Four Critical Actions in 2009



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- Develop a common position on what Copenhagen needs to do to deliver climate security
- Develop common risk management strategy including on role of strategic technology development
- Agree broad strategic approach to cooperation with China on technology, IPR and low carbon investment; trial through G8 CCS agreement?
- Preliminary agreement on where to handle critical climate security issues in the international system and stronger collaboration on risk assessment issues

Thank You



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- More information at www.E3G.org
- “Delivering Climate Security” available from RUSI