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England

**Featured Event: Applying Science and Technology to policy and Practice in DRR - Wednesday 22 May 2013**

# **Disaster Risk Reduction - developments in science since 2011**

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## The IPCC Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation

# Impacts from weather and climate events depend on:



*nature and severity of event*

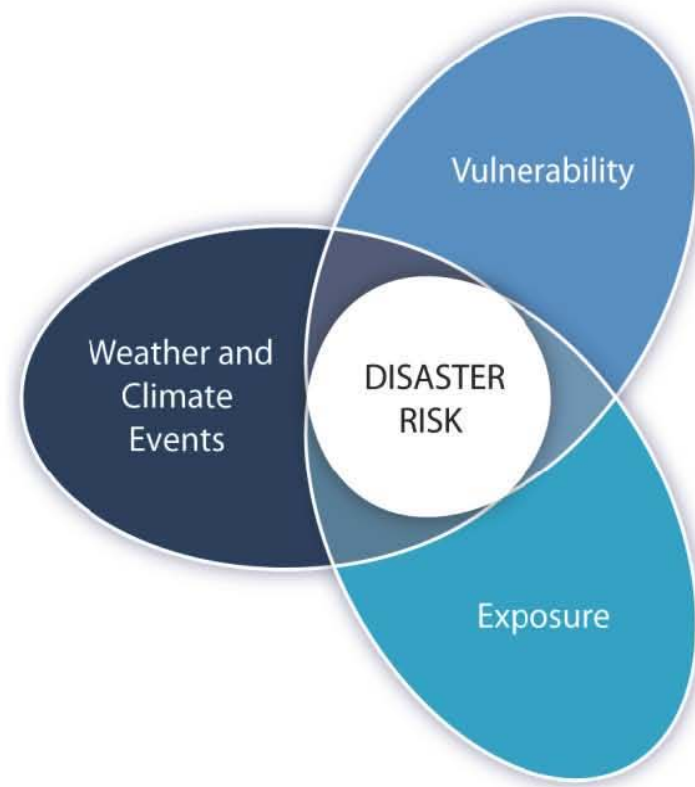


*vulnerability*

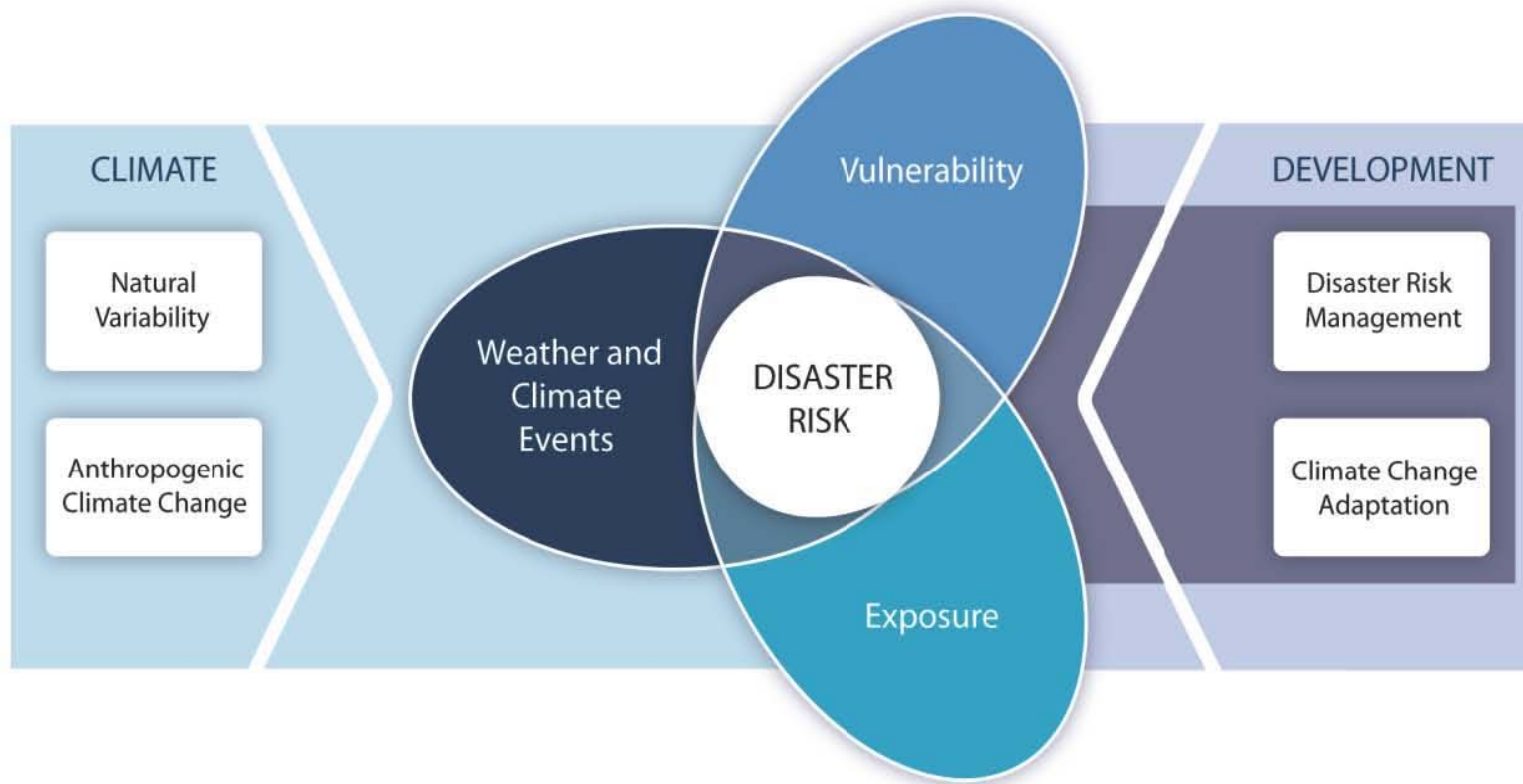


*exposure*

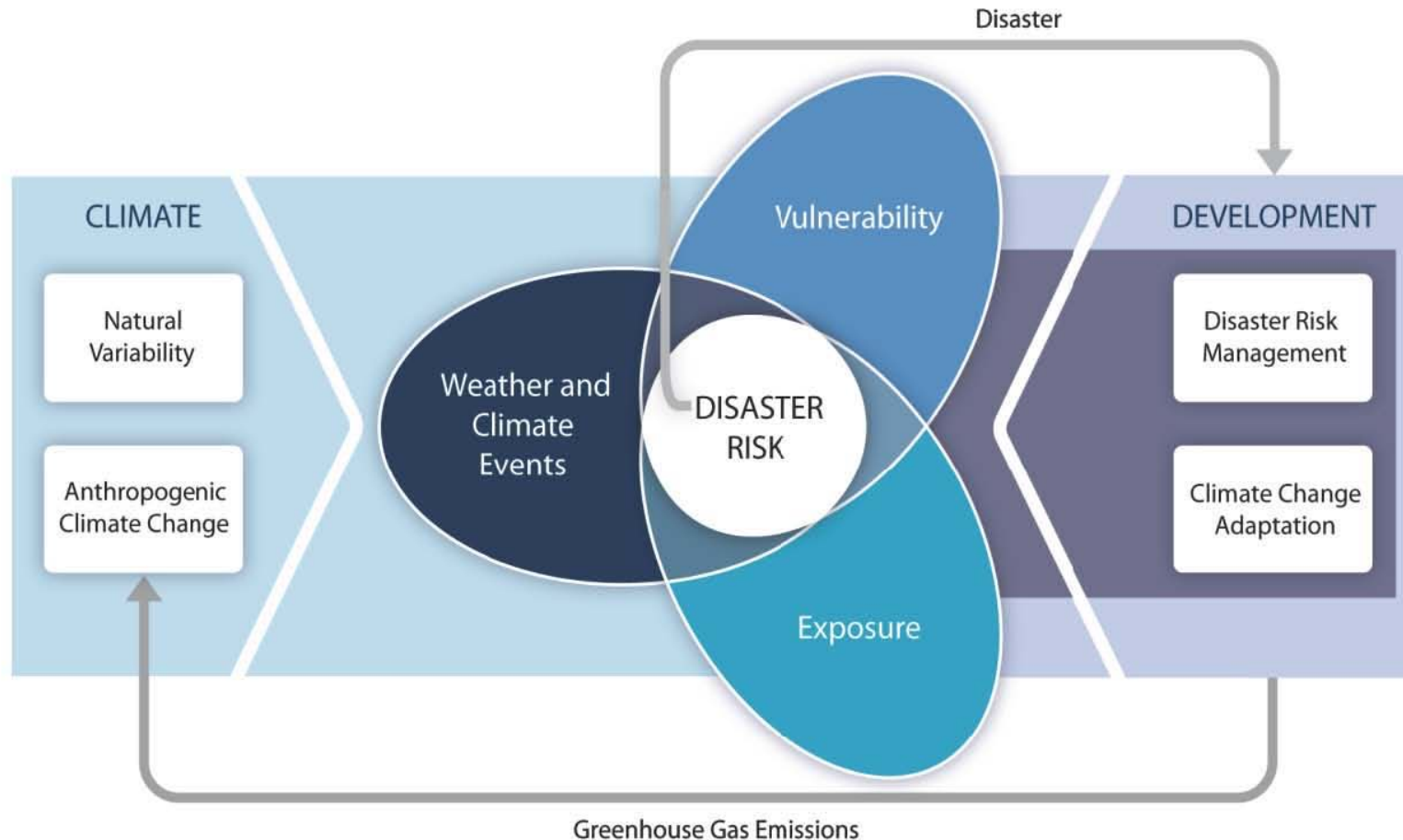
Socioeconomic development interacts with natural climate variations and human-caused climate change to influence disaster risk



Increasing vulnerability, exposure, or severity and frequency of climate events increases **disaster risk**



Increasing vulnerability, exposure, or severity and frequency of climate events increases **disaster risk**



*Disaster risk management and climate change adaptation can influence the degree to which **extreme events translate into impacts and disasters***

# Effective risk management and adaptation are tailored to **local** and **regional** needs and circumstances

- changes in climate extremes vary across regions
- each region has unique vulnerabilities and exposure to hazards
- effective risk management and adaptation address the factors contributing to exposure and vulnerability



# Managing the risks: **heat waves** in Europe

## Risk Factors

- lack of access to cooling
- age
- pre-existing health problems
- poverty and isolation
- infrastructure



## Risk Management/Adaptation

- cooling in public facilities
- warning systems
- social care networks
- urban green space
- changes in urban infrastructure

Projected: *likely* increase in heat wave frequency and *very likely* increase in warm days and nights across Europe



# Managing the risks: **drought** in the context of **food security** in West Africa

## Risk Factors

- more variable rain
- population growth
- ecosystem degradation
- poor health and education systems



## Risk Management/Adaptation

- improved water management
- sustainable farming practice
- drought-resistant crops
- drought forecasting

Projected: *low confidence* in drought projections for West Africa

There are strategies that can help **manage disaster risk now** and also help improve people's livelihoods and well-being



The most effective strategies offer **development benefits** in the relatively near term and **reduce vulnerability** over the longer term



# ATLAS OF HEALTH AND CLIMATE

The logos of the World Health Organization (WHO) and the World Meteorological Organization (WMO) are displayed side-by-side. The WHO logo is on a light blue background, and the WMO logo is on a dark blue background. Both logos feature a central emblem with a caduceus for WHO and a sun for WMO, surrounded by a laurel wreath. Below the emblems, the names of the organizations are written in white text.

World Health Organization

World Meteorological Organization  
Weather - Climate - Water

A smaller version of the WHO and WMO logos, identical in design to the larger ones in the main title block. The WHO logo is on a light blue background, and the WMO logo is on a dark blue background.

World Health Organization

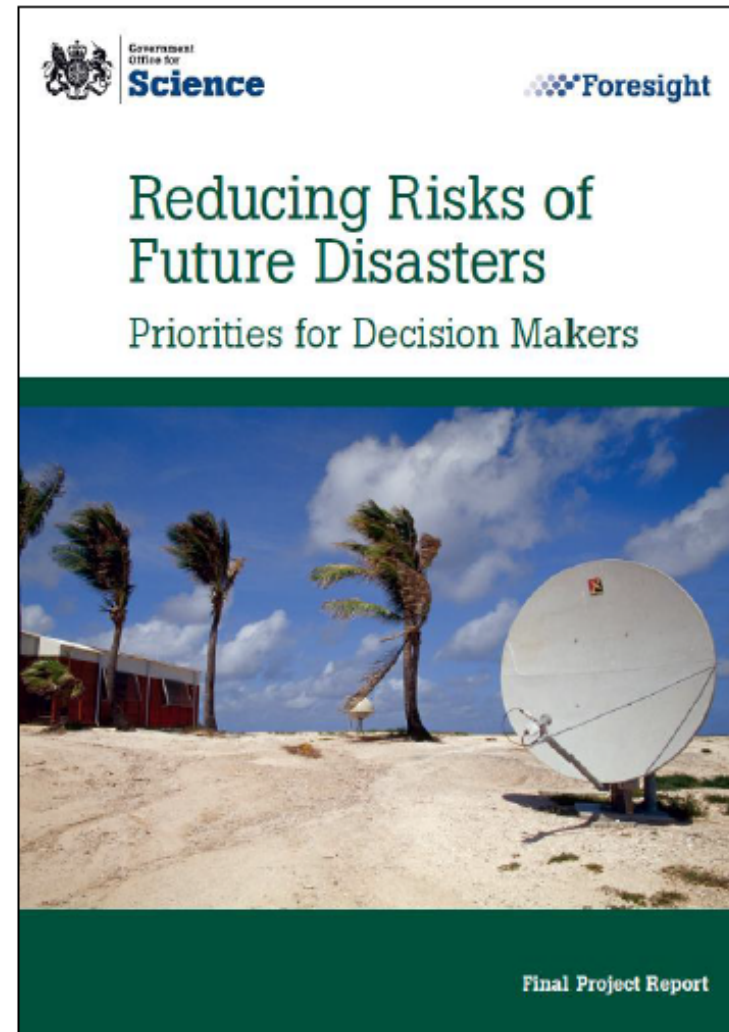
World Meteorological Organization  
Weather - Climate - Water



# Reducing Risks of Future Disasters: Priorities for Decision Makers

**Professor Sir John Beddington**

Chief Scientific Adviser to HM Government



# Abi

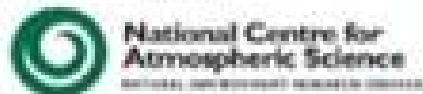
		Ability to Produce Reliable Forecasts					
		Now			2040		
		Spatial	Magnitude	Temporal	Spatial	Magnitude	Temporal
<ul style="list-style-type: none"> <li>To dis to fut</li> <li>Hydrometeorological hazards</li> <li>Storms</li> <li>Floods</li> <li>Droughts</li> </ul>	Geophysical Hazards						
	Earthquakes	2	1	1	3	2	1
	Volcanoes	3	2	2	5	3	3
	Landslides	2	2	1	3	3	2
	Tsunamis	2	2	1	3	3	2
	Hydrometeorological hazards	6 days ahead					
	Storms	3	3	4	5	5	5
	Floods	3	3	4	5	5	5
	Droughts	5	5	5	5	5	5
	<ul style="list-style-type: none"> <li>So for</li> </ul>	Hydrometeorological hazards	6 months ahead				
Storms		2	2	2	3	3	3
Floods		2	2	2	4	4	4
Droughts		2	2	2	4	4	4
<ul style="list-style-type: none"> <li>Im ex</li> <li>So</li> </ul>	Infectious Disease Epidemics						
	Known Pathogens	2	5	2	4	5	4
	Recently emerged pathogens	1	4	1	2	4	2
	Pathogens detected in animal reservoirs	1	1	1	2	3	2



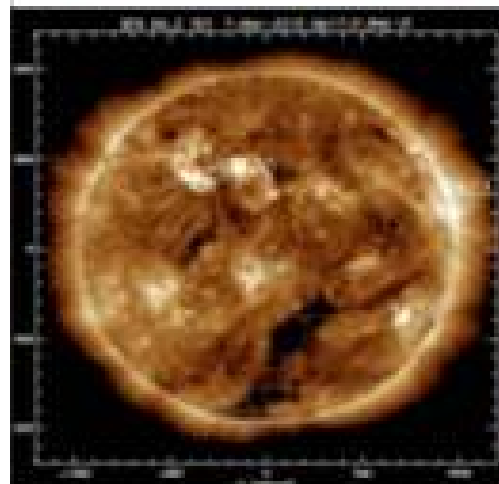
Government  
Office for Science

# Science for emergencies

**Natural Hazards Partnership: bringing together critical national and global scientific infrastructure**



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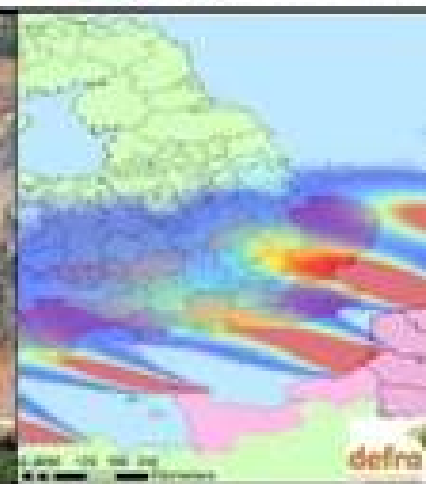
Space weather



Atmospheric pollution



Flooding



Vector/disease incursion



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## In summary these

- demonstrate that scientists have used problem-solving approaches that integrates all hazards and disciplines
- show that scientific communities have actively engaged to inform decision-making
- show that science should be key to the Post-2015 Hyogo Framework for Action



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## What next?

Science and technology need to inform policy and practice at

- Local
- National
- International

How to achieve regular interaction between science and policy makers? Do we need a chief scientific adviser/officer in every country?