

ΚΛΙΜΑΤΙΚΕΣ ΑΛΛΑΓΕΣ

IPCC WGII AR5

Summary for Policymakers

WGII AR5 Phase I

Report Launch 1 31 March 2014

Climate Change 2014: Impacts, Adaptation, and Vulnerability

SUMMARY FOR POLICYMAKERS

ΚΛΙΜΑΤΙΚΕΣ ΑΛΛΑΓΕΣ

Climate change: Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use.

Note that the Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: ‘a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.’ The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition, and climate variability attributable to natural causes.

ΚΙΝΔΥΝΟΣ -ΕΚΘΕΣΗ - ΤΡΩΤΟΤΗΤΑ

Hazard: The potential occurrence of a natural or human-induced physical event or trend or physical impact that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems, and environmental resources. In this report, the term *hazard usually refers to climate-related physical events or trends or their physical impacts.*

Exposure: The presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets in places and settings that could be adversely affected.

Vulnerability: The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.

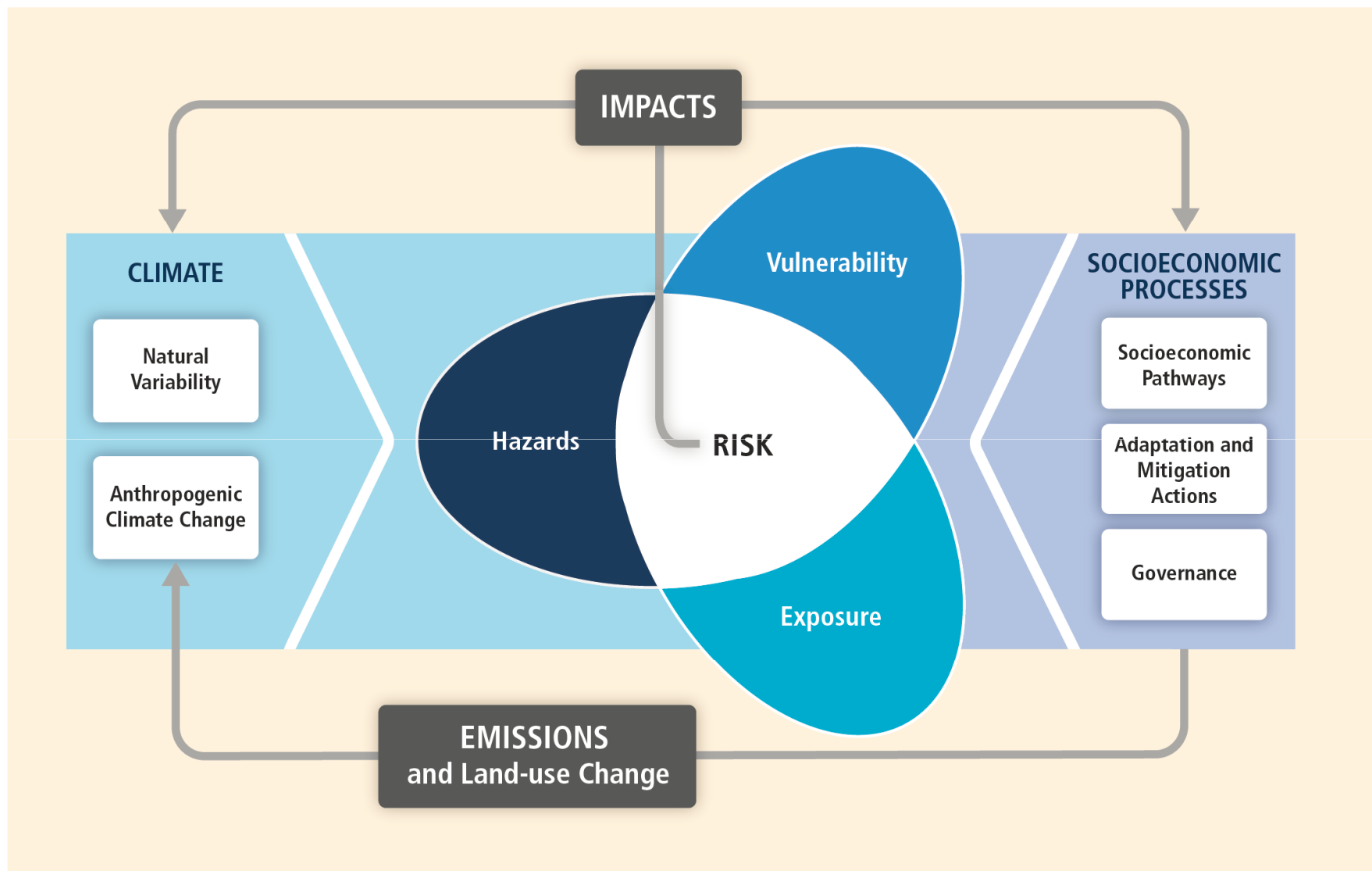
ΡΙΣΚΟ – ΠΡΟΣΑΡΜΟΓΗ - ΑΝΘΕΚΤΙΚΟΤΗΤΑ

Risk: The potential for consequences where something of value is at stake and where the outcome is uncertain, recognizing the diversity of values. Risk is often represented as probability of occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur. Risk results from the interaction of vulnerability, exposure, and hazard (see Figure SPM.1). In this report, the term *risk is used primarily to refer to the risks of climate-change impacts.*






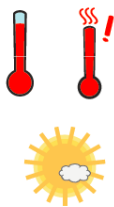









Adaptation: The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.

Resilience: The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation.

ΡΙΣΚΟ



ΕΥΡΩΠΗ

Europe				
Key risk	Adaptation issues & prospects	Climatic drivers	Timeframe	Risk & potential for adaptation
<p>Increased economic losses and people affected by flooding in river basins and coasts, driven by increasing urbanization, increasing sea levels, coastal erosion, and peak river discharges (<i>high confidence</i>)</p> <p>[23.2-3, 23.7]</p>	<p>Adaptation can prevent most of the projected damages (<i>high confidence</i>).</p> <ul style="list-style-type: none"> • Significant experience in hard flood-protection technologies and increasing experience with restoring wetlands • High costs for increasing flood protection • Potential barriers to implementation: demand for land in Europe and environmental and landscape concerns 			Very low Medium Very high
			Present	
			Near-term (2030-2040)	
			Long-term (2080-2100)	2°C  4°C 
<p>Increased water restrictions. Significant reduction in water availability from river abstraction and from groundwater resources, combined with increased water demand (e.g., for irrigation, energy and industry, domestic use) and with reduced water drainage and runoff as a result of increased evaporative demand, particularly in southern Europe (<i>high confidence</i>)</p> <p>[23.4, 23.7]</p>	<ul style="list-style-type: none"> • Proven adaptation potential from adoption of more water-efficient technologies and of water-saving strategies (e.g., for irrigation, crop species, land cover, industries, domestic use) • Implementation of best practices and governance instruments in river basin management plans and integrated water management 			Very low Medium Very high
			Present	
			Near-term (2030-2040)	
			Long-term (2080-2100)	2°C  4°C 
<p>Increased economic losses and people affected by extreme heat events: impacts on health and well-being, labor productivity, crop production, air quality, and increasing risk of wildfires in southern Europe and in Russian boreal region (<i>medium confidence</i>)</p> <p>[23.3-7, Table 23-1]</p>	<ul style="list-style-type: none"> • Implementation of warning systems • Adaptation of dwellings and workplaces and of transport and energy infrastructure • Reductions in emissions to improve air quality • Improved wildfire management • Development of insurance products against weather-related yield variations 			Very low Medium Very high
			Present	
			Near-term (2030-2040)	
			Long-term (2080-2100)	2°C  4°C 

ΜΙΚΡΕΣ ΝΗΣΟΙ

Small Islands				
Key risk	Adaptation issues & prospects	Climatic drivers	Timeframe	Risk & potential for adaptation
<p>Loss of livelihoods, coastal settlements, infrastructure, ecosystem services, and economic stability (<i>high confidence</i>)</p> <p>[29.6, 29.8, Figure 29-4]</p>	<ul style="list-style-type: none"> • Significant potential exists for adaptation in islands, but additional external resources and technologies will enhance response. • Maintenance and enhancement of ecosystem functions and services and of water and food security • Efficacy of traditional community coping strategies is expected to be substantially reduced in the future. 			<p>Very low Medium Very high</p>
			Present	
			Near-term (2030-2040)	
			Long-term (2080-2100)	<p>2°C </p> <p>4°C </p>
<p>The interaction of rising global mean sea level in the 21st century with high-water-level events will threaten low-lying coastal areas (<i>high confidence</i>)</p> <p>[29.4, Table 29-1; WGI AR5 13.5, Table 13.5]</p>	<ul style="list-style-type: none"> • High ratio of coastal area to land mass will make adaptation a significant financial and resource challenge for islands. • Adaptation options include maintenance and restoration of coastal landforms and ecosystems, improved management of soils and freshwater resources, and appropriate building codes and settlement patterns. 			<p>Very low Medium Very high</p>
			Present	
			Near-term (2030-2040)	
			Long-term (2080-2100)	<p>2°C </p> <p>4°C </p>

ΠΑΡΑΚΤΙΕΣ ΠΕΡΙΟΧΕΣ

Coastal systems and low-lying areas

Due to sea-level rise projected throughout the 21st century and beyond, coastal systems and low-lying areas will increasingly experience adverse impacts such as submergence, coastal flooding, and coastal erosion (*very high confidence*).

The population and assets projected to be exposed to coastal risks as well as human pressures on coastal ecosystems will increase significantly in the coming decades due to population growth, economic development, and urbanization (*high confidence*). *The relative costs of coastal adaptation vary strongly among and within regions and countries for the 21st century.* Some low-lying developing countries and small island states are expected to face very high impacts that, in some cases, could have associated damage and adaptation costs of several percentage points of GDP.