Preface

The Working Group II contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) provides a comprehensive assessment of the scientific, technical and socio-economic literature relevant to impacts, adaptation and vulnerability. It builds upon the Working Group II contribution to the IPCC's Fifth Assessment Report, the three Special Reports of the Sixth Assessment cycle: 'Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty (SR1.5)'; 'Climate Change and Land: An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (SRCCL)'; 'IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC)', and the Working Group I contribution to the IPCC Sixth Assessment Report.

The report recognizes the interactions of climate, ecosystems and biodiversity, and human societies, and integrates knowledge more strongly across the natural, ecological, social and economic sciences than earlier IPCC assessments. The assessment of climate change impacts and risks as well as adaptation is set against concurrently unfolding non-climatic global trends e.g., biodiversity loss, overall unsustainable consumption of natural resources, land and ecosystem degradation, rapid urbanisation, human demographic shifts, social and economic inequalities and a pandemic.

Working Group II introduces several new components in its latest report: These include the novel cross-chapter papers which provide focused assessments and updates from the special reports and include coverage of topics such as biodiversity hotspots, cities and settlements by the sea, deserts and desertification, mountains, tropical forests as well as the Mediterranean and polar regions. Another new component is an atlas that presents data and findings on observed climate change impacts and projected risks from global to regional scales, thus offering even more insights for decision makers. The Working Group II Report is based on the published scientific and technical literature accepted for publication by 1 September 2021.

Scope of the Report

During the process of scoping and approving the outline of its Sixth Assessment Report, the IPCC focussed on those aspects of the current knowledge of climate change that were judged to be most relevant to policymakers. In this report, Working Group II examines the impacts of climate change on nature and people around the globe. It explores future impacts at different levels of warming and the resulting risks, and offers options to strengthen nature's and society's resilience to ongoing climate change, to fight hunger, poverty, and inequality and keep Earth a place worth living on – for current as well as for future generations.

Structure of the Report

This report consists of a short Summary for Policymakers, a Technical Summary, eighteen Chapters, seven Cross-Chapter Papers, five Annexes including the Global to Regional Atlas, as well as online Supplementary Material.

The introductory chapter (Chapter 1) provides the reader with the framing and context of the report and highlights key concepts used throughout the report.

The sectoral chapters (Chapters 2–8) cover risks, adaptation and sustainability for systems impacted by climate change. They assess impacts, risks, adaptation options and limits and the interactions of risks and responses for climate resilient development for ecosystems, water, food, cities, human health, communities and livelihoods.

The regional chapters (Chapters 9–15) assess the observed impacts and projected risks at regional and sub-regional levels for Africa, Asia, Australasia, Central and South America, Europe, North America and Small Islands. They assess adaptation options including limits, barriers and adaptive capacity, as well as the interaction of risks and responses for climate resilient development.

The Cross-Chapter Papers (1–7) consider additional regionalisation's including polar regions, tropical forests, deserts, mountains and the Mediterranean, as well as highlighting the topics of biodiversity hotspots and cities by the sea. The cross-chapter papers assess observed impacts and projected risks of climate change, vulnerability, adaptation options and, where applicable, climate resilient development.

The synthesis chapters (Chapters 16–18) address sustainable development pathways integrating adaptation and mitigation. They assess key risks across sectors and regions (Chapter 16) and decision-making options for managing risk (Chapter 17) and the ways climate impacts and risks hinder climate resilient development in different sectoral and regional contexts as well as the pathways to achieving climate resilient development (Chapter 18).

The Process

This Working Group II contribution to the IPCC Sixth Assessment Report represents the combined efforts of hundreds of experts in the scientific, technological and socio-economic fields of climate science and has been prepared in accordance with rules and procedures established by the IPCC. A scoping meeting for the Sixth Assessment Report was held in May 2017 and the outlines for the contributions of the three Working Groups were approved at the 46th Session of the Panel in September 2017. Governments and IPCC observer organisations nominated experts for the author team. The team of 231 Coordinating Lead Authors and Lead Authors plus 39 Review Editors selected by the Working Group II Bureau was accepted at the 55th

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Session of the IPCC Bureau in January 2018. In addition, more than 675 Contributing Authors provided draft text and information to the author teams at their request. Drafts prepared by the authors were subject to two rounds of formal review and revision followed by a final round of government comments on the Summary for Policymakers. A total of 62,418 written review comments were submitted by more than 1600 individual expert reviewers and 51 governments. The Review Editors for each chapter monitored the review process to ensure that all substantive review comments received appropriate consideration. The Summary for Policymakers was approved line-by-line and the underlying report was then accepted at the 12th Session of IPCC Working Group II from 14 to 27 February 2022.

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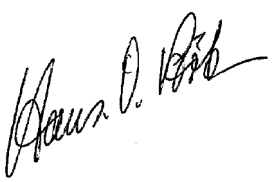
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