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Climate-change impacts on plant pests: a technical resource to support national and regional plant protection organizations by the CPM Focus Group on Climate Change and Phytosanitary

Prepared by the IPPC Focus Group on Climate Change and Phytosanitary Issues


Climate-change impacts on plant pests: a technical resource to support NPPOs and RPPOs

IPPC Focus Group on Climate Change and Phytosanitary Issues

- ✓ Climate change is one of the 8 Development Agenda Items of the IPPC strategic framework for 2020-2030
- ✓ The Focus Group on Climate Change and Phytosanitary Issues (FG-CCPI) was created in 2021 to address this priority from 2022 to 2025
- ✓ Mandate of the FG-CCPI has been extended until 2026



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CPM Focus Group on Climate Change and Phytosanitary Issues



The Focus Group on Climate Change and Phytosanitary Issues (FG-CCPI) was established by the Commission on Phytosanitary Measures (CPM-15) in April 2021.


The primary role of the FG-CCPI is to coordinate the development of the agenda item "Assessment and management of climate change impacts on plant health" and support the implementation and delivery of an action plan over the next four years (2022-2025).



Scientific review of the impact of climate change on plant pests

This web page was last reviewed on 2022-04-29. For queries or comments regarding the contents of this page, please contact Mutya.Frio@fao.org

Doc #	Agenda #	Title	Files	Publication date
		Report of the Focus Group on Climate Change and Phytosanitary Issues virtual meeting 15 June 2022	En	18 Jul 2022
		Report of the Focus Group on Climate Change and Phytosanitary Issues virtual meeting 12 July 2022	En	09 Aug 2022





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IPPC Focus Group on Climate Change and Phytosanitary Issues

Focus Group Objectives:

- 1) Raise awareness
- 2) Enhance evaluation and management of risks
- 3) Increase recognition of phytosanitary matters

Name	Country	FAO Region or Organization
Dominic Eyre (Chairperson)	United Kingdom	Europe
Ngatoko Ngatoko (Vice-Chairperson)	Cook Islands	Southwest Pacific
Sam Bishop	United Kingdom	CPM Bureau 'Champion'
Karen Castro	Canada	North America
Glenn Fowler	USA	North America
Bastian Hess	Germany	Europe
Hannah Serwaa Nuamah	Ghana	Africa
Erika Mangili André	Brazil	Latin America and the Caribbean
Bhakta Raj Palikhe	Nepal	Asia
Xiaoxiao Wang	Rome	FAO Office of Climate Change, Environment and Biodiversity
Vacant		Near East and North Africa

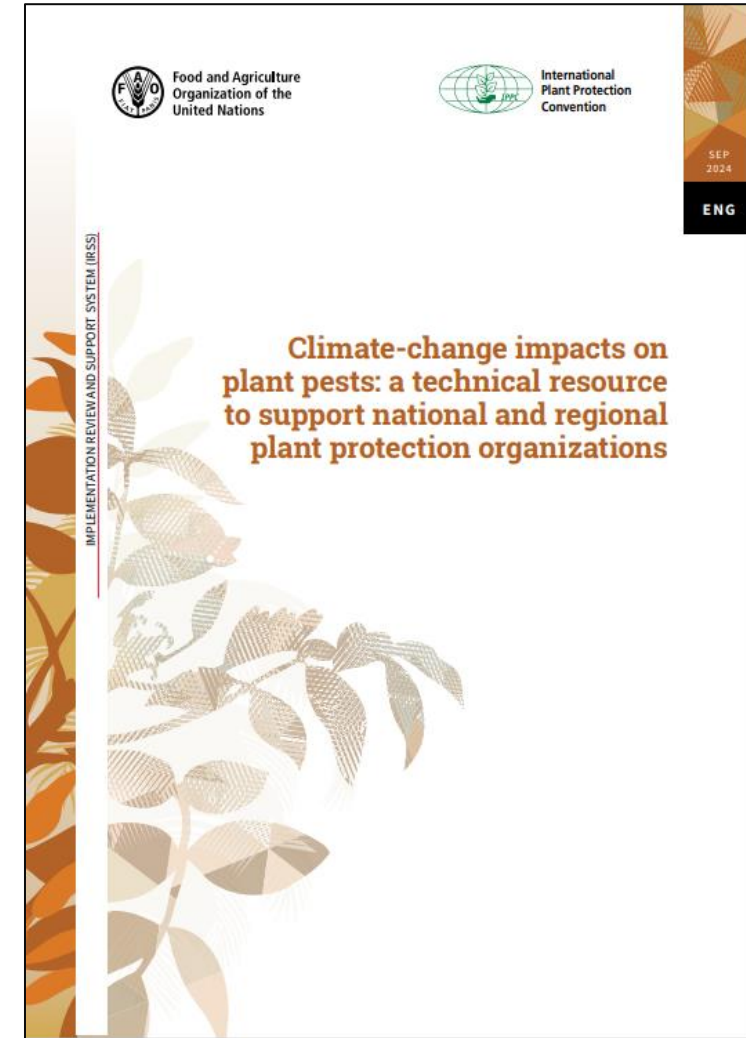


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The Technical Resource

Sections:

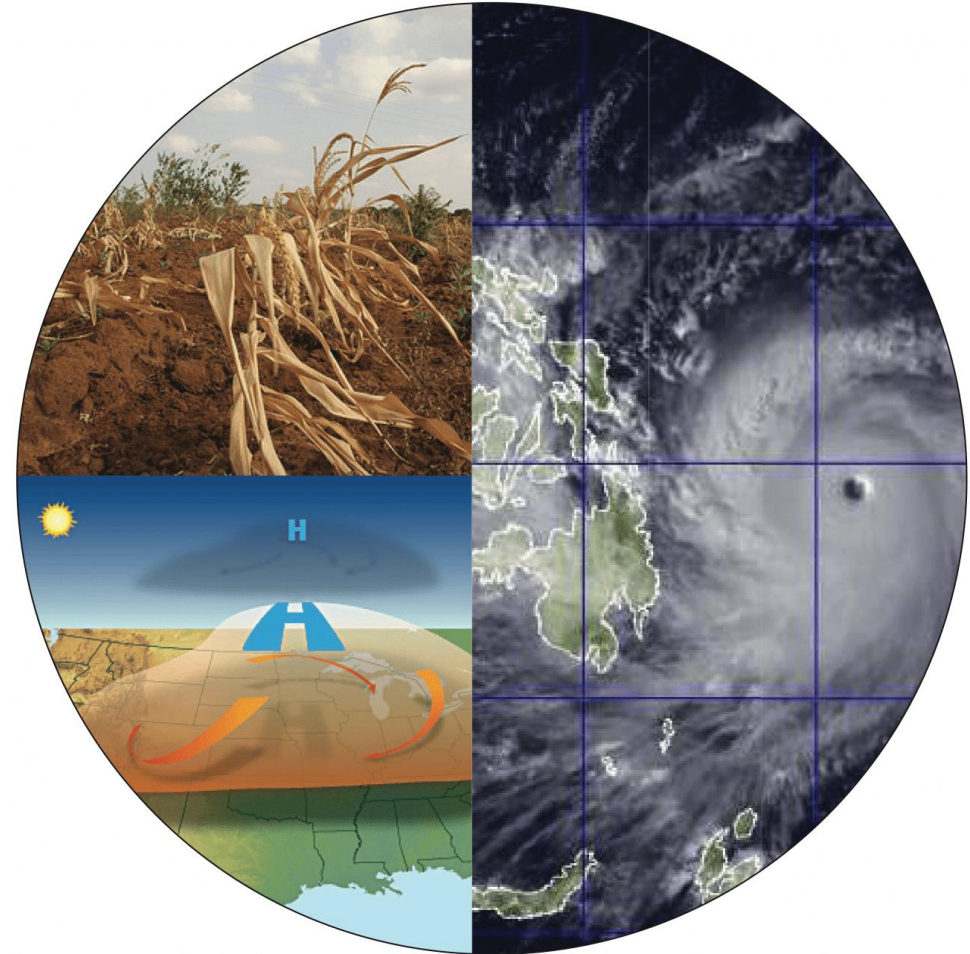
- ✓ Introduction
- ✓ Climate change impacts on plants and plant pests
- ✓ Assessment of climate change impacts on plant health
- ✓ Management of climate change impacts on plant health
- ✓ Case Studies



Climate-change impacts on plant pests: a technical resource to support NPPOs and RPPOs

Section 1. Introduction

- ✓ Objective
- ✓ Overview of climate effects on pest risk
- ✓ Recent and projected changes in climate



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Section 2. Climate-change impacts on plants and plant pests

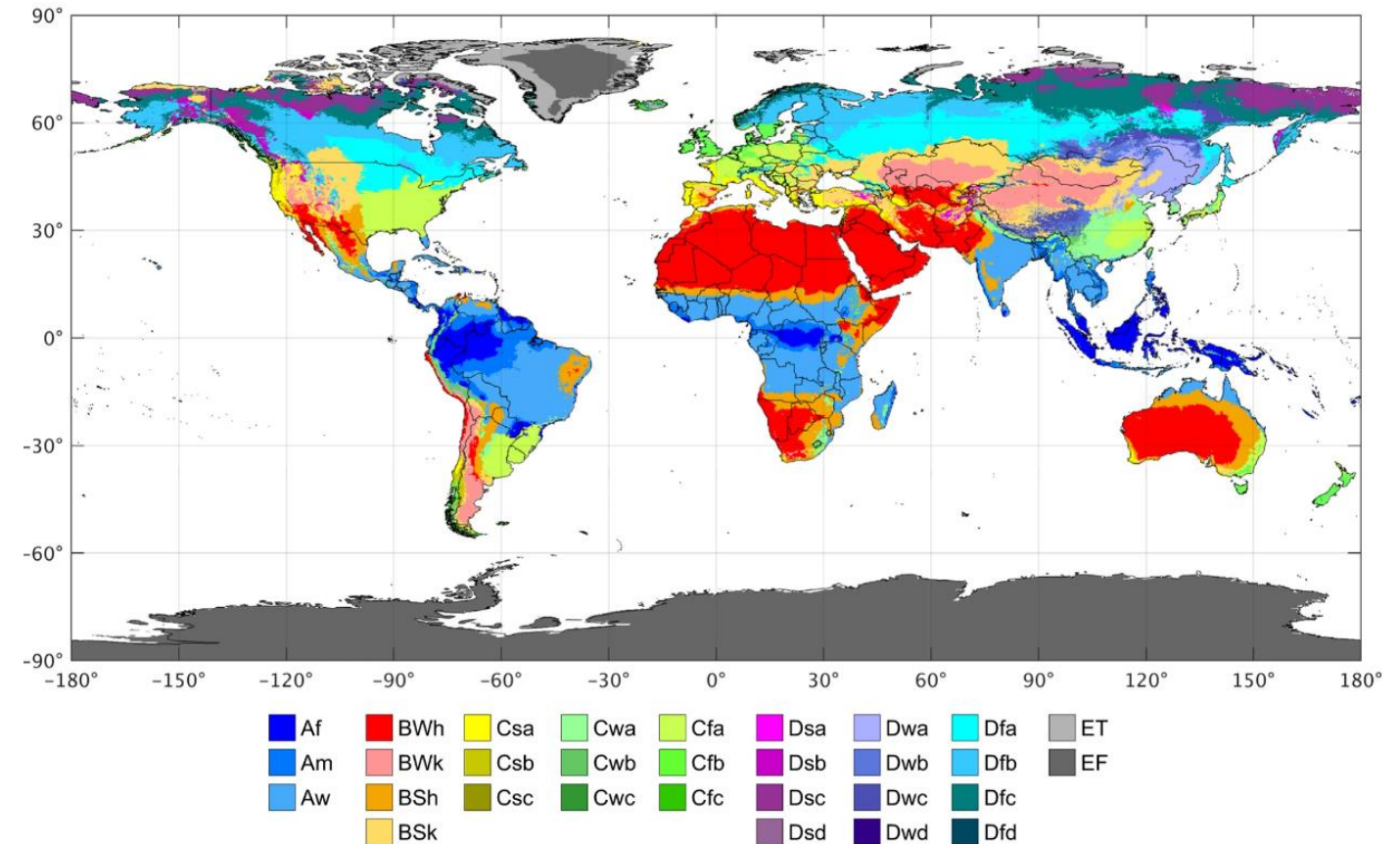
- ✓ Changes in pest distribution
- ✓ Changes in pest phenology
- ✓ Effects on agriculture
- ✓ Effects on forests and the environment



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Section 3. Assessment of climate-change impacts on plant health

- ✓ Climate and pest forecast modeling
- ✓ Horizon scanning
- ✓ Pest risk analysis
- ✓ Pest reporting
- ✓ Pest risk pathways



Future Köppen-Geiger climate classification map (2071 -2100) under RCP 8.5 (Beck et al., 2018)

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Section 4. Management of climate-change impacts on plant health

- ✓ Pest surveillance and monitoring
- ✓ Response plans
- ✓ International cooperation and capacity building
- ✓ Communication

IPPC Pest Outbreak Alert and Response System (Expected by 2030)



4 June 2020, Lokichar, Kenya - Hopper bands of desert locust infesting a grazing area next to Lokichar, Turkana County, Kenya. An increasing number of second-generation immature swarms continue to form in northwest Kenya. © FAO/Luis Tato

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Section 5. Case Studies

- 1) Use of climate-change projections by the European and Mediterranean Plant Protection Organization in pest risk analyses of invasive alien plants
- 2) Blueberry maggot establishment – use of modelling to predict expansion of pest distribution
- 3) Choice of climate-data date ranges – use of 2030 climate data in species-distribution modelling by the national plant protection organization of Canada



Jerry A. Payne, USDA Agricultural Research Service, Bugwood.org



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Potential uses of the technical resource

- ✓ Adding climate change into pest risk assessments
- ✓ Pest forecasts
- ✓ Raising awareness
- ✓ Fostering collaboration



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Future Focus Group Actions

- ✓ In-person meeting in Brazil
- ✓ Accomplishment report for 2022 to 2025
- ✓ Action plan for 2025 to 2026
- ✓ Additional technical resources
- ✓ Collaboration opportunities



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Summary and Conclusions

- ✓ Climate change impacts on plant health will increase
- ✓ This technical resource can help RPPOs and NPPOs address climate change impacts
- ✓ International collaboration is important
- ✓ More work needs to be done!



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- ✓ Christopher Dale



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Thank you



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