

“This book is an excellent introduction to the increasingly relevant challenge of climate adaptation. A strength is that it explains the complexity of adaptation in a very clear and accessible way. It addresses challenges in wealthier, industrialized countries as well as the specifics of developing countries, based on the author’s experience in both contexts. Because of its clarity in writing, its governance focus, and its comprehensive yet introductory character, this book can guide researchers, policy makers, and civil society actors alike toward exploring this ever-expanding field.”

**HANS BRUYNINCKX, EXECUTIVE DIRECTOR OF THE
EUROPEAN ENVIRONMENT AGENCY**

“In this primer, Lisa Dale charts a clear and accessible pathway through the most pertinent questions of climate change adaptation. She provides a comprehensive overview of the strategies and solutions that are available to deal with the consequences of a heating planet in key policy sectors. Essential reading for times of growing uncertainty in our natural as well as institutional environments.”

**GERNOT LAGANDA, CHIEF OF CLIMATE AND DISASTER RISK REDUCTION PROGRAMS,
UN WORLD FOOD PROGRAMME**

“Dale has written a comprehensive and accessible guide to climate adaptation. This book presents a systematic account of the strengths and limitations of various adaptation strategies, from disaster risk reduction and large-scale infrastructure to ‘climate smart’ agriculture. It emphasizes the vital importance of addressing equity and justice in a world where those least responsible for past emissions often bear the brunt of our collective failure in climate mitigation.”

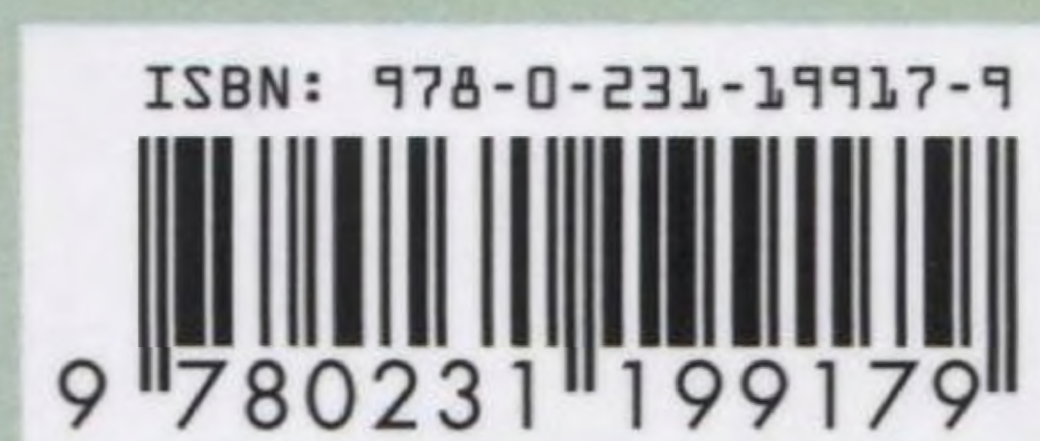
**ALEX DE SHERBININ, ASSOCIATE DIRECTOR AND SENIOR RESEARCH SCIENTIST,
CENTER FOR INTERNATIONAL EARTH SCIENCE INFORMATION NETWORK,
THE EARTH INSTITUTE**

LISA DALE is a lecturer in the undergraduate program in sustainable development at Columbia University’s Earth Institute. Her expertise extends from wildfire policy in the American West to the effects of climate adaptation policies on smallholder farmers in rural sub-Saharan Africa.

COLUMBIA UNIVERSITY EARTH INSTITUTE SUSTAINABILITY PRIMERS

Cover image: Balate Dorin / Shutterstock.com

COLUMBIA UNIVERSITY PRESS | NEW YORK
cup.columbia.edu



CONTENTS

List of Acronyms vii

Introduction i

1 Foundations: Science, Policy, and Institutions 19

2 Disaster Risk Management: Early Warning, Early Action 39

3 The Built Environment: Infrastructure
and Nature-Based Solutions 55

4 Urban Planning for Climate Adaptation 70

5 Agriculture, Land Use, and Food Security 85

6 Insurance as Risk Transfer 100

7 Migration and Managed Retreat 116

8 Inequality and Justice 132

9 Synergies and Best Practices 146

Glossary 153

Notes 157

Bibliography 177

Index 193