Farming in a Changing Climate: Agricultural Adaptation in Canada
Contents

Figures and Tables / vii
Abbreviations / x
Preface / xii
Acknowledgments / xiv

Part 1: Research Approaches to Climate Change Adaptation / 1

1 Introduction / 3
   Ellen Wall, Barry Smit, and Johanna Wandel

2 Impact-Based Approach / 13
   Michael Brklacich, Barry Smit, Ellen Wall, and Johanna Wandel

3 Context-Based Approach / 32
   Ellen Wall, Barry Smit, and Johanna Wandel

4 Process-Based Approach / 42
   Johanna Wandel, Ellen Wall, and Barry Smit

Part 2: Impact-Based Studies / 51

5 Potential Impacts of Climate Change on Agriculture in Eastern Canada / 53
   Samuel Gameda, Andrew Bootsma, and Daniel McKenney

6 Climate Change Impacts on Agriculture in the Prairies / 67
   David Sauchyn

7 Agricultural Water Supply in the Okanagan Basin: Using Climate Change Scenarios to Inform Dialogue and Planning Processes / 81
   Denise Neilsen, Stewart Cohen, Scott Smith, Grace Frank, Walter Koch,
   Younes Alila, Wendy Merritt, Mark Barton, and Bill Taylor
Part 3: Context-Based Studies / 101

8 Climate Change Adaptation in a Wider Context: Conceptualizing, Multiple Risks in Primary Agriculture / 103
Ben Bradshaw

9 Biophysical and Socio-Economic Stressors for Agriculture in the Canadian Prairies / 115
Henry David Venema

10 Institutional Capacity for Agriculture in the South Saskatchewan River Basin / 127
Harry P. Diaz and David A. Gauthier.

11 The Perception of Risk to Agriculture and Climatic Variability in Québec: Implications for Farmer Adaptation to Climatic Variability and Change / 142
Christopher Bryant, Bhawan Singh, and Pierre André

Part 4: Process-Based Studies / 155

12 Comparing Apples and Grapes: Farm-Level Vulnerability to Climate Variability and Change / 157
Suzanne Belliveau, Ben Bradshaw, and Barry Smit

13 Vulnerability and Adaptation to Climate Risks in Southwestern Ontario Farming Systems / 173
Susanna Reid, Suzanne Belliveau, Barry Smit, and Wayne Caldwell

14 Community-Based Watershed Management as an Agricultural Adaptation to Climatic Extremes in the Canadian Prairies / 187
R. Cynthia Neudoerffer and David Waltner-Toews

15 Household Access to Capital and Its Influence on Climate-Related Rural Population Change: Lessons from the Dust Bowl Years / 200
Robert A. McLeman

Part 5: Conclusions / 217

16 Policy Implications: Panellists’ Comments / 219
Ellen Wall, Barry Smit, and Johanna Wandel

17 Climate Change Adaptation Research and Policy for Canadian Agriculture / 233
Ellen Wall and Barry Smit

References / 241
Contributors / 262
Index / 264