

Table of Contents

Front Matter

Highlights	1
Preface.....	5
Executive Summary	21

Section I: Synthesis

Chapter 1: Overview of the Global Carbon Cycle	42
Chapter 2: The North American Carbon Budget	71

Section II: Human Dimensions of the Carbon Cycle

Chapter 3: Energy Systems.....	110
Chapter 4: Understanding Urban Carbon Fluxes	189
Chapter 5: Agriculture	229
Chapter 6: Social Science Perspectives on Carbon	264
Chapter 7: Tribal Lands	303

Section III: State of Air, Land, and Water

Chapter 8: Observations of Atmospheric Carbon Dioxide and Methane	337
Chapter 9: Forests	365
Chapter 10: Grasslands.....	399
Chapter 11: Arctic and Boreal Carbon	428
Chapter 12: Soils.....	469
Chapter 13: Terrestrial Wetlands.....	507
Chapter 14: Inland Waters	568
Chapter 15: Tidal Wetlands and Estuaries.....	596
Chapter 16: Coastal Ocean and Continental Shelves.....	649

Section IV: Consequences and Ways Forward

Chapter 17: Biogeochemical Effects of Rising Atmospheric Carbon Dioxide	690
Chapter 18: Carbon Cycle Science in Support of Decision Making.....	728
Chapter 19: Future of the North American Carbon Cycle.....	760

Appendices

Appendix A: Report Development Process.....	810
Appendix B: Information Quality in the Assessment.....	818
Appendix C: Selected Carbon Cycle Research Observations and Measurement Programs	821
Appendix D: Carbon Measurement Approaches and Accounting Frameworks	834
Appendix E: Fossil Fuel Emissions Estimates for North America.....	839
Appendix F: Acronyms, Abbreviations, and Units.....	844
Appendix G: Glossary.....	851