Contents

	Preface	xiii
1.	The Changed View of Science	1
	The Golden Age	2
	The Rise of Public Concern	4
	Focus on Global Change	7
2.	The Evidence for Global Change	13
	Effects of Radiatively Active Gases on Climate	14
	Effects of Halocarbon Gases on Stratospheric Ozone	28
	Effects of Chemically Active Gases and Particles	32
	Other Changes of Global Scale	35
3.	Projections of the Future	41
	Greenhouse Warming	43
	Stratospheric Ozone	55
	Acid Precipitation	57
4.	Policy Implications for the United States	63
	Sea Level Rise	64
	Changes in River Flow and Water Storage	65

Effects on Ecosystems, Agriculture, Forests, and Fish Populations	68	
Impacts on Energy Production and Use	73	
Industry: Impacts and Opportunities	75 76	
Economic Costs of Global Change	70 77	
Concluding Remarks	77 79	
5. The Policy Landscape: The Academic and Professional Sector		
The Universities	85	
The National Academy of Sciences	86	
The University Corporation for Atmospheric	89	
Research-National Center for Atmospheric Research	99	
Scientific and Professional Societies	102	
Industry	103	
The Press	104	
6. The Policy Landscape: The Government Sector	111	
Mission Agencies of Government	111	
Policy Agencies	134	
7. The Policy Landscape: The Grass Roots		
Organizations of Professionals	149	
Public Interest "Think Tanks"	150	
Environmental Organizations	153	
Local Organizations	156	
Concluding Remarks	159	
8. The International Perspective	162	
The Research Road to Global Change	167	
The Policy Road to Global Change	167	
Concluding Remarks	182	
	193	
9. The Search for Effective Science-Policy Interactions		
Structural Elements of the Mechanism	201	
A Summary Look at the Record	215	
Preparing for Future Global Change	217	

Contents	
Acronyms and Abbreviations	225
Selected Bibliography	229
Index	233