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Global Warming and Climate Change Sep 25 2020 1988: coming to grips with a terrifying global experiment The Toronto conference statement made it clear that climate change would affect everyone. It called greenhouse gas atmospheric pollution an ‘uncontrolled, globally pervasive experiment whose ultimate consequences could be second only to nuclear war’. World governments were urged to swiftly develop emission reduction targets (The changing atmosphere: implications for global security, 1988). Relevant to both Australian and overseas audiences, here is the untold story of how Australia buried its knowledge on climate change science and response options during the 1990s — going from clarity to confusion and doubt after arguably leading the world in citizen understanding and a political will to act in the late 1980s. ‘What happened and why’ is a fascinating exploration drawing on the public record of how a society revised its good understanding on a critical issue affecting every citizen. It happened through political and media communication, regardless of international scientific assessments that have remained consistent in ascribing causes and risks since 1990. How could this happen? The author examines the major influences, with lessons for the present, on how the story was reframed. Key have been values and beliefs, including economic beliefs, that trumped the science, the ability of changing political leaders and the mass media to set the story for the public, as well as the role of scientists’ own communication over time and the use and misuse of uncertainty.

[Psychology and Climate Change](#) Mar 12 2022 Psychology and Climate Change: Human Perceptions, Impacts, and Responses organizes and summarizes recent psychological research that relates to the issue of climate change. The book covers topics such as how people perceive and respond to climate change, how people understand and communicate about the issue, how it impacts individuals and communities, particularly vulnerable communities, and how individuals and communities can best prepare for and mitigate negative climate change impacts. It addresses the topic at multiple scales, from individuals to close social networks and communities. Further, it considers the role of social diversity in shaping vulnerability and reactions to climate change. Psychology and Climate Change describes the implications of psychological processes such as perceptions and motivations (e.g., risk perception, motivated cognition, denial), emotional responses, group identities, mental health and well-being, sense of place, and behavior (mitigation and adaptation). The book strives to engage diverse stakeholders, from multiple disciplines in addition to psychology, and at every level of decision making - individual, community, national, and international, to understand the ways in which human capabilities and tendencies can and should shape policy and action to address the urgent and very real issue of climate change. Examines the role of knowledge, norms, experience, and social context in climate change awareness and action Considers the role of identity threat, identity-based motivation, and belonging Presents a conceptual framework for classifying individual and household behavior Develops a model to explain environmentally sustainable behavior Draws on what we know about participation in collective action Describes ways to improve the effectiveness of climate change communication efforts Discusses the difference between acute climate change events and slowly-emerging changes on our mental health Addresses psychological stress and injury related to global climate change from an intersectional justice perspective Promotes individual and community resilience

Society, Behaviour, and Climate Change Mitigation May 22 2020 The Intergovernmental Panel on Climate Change (IPCC) noted increasing greenhouse gas concentrations and discernible human influence on global change. Limiting the changing global climate will require policies, programmes, and measures to deploy new mitigation technologies and entrepreneurial opportunities. The social, behavioural, and cultural changes, however, are poorly understood at present. Traditional conceptual frameworks for mitigation assessment do not sufficiently take into account social and psychological factors such as individual motivation and personality (e.g., convenience, fun culture, social prestige), communication, and decision patterns within administrations and companies, or cultural traditions and life styles of societal groups. Therefore, this book focuses on these aspects and related conceptual frameworks for mitigation assessment. Its aim is to encourage and develop more effective mitigation policies worldwide, to assist marketing aspects of energy service companies, technology producers, and utilities in gaining better understanding of their customers’ decisions, and to provide material for relevant courses at universities and other research institutions.

Interdisciplinarity and Climate Change Apr 01 2021 Interdisciplinarity and Climate Change is a major new book addressing one of the most challenging questions of our time. Its unique standpoint is based on the recognition that effective and coherent interdisciplinarity is necessary to deal with the issue of climate change, and the multitude of linked phenomena which both constitute and connect to it. In the opening chapter, Roy Bhaskar makes use of the extensive resources of critical realism to articulate a comprehensive framework for multidisciplinary, interdisciplinarity, transdisciplinarity and cross-disciplinary understanding, one which duly takes account of ontological as well as epistemological considerations. Many of the subsequent chapters seek to show how this general approach can be used to make intellectual sense of the complex phenomena in and around the issue of climate change, including our response to it. Among the issues discussed, in a number of graphic and compelling studies, by a range of distinguished contributors, both activists and scholars, are: The dangers of reducing all environmental, energy and climate gas issues to questions of carbon dioxide emissions The problems of integrating natural and social scientific work and the perils of monodisciplinary tunnel vision The consequences of the neglect of issues of consumption in climate policy The desirability of a care-based ethics and of the integration of cultural considerations into climate policy The problem of relating theoretical knowledge to practical action in contemporary democratic societies Interdisciplinarity and Climate Change is essential reading for all serious students of the fight against climate change, the interactions between governmental bodies, and critical realism.

Climate Change Nov 20 2022 This book introduces climate change fundamentals and essential concepts that reveal the extent of the damage, the impacts felt around the globe, and the innovation and leadership it will take to bring an end to the status quo. Emphasizing peer-reviewed literature, this text details the impact of climate change on land and sea, the water cycle, human communities, the weather, and humanity’s collective future. Coverage of greenhouse gases, oceanic and atmospheric processes, Pleistocene and Holocene paleoclimate, sea levels, and other fundamental topics provide a deep understanding of key mechanisms, while discussion of extreme weather, economic impacts, and resource scarcity reveals how climate change is already impacting people’s lives—and will continue to do so at an increasing rate for the foreseeable future.

Climate Change Education in Formal Settings, K-14 Nov 08 2021 Climate change is occurring, is very likely caused by human activities, and poses significant risks for a broad range of human and natural systems. Each additional ton of greenhouse gases emitted commits us to further change and greater risks. In the judgment of the Committee on America’s Climate Choices, the environmental, economic, and humanitarian risks of climate change indicate a pressing need for substantial action to limit the magnitude of climate change and to prepare to adapt to its impacts. A principal message from the recent National Research Council report, America’s Climate Choices, this brief summary of how climate change will shape many aspects of life in the foreseeable future emphasizes the vital importance of preparation for these changes. The report points to the importance of formal and informal education in supporting the public’s understanding of those challenges climate change will bring, and in preparing current and future generations to act to limit the magnitude of climate change and respond to those challenges. Recognizing both the urgency and the difficulty of climate change education, the National Research Council, with support from the National Science Foundation, formed the Climate Change Education Roundtable. The roundtable brings together federal agency representatives with diverse experts and practitioners in the physical and natural sciences, social sciences, learning sciences, environmental education, education policy, extension education and outreach, resource management, and public policy to engage in discussion and explore educational strategies for addressing climate change. Two workshops were held to survey the landscape of climate change education. The first explored the goals for climate change education for various target audiences. The second workshop, which is the focus of this summary, was held on August 31 and September 1, 2011, and focused on the teaching and learning of climate change and climate science in formal education settings, from kindergarten through the first two years of college (K-14). This workshop, based on an already articulated need to teach climate change education, provided a forum for discussion of the evidence from research and practice. The goal of this workshop was to raise and explore complex questions around climate change education, and to address the current status of climate change education in grade K-14 of the formal education system by facilitating discussion between expert researchers and practitioners in complementary fields, such as education policy, teacher professional development, learning and cognitive science, K-12 and higher education administration, instructional design, curriculum development, and climate science. Climate Change Education in Formal Settings, K-14: A Workshop Summary summarizes the two workshops.

This Is Climate Change Jun 03 2021 In this just-the-facts look at climate change—richly illuminated with illustrations, charts, and graphs on every page—the numbers tell a compelling story of our planet, as convincing as it is impossible to ignore.

[Nitrogen and Climate Change](#) Dec 21 2022 The world is changing. Human population is surging towards 10 billion, food, water, climate and energy security are all at risk. Nitrogen could be our life raft in this global ‘perfect storm’. Get it right and it can help to feed billions, fuel our cars and put a dent in global warming. Get it wrong and it will make things a whole lot worse.

Education and Climate Change Apr 13 2022 This open access volume draws on a multidimensional model of educational change, the book reviews the field of climate change education and identifies some of the areas in which past efforts have fallen short in supporting effective pedagogical change at scale. It then formulates an approach to engage university students and faculty in partnering with schools and adult education institutions and directly contribute innovative curricula on climate change. The approach is illustrated with several case studies which present curricula developed to support school-based innovation in the Middle East and in Guatemala, and adult education in Haiti and Pakistan, and educators preparation at the university level. The approach followed to develop innovative curriculum follows five steps: 1) What are the specific impacts of climate change in this jurisdiction? How do they impact various human populations? 2) What knowledge, dispositions and behaviors could mitigate the impact of climate change and are there ways in which changes in the behaviors of populations in this jurisdiction could slow down climate change? 3) What are the means of delivery to reach each of the specific populations in this jurisdiction who needs to be educated on climate change? 4) What curriculum can help educate each population? 5) What role can the institution we are collaborating with play in advancing climate change education in that jurisdiction? The various chapters of the book present the conceptual foundation of these programs and illustrate how these programs respond to specific characteristics of local contexts. These programs focus in schools, non-formal settings and educator preparation institutions. The chapters offer examples of general value beyond the specific contexts for which they were designed, as they illustrate how in order to be optimally useful climate change education needs to be firmly grounded in the specifics of a context and responsive to that context.

The Discovery of Global Warming Nov 15 2019 A capricious beast ever since the days when he had trudged around fossil lake basins in Nevada for his doctoral thesis, Broecker had been interested in sudden climate shifts. Here is his most surprising and important calculation.

Global Climate Change Dec 09 2021 Global Climate Change presents both practical and theoretical aspects of global climate change from across geological periods. It addresses holistic issues related to climate change and its contribution in triggering the temperature increase with a multitude of impacts on natural processes. As a result, it helps to identify the gaps between policies that have been put in place and the continuously increasing emissions. The challenges presented include habitability, biodiversity, natural resources, and human health. It is organized into information on the past, present, and future of climate change to lead to a more complete understanding and therefore effective solutions. Placing an emphasis on recent climate change research, Global Climate Change helps to bring researchers and graduate students in climate science, environmental science, and sustainability up to date on the science of climate change so far and presents a baseline for how to move into the future effectively. Addresses the variety of challenges associated with climate change, along with possible solutions Includes suggestions for future research on climate change Covers climate change holistically, including global and regional scales, ecosystems, agriculture, energy, and sustainability Presents both practical and theoretical research, including coverage of climate change over various geological periods

Climate Change and Global Poverty Oct 27 2020 Climate change threatens all people, but its adverse effects will be felt most acutely by the world’s poor. Absent urgent action, new threats to food security, public health, and other societal needs may reverse hard-fought human development gains. Climate Change and Global Poverty makes concrete recommendations to integrate international development and climate protection strategies. It demonstrates that effective climate solutions must empower global development, while poverty alleviation itself must become a central strategy for both mitigating emissions and reducing global vulnerability to adverse climate impacts.

Solutions for Climate Change Challenges in the Built Environment Dec 29 2020 The multi-disciplinary perspective provided here offers a strategic view on built environment issues and improve understanding of how built environment activities potentially induce global warming and climate change. It also highlights solutions to these challenges. Solutions to Climate change Challenges in the Built Environment helps develop an appreciation of the diverse themes of the climate change debate across the built environment continuum. A wide perspective is provided through contributions from physical,

environmental, social, economic and political scientists. This strategic view on built environment issues will be useful to researchers as well as policy experts and construction practitioners wanting a holistic view. This book clarifies complex issues around climate change and follows five main themes: climate change experiences; urban landscape development; urban management issues; measurement of impact; and the future. Chapters are written by eminent specialists from both academic and professional backgrounds. The main context for chapters is the developed world but the discussion is widened to incorporate regional issues. The book will be valuable to researchers and students in all the built environment disciplines, as well as to practitioners involved with the design, construction and maintenance of buildings, and government organisations developing and implementing climate change policy.

The Rough Guide to Climate Change May 02 2021 Provides facts and assesses the options, both personal and global, for dealing with the threat of global warming through an examination of the evolution of the earth's atmosphere over the past 4.5 billion years.

Advancing the Science of Climate Change Aug 25 2020

Encyclopedia of Global Warming and Climate Change, Second Edition Sep 18 2022 The First Edition of the Encyclopedia of Global Warming and Climate Change provided a multi-authored, academic yet non-technical resource for students and teachers to understand the importance of global warming, to appreciate the effects of human activity and greenhouse gases around the world, and to learn the history of climate change and the research enterprise examining it. This edition was well received, with notable reviews. Since its publication, the debate over the advent of global warming at least partially brought on by human enterprise has continued to ebb and flow, depending literally on the weather, politics, and media coverage of climate summits and debates. Advances in research also change the discourse as new data is collected and new scientific projects continue to explore and explain global warming and climate change. Thus, a new, Second Edition updates more than half of the original entries and adds new perspectives and content to keep students and researchers up-to-date in a field that has proven provocatively lively.

Regeneration Apr 20 2020 A radically new understanding of and practical approach to climate change by noted environmentalist Paul Hawken, creator of the New York Times bestseller Drawdown Regeneration offers a visionary new approach to climate change, one that weaves justice, climate, biodiversity, equity, and human dignity into a seamless tapestry of action, policy, and transformation that can end the climate crisis in one generation. It is the first book to describe and define the burgeoning regeneration movement spreading rapidly throughout the world. Regeneration describes how an inclusive movement can engage the majority of humanity to save the world from the threat of global warming, with climate solutions that directly serve our children, the poor, and the excluded. This means we must address current human needs, not future existential threats, real as they are, with initiatives that include but go well beyond solar, electric vehicles, and tree planting to include such solutions as the fifteen-minute city, bioregions, azolla fern, food localization, fire ecology, decommodification, forests as farms, and the number one solution for the world: electrifying everything. Paul Hawken and the nonprofit Regeneration Organization are launching a series of initiatives to accompany the book, including a streaming video series, curriculum, podcasts, teaching videos, and climate action software. Regeneration is the inspiring and necessary guide to inform the rapidly spreading climate movement.

Global Climate Change and Human Health Nov 27 2020 Learn more about the impact of global warming and climate change on human health and disease The Second Edition of Global Climate Change and Human Health delivers an accessible and comprehensive exploration of the rapidly accelerating and increasingly ubiquitous effects of climate change and global warming on human health and disease. The distinguished and accomplished authors discuss the health impacts of the economic, climatological, and geopolitical effects of global warming. You'll learn about: The effect of extreme weather events on public health and the effects of changing meteorological conditions on human health How changes in hydrology impact the spread of waterborne disease and noninfectious waterborne threats Adaptation to, and the mitigation and governance of, climate change, including international perspectives on climate change adaptation Perfect for students of public health, medicine, nursing, and pharmacy, Global Climate Change and Human Health, Second Edition is an invaluable resource for anyone with an interest in the intersection of climate and human health and disease.

Global Warming and Climate Change Jan 18 2020 The earth's atmosphere is made up of different layers. Gases such as Carbon dioxide, Methane, Nitrous oxide, chlorofluorocarbons, Methyl bromide etc. make the atmosphere work like a greenhouse. These gases trap heat emitted by infrared wavelengths from the earth's surface. This phenomenon is called greenhouse effect, and is responsible for the average temperature at the earth surface being 15c rather than -15 c the temperature it would be if there no atmosphere.

Climate Change Feb 28 2021 Climate Change: Evidence and Causes is a jointly produced publication of The US National Academy of Sciences and The Royal Society. Written by a UK-US team of leading climate scientists and reviewed by climate scientists and others, the publication is intended as a brief, readable reference document for decision makers, policy makers, educators, and other individuals seeking authoritative information on the some of the questions that continue to be asked. Climate Change makes clear what is well-established and where understanding is still developing. It echoes and builds upon the long history of climate-related work from both national academies, as well as on the newest climate-change assessment from the United Nations' Intergovernmental Panel on Climate Change. It touches on current areas of active debate and ongoing research, such as the link between ocean heat content and the rate of warming.

Climate Change from the Streets Oct 19 2022 An urgent and timely story of the contentious politics of incorporating environmental justice into global climate change policy Although the science of climate change is clear, policy decisions about how to respond to its effects remain contentious. Even when such decisions claim to be guided by objective knowledge, they are made and implemented through political institutions and relationships—and all the competing interests and power struggles that this implies. Michael Méndez tells a timely story of people, place, and power in the context of climate change and inequality. He explores the perspectives and influence low-income people of color bring to their advocacy work on climate change. In California, activist groups have galvanized behind issues such as air pollution, poverty alleviation, and green jobs to advance equitable climate solutions at the local, state, and global levels. Arguing that environmental protection and improving public health are inextricably linked, Mendez contends that we must incorporate local knowledge, culture, and history into policymaking to fully address the global complexities of climate change and the real threats facing our local communities.

Climate Change Jul 04 2021

Climate Change and Climate Modeling Oct 15 2019 Provides students with a solid foundation in climate science, with which to understand global warming, natural climate variations, and climate models. As climate models are one of our primary tools for predicting and adapting to climate change, it is vital we appreciate their strengths and limitations. Also key is understanding what aspects of climate science are well understood and where quantitative uncertainties arise. This textbook will inform the future users of climate models and the decision-makers of tomorrow by providing the depth they need, while requiring no background in atmospheric science and only basic calculus and physics. Developed from a course that the author teaches at UCLA, material has been extensively class-tested and with online resources of colour figures, Powerpoint slides, and problem sets, this is a complete package for students across all sciences wishing to gain a solid grounding in climate science.

The Pentagon, Climate Change, and War Dec 17 2019 How the Pentagon became the world's largest single greenhouse gas emitter and why it's not too late to break the link between national security and fossil fuel consumption. The military has for years (unlike many politicians) acknowledged that climate change is real, creating conditions so extreme that some military officials fear future climate wars. At the same time, the U.S. Department of Defense—military forces and DOD agencies—is the largest single energy consumer in the United States and the world's largest institutional greenhouse gas emitter. In this eye-opening book, Neta Crawford traces the U.S. military's growing consumption of energy and calls for a reconceptualization of foreign policy and military doctrine. Only such a rethinking, she argues, will break the link between national security and fossil fuels. The Pentagon, Climate Change, and War shows how the U.S. economy and military together have created a deep and long-term cycle of economic growth, fossil fuel use, and dependency. This cycle has shaped U.S. military doctrine and, over the past fifty years, has driven the mission to protect access to Persian Gulf oil. Crawford shows that even as the U.S. military acknowledged and adapted to human-caused climate change, it resisted reporting its own greenhouse gas emissions. Examining the idea of climate change as a “threat multiplier” in national security, she argues that the United States faces more risk from climate change than from lost access to Persian Gulf oil—or from most military conflicts. The most effective way to cut military emissions, Crawford suggests provocatively, is to rethink U.S. grand strategy, which would enable the United States to reduce the size and operations of the military.

Plant Growth and Climate Change Feb 11 2022 Evidence grows daily of the changing climate and its impact on plants and animals. Plant function is inextricably linked to climate and atmospheric carbon dioxide concentration. On the shortest and smallest scales, the climate affects the plant's immediate environment and so directly influences physiological processes. At larger scales, the climate influences species distribution and community composition, as well as the viability of different crops in managed ecosystems. Plant growth also influences the local, regional and global climate, through the exchanges of energy and gases between the plants and the air around them. Plant Growth and Climate Change examines the major aspects of how anthropogenic climate change affects plants, focusing on several key determinants of plant growth: atmospheric CO2, temperature, water availability and the interactions between these factors. The book demonstrates the variety of techniques used across plant science: detailed physiology in controlled environments; observational studies based on long-term data sets; field manipulation experiments and modelling. It is directed at advanced-level university students, researchers and professionals across the range of plant science disciplines, including plant physiology, plant ecology and crop science. It will also be of interest to earth system scientists.

Negotiating Climate Change in Crisis Jun 22 2020 Climate change negotiations have failed the world. Despite more than thirty years of high-level, global talks on climate change, we are still seeing carbon emissions rise dramatically. This edited volume, comprising leading and emerging scholars and climate activists from around the world, takes a critical look at what has gone wrong and what is to be done to create more decisive action. Composed of twenty-eight essays—a combination of new and republished texts—the anthology is organised around seven main themes: paradigms; what counts?; extraction; dispatches from a climate change frontline country; governance; finance; and action(s). Through this multifaceted approach, the contributors ask pressing questions about how we conceptualise and respond to the climate crisis, providing both ‘big picture’ perspectives and more focussed case studies. This unique and extensive collection will be of great value to environmental and social scientists alike, as well as to the general reader interested in understanding current views on the climate crisis.

Climate Change and International Trade Jan 10 2022 Rafael Leal-Arcas expertly examines the interface of climate change mitigation and international trade law with a view to addressing the question: How can we make best use of the international trading system experience to aim at a global climate change agreement? The insightful book contributes to developing the architecture for a post- 2012 global climate agreement and, in doing so, seeks and proposes new approaches to climate change mitigation by linking it to the international trade system. The author suggests the adoption of a bottom-up approach to climate change negotiations by using the evolution of multilateral trade agreements as a model for reaching a global climate treaty. He discusses the innovative approach of inserting climate goals within regional trade agreements, given their proliferation – especially bilateral – in the international trading system. He explains the trade implications of climate change mitigation policies by analyzing a couple of areas where the international regimes for trade and climate change mitigation may potentially clash. Climate Change and International Trade will strongly appeal to undergraduate and graduate students of international and European trade law, international and European environmental law as well as social science academics. NGOs, think tanks, practitioners, researchers, and international organizations will also find plenty of valuable information in this timely resource.

Communicating Climate Change May 14 2022 Environmental educators face a formidable challenge when they approach climate change due to the complexity of the science and of the political and cultural contexts in which people live. There is a clear consensus among climate scientists that climate change is already occurring as a result of human activities, but high levels of climate change awareness and growing levels of concern have not translated into meaningful action. Communicating Climate Change provides environmental educators with an understanding of how their audiences engage with climate change information as well as with concrete, empirically tested communication tools they can use to enhance their climate change program. Starting with the basics of climate science and climate change public opinion, Armstrong, Krasny, and Schuldt synthesize research from environmental psychology and climate change communication, weaving in examples of environmental education applications throughout this practical book. Each chapter covers a separate topic, from how environmental psychology explains the complex ways in which people interact with climate change information to communication strategies with a focus on framing, metaphors, and messengers. This broad set of topics will aid educators in formulating program language for their classrooms at all levels. Communicating Climate Change uses fictional vignettes of climate change education programs and true stories from climate change educators working in the field to illustrate the possibilities of applying research to practice. Armstrong et al, ably demonstrate that environmental education is an important player in fostering positive climate change dialogue and subsequent climate change action. An open access version of this book is available through Cornell Open.

How to Avoid a Climate Disaster Feb 23 2023 #1 NEW YORK TIMES BEST SELLER • In this urgent, authoritative book, Bill Gates sets out a wide-ranging, practical—and accessible—plan for how the world can get to zero greenhouse gas emissions in time to avoid a climate catastrophe. Bill Gates has spent a decade investigating the causes and effects of climate change. With the help of experts in the fields of physics, chemistry, biology, engineering, political science, and finance, he has focused on what must be done in order to stop the planet's slide to certain environmental disaster. In this book, he not only explains why we need to work toward net-zero emissions of greenhouse gases, but also details what we need to do to achieve this profoundly important goal. He gives us a clear-eyed description of the challenges we face. Drawing on his understanding of innovation and what it takes to get new ideas into the market, he describes the areas in which technology is already helping to reduce emissions, where and how the current technology can be made to function more effectively, where breakthrough technologies are needed, and who is working on these essential innovations. Finally, he lays out a concrete, practical plan for achieving the goal of zero emissions—suggesting not only policies that governments should adopt, but what we as individuals can do to keep our government, our employers, and ourselves accountable in this crucial enterprise. As Bill Gates makes clear, achieving zero emissions will not be simple or easy to do, but if we follow the plan he sets out here, it is a goal firmly within our reach.

Economic Policy and Climate Change Sep 06 2021 Given the media spotlight on global warming and El Nino, Koutstaal (Netherlands Energy Research Foundation ECN) presents a timely, data-based model of the economic impact of climate change. He advocates an international strategy of employing economic leverage to limit the 25% increase in CO2, the main greenhouse gas, since the mid-18th century. While research on the economic instrument of tradable emission permits (TCPs) is presented here, the salient focus is on designing a viable system of TCPs, and comparing the environmental/economic consequences of such a system simulation with other options (e.g. taxes). Annotation copyrighted by Book News, Inc., Portland, OR

Psychology and Climate Change Aug 05 2021 Psychology and Climate Change: Human Perceptions, Impacts, and Responses organizes and summarizes recent psychological research that relates to the issue of climate change. The book covers topics such as how people perceive and respond to climate

change, how people understand and communicate about the issue, how it impacts individuals and communities, particularly vulnerable communities, and how individuals and communities can best prepare for and mitigate negative climate change impacts. It addresses the topic at multiple scales, from individuals to close social networks and communities. Further, it considers the role of social diversity in shaping vulnerability and reactions to climate change. Psychology and Climate Change describes the implications of psychological processes such as perceptions and motivations (e.g., risk perception, motivated cognition, denial), emotional responses, group identities, mental health and well-being, sense of place, and behavior (mitigation and adaptation). The book strives to engage diverse stakeholders, from multiple disciplines in addition to psychology, and at every level of decision making - individual, community, national, and international, to understand the ways in which human capabilities and tendencies can and should shape policy and action to address the urgent and very real issue of climate change.

Air Pollution and Climate Change Oct 07 2021 This book identifies four key forms of air pollution: indoor, urban, regional and global. It discusses how these four types of pollution are manifest in today's society and examines the scientific and policy challenges that stand in the way of progress. Written in a style that balances scientific underpinnings with accessible language, Pearson and Derwent examine the sources and historical context of air pollutants, before dedicating a chapter to each of the key forms. Armed with these basics, they begin to address the challenges faced by improving indoor, urban and regional air quality, whilst reducing global warming in the years ahead. This leads to a greater understanding of the challenges of global climate change, with new proposals for reducing global warming. However, the authors conclude that it is only when we have a scenario of reforestation combined with reductions in emissions of all greenhouse gases that real progress will be made in the fight against climate change. Then, air pollution will also be consigned to history. With a foreword written by Professor James Lovelock, this book will be of great interest to students and scholars of climate change and environmental policy, as well as air quality professionals working in this important field.

Climate Change Science Jan 30 2021 The warming of the Earth has been the subject of intense debate and concern for many scientists, policy-makers, and citizens for at least the past decade. Climate Change Science: An Analysis of Some Key Questions, a new report by a committee of the National Research Council, characterizes the global warming trend over the last 100 years, and examines what may be in store for the 21st century and the extent to which warming may be attributable to human activity.

Dictionary of Global Climate Change Jul 16 2022 Climate, climate change, climate fluctuations and climatic trends are only a few of the terms used today, in not only conferences, scientific symposia and workshops, but also parliaments and in discussions throughout society. climatologists these terms may be well known: to the vast majority of people, however, they are new, and they require definition and explanation. The World Meteorological Organization inherited an interest and involvement in the studies of climate and climate change from its predecessor, the International Meteorological Organization (IMO), which was established in 1873. By 1929 the had set up a Commission for Climatology to deal with matters related to climate studies. When, in 1950, the World Meteorological Organization assumed the mantle of the it retained the commission which, among other responsibilities, had already recognized the need for the definition and explanation of terms used in climatology. It must also be said that much of what we now know about climate derives from the scientific and technical programmes - ordinated by and now, to a much greater extent, by In 1979, the First World Climate Conference made an assessment of the status of knowledge of climate and climate variability, and recommended the establishment of a World Climate Programme.

Climate Ethics Jun 15 2022 Climate change is perhaps the most important issue of our time and yet despite the urgency of the problem, the measures necessary to mitigate it have not been implemented. International cooperation has not been forthcoming and there remains a general reluctance towards any major change of lifestyle. Given the urgency of the problem, why has so little been done? In Climate Ethics Joerg Tremmel and Katherine Robinson identify the reasons behind this crucial paradox and propose a way forward. In the first part of the book the authors provide an accessible account of the basics of climate change. In clear and accessible terms they explain the science behind climate change and demystify the complicated terminology that so often hinders a proper understanding of the subject. They identify the substances that cause climate change, reveal which industries are responsible and which aspects of people's everyday lives have the highest emissions connected with them. They explore the consequences of ignoring climate change and, importantly, analyse the obstacles to addressing the issues. In the second part of the book the authors introduce the concept of climate ethics, and explore its importance at a personal, national and international level. They place it firmly at the centre of any successful resolution of the challenges associated with climate change. They review the classical theories of justice and how they relate to climate change, and they examine the complex ethical and moral questions that need to be addressed if long-term solutions are to be found. What moral responsibility do we have to future generations? How should we share out emission rights? Do we take into account past emissions, allowing those who have historically caused more pollution fewer emissions rights than developing countries? Who is to finance the measures to abate climate? And just what is the fairest approach to the politics of climate change on a global scale? The result is an original and timely engagement with one of the most pressing problems facing us and future generations.

Climate Change: Evidence, Impacts, and Choices Jan 22 2023 What is climate? Climate is commonly thought of as the expected weather conditions at a given location over time. People know when they go to New York City in winter, they should take a heavy coat. When they visit the Pacific Northwest, they should take an umbrella. Climate can be measured as many geographic scales - for example, cities, countries, or the entire globe - by such statistics as average temperatures, average number of rainy days, and the frequency of droughts. Climate change refers to changes in these statistics over years, decades, or even centuries. Enormous progress has been made in increasing our understanding of climate change and its causes, and a clearer picture of current and future impacts is emerging. Research is also shedding light on actions that might be taken to limit the magnitude of climate change and adapt to its impacts. Climate Change: Evidence, Impacts, and Choices is intended to help people understand what is known about climate change. First, it lays out the evidence that human activities, especially the burning of fossil fuels, are responsible for much of the warming and related changes being observed around the world. Second, it summarizes projections of future climate changes and impacts expected in this century and beyond. Finally, the booklet examines how science can help inform choice about managing and reducing the risks posed by climate change. The information is based on a number of National Research Council reports, each of which represents the consensus of experts who have reviewed hundreds of studies describing many years of accumulating evidence.

Climate and Climate Change Feb 17 2020 As a fixture in recent headlines, the Earth's climate has commanded much attention. While environmental and atmospheric conditions in large part determine the climate of a region, the impact of human activity has increasingly become a significant factor as well. This is especially true concerning significant climate changes, commonly known as global warming. New technologies and an ever-expanding population have contributed to worldwide climate shifts in ways that are harmful to the planet. The factors affecting climate, the various climate classification systems, and international responses to global warming are all carefully considered in this volume.

Abrupt Impacts of Climate Change Aug 17 2022 Climate is changing, forced out of the range of the past million years by levels of carbon dioxide and other greenhouse gases not seen in the Earth's atmosphere for a very, very long time. Lacking action by the world's nations, it is clear that the planet will be warmer, sea level will rise, and patterns of rainfall will change. But the future is also partly uncertain -- there is considerable uncertainty about how we will arrive at that different climate. Will the changes be gradual, allowing natural systems and societal infrastructure to adjust in a timely fashion? Or will some of the changes be more abrupt, crossing some threshold or "tipping point" to change so fast that the time between when a problem is recognized and when action is required shrinks to the point where orderly adaptation is not possible? Abrupt Impacts of Climate Change is an updated look at the issue of abrupt climate change and its potential impacts. This study differs from previous treatments of abrupt changes by focusing on abrupt climate changes and also abrupt climate impacts that have the potential to severely affect the physical climate system, natural systems, or human systems, often affecting multiple interconnected areas of concern. The primary timescale of concern is years to decades. A key characteristic of these changes is that they can come faster than expected, planned, or budgeted for, forcing more reactive, rather than proactive, modes of behavior. Abrupt Impacts of Climate Change summarizes the state of our knowledge about potential abrupt changes and abrupt climate impacts and categorizes changes that are already occurring, have a high probability of occurrence, or are unlikely to occur. Because of the substantial risks to society and nature posed by abrupt changes, this report recommends the development of an Abrupt Change Early Warning System that would allow for the prediction and possible mitigation of such changes before their societal impacts are severe. Identifying key vulnerabilities can help guide efforts to increase resiliency and avoid large damages from abrupt change in the climate system, or in abrupt impacts of gradual changes in the climate system, and facilitate more informed decisions on the proper balance between mitigation and adaptation. Although there is still much to learn about abrupt climate change and abrupt climate impacts, to willfully ignore the threat of abrupt change could lead to more costs, loss of life, suffering, and environmental degradation. Abrupt Impacts of Climate Change makes the case that the time is here to be serious about the threat of tipping points so as to better anticipate and prepare ourselves for the inevitable surprises.

Canada and Climate Change Mar 20 2020 Pandemics, massive earthquakes, war, and other catastrophes inspire immediate action because their casualties and destruction are immediately visible. Climate change is an unyielding problem because its long-range dangers are hidden, and thus it is a global risk unlike anything in human experience. The federal government recently announced aggressive climate targets for Canada. We have committed to producing net-zero greenhouse gas emissions by 2050, which will require major changes for our economy and way of life. Canadian citizens need to understand why our most distinguished climate scientists and our senior political leaders think that we must meet this target. Canada and Climate Change explains the importance of policies that will ensure we meet the net-zero emissions target. William Leiss provides a firm grasp on what climate change is and how scientists have described shifts in the earth's climate as they have occurred over hundreds of millions of years and as they are likely to occur in the near future, especially by the end of this century. Leiss argues that citizens have a right to place their trust in what climate scientists tell us. Canada and Climate Change is an essential primer on where we stand on the issue of climate change in Canada and what will unfold in the years ahead.

Climate Change Modeling, Mitigation, and Adaptation Jul 24 2020 This title contains 25 invited chapters that present the most current thinking on the environmental mechanisms contributing to global climate change and explore scientifically grounded steps to reduce the buildup of greenhouse gases in the atmosphere.

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