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Krakatoa Simon Winchester 2004-06-03 Simon Winchester's brilliant chronicle of the destruction of the Indonesian island of Krakatoa in 1883 charts the birth of our modern world. He tells the story of the unrecognized genius who beat Darwin to the discovery of evolution; of Samuel Morse, his code and how rubber allowed the world to talk; of Alfred Wegener, the crack-pot German explorer and father of geology. In breathtaking detail he describes how one island and its inhabitants were blasted out of existence and how colonial society was turned upside-down in a cataclysm whose echoes are still felt to this day.

The Krakatau Eruption Peter Benoit 2011-03-01 Describes the destructive eruption of the Krakatau volcanic island in 1883, detailing the events leading up to the eruption, the devastation it caused, and how the eruption changed the Krakatau environment.

Vulcan's Fury Alwyn Scarth 1999-01-01 This book describes fifteen of the most remarkable volcanic eruptions across the centuries along with first-hand accounts of the different ways people reacted to them.

Tsunamis A. E. Svyatlovski 1961

Volcanic Hazards and Disasters in Human Antiquity Floyd W. McCoy 2000-01-01

Submarine Mass Movements and Their Consequences D.C. Mosher 2009-10-27 Recent global events such as the devastating 1998 Papua New Guinea tsunami, the 2004 Sumatran tsunami and the 2006 SE Asia undersea network cable failure underscore the societal and economic effects of submarine mass movements. These events call upon the scientific community to understand submarine mass movement processes and consequences to assist in hazard assessment, mitigation and planning. Additionally, submarine mass movements are beginning to be recognized as prevalent in continental margin geologic sections. As such, they represent a significant if not dominant role in margin sedimentary processes. They also represent a potential hazard to hydrocarbon exploration and development, but also represent exploration indicators and targets. This volume consists of a collection of the latest scientific research by international experts in geological, geophysical, engineering and environment aspects of submarine mass failures, focussed on understanding the full spectrum of challenges presented by submarine mass movements and their consequences.

Parícutin James F. Luhr 1993 Written in flowing prose & supplemented with compelling photography, this is the story of a new active volcano in the middle of a Mexican cornfield & its effect on a local agrarian people.

The Power of the Sea Bruce Parker 2012-03-13 The Power of the Sea describes our struggle to understand the physics of the sea, so we can use that knowledge to predict when the sea will unleash its fury against us. In a wide-sweeping narrative spanning much of human history, Bruce Parker, former chief scientist of the National Ocean Service, interweaves thrilling and often moving stories of unpredicted natural disaster with an accessible account of scientific discovery. The result is a compelling scientific journey, from ancient man's first crude tide predictions to today's advanced early warning ability based on the Global Ocean Observing System. It is a journey still underway, as we search for ways to predict tsunamis and rogue waves and critical aspects of El Niño and climate change caused by global warming.

The Eruption of Krakatoa Royal Society (Great Britain). Krakatoa Committee 1888

Hazards and Monitoring of Volcanic Activity 1 Jean-François Lénat 2022-08-02 The impact of natural disasters has become an important and ever-growing preoccupation for modern societies. Volcanic eruptions are particularly feared due to their devastating local, regional or global effects. Relevant scientific expertise that aims to evaluate the hazards of volcanic activity and monitor and predict eruptions has progressively developed since the start of the 20th century. The further development of fundamental knowledge and technological advances over this period have allowed scientific capabilities in this field to evolve. Hazards and Monitoring of Volcanic Activity groups a number of available techniques and approaches to render them easily accessible to teachers, researchers and students. This volume is dedicated to geological and historical approaches. The assessment of hazards and monitoring strategies is based primarily on knowledge of a volcano's past behavior or that of similar volcanoes. The book presents the different types of volcanic hazards and various approaches to their mapping before providing a history of monitoring techniques.

Tsunami James Goff 2021-03-16 Every year that passes without a tsunami means that we're just that much closer to our next one. What can we do to ensure we're prepared when the next catastrophic tsunami strikes? The ferocious waves of a tsunami can travel across oceans at the speed of a jet airplane. They can kill families, destroy entire cultures, and even gut nations. To understand these beasts in our waters well enough to survive them, we must understand how they're created and learn from the past. In this book, tsunami specialists James Goff and Walter Dudley arm readers with everything they need to survive a tsunami and maybe even avoid the next one. The book takes readers on a historical journey through some of the most devastating tsunamis in human history, some of the quirky ones, and even some that may not even be what most of us think of as tsunamis. Diving into personal and scientific stories of disasters, Tsunami pulls readers into the many ways these waves can be generated, ranging from earthquakes and volcanic eruptions to explosions, landslides, and beyond. The book provides overviews of some of the great historical events - the 1755 Lisbon, 1946 Aleutian, 1960 Chile, and 2004 Indian Ocean tsunamis, but also some of the less well-known as well such as the 1958 Lituya Bay, 563 CE Lake Geneva, a 6,000 year old Papua New Guinean mystery, and even a 2.5 Million year old asteroid. This is not straight science, though. Each event is brought to life in a variety of ways through stories of survival, human folly, and echoes of past disasters etched in oral traditions and the

environment. The book combines research from oceanography, biogeography, geology, history, archaeology and more, with data collected from over 400 survivor interviews. Alongside carefully selected images and the scientific measurements of these tsunamis, the book offers tales of survival, heroism, and tragic loss. Through a balanced combination of personal experience, the Earth's changing environment, tales of tragedy, and a recount of oral traditions, Tsunami allows readers to engage with a new scientific approach to these overwhelming waves. The resulting book unveils the science of disaster like never before.

Santorini and Its Eruptions Ferdinand A. Fouqué 1998 Ben Lewin writes and directs this drama about the sexual awakening of a life-long polio sufferer. John Hawkes stars as Mark O'Brien, a writer in his late thirties who has spent his life lying horizontally in an iron lung since a debilitating childhood bout of polio. A poet and a romantic, Mark has lived a life devoid of sexual intimacy. When he is given the job of writing an article about the sex lives of the disabled, he arranges - with the support of his local priest, Father Brendan (William H. Macy) - to employ the services of sexual surrogate Cheryl (Helen Hunt). Their 'sessions' take Mark on an unexpected journey of discovery and self-awareness.

Krakatau Muhammad Saleh 2014-10-16 In August 1883 massive volcanic eruptions destroyed two-thirds of the island of Krakatau, in the Sunda Strait between Sumatra and Java. It was the day the world exploded. A tsunami wreaked havoc in the region, causing countless deaths, and shock waves were recorded around the world. Ash from the eruption affected global weather patterns for years. Since that time Krakatau has been the subject of more than 1,000 reports and publications, both scholarly and literary but the only surviving account of the event written by an indigenous eyewitness—Syair Lampung Karam (The Tale of Lampung Submerged), by Muhammad Saleh—has only now, after 130 years, found its way into English translation. * * * Pada bulan Agustus 1883 letusan besar gunung berapi meluluhlantakkan dua per tiga Pulau Krakatau yang terletak di Selat Sunda, di antara Sumatra dan Jawa. Tsunami memorakporandakan wilayah itu, dan guncangannya terasa di seluruh dunia. Abu letusan itu memengaruhi pola cuaca global hingga bertahun-tahun. Satu-satunya laporan saksi mata pribumi yang tersisa tentang peristiwa tersebut—Syair Lampung Karam, hasil karya Muhammad Saleh—disajikan pertama kalinya di sini dalam tiga bentuk: bahasa Melayu beraksara Romawi, bahasa Melayu beraksara

Jawi dan terjemahan bahasa Inggris. Syair naratif panjang ini ditulis dan dicetak di Singapura pada tahun 1883 sewaktu Muhamad Saleh mencari suaka di negeri itu, menceritakan reaksi warga setempat terhadap malapetaka yang menimpa seluruh wilayah itu dan memperkaya pengetahuan kita tentang bencana alam Krakatau ini.

Volcanic Tourist Destinations Patricia Erfurt-Cooper 2014-08-09 This comprehensive book addresses the pressing need for up-to-date literature on volcanic destinations (active and dormant) and their role in tourism worldwide in chapters and case studies. The book presents a balanced view about the volcano-based tourism sector worldwide and discusses important issues such as the different volcanic hazards, potential for disasters and accidents and safety recommendations for visitors. Individual chapters and case studies are contributed by a number of internationally based co-authors, with expertise in geology, risk management, environmental science and other relevant disciplines associated with volcanoes. Also covered are risk aspects of volcano tourism such as risk perception, risk management and public safety in volcanic environments. Discussions of the demand for volcano tourism, including geotourism and adventure tourism as well as some historical facts related to volcanoes, with case studies of interesting socio-cultural settings are included.

The Earth Machine Edmond A. Mathez 2004 An illustrated introduction to the dynamic workings of the Earth furnishes a guided tour of the planet's more than four-billion-year history, revealing how Earth evolved from space dust into a life-sustaining world of oceans, weather, thermal energy, andmobile land masses.

Catastrophe David Keys 2000-10-02 It was a catastrophe without precedent in recorded history: for months on end, starting in A.D. 535, a strange, dusky haze robbed much of the earth of normal sunlight. Crops failed in Asia and the Middle East as global weather patterns radically altered. Bubonic plague, exploding out of Africa, wiped out entire populations in Europe. Flood and drought brought ancient cultures to the brink of collapse. In a matter of decades, the old order died and a new world—essentially the modern world as we know it today—began to emerge. In this fascinating, groundbreaking, totally accessible book, archaeological journalist David Keys dramatically reconstructs the global chain of

revolutions that began in the catastrophe of A.D. 535, then offers a definitive explanation of how and why this cataclysm occurred on that momentous day centuries ago. The Roman Empire, the greatest power in Europe and the Middle East for centuries, lost half its territory in the century following the catastrophe. During the exact same period, the ancient southern Chinese state, weakened by economic turmoil, succumbed to invaders from the north, and a single unified China was born. Meanwhile, as restless tribes swept down from the central Asian steppes, a new religion known as Islam spread through the Middle East. As Keys demonstrates with compelling originality and authoritative research, these were not isolated upheavals but linked events arising from the same cause and rippling around the world like an enormous tidal wave. Keys's narrative circles the globe as he identifies the eerie fallout from the months of darkness: unprecedented drought in Central America, a strange yellow dust drifting like snow over eastern Asia, prolonged famine, and the hideous pandemic of the bubonic plague. With a superb command of ancient literatures and historical records, Keys makes hitherto unrecognized connections between the "wasteland" that overspread the British countryside and the fall of the great pyramid-building Teotihuacan civilization in Mexico, between a little-known "Jewish empire" in Eastern Europe and the rise of the Japanese nation-state, between storms in France and pestilence in Ireland. In the book's final chapters, Keys delves into the mystery at the heart of this global catastrophe: Why did it happen? The answer, at once surprising and definitive, holds chilling implications for our own precarious geopolitical future. Wide-ranging in its scholarship, written with flair and passion, filled with original insights, Catastrophe is a superb synthesis of history, science, and cultural interpretation.

Hydrology of Disasters V.P. Singh 2012-12-06 The General Assembly of the United Nations passed a resolution on December 11, 1987, designating the 1990s as the International Decade for Natural Disaster Reduction. This resolution has served as a catalyst in promotion of international cooperation in the field of natural disaster reduction; in initiation of wide-ranging research activities on natural and man-made disasters; in development of tech nologies for assessment, prediction, prevention, and mitigation through technical assistance, technology transfer, demonstration projects, and education and training; and in dissemination of information related to measures for assessment, prediction, prevention, and mitigation of natural disasters. Disasters are manifestations of environmental extremes. Depending upon the type of disasters, their occurrence may have short-term andlor long-term detri mental environmental

consequences. Disasters cannot be prevented altogether, but their impact can be mitigated. This book is an attempt to provide a discussion of hydrological aspects of the various types of natural disasters. It is hoped that others will be stimulated to write more comprehensive texts on this subject of enormous importance.

The Cross Section 1983

Earthquake Information Bulletin 1990

Tsunamis Kenji Satake 2006-03-30 A timely review of state-of-the-art tsunami research, covering case studies and recent developments from various approaches. Provides a practical guide to improving operational tsunami warning systems and mitigating coastal hazard from tsunamis.

Natural Hazards in the Asia-Pacific Region James P. Terry 2012 Even a cursory glance at any map of the Asia-Pacific region makes a striking impression: in addition to the large continental landmass the region encompasses a truly vast expanse of ocean, dispersed over which are thousands of islands. Many might say that it could not be a worse time to live in this region. In the past few years we have experienced not only a number of devastating tsunamis (Indonesia, Solomon Islands, Samoa, Japan), but should not forget either the seemingly endless list of other natural hazards such as tropical cyclones and typhoons, volcanic eruptions, river floods and wildfires, amongst numerous others.

Volcanoes of the World Lee Siebert 2011-02-09 This impressive scientific resource presents up-to-date information on ten thousand years of volcanic activity on Earth. In the decade and a half since the previous edition was published new studies have refined assessments of the ages of many volcanoes, and several thousand new eruptions have been documented. This edition updates the book's key components: a directory of volcanoes active during the Holocene; a chronology of eruptions over the past ten thousand years; a gazetteer of volcano names, synonyms, and subsidiary features; an extensive list of references; and an introduction placing these data in context. This edition also includes new photographs, data on the most common rock types forming each volcano, information on population densities near

volcanoes, and other features, making it the most comprehensive source available on Earth's dynamic volcanism.

Volcanoes of the World Tom Simkin 1981

The Fauna of Krakatau, 1883-1933 Karel Willem Dammerman 1948

Volcanoes in Human History Jelle Zeilinga de Boer 2012-01-02 When the volcano Tambora erupted in Indonesia in 1815, as many as 100,000 people perished as a result of the blast and an ensuing famine caused by the destruction of rice fields on Sumbawa and neighboring islands. Gases and dust particles ejected into the atmosphere changed weather patterns around the world, resulting in the infamous "year without a summer" in North America, food riots in Europe, and a widespread cholera epidemic. And the gloomy weather inspired Mary Shelley to write the gothic novel Frankenstein. This book tells the story of nine such epic volcanic events, explaining the related geology for the general reader and exploring the myriad ways in which the earth's volcanism has affected human history. Zeilinga de Boer and Sanders describe in depth how volcanic activity has had long-lasting effects on societies, cultures, and the environment. After introducing the origins and mechanisms of volcanism, the authors draw on ancient as well as modern accounts--from folklore to poetry and from philosophy to literature. Beginning with the Bronze Age eruption that caused the demise of Minoan Crete, the book tells the human and geological stories of eruptions of such volcanoes as Vesuvius, Krakatau, Mount Pelée, and Tristan da Cunha. Along the way, it shows how volcanism shaped religion in Hawaii, permeated Icelandic mythology and literature, caused widespread population migrations, and spurred scientific discovery. From the prodigious eruption of Thera more than 3,600 years ago to the relative burp of Mount St. Helens in 1980, the results of volcanism attest to the enduring connections between geology and human destiny. Some images inside the book are unavailable due to digital copyright restrictions.

Volcano and Geothermal Tourism Patricia Erfurt-Cooper 2010-08-12 There are over 1300 active volcanoes worldwide and many more dormant or extinct. Some are developed as tourist destinations; others are not, but have great potential. Mount Fuji in Japan attracts over 100 million visitors per year and has immense

cultural and spiritual significance, while a number of volcanic areas in national parks, for example Teide in Spain, Yellowstone in the US, Vesuvius in Italy and Tongariro in New Zealand, attract between one to four million tourists each year. In the last decade the designation of nearly 50 geoparks around the world has highlighted their potential for tourism development. This book provides the first global review and assessment of the sustainable use of active and dormant volcanic and geothermal environments for geotourism. The volcano-based tourism sector is further augmented through a closely linked range of geothermal resources and attractions, such as geysers and hot springs, which are discussed in detail throughout individual chapters covering all key volcanic and geothermal regions around the world. It is shown that volcano and geothermal tourism is a subsection of nature-based geotourism and incorporates a variety of other tourism categories such as adventure tourism, extreme tourism, ecotourism, green tourism, educational tourism, and hot spring tourism. This comprehensive book covers the most important issues of this growing tourism sector whilst incorporating relevant global research, making it an essential resource for all in the field. Includes colour plates.

Volcanoes Timothy M. Kusky 2008 Presents introduction to and history of volcanoes as well as the causes, devastating effects, and prediction of geologic natural disasters, including earthquakes, tsunamis and volcanic eruptions.

Observing the Volcano World Carina J. Fearnley 2018-07-13 This open access book provides a comprehensive overview of volcanic crisis research, the goal being to establish ways of successfully applying volcanology in practice and to identify areas that need to be addressed for future progress. It shows how volcano crises are managed in practice, and helps to establish best practices. Consequently the book brings together authors from all over the globe who work with volcanoes, ranging from observatory volcanologists, disaster practitioners and government officials to NGO-based and government practitioners to address three key aspects of volcanic crises. First, the book explores the unique nature of volcanic hazards, which makes them a particularly challenging threat to forecast and manage, due in part to their varying spatial and temporal characteristics. Second, it presents lessons learned on how to best manage volcanic events based on a number of crises that have shaped our understanding of volcanic hazards and crises management. Third, it discusses the diverse and wide-ranging aspects of

communication involved in crises, which merge old practices and new technologies to accommodate an increasingly challenging and globalised world. The information and insights presented here are essential to tapping established knowledge, moving towards more robust volcanic crises management, and understanding how the volcanic world is perceived from a range of standpoints and contexts around the globe.

History of Shock Waves, Explosions and Impact Peter O. K. Krehl 2008-09-24 This unique and encyclopedic reference work describes the evolution of the physics of modern shock wave and detonation from the earlier and classical percussion. The history of this complex process is first reviewed in a general survey. Subsequently, the subject is treated in more detail and the book is richly illustrated in the form of a picture gallery. This book is ideal for everyone professionally interested in shock wave phenomena.

Krakatau Ian W. B. Thornton 1997 Nine months after the explosion, a French expedition searching for signs of life discovered a single spider that had crossed to the island on a balloon of silk. Life had returned to Krakatau. Scientists have been studying the island ever since.

The Day the World Exploded Simon Winchester 2008-05-06 Presents the story of the volcanic eruptions that took place on the island of Krakatoa in 1883, killing thousands of people, destroying the island, and effecting the entire world through the expulsion of smoke and ash in the air.

Encyclopedia of Earth Science New York Academy of Sciences 2014-05-14 Presents an illustrated A to Z reference with approximately 700 entries on topics in the earth sciences including hydrology, geology, atmospheric sciences, oceanography, and more.

Ring of Fire: An Encyclopedia of the Pacific Rim's Earthquakes, Tsunamis, and Volcanoes Bethany D. Rinard Hinga Ph.D. 2015-03-17 The author examines natural disasters around the Pacific Rim throughout history together with scientific data context to produce enlightening—and highly readable—entries. • Features approximately 100 alphabetically arranged entries with insights into specific disasters, technology, key geographic features of the area, significant people, cultural beliefs, and more • Includes a

general introduction and overview of the geography and tectonic activity in the Pacific Rim countries • Offers both historical and scientific information • Explains complex natural phenomena and scientific concepts using nontechnical language and clear illustrations • Provides relevant cross-references to related topics as well as to articles, books, and websites that offer further information

After the Ashes Sara K. Joiner 2015-08-01 In 1883, on the island of Java in the Dutch East Indies, thirteen-year-old Katrien Courtland is determined to prove Darwin's theory of natural selection. Unfortunately, nothing causes her Aunt Greet more angst than Katrien crawling around the muddy jungle collecting bugs in the name of science -- and in the company of a native boy, no less! If only Katrien would take an interest in running a household and making friends with other girls. But Katrien has no interest in changing, especially if it means socializing with the likes of mean Brigitta Burkhart. Then, one stifling afternoon, Katrien's world turns upside-down when the nearby volcano Krakatau erupts with a terrifying blast. For days, a deathly ash rains down on the Javan coast. Amidst the chaos, Katrien knows her only hope of survival is to flee the jungle with the one person she vowed she'd never befriend.

KRAKATAU 1883 PB Tom Simkin 1984-01-17 From the Blurb: On August 26 and 27, 1883, the island volcano Krakatau erupted, ejecting more than four cubic miles of debris and creating a huge plume of gas and ashes that rose to an altitude of thirty miles. Spectacular, fiery sunsets resulted, lighting the skies of North America and Europe in the following months. This was one of history's most terrifying and destructive volcanic eruptions. Great sea waves crested to heights of 118 feet, crashing on the coasts of Java and Sumatra and killing more than 30,000 people. The eruption's loudest blasts were heard nearly 3,000 miles away. Simkin and Fiske have gathered eighty-eight eyewitness accounts, describing the events in the words of people who were there, and have selected twenty-eight scientific interpretations of the various phenomena written over the last one-hundred years. They have illustrated the book with more than 250 photographs, engravings, drawings, and maps, and have traced an extensive chronology of events. The result is a comprehensive volume on this benchmark event-history's most famous eruption. In addition to geologists, oceanographers will be interested in the devastating sea waves, meteorologists in the worldwide atmospheric effects, biologists in the return of life to barren island remnants, but any general reader will be fascinated by the eyewitness accounts of this spectacular eruption and its truly

global effects.

Earthquakes & Volcanoes 1988

Volcanic Eruptions and Their Repose, Unrest, Precursors, and Timing National Academies of Sciences, Engineering, and Medicine 2017-07-24 Volcanic eruptions are common, with more than 50 volcanic eruptions in the United States alone in the past 31 years. These eruptions can have devastating economic and social consequences, even at great distances from the volcano. Fortunately many eruptions are preceded by unrest that can be detected using ground, airborne, and spaceborne instruments. Data from these instruments, combined with basic understanding of how volcanoes work, form the basis for forecasting eruptionsâ□"where, when, how big, how long, and the consequences. Accurate forecasts of the likelihood and magnitude of an eruption in a specified timeframe are rooted in a scientific understanding of the processes that govern the storage, ascent, and eruption of magma. Yet our understanding of volcanic systems is incomplete and biased by the limited number of volcanoes and eruption styles observed with advanced instrumentation. Volcanic Eruptions and Their Repose, Unrest, Precursors, and Timing identifies key science questions, research and observation priorities, and approaches for building a volcano science community capable of tackling them. This report presents goals for making major advances in volcano science.

Sumatra A. J. Barber 2005 This volume provides the first comprehensive account of the geology of Sumatra since the masterly synthesis of van Bemmelen (1949). Following the establishment of the Geological Survey of Indonesia, after WW II, the whole island has been mapped geologically at the reconnaissance level, with the collaboration of the geological surveys of the United States and the United Kingdom. The mapping programme, completed in the mid-1990s, together with supplementary data obtained by academic institutions and petroleum and mineral exploration companies, has resulted in a vast increase in geological information, which is summarized in this volume. The synthesis of structural controls on sedimentation and magmatism during the tectonic evolution of Sumatra since the late Palaeozoic has provided a background for the formation of economic deposits of metallic minerals, coal, oil and gas. The volume provides a sound basis for future geological research and for the exploration of

the energy and mineral resources of the island.

Doom Niall Ferguson 2021-05-04 "All disasters are in some sense man-made." Setting the annus horribilis of 2020 in historical perspective, Niall Ferguson explains why we are getting worse, not better, at handling disasters. Disasters are inherently hard to predict. Pandemics, like earthquakes, wildfires, financial crises. and wars, are not normally distributed; there is no cycle of history to help us anticipate the next catastrophe. But when disaster strikes, we ought to be better prepared than the Romans were when Vesuvius erupted, or medieval Italians when the Black Death struck. We have science on our side, after all. Yet in 2020 the responses of many developed countries, including the United States, to a new virus from China were badly bungled. Why? Why did only a few Asian countries learn the right lessons from SARS and MERS? While populist leaders certainly performed poorly in the face of the COVID-19 pandemic, Niall Ferguson argues that more profound pathologies were at work--pathologies already visible in our responses to earlier disasters. In books going back nearly twenty years, including Colossus, The Great Degeneration, and The Square and the Tower, Ferguson has studied the foibles of modern America, from imperial hubris to bureaucratic sclerosis and online fragmentation. Drawing from multiple disciplines, including economics, cliodynamics, and network science, Doom offers not just a history but a general theory of disasters, showing why our ever more bureaucratic and complex systems are getting worse at handling them. Doom is the lesson of history that this country--indeed the West as a whole--urgently needs to learn, if we want to handle the next crisis better, and to avoid the ultimate doom of irreversible decline.

When Humans Nearly Vanished Donald R. Prothero 2018-10-16 The fascinating true story of the explosion of the Mount Toba supervolcano--the Earth's largest eruption in the past 28 million years--and its lasting impact on Earth and human evolution Some 73,000 years ago, the huge dome of Mount Toba, in today's Sumatra, Indonesia, began to rumble. A deep vibration shook the entire island. Jets of steam and ash emanated from the summit, followed by an explosion louder than any sound heard by Homo sapiens since our species evolved on Earth. The eruption of the Toba supervolcano released the energy of a million tons of explosives; seven hundred cubic miles of magma spewed outward in an explosion forty times larger than the largest hydrogen bomb and more than a thousand times as powerful as the

Krakatau eruption in 1883. So much ash and debris was injected into the stratosphere that it partially blocked the sun's radiation and caused global temperatures to drop by five to nine degrees. It took a full decade for Earth to recover to its pre-eruption temperatures. When Humans Nearly Vanished presents the controversial argument that the Toba catastrophe nearly wiped out the human race, leaving only about a thousand to ten thousand breeding pairs of humans worldwide. Human genes today show evidence of a "genetic bottleneck," an effect seen when a population of organisms becomes so small that their genetic diversity is greatly reduced. This group of survivors could be the ancestors of all humans alive today. Donald R. Prothero explores the geological and biological evidence supporting the Toba bottleneck theory; reveals how the explosion itself was discovered; and offers insight into how the world changed afterward and what might happen if such an eruption occurred today. Prothero's riveting account of this calamitous supervolcanic explosion is not to be missed.