Fukushima Daiichi Nuclear Power Plant

Kaoru Nakata,Hiroya Sugisaki

The Fukushima Daiichi Nuclear Power Station Disaster The Independent Investigation on the Fukushima Nuclear Accident,2014-03-05 When the Nuclear Safety Commission in Japan reviewed safety-design guidelines for nuclear plants in 1990, the regulatory agency explicitly ruled out the need to consider prolonged AC power loss. In other words, nothing like the catastrophe at the Fukushima Daiichi Nuclear Power Station was possible—no tsunami of 45 feet could swamp a nuclear power station and knock out its emergency systems. No blackout could last for days. No triple meltdown could occur. Nothing like this could ever happen. Until it did—over the course of a week in March 2011. In this volume and in gripping detail, the Independent Investigation Commission on the Fukushima Nuclear Accident, a civilian-led group, presents a thorough and powerful account of what happened within hours and days after this nuclear disaster, the second worst in history. It documents the findings of a working group of more than thirty people, including natural scientists and engineers, social scientists and researchers, business people, lawyers, and journalists, who researched this crisis involving multiple simultaneous dangers. They conducted over 300 investigative interviews to collect testimony from relevant individuals. The responsibility of this committee was to act as an external ombudsman, summarizing its conclusions in the form of an original report, published in Japanese in February 2012. This has now been substantially rewritten and revised for this

English-language edition. The work reveals the truth behind the tragic saga of the multiple catastrophic accidents at the Fukushima Daiichi Nuclear Power Station.It serves as a valuable and essential historical reference, which will help to inform and guide future nuclear safety and policy in both Japan and internationally.

The Fukushima Nuclear Power Plant Disaster and the Future of Renewable Energy Naoto Kan,2018-01-15 In a speech delivered in Japanese at Cornell University, Naoto Kan describes the harrowing days after a cataclysmic earthquake and tsunami led to the meltdown of three reactors at the Fukushima Daiichi Nuclear Power Plant. In vivid language, he tells how he struggled with the possibility that tens of millions of people would need to be evacuated. Cornell Global Perspectives is an imprint of Cornell University's Mario Einaudi Center for International Studies. The works examine critical global challenges, often from an interdisciplinary perspective, and are intended for a non-specialist audience. The Distinguished Speaker series presents edited transcripts of talks delivered at Cornell, both in the original language and in translation.

Lessons Learned from the Fukushima Nuclear Accident for Improving Safety of U.S. Nuclear Plants National Research Council (U.S.). Committee on Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants,National Research Council,Nuclear and Radiation Studies Board,Division on Earth and Life Studies,2014-10-29 The March 11, 2011, Great East Japan Earthquake and tsunami sparked a

humanitarian disaster in northeastern Japan. They were responsible for more than 15,900 deaths and 2,600 missing persons as well as physical infrastructure damages exceeding $200 billion. The earthquake and tsunami also initiated a severe nuclear accident at the Fukushima Daiichi Nuclear Power Station. Three of the six reactors at the plant sustained severe core damage and released hydrogen and radioactive materials. Explosion of the released hydrogen damaged three reactor buildings and impeded onsite emergency response efforts. The accident prompted widespread evacuations of local populations, large economic losses, and the eventual shutdown of all nuclear power plants in Japan. Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants is a study of the Fukushima Daiichi accident. This report examines the causes of the crisis, the performance of safety systems at the plant, and the responses of its operators following the earthquake and tsunami. The report then considers the lessons that can be learned and their implications for U.S. safety and storage of spent nuclear fuel and high-level waste, commercial nuclear reactor safety and security regulations, and design improvements. Lessons Learned makes recommendations to improve plant systems, resources, and operator training to enable effective ad hoc responses to severe accidents. This report's recommendations to incorporate modern risk concepts into safety regulations and improve the nuclear safety culture will help the industry prepare for events that could challenge

the design of plant structures and lead to a loss of critical safety functions. In providing a broad-scope, high-level examination of the accident, Lessons Learned is meant to complement earlier evaluations by industry and regulators. This in-depth review will be an essential resource for the nuclear power industry, policy makers, and anyone interested in the state of U.S. preparedness and response in the face of crisis situations.

A Study of the Fukushima Daiichi Nuclear Accident Process Michio Ishikawa,2015-08-12 Written by an expert in the field, this book is perfect for those who would like to know what happened at the Fukushima Daiichi Nuclear Power Plant. Part 1 of the book studies how core melts occurred in Fukushima Daiichi units 1, 2, and 3, respectively, based on evidence from the Three-Mile Island core melt accident and fuel behavior experiments performed in the 1970s under the cooperation between the United States, Germany, and Japan. This information explains the accident processes without contradicting data from Fukushima, which was published in the TEPCO report. The hydrogen explosions in units 1, 3, and 4 are also explained logically in conjunction with the above core melt process. Part 2 clarifies how the background radiation level of the site doubled: The first rise was just a leak from small openings in units 1 and 3 associated with fire-pump connection work. The second rise led to direct radioactive material release from unit 2. Evacuation dose adequacy and its timing are discussed with reference to the accident process,

and the necessity for embankments surrounding nuclear power plants to increase protection against natural disasters is also discussed. New proposals for safety design and emergency preparedness are suggested based on lessons learned from the accident as well as from new experiences. Finally, a concept for decommissioning the Fukushima site and a recovery plan are introduced.

My Nuclear Nightmare Naoto Kan,2017-01-10 Naoto Kan, who was prime minister of Japan when the March 2011 Fukushima nuclear disaster began, has become a ubiquitous and compelling voice for the global antinuclear movement. Kan compared the potential worst-case devastation that could be caused by a nuclear power plant meltdown as tantamount only to 'a great world war. Nothing else has the same impact.' Japan escaped such a dire fate during the Fukushima disaster, said Kan, only ‘due to luck.’ Even so, Kan had to make some steely-nerved decisions that necessitated putting all emotion aside. In a now famous phone call from Tepco, when the company asked to pull all their personnel from the out-of-control Fukushima site for their own safety, Kan told them no. The workforce must stay. The few would need to make the sacrifice to save the many. Kan knew that abandoning the Fukushima Daiichi site would cause radiation levels in the surrounding environment to soar. His insistence that the Tepco workforce remain at Fukushima was perhaps one of the most unsung moments of heroism in the whole sorry saga.—The Ecologist On March 11, 2011, a massive undersea earthquake off Japan’s coast triggered

devastating tsunami waves that in turn caused meltdowns at three reactors in the Fukushima Daiichi Nuclear Power Plant. Ranked with Chernobyl as the worst nuclear disaster in history, Fukushima will have lasting consequences for generations. Until 3.11, Japan's Prime Minister, Naoto Kan, had supported the use of nuclear power. His position would undergo a radical change, however, as Kan watched the nuclear disaster at the Fukushima No. 1 Power Plant unfold and came to understand the potential for the physical, economic, and political destruction of Japan.In My Nuclear Nightmare, Kan offers a fascinating day-by-day account of his actions in the harrowing week after the earthquake struck. He records the anguished decisions he had to make as the scale of destruction became clear and the threat of nuclear catastrophe loomed ever larger—decisions made on the basis of information that was often unreliable. For example, frustrated by the lack of clarity from the executives at Tepco, the company that owned the power plant, Kan decided to visit Fukushima himself, despite the risks, so he could talk to the plant's manager and find out what was really happening on the ground. As he details, a combination of extremely good fortune and hard work just barely prevented a total meltdown of all of Fukushima's reactor units, which would have necessitated the evacuation of the thirty million residents of the greater Tokyo metropolitan area.In the book, first published in Japan in 2012, Kan also explains his opposition to nuclear power: I came to understand that a nuclear accident carried with it a risk so large that it

could lead to the collapse of a country. When Kan was pressured by the opposition to step down as prime minister in August 2011, he agreed to do so only after legislation had been passed to encourage investments in alternative energy. As both a document of crisis management during an almost unimaginable disaster and a cogent argument about the dangers of nuclear power, My Nuclear Nightmare is essential reading.

Nuclear Disaster at Fukushima Daiichi Richard Hindmarsh,2013-08-21 Nuclear Disaster at Fukushima Daiichi is a timely and groundbreaking account of the disturbing landscape of the Fukushima Daiichi nuclear meltdown amidst an earthquake and tsunami on Japan’s northeast coastline on March 11, 2011. It provides riveting insights into the social and political landscape of nuclear power development in Japan, which significantly contributed to the disaster; the flawed disaster management options taken; and the political, technical, and social reactions as the accident unfolded. In doing so, it critically reflects on the implications for managing future nuclear disasters, for effective and responsible regulation and good governance of controversial science and technology, or technoscience, and for the future of nuclear power itself, both in Japan and internationally. Informed by a leading cast of international scholars in science, technology and society studies, the book is at the forefront of discussing the Fukushima Daiichi disaster at the intersection of social, environmental and energy security and good governance when such issues dominate global agendas for sustainable futures.

Its powerful critique of the risks and hazards of nuclear energy alongside poor disaster management is an important counterbalance to the plans for nuclear build as central to sustainable energy in the face of climate change, increasing extreme weather events and environmental problems, and diminishing fossil fuel, peak oil, and rising electricity costs. Adding significantly to the consideration and debate of these critical issues, the book will interest academics, policy-makers, energy pundits, public interest organizations, citizens and students engaged variously with Fukushima itself, disaster management, political science, environmental/energy policy and risk, public health, sociology, public participation, civil society activism, new media, sustainability, and technology governance.

Fukushima David Lochbaum,Edwin Lyman,2015-02-10 “A gripping, suspenseful page-turner” (Kirkus Reviews) with a “fast-paced, detailed narrative that moves like a thriller” (International Business Times), Fukushima teams two leading experts from the Union of Concerned Scientists, David Lochbaum and Edwin Lyman, with award-winning journalist Susan Q. Stranahan to give us the first definitive account of the 2011 disaster that led to the worst nuclear catastrophe since Chernobyl. Four years have passed since the day the world watched in horror as an earthquake large enough to shift the Earth's axis by several inches sent a massive tsunami toward the Japanese coast and Fukushima Daiichi nuclear power plant, causing the reactors' safety systems to fail and explosions to reduce concrete and steel buildings to rubble.

Even as the consequences of the 2011 disaster continue to exact their terrible price on the people of Japan and on the world, Fukushima addresses the grim questions at the heart of the nuclear debate: could a similar catastrophe happen again, and—most important of all—how can such a crisis be averted?

The Fukushima Daiichi Nuclear Power Station Disaster Independent Investigation Commission on the Fukushima Nuclear Accident,2014-01-01 When the Nuclear Safety Commission in Japan reviewed safety-design guidelines for nuclear plants in 1990, the regulatory agency explicitly ruled out the need to consider prolonged AC power loss. In other words, nothing like the catastrophe at the Fukushima Daiichi Nuclear Power Station was possible--no tsunami of 45 feet could swamp a nuclear power station and knock out its emergency systems. No blackout could last for days. No triple meltdown could occur. Nothing like this could ever happen. Until it did--over the course of a week in March 2011. In this volume and in gripping detail, the Independent Investigation Commission on the Fukushima Nuclear Accident, a civilian-led group, presents a thorough and powerful account of what happened within hours and days after this nuclear disaster, the second worst in history. It documents the findings of a working group of more than thirty people, including natural scientists and engineers, social scientists and researchers, business people, lawyers, and journalists, who researched this crisis involving multiple simultaneous dangers. They conducted over 300 investigative interviews

to collect testimony from relevant individuals. The responsibility of this committee was to act as an external ombudsman, summarizing its conclusions in the form of an original report, published in Japanese in February 2012. This has now been substantially rewritten and revised for this English-language edition. The work reveals the truth behind the tragic saga of the multiple catastrophic accidents at the Fukushima Daiichi Nuclear Power Station.It serves as a valuable and essential historical reference, which will help to inform and guide future nuclear safety and policy in both Japan and internationally.

Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants National Academies of Sciences, Engineering, and Medicine,Division on Earth and Life Studies,Nuclear and Radiation Studies Board,Committee on Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants,2016-06-06 The U.S. Congress asked the National Academy of Sciences to conduct a technical study on lessons learned from the Fukushima Daiichi nuclear accident for improving safety and security of commercial nuclear power plants in the United States. This study was carried out in two phases: Phase 1, issued in 2014, focused on the causes of the Fukushima Daiichi accident and safety-related lessons learned for improving nuclear plant systems, operations, and regulations exclusive of spent fuel storage. This Phase 2 report focuses on three issues: (1) lessons learned from the accident for nuclear plant security, (2) lessons

learned for spent fuel storage, and (3) reevaluation of conclusions from previous Academies studies on spent fuel storage.

Legacies of Fukushima Kyle Cleveland,Scott Gabriel Knowles,Ryuma Shineha,2021-04-02 It was an unlikely convergence of events. A 9.0 magnitude earthquake, the largest in Japanese memory and the fourth largest recorded in world history; a tsunami that peaked at forty meters, devastating the seaboard of northeastern Japan; three reactors in meltdown at the Daiichi nuclear power plant in Fukushima; experts in disarray and suffering victims young and old. It was, as well, an unlikely convergence of legacies. Submerged traumas resurfaced and communities long accustomed to living quietly with hazards suddenly were heard. New legacies of disaster were handed down, unfolding slowly for generations to come. The defining disaster of contemporary Japanese history still goes by many different names: The Great East Japan Earthquake; the 2011 Tōhoku Earthquake and Tsunami; the Fukushima Daiichi Nuclear Disaster; the 3.11 Triple Disaster. Each name represents a struggle to place the disaster on a map and fix a date to a timeline. But within each of these names hides a combination of disasters and legacies that converged on March 11, 2011, before veering away in all directions: to the past, to the future, across a nation, and around the world. Which pathways from the past will continue, which pathways ended with 3.11, and how are these legacies entangled? Legacies of Fukushima places these questions front and center. The authors collected here contextualize 3.11 as a disaster

with a long period of premonition and an uncertain future. The volume employs a critical disaster studies approach, and the authors are drawn from the realms of journalism and academia, science policy and citizen science, activism and governance—and they come from East Asia, America, and Europe. 3.11 is a Japanese legacy with global impact, and the authors and their methods reflect this diversity of experience. Contributors: Sean Bonner, Azby Brown, Kyle Cleveland, Martin Fackler, Robert Jacobs, Paul Jobin, Kohta Juraku, Tatsuhiro Kamisato, Jeff Kingston, William J. Kinsella, Scott Gabriel Knowles, Robert Jay Lifton, Luis Felipe R. Murillo, Başak Saraç-Lesavre, Sonja D. Schmid, Ryuma Shineha, James Simms, Tatsujiro Suzuki, Ekou Yagi.

Low-Dose Radiation Effects on Animals and Ecosystems Manabu Fukumoto,2019-11-14 This open access book summarizes the latest scientific findings regarding the biological effects of the Fukushima Daiichi Nuclear Power Plant (FNPP) accident in 2011. Various cases of changes in animals and organisms have been reported since the FNPP accident. However, it is often unknown whether they are actually due to radiation, since the dose or dose-rate are not necessarily associated with the changes observed. This book brings together the works of radiation biologists and ecologists to provide reliable radioecology data and gives insight into future radioprotection. The book examines the environmental pollution and radiation exposure, and contains valuable data from abandoned livestock in the ex-evacuation zone and from wild

animals including invertebrates and vertebrates, aqueous and terrestrial animals, and plants that are subjected to long-term exposure in the area still affected by radiation. It also analyzes dose evaluation, and offers new perspectives gained from the accident, as well as an overview for future studies to promote radioprotection of humans and the ecosystem. Since the biological impact of radiation is influenced by various factors, it is difficult to scientifically define the effects of low-dose/low-dose-rate radiation. However, the detailed research data presented can be combined with the latest scientific and technological advances, such as artificial intelligence, to provide new insights in the future. This book is a unique and valuable resource for researchers, professionals and anyone interested in the impact of exposure to radiation or contamination with radioactive materials.

The Fukushima Daiichi Accident International Atomic Energy Agency,2015 Consists of a Report by the IAEA Director General and five technical volumes. This publication provides a description of the accident and its causes, evolution and consequences, based on the evaluation of data and information from a large number of sources available at the time of writing.

Impacts of Fukushima Nuclear Accident on Freshwater Environments Seiya Nagao,2021-11-16 This book examines the impacts of radionuclides released from the 2011 Fukushima Daiichi Nuclear Power Plant (FDNPP) accident on inland aquatic environments. The focus is on the dynamics of radiocesium in inland aquatic environments. The

book comprises three parts: migration behavior of radiocesium in river and lake environment, accumulation of radiocesium into organisms in freshwater, and integrated environmental analysis in a lake system and a forest-freshwater system. Many studies on the dynamics of radionuclides have been published after the FDNPP accident, especially of radiocesium (134Cs 137Cs) in land and marine environment. The key features of this book are the new data of freshwater environment including transport of radionuclides in river and lake watershed, and accumulation of radiocesium in freshwater fishes and insects. Another feature of this book is that it summarizes the dataset of a model lake, Lake Akagi-Onuma, from geochemical and biological approaches. Readers will learn the actual dispersion behavior of radionuclides released from the Fukushima accident and their impacts on freshwater environments since the accident in 2011. The book presents valuable information for assessing the impacts of the FDNPP accident on ecosystem and human health, which are also useful in developing countermeasures for similar accidents and environmental contaminations.

Nuclear Meltdown, USA Chanan Tigay,2012-03-11 Sitting near four significant fault lines on the coastline of California, Diablo Canyon is just one of 65 nuclear power plants in the United States. After the nuclear meltdown in Fukushima, Japan, Americans are now asking, Could it happen here? This e-book original, based on an in-depth investigation commissioned exclusively for Prevention magazine by the award-winning

photojournalist team of Chanan Tigay and Colin Finlay, explores the risks--to our planet and ourselves--of the plant and its impact on the people who live and work in the happiest place in America.

Impacts of the Fukushima Nuclear Accident on Fish and Fishing Grounds Kaoru Nakata,Hiroya Sugisaki,2015-07-10 This book presents the results from the Japanese Fisheries Research Agency's 3-year intensive monitoring of radionuclides in a variety of fish, plankton, benthos, and their living environments after the Fukushima Daiichi Nuclear Power Plant (FNPP) accident in March 2011. The book reveals the dynamics of contamination processes in marine and freshwater fish, mediated by the contamination of water, sediments, and food organisms; it also clarifies the mechanisms by which large variations in the level of contamination occurs among individual fish. Most importantly, the book includes a large amount of original measurement data collected in situ and for the first time assesses diffusion of radiocesium across the Pacific using both in situ data and a numerical simulation model. Also introduced are several new approaches to evaluate the impact of the release of radionuclides, including the measurement of radiation emission from an otolith section to identify the main period of contamination in fish. The FNPP accident represents a rare instance where the environmental radioactivity level was elevated steeply through atmospheric fallout and direct discharge of radioactive water into the sea over a short period of time. Replete with precise scientific data,

this book will serve as an important resource for research in fields such as fishery science, oceanography, ecology, and environmentology, and also as a solid basis for protecting fisheries from damage resulting from harmful rumors among the general public.

Agricultural Implications of the Fukushima Nuclear Accident Tomoko M. Nakanishi,Keitaro Tanoi,2013-03-15 Following the Fukushima nuclear accident, a large volume of monitoring data has been collected about the soil, air, dust, and seawater, along with data about an immense number of foods supplied to the market. Little is known, however, about the effect of radioactive fallout on agriculture, information about which is vital. Although more than 80% of the damaged area is related to agriculture, in situ information specifically for agriculture is scarce. This book provides data about the actual movement and accumulation of radioactivity in the ecological system—for example, whether debris deposited on mountains can be a cause of secondary contamination, under what conditions plants accumulate radioactive cesium in their edible parts, and how radioactivity is transferred from hay to milk. Because agriculture is so closely related to nature, many specialists with different areas of expertise must be involved in answering these questions. In the case of rice, researchers in rice cultivation as well as in soil, hydrology, and radioactivity measurement are working together to reveal the paths or accumulation of radioactivity in the field. For this purpose, the Graduate School of Agricultural and Life Sciences

of The University of Tokyo has diverse facilities available throughout Japan, including farmlands, forests, and meadowlands. Many academic staff members have formed groups to conduct on-site research, with more than 40 volunteers participating. This book presents the data collected from the only project being systematically carried out across Japan after the Fukushima accident.

Beyond Fukushima Kōichi Hasegawa,2015 'It finally dawned on us. The government was unreliable. Politicians and bureaucrats were unreliable. The media was untrustworthy. The brutal reality hit us that we had to protect ourselves ... otherwise bury our heads in the sand and give up althogether.' Written in the immediate aftermath of the Great East Japan Earthquake and accident at the Fukushima Daiichi Nuclear Power Station of March 2011, Koichi Hasegawa presents a compelling account of the events of 3/11 against the backdrop of the history and geopolitics of the nuclear industry worldwide. He argues passionately for denuclearization and is highly critical of the Japanese Governmnet in terms of its response to the Fukushima nuclear disaster.--Back cover.

Melting Sun: The History of Nuclear Power in Japan and the Disaster at Fukushima Daiichi Andrew Leatherbarrow,2022-02-10 Almost 24 hours to the minute since the tsunami hit Fukushima Daiichi, Unit 1 exploded. The building wrenched apart, sending shards of irradiated concrete and metal knifing through the air in all directions. The reactor's massive heavy-duty gantry crane bent like a twig and collapsed onto the refuelling

floor control room, crushing everything that wasn't expelled in the blast. Outside, chunks of debris rained down on the fire crew, injuring five and shredding the hoses they had just laid. Among the injured was the plant's own fire chief, whose arm snapped when a piece of steel hurtled through the window. In March 2011, a 15-metre tsunami wiped out long stretches of Japanese coastline, killing thousands. Flooded cooling systems at the Fukushima Daiichi nuclear power plant failed as hundreds of men and women battled to save three reactors from destruction in what became the most expensive industrial accident of all time. Melting Sun spans 150 years of little-known history to retell how Japan evolved from the first victim of atomic energy to its most passionate supporter. It is a story of innovation and determination, but also of collusion, deception, overconfidence, failure and, ultimately, death. From a nuclear ship stranded at sea after leaking radiation on its maiden voyage, to the unimaginable final days of two men treated for extreme over-exposure, to Fukushima itself - the only accident comparable with the infamous Chernobyl disaster.

The Fukushima Daiichi Nuclear Accident Atomic Energy Society of Japan,2014-10-16 The Magnitude 9 Great East Japan Earthquake on March 11, 2011, followed by a massive tsunami struck TEPCO’s Fukushima Daiichi Nuclear Power Station and triggered an unprecedented core melt/severe accident in Units 1 – 3. The radioactivity release led to the evacuation of local residents, many of whom still have not been able to return to their homes. As a group of nuclear experts, the Atomic

Energy Society of Japan established the Investigation Committee on the Nuclear Accident at the Fukushima Daiichi Nuclear Power Station, to investigate and analyze the accident from scientific and technical perspectives for clarifying the underlying and fundamental causes, and to make recommendations. The results of the investigation by the AESJ Investigation Committee has been compiled herewith as the Final Report. Direct contributing factors of the catastrophic nuclear incident at Fukushima Daiichi NPP initiated by an unprecedented massive earthquake/ tsunami – inadequacies in tsunami measures, severe accident management, emergency response, accident recovery and mitigations – and the underlying factors - organizational issues, etc., have been clarified and recommendations in the following areas have been made. - Nuclear safety fundamentals - Direct factors of the accident - Organizational aspects - Common items (R&D, International cooperation, human resources management) - Post-accident management/recovery from the accident.

The Fukushima Effect Richard Hindmarsh,Rebecca Priestley,2015-12-07 The Fukushima Effect offers a range of scholarly perspectives on the international effect of the Fukushima Daiichi nuclear meltdown four years out from the disaster. Grounded in the field of science, technology and society (STS) studies, a leading cast of international scholars from the Asia-Pacific, Europe, and the United States examine the extent and scope of the Fukushima effect. The authors each focus on one country or group of countries,

and pay particular attention to national histories, debates and policy responses on nuclear power development covering such topics as safety of nuclear energy, radiation risk, nuclear waste management, development of nuclear energy, anti-nuclear protest movements, nuclear power representations, and media representations of the effect. The countries featured include well established ‘nuclear nations’, emergent nuclear nations and non-nuclear nations to offer a range of contrasting perspectives. This volume will add significantly to the ongoing international debate on the Fukushima disaster and will interest academics, policy-makers, energy pundits, public interest organizations, citizens and students engaged variously with the Fukushima disaster itself, disaster management, political science, environmental/energy policy and risk, public health, sociology, public participation, civil society activism, new media, sustainability, and technology governance.

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