Asia Pacific Climate Service Workshop 2021

Climate Service for Resilience and Sustainable Development Towards A Net Zero Emission World

Virtual Conference

October 21-22 2021, 09:00-17:30 (UTC +8, Taipei, Taiwan)

Host: 交通部中央氣象局 CENTRAL WEATHER BUREAU

Co-host: APCC APEC CLIMATE CENTER | CIER 中華經濟研究院 CHUNG-HUA INSTITUTION FOR ECONOMIC RESEARCH | ICDI國際氣候發展智庫 International Climate Development Institute

contents

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Climate Service for Resilience and Sustainable Development Towards A Net Zero Emission World

Announcement

21-22 October 2021, 09:00-17:30 (UTC +8, Taipei, Taiwan)/01:00-09:30 (UTC)

Virtual conference via Cisco Webex (Live Stream via YouTube)

The well-known adage "climate is what you expect and weather is what you get" clarifies the difference between the climate and weather. Climate information services prepare users for the weather they will actually experience. Climate services provide climate information in a way that assists decision making by individuals and organizations. Such services require appropriate engagement along with an effective access mechanism and must respond to user needs."

– GFCS/WMO

Host: Co-host:

Organizers

Central Weather Bureau (Host)

Central Weather Bureau (CWB) is the central government meteorological research and forecasting institution of Taiwan, distinctively taking the responsibility for meteorological, seismological, and related marine and astronomical operations of the nation by making meteorological observations, reporting on marine meteorological conditions, and conducting research into seismology and providing earthquake reports. CWB provides all kinds of meteorological information and services to government agencies and general public. CWB is headquartered in Taipei City and is administered under the Ministry of Transportation and Communications.

APEC Climate Center (Co-host)

APEC Climate Center (APCC) is established in 2005 with the unanimous endorsement and warm welcome of APEC senior officials and leaders. The mission of APCC is to enhance the socio-economic well-being of member economies by utilizing up-to-date scientific knowledge, applying innovative climate prediction techniques, and promoting application of climate information through various programs for capacity building and reducing climate risks in the region. Since its establishment, APCC has played an important role in the region in providing climate information products and services based on a multi-model ensemble prediction system.

Chung-Hua Institution for Economic Research (Co-host)

Chung-Hua Institution for Economic Research (CIER) is founded by the Taiwan government in 1981, serving as a national policy think-tank for making major economic policy recommendations, for which it has gradually gained prestige and recognition in the last 40 years. As globalization in the economic and industrial sectors has proceeded, CIER has had to represent the country in conducting exchanges with international policy think-tanks. CIER has also engaged in further consolidating the academic foundation of policy research by carrying out economic analysis of policy issues related to government and industries. By playing as a platform for exchange among academia, government, and industry, CIER continues to serve to promote the sustainable development of Taiwan's economy.

International Climate Development Institute (Co-host)

International Climate Development Institute (ICDI) is a non-profit organization which concerns the right of development under climate change impacts. By providing its professional knowledge and skills on climate governance, this think tank engages in planning and implementing of national climate policy with the public-private partnership (PPP) approach; supporting local communities and vulnerable groups on capacity building to achieve climate-resilient and sustainable lives.

Organizing Committee

Central Weather Bureau (CWB)	Mr. Chia-Ping Cheng (Chair) Dr. Chin-Tzu Fong (Co-Chair) Dr. Jing-Shan Hong Dr. Tzay-Ming Leou Ms. Meng-Shih Chen Dr. Wei-Peng Huang Dr. Jen-Hsin Teng
APEC Climate Center (APCC)	Dr. Jong Ahn Chun Ms. Sangwon Moon
Chung-Hua Institution for Economic Research (CIER)	Dr. Hen-I Lin Dr. Dean P.T. Liu
Chung Yuan Christian University (CYCU)	Prof. Yu-Chun Wang
International Climate Development Institute (ICDI)	Mr. Kung-Yueh Camyale Chao
Taiwan Climate Service Partnership (TCSP)	Prof. Hong-Yang Tseng
Utah State University (USU)	Prof. Simon S.Y. Wang

Agenda (subjective to change)

Thursday, October 21, 2021

Time(UTC +8)	Session	Speaker
9:30	**Opening Ceremony**	
09:30-10:00	Welcome and Opening Remarks	**Ming-Dean Cheng** (Director-General, Central Weather Bureau, Taiwan) **Won-Tae Kwon** (Executive Director, APEC Climate Center, Korea) **Chuang-Chang Chang** (President, Chung-Hua Institution for Economic Research, Taiwan) **Tze-Luen Lin** (President, International Climate Development Institute)
10:00-11:40	**Keynote Session**	**Chair: Ming-Dean Cheng (CWB)**
10:00-10:40	Climate Services for a Climate-resilient Society	**Won-Tae Kwon** (Executive Director, APEC Climate Center, Korea)
10:40-11:00	Break and Transition Time	
11:00-11:40	Challenge of Data-driven Climate Services in Japan: Case Studies of Weather x Business Consortium (WXBC) toward Net Zero-Emission World	**Noboru Koshizuka** (Professor, Interfaculty Initiative in Information Studies, The University of Tokyo, Japan)
11:40-13:00	Lunch Break	
13:00-16:00	**Session I: Climate Service Development : Policy Trend and Involvement**	**Chair: Vicente B. Malano (PAGASA)** **Chia-Ping Cheng (CWB)**
13:00-13:15	From Climate Information to Climate Services: The Philippine Experience	**Vicente B. Malano** (Administrator, Department of Science & Technology, Philippine Atmospheric, Geophysical and Astronomical Services Administration, the Philippines)
13:15-13:30	The Sustainable Climate Service	**Nattapon Nattasomboon** (Director-General, Thai Meteorological Department, Thailand)
13:30-13:45	Climate Services Implemented by Case Studies for Construction and Local Agriculture Sectors in	**Pham Thi Thanh Nga** (Deputy Director-General, Institute of Meteorology, Hydrology and Climate Change, Vietnam Ministry of Natural Resources and Environment, Vietnam)
13:45-14:20	**Wrap-up and Discussion**	
14:20-14:40	**Break and Transition Time**	
14:40-14:55	Enhancing Climate Services by Building Partnerships in Taiwan	**Jing-Shan Hong** (Director, Research and Development Center, Central Weather Bureau, Taiwan)
14:55-15:10	From Research to Operation on the Development of Climate Information Services in Indonesia	**Nelly Florida Riama** (Director, Center for Research and Development, Indonesian Agency for Meteorology, Climatology and Geophysics, Indonesia)
15:10-15:25	Time to Act: Regional Climate Change Information for Social Transformation	**Daniela Jacob** (Director, Climate Service Center Germany, Germany)
15:25-16:00	**Wrap-up and Discussion**	

Thursday, October 21, 2021

Time(UTC +8)	Session	Speaker
09:00-12:00	**Session II: Climate Services, Products, and Applications**	**Chair: Jong Ahn Chun (APCC)** **Simon Wang (USU)**
09:00-09:15	Climate Information Services for Resilient Development in Vanuatu	**Jong Ahn Chun** (Research Fellow, Prediction Research Department, APEC Climate Center, Korea)
09:15-09:30	Early Warning Systems for Addressing Climate Change Driven Infectious Diseases Burden	**Amir Sapkota** (Professor, Maryland Institute for Applied Environmental Health, University of Maryland School of Public Health, USA)
09:30-09:45	Our Services for Climate Change Mitigation and Adaptation in Japan's Energy Sector	**Kiichi Shirakawa** (Group Leader, Environmental Analysis Section, Environment and Energy Department, Japan Weather Association, Japan)
09:45-10:20	**Wrap-up and Discussion**	
10:20-10:40	**Break and Transition Time**	
10:40-10:55	Climate Services for Informed Decision Making in the Hindu Kush Himalayan Region	**Mandira Singh Shrestha** (Programme Coordinator, ICIMOD in Nepal)
10:55-11:10	The Intersectoral Needs for Climate Services in the Face of Climate Change	**Bo Ra Kim** (Senior International Project Manager, External Affairs Department, APEC Climate Center, Korea)
11:10-11:25	Responding to the Worst Drought on Record in Taiwan: Climate Services in Support of Water Management Decision-making	**Meng-Shih Chen** (Senior Technical Specialist, Research and Development Center, Central Weather Bureau, Taiwan)
11:25-12:00	**Wrap-up and Discussion**	
12:00-13:30	**Lunch Break**	
13:30-17:10	**Session III: Public-Private Partnership and Sustainable Development**	**Chair: Jaiho Oh (Nano C&W Co. Ltd.)** **Kung-Yueh Camyale Chao (ICDI)**
13:30-13:45	A Role of the Private Sector to Weather and Climate Service	**Jaiho Oh** (CEO/ Prof. Emeri., Nano C&W Co. Ltd., Korea)
13:45-14:00	How Open Government Can Encourage the Public-Private Partnership to Make A Well Weather-industry Ecosystem	**Chi-Ming Peng** (General Manager, WeatherRisk Explore Inc., Taiwan)
14:00-14:15	A Private Sector View of Weather and Climate Services towards Net Zero Goals	**Daisuke Abe** (Executive Officer, Service Operation and Development, Weathernews Inc., Japan)
14:15-14:50	**Wrap-up and Discussion**	
14:50-15:10	Break and Transition Time	
15:10-15:25	Enhance Climate Services Partnerships in the Asia Pacific Region	**Kung-Yueh Camyale Chao** (Executive Director, International Climate Development Institute)
15:25-15:40	ClimApp – A Personalized Heat and Cold Stress Warning Tool with Integrated Weather Forecast, Human Thermal Models and Indices	**Chuansi Gao** (Associate Professor, Thermal Environment Laboratory, Division of Ergonomics and Aerosol Technology, Department of Design Sciences, Faculty of Engineering, Lund University, Sweden)
15:40-15:55	What Apps Are Up for Farmers?	**Elisabeth Simelton** (Climate Change Scientist, World Agroforestry Asia Program, Vietnam country office, CIFOR-ICRAF in Sweden)
15:55-16:30	**Wrap-up and Discussion**	
16:30-17:00	**Conclusion**	**Each Session Chairs**
17:00-17:10	**Closing Remarks**	

Overview

Asia Pacific Climate Service Workshop 2021

Climate Service for Resilience and Sustainable Development Towards A Net Zero Emission World

Background

It is now more certain than ever that climate change has become one of the major challenges of our times. Unexpected severe weather events are occurring more frequently all around the globe and climate extremes have become the new norm. The impacts are profound and the challenges are multifaceted. One recent major response to this issue was made when the 2015 UNFCCC Climate Conference (COP21) adopted the Paris Agreement, setting the global warming at the end of the 21st century not to exceed 1.5 °C as the goal of joint global efforts which requires global carbon emissions in 2030 to be reduced by 45% compared to 2010, and net zero carbon emissions to be reached by 2050. Since then, the action plan of and commitment to net zero carbon emissions has become a global joint effort by governments and multinational companies.

The other line of response is to enhance adaptation with the notion of 'climate service' which has been promoted by the World Meteorological Organization (WMO) since 2009 to advocate cross-sectorial partnerships between meteorological information providers and users to cooperate and to augment climate resilience together. In particular, WMO has emphasized the importance of public-private partnerships (PPPs) in the long-term development of climate services in the future net-zero mission and low-carbon economy. Immediate and enriched cooperation among countries and among different professional areas are urgently needed.

At the Asia Pacific Climate Service Workshop (APCSW) 2019, hosted by the Central Weather Bureau (CWB), speakers and professionals from meteorological administrations, disaster prevention agencies, private sectors and academia of countries in the Asia-Pacific region gathered to discuss trends and challenges in climate services and to share experiences and stories of their own. The workshop concluded that, with constant information sharing and co-development, leveraging local partnerships, encouraging private-sector involvement and embracing information technology would be crucial to developing climate service further.

It is with the same intent that the CWB firmly continues to support this valuable platform so that regional and global colleagues and partners who work towards the same goal can meet again to learn from each other, to realign our efforts, and to create possibilities. The APCSW 2021 will be hosted by the CWB and co-hosted by APEC Climate Center (APCC), Chung-Hua Institution for Economic Research (CIER) and International Climate Development Institute (ICDI) under the theme "**Climate Service for Resilience and Sustainable Development Toward A Net Zero Emission World.**" Due to the COVID-19 pandemic, the workshop will be held in the form of online conference with pre-recorded presentations and live panel discussions. Objectives and preliminary program descriptions are provided below.

Objectives

The key objectives of APCSW 2021 are:

- To look into policy trends, challenges, and opportunities for further development of climate services from national and international perspective
- To share cases and results of the application of climate information in various sectors to support actions for adaptation and/or mitigation toward high resiliency and net-zero emissions as well as to discuss the challenges of integrating climate services in various applications
- To facilitate the exchange of knowledge and ideas between climate service institutions, practitioners, experts in public and private sectors to share experiences in different areas aiming at achieving sustainable development

In summary, this workshop aims to bring together experts, scientists, policy-makers, and stakeholders to discuss current and future developments in climate services, share their success stories, and strengthen partnerships between international climate service organizations and cross-sectorial researchers.

Keynote Session

- Providing an overview of regional and global governance issues of innovative climate service, climate risk management, and the application of climate information to enhance countries' resilience to climate change
- Promoting the utilization of climate knowledge and information service in various application sectors, enhancing linkages and cooperation between the public and private sectors, supply and demand sides, and jointly overcoming climate-related challenges

Session I: Climate Service Development: Policy Trend and Involvement

- Exploring the integrated development of climate services in government agencies or related organizations in recent years, as well as future policy trends and possible changes

Session II: Climate Service, Products, and Applications

- Discussing utilization of climate products and services in various application sectors
- Advancing the understanding of how climate change and climate prediction affect various application sectors and how climate services or products can enhance resilience to climate change in that area

Session III: Public-Private Partnership and Sustainable Development

- Sharing success stories of public-private cooperation in various settings and environments among international organizations, local government agencies, NGOs and enterprises that aim at achieving sustainable development
- Exploring the key elements in developing public-private partnerships with respect to application, scientific knowledge dissemination, communications and management from national level to community level

Honorable Guest

Ming-Dean Cheng

Director–General,
Central Weather Bureau,
Ministry of Transportation and Communications,
Taiwan

Biography

Director-General Ming-Dean Cheng's field of expertise is numerical weather prediction model, cloud physics parameterization, climate dynamics and air-sea interaction. In 1991, Dr. Ching-Yen Tsay, the then Director-General of the Central Weather Bureau, invited Dr. Cheng back to Taiwan to become the head of the CWB's numerical weather forecast development team in order to help make numerical weather prediction technology take root and begin the operation of second-generation numerical weather prediction system. In 2018, Dr. Cheng was promoted to Deputy Director-General.

During his 1993-2009 tenure as Director of the Research and Development Center and Director of the Weather Forecast Center, Dr. Cheng participated in the implementation of the CWB's "Hazardous Weather Monitoring and Forecasting System Enhancement" and "Toward Smart Weather Information Applications and Services" projects, which aimed to strengthen and improve meteorological information services, weather forecasting and real-time warning for townships, and short-term climate forecasting technology and application. Also in this period, Dr. Cheng participated in the DOTSTAR (Dropwindsonde Observation for Typhoon Surveillance near the Taiwan Region) project, and promoted the development of meteorological numerical model forecasting system from weather forecasting mode to climate forecasting model, thereby laying the foundation for seasonal to inter-annual dynamic climate forecasting.

Director-General Cheng has been active in international cooperation in meteorology, especially in establishing and promoting the CWB's cooperation with the International Research Institute for Climate and Society and APEC Climate Center. In the past two years, he has also led the CWB staff to participate in the Conference of the Parties to the UN Climate Change Network (COP-23, COP-24, COP-25), where they briefed the international community on the CWB's work in assisting other countries in establishing climate change adaptation capabilities, opening up more possibilities for international cooperation for the CWB.

Education

Ph.D. Atmospheric Sciences, University of California, Los Angeles, USA, 1987
B.S. Atmospheric Sciences, National Taiwan University, Taipei, Taiwan, 1980

Won-Tae KWON

Executive Director,
APEC Climate Center, Republic of Korea

Biography

Dr. Won-Tae Kwon has been the Director General of the National Institute of Meteorological Research, and previously Director of Climate Research Division, NIMR for ten years. She has served the President of the Korean Society for Climate Change Research. Dr Kwon is a Lead Author of the Sixth Assessment Report of the IPCC and also contributed to the Fourth and Fifth Assessment Report.

Education

Dept. of Meteorology, Texas A&M University, USA, Ph.D.
Dept. of Atmospheric Sciences, University of Illinois, USA., M.S.

Chuang-Chang Chang

President,
Chung-Hua Institution for Economic Research,
Taiwan

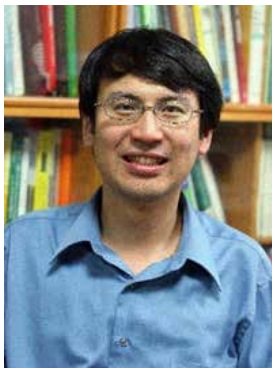
Biography

Dr. Chuang-Chang Chang is currently the President of Chung-Hua Institution for Economic Research. Before assuming this role on 20 May, 2020, he was also a Distinguished Professor in the Department Finance of National Central University. He has over 20 years of research experience in the areas of Futures and Options Markets and Risk Management, mainly focusing on International Financial Management, and taught Financial Innovation. He previously served as the Vice Chairman of Financial Supervisory Commission (FSC), the Vice President of the Asia University, a Supervisor of the Land Bank of Taiwan and the Dean of the School of Management of National Central University.

Education

Ph. D., Accounting and Finance, Lancaster University, UK.

Tze-Luen Alan Lin



Deputy Executive Director,
Office of Energy and Carbon Reduction
Executive Yuan(Premier's Office), Taiwan

Associate Professor,
Department of Political Science and Graduate Institute of Public Affairs, National Taiwan University, Taiwan

Biography

Tze-Luen Alan Lin is Associate Professor in the Department of Political Science and Graduate Institute of Public Affairs at the National Taiwan University. Since 2016, he also serves as Deputy Executive Director, Office of Energy and Carbon Reduction at the Executive Yuan(Premier's Office), Taiwan. For over a decade, Dr. Lin has attended the United Nations Climate Change Conference (UNFCCC) as an observer/advisor, and has been a leading advocate for local/urban actions on energy transition, climate action and sustainable development. His research interests focus broadly on the realms of global environmental politics, energy and climate policy, citizen participation, deliberative democracy, and urban governance.

Education

Ph.D. in Urban Affairs and Public Policy, University of Delaware, USA

Keynote Session

Gueishan Island

Keynote Session

Chair: Ming-Dean Cheng (CWB)

Won-Tae Kwon

(Executive Director, APEC Climate Center, Korea)

Noboru Koshizuka

(Professor, Interfaculty Initiative in Information Studies, The University of Tokyo, Japan)

Chair of Keynote Session

Ming-Dean Cheng

Director–General,
Central Weather Bureau,
Ministry of Transportation and Communications, Taiwan

Director-General Ming-Dean Cheng's field of expertise is numerical weather prediction model, cloud physics parameterization, climate dynamics and air-sea interaction. In 1991, Dr. Ching-Yen Tsay, the then Director-General of the Central Weather Bureau, invited Dr. Cheng back to Taiwan to become the head of the CWB's numerical weather forecast development team in order to help make numerical weather prediction technology take root and begin the operation of second-generation numerical weather prediction system. In 2018, Dr. Cheng was promoted to Deputy Director-General.

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Won-Tae KWON

Executive Director,
APEC Climate Center, Republic of Korea

Speech Title

Climate services for a climate-resilient society

Abstract

Recent IPCC assessment report has delivered a warning for widespread, rapid, and intensifying global climate change. It is indisputable that human activities are causing climate change and extreme climate events, affecting every region on Earth. The effective early warnings and early action is one of the most effective ways to adapt to climate change and to reduce losses from extreme events. Climate service has the potential to support sustainable and resilient development by providing information that can be used to reduce losses from hazard events and to adapt to climate variability and change. APCC has been one of the leading centers for climate prediction using multi-model ensembles from 15 modeling centers, since 2005. Example of new techniques using multiple sources, including MME output, expert's knowledge, and observations to produce a regionally tailored-information will be introduced.

Biography

Dr. Won-Tae Kwon has been the Director General of the National Institute of Meteorological Research, and previously Director of Climate Research Division, NIMR for ten years. She has served is the President of the Korean Society for Climate Change Research. Dr Kwon is a Lead Author of the Sixth Assessment Report of the IPCC and also contributed to the Fourth and Fifth Assessment Report.

Education

- Dept. of Meteorology, Texas A&M University, USA, Ph.D.
- Dept. of Atmospheric Sciences, University of Illinois, USA., M.S.

Work Experience

- Director General, Climate Science Bureau, KMA
- Director General, National Institute for Meteorological Research, KMA
- Director, Climate Research Laboratory, NIMR/KMA

Research Interests / Field of Expertise

- Climate prediction and change

Noboru Koshizuka

Professor,
Interfaculty Initiative in Information Studies, the University of Tokyo, Japan

Speech Title

Challenge of data-driven climate services in Japan: Case studies of Weather x Business Consortium (WXBC) toward Net Zero-Emission World

Abstract

Dealing with global warming and climate change is one of the most important global issues. In October 2020, Japan declared itself to be "Carbon Neutral by 2050". In April 2021, Japan also announced a new greenhouse gas reduction target for FY2030, aiming for a 46% reduction from FY2013 levels and continuing to challenge for a higher target of 50%. In order to contribute to these efforts, WXBC (Weather x Business Consortium) is promoting close cooperation between digital technology and meteorological activity, aiming for a digitalized green society. WXBC is working to promote closer cooperation between digital technology and meteorological data, and to increase collaboration between the public and private sectors on meteorological data. This presentation will introduce the vision, mission, and challenges of WXBC, as well as its policies to achieve a net zero-emission world in Japan. In addition, I will introduce the collaboration with activities in other fields to realize Japan's goal of a data-driven society, Society 5.0.

Biography

Dr. Noboru Koshizuka was born in Tokyo, Japan in 1966. In the university, he has founded and is now directing UTODC (Open Data Center, the University of Tokyo), which is the first research center of open data in Japan. Since 1990, he has been participating the TRON (The Realtime Operating system Nucleus) Project. For about 30 years, he has been researching ubiquitous computing, IoT (Internet of Things), embedded systems, human-computer interactions, and computer networks. Currently, his main research interests are IoT (Internet of Things), ubiquitous computing, open-data, embedded real-time systems, operating systems, and computer networks. Recent years, he has been actively contributing the activity of open data in the public sectors such as national and local governments in Japan.

Dr. Koshizuka is a member of the IEEE, ACM, and Information Processing Society of Japan.

Education

- B.S., M. S. and D. S. degrees in information science from the University of Tokyo, Japan.

Work Experience

- Chairman of Data Society Alliance(DSA)
- Member of Digital Government Ministerial Council Data Strategy Task Force of National Strategy office of Information and Communication Technology, Cabinet Secretariat, Japan.

Research Interests / Field of Expertise

- IoT Internet of Things
- Smart City
- Data Infrastructure

Session I

Session I

Chair: Vicente B. Malano (PAGASA)
Chia-Ping Cheng (CWB)

Vicente B. Malano
(Administrator, Department of Science & Technology, Philippine Atmospheric, Geophysical and Astronomical Services Administration, the Philippines)

Nattapon Nattasomboon
(Director-General, Thai Meteorological Department, Thailand)

Pham Thi Thanh Nga
(Deputy Director-General, Institute of Meteorology, Hydrology and Climate Change, Vietnam Ministry of Natural Resources and Environment, Vietnam)

Jing-Shan Hong
(Director, Research and Development Center, Central Weather Bureau, Taiwan)

Nelly Florida Riama
(Director, Center for Research and Development, Indonesian Agency for Meteorology, Climatology and Geophysics, Indonesia)

Daniela Jacob
(Director, Climate Service Center Germany, Germany)

Chair of Session I

Vicente B. Malano

Administrator,
Department of Science & Technology, Philippine Atmospheric, Geophysical and Astronomical Services Administration, the Philippines

Dr. Vicente B. Malano, has been the PAGASA Administrator since 2016, has more than 30 years of extensive background and experience in the field of meteorology since joining PAGASA in 1982 and held important positions. He has effectively led PAGASA's overall operations as evidenced in the weather agency's much improved dissemination of accurate weather forecasts to the public, especially, in times of extreme weather events which have resulted in minimal loss of lives and damage to properties. Under his leadership, PAGASA also stepped up its acquisition of state-of-the-art equipment such as Doppler radars, hydro-meteorological network and continued establishment of all-weather robust meteorological and hydrological telecommunication information system throughout the country. In November 2015, PAGASA scored a victory in the pursuit of its vision and goal with the passing into law of the PAGASA Modernization Act (Republic Act 10692) guaranteeing a better future for weather forecasting in the country. In recent years, PAGASA has reaped praises and recognitions testament to its efforts to become a world-class weather agency.

Mark C. P. Cheng

Deputy Director-General,
Central Weather Bureau, Taiwan

Mr. Mark Cheng is the Deputy Director General of Central Weather Bureau. He has served CWB for over 30 years since his graduate school years. Mr. Cheng is interested in NWP model development as well as operational forecast decision support systems to leverage the overall forecast qualities and efficiency. He developed the very first operational typhoon track prediction model which was in use by CWB for many years, and has been working on a series of modernization projects to further improve the operational weather and climate monitoring and forecasting capabilities of CWB. He has spent many years in designing, coordinating and managing the development of a coherent meteorological data acquisition, processing, presentation and service system which serves as the primary production suit that supports current CWB daily forecast operations.

Vicente B. Malano

Administrator,
Department of Science & Technology (DOST),
Philippine Atmospheric Geophysical and
Astronomical Services Administration (PAGASA),
the Philippines

Speech Title

From Climate Information to Climate Services: The Philippine-Experience

Abstract

Climate Information like any other information would be useless if not applied and utilized to come up with informed decisions and policies. With the evolving needs and demands of the human race and the ever-changing occurrences in nature, climate services are created to provide climate information to effectively respond and adapt to climate needs and variabilities.

What are climate services? As defined by WMO's Global Framework for Climate Services or GFCS, "Climate services provide climate information to help individuals and organizations make climate smart decisions... Climate services equip decision makers in climate-sensitive sectors with better information to help society adapt to climate variability and change." (Source: https://gfcs.wmo.int/what-are-climate-services). The WMO further defines climate service as "a decision aide derived from climate information that assists individuals and organizations in society to make improved ex-ante decision-making."

The climate-sensitive sectors include agriculture, health, disaster reduction and water. In the Philippines, PAGASA, the National Meteorological Service (NHMS), continuously collaborates with various Local Government Units (LGUs), international and local Non-Government Organizations (NGOs), the Academe and the Department of Agriculture to provide climate services in relation to agriculture. These collaborations have provided various climate services to farmers and stakeholders in the agricultural sector. The projects produced from these

collaborations created modules for farmers to help them better understand forecast products and services, crop climate calendars to guide farmers on weather risks during cropping season and even established the first-ever Climate Field School (CSF) in the Philippines. The CSF is equipped with an agro-meteorological station which helps farmers decide what actions to take in anticipation of the effects of climate events.

Over the years, PAGASA has developed climate services to help various climate-sensitive sectors in the country. But we know that we can still enhance our services through partnerships with various stakeholders. Let us all challenge ourselves in creating climate services that would lead to a more resilient and sustainable development toward a net-zero emission world.

Biography

Dr. Vicente B. Malano, has been the PAGASA Administrator since 2016, has more than 30 years of extensive background and experience in the field of meteorology since joining PAGASA in 1982 and held important positions. He has effectively led PAGASA's overall operations as evidenced in the weather agency's much improved dissemination of accurate weather forecasts to the public, especially, in times of extreme weather events which have resulted in minimal loss of lives and damage to properties. Under his leadership, PAGASA also stepped up its acquisition of state-of-the-art equipment such as Doppler radars, hydro-meteorological network and continued establishment of all-weather robust meteorological and hydrological telecommunication information system throughout the country. In November 2015, PAGASA scored a victory in the pursuit of its vision and goal with the passing into law of the PAGASA Modernization Act (Republic Act 10692) guaranteeing a better future for weather forecasting in the country. In recent years, PAGASA has reaped praises and recognitions testament to its efforts to become a world-class weather agency.

Education

- Master in National Security Administration (MNSA), National Defense College of the Philippines
- Ph.D. in Meteorology, University of the Philippines
- Master of Science in Meteorology, University of the Philippines
- Diploma, Post Graduate Course on Hydrology, VITUKI, Budapest, Hungary

Work Experience

- Administrator- PAGASA (2016-present)
- Acting Administrator, PAGASA (2013- 2016,)
- Acting Deputy Administrator for Operations and Services (2011-2013)

Research Interests / Field of Expertise

- Improving DRRM of Albay through Climate Change Adaptation
- Effect of Moisture Data to the Structure and Movement of Tropical Cyclone in the Western North Pacific
- Analyses on the Responses of Tropical Cyclone to its Environment as it Moves Towards the Midlatitudes
- Wave Model for Selected Philippine Seas
- Storm Surge Model for Leyte Gulf Area
- Flood Frequency Analyses

Nattapon Nattasomboon

Director-General
Thai Meteorological Department, Thailand

Speech Title

The Sustainable Climate Service

Education

- Ph.D Philosophy (Industrial Engineering) Oregon State University, USA.
- M.A. Science (Civil engineering) Oregon State University, USA.
- Bachelor's degree: Civil Engineering, Chulalongkorn University, Thailand.

Work Experience

- 2020 – Present: Director-General of Thai Meteorological Department
- 2014- 2020: Inspector General, Ministry of Industry
- 2011 – 2014: Director-General of Department of Industrial Works
- 2012 – 2013: Director of the Office of Industrial Economics
- 2012: Secretary-General of the Bureau of Industrial Standards
- 2010 – 2012: Deputy Permanent Secretary, Ministry of Industry Head of the Mission for Industrial Promotion and Entrepreneurship
- 2009 – 2010: Deputy Permanent Secretary, Ministry of Industry
- 2008 – 2009: Inspector General, Ministry of Industry
- 2005 – 2008: Deputy Director of the Office of Industrial Economics
- 2003 – 2005: Deputy Secretary-General, Office of the Cane and Sugar Board

Pham Thi Thanh Nga

Deputy Director General,
Vietnam Institute of Meteorology, Hydrology, and Climate change, Vietnam Institute of Meteorology, Hydrology, and Climate change, Vietnam

Speech Title

Climate services implemented by case studies for construction and local agriculture sectors in Viet Nam

Abstract

In the last decade, climate services have become an emerging topic in the strategy of WMO and developed widely in many countries in the World. In Vietnam, climate services have been gradually serving the need of social-economic sectors. The Vietnam Meteorological and Hydrological Administration (VMHA), in association with Vietnam Institute of Meteorology, Hydrology, and Climate Change, has started developing GFCS's components based on WMO guidance (2008). This paper focused on two case studies of climate services implemented, including (i) agro-climatic condition assessment on the request of the local agriculture agency to serve agricultural development in Muong Ang district, Dien Bien province; (ii) Establishment of the National Standard of wind pressure load for the construction sector. For the local agriculture sector, the required service includes agro-climatic zoning and agro-ecological zoning maps. Regarding construction services, it is necessary to change the wind at different iterations and convert from observed wind speed (2 min average) to the corresponding gust speed/wind pressure at the iterations. These parameters provide important input to the construction design.

Keywords: Climate services, local agriculture sector, construction, Vietnam

Biography

Assoc. Prof. Pham Thi Thanh Nga is the Deputy Director-General of Vietnam Institute of Meteorology, Hydrology and Climate Change under the Ministry of Natural Resources and Environment of Vietnam. She is a senior expert in meteorology, Hydrology and Climate change. She has gained the Master of Science in Atmospheric physics from Adelaide University, Adelaide, Australia in 2001 and the Doctor of Science in the Department of Earth and Environmental Sciences, from Nagoya University, Nagoya, Japan in 2008. She has over 30 years extensive professional experiences in the Earth's observation, and Atmospheric System (Meteorology, Climatology, and Remote Sensing. She has got funding for her researches from government organizations and non-government organizations (Japan, Australia, ect.) about early warning system for natural disaster reduction, Renewable energy (such as solar, wind, waves energy), health vulnerability to climate change, forecasting and warning of weathers and extremely weathers, land use and land cover, and climate change scenarios of Vietnam. She is also a lecturer in different universities such as VNU-Hanoi University of Science, Hanoi University of Natural Resources and Environment, Water Resources University and University of Science and Technology of Hanoi.

Education

- 2005-2008: Doctor of Science in the Department of Earth and Environmental Sciences, from Nagoya University, Nagoya, Japan
- 2000-2001: Master of Science in Atmospheric physics from Adelaide University, Adelaide, Australia
- 1995-1997: Engineer in Computer Science from Hanoi Open University
- 1990-1995: Engineer in Meteorology from Odessa Hydro-Meteorological Institute, Odessa, Ukraine

Work Experience

- September 2020 ~ present: Deputy Director-General, Vietnam Institute of Meteorology, Hydrology and Climate change (IMHEN)
- April 2015 ~ September 2020: Head of Department of Spatial Informative System and Modelling, Vietnam National Space Center. Vietnam Academy of Science and Technology.
- April 2014 – March 2015: ASEAN –US. Science and Technology Consultant for the Early Warning System for Natural Disaster Reduction. National Institute for Science and Technology Policy and Strategy Studies (MOST)
- Jan. 2013 - March 2014: Principle Investigator. Vietnam National Satellite Centre
- Dec. 2000 – Oct 2008: Deputy Chief of Research and Development Division. National Centre for Hydro Meteorological Forecasting

GUEST LECTURER AT:

- University of Science and Technology, Vietnam National University of Hanoi
- Hanoi University of Natural Resources and Environment

Research Interests / Field of Expertise

The main research interests are related to the Earth's observation, and Atmospheric System (Meteorology, Climatology, and Remote Sensing) include:

- In-depth studies on forecasting and warning of the short, medium, and long term weather phenomena
- In-depth studies on dangerous weather phenomena such as heavy rains and storms lead to natural disasters such as floods and landslides.
- Application of earth observation data by satellite in monitoring, forecasting, warning of natural disasters, natural resources, and environments such as rain, storms, floods, landslides, diseases related to weather and climate change Queen
- Renewable energy (such as solar radiation energy, air, waves, winds) in the context of climate change and sustainable development.
- Research and develop climate change scenarios for Vietnam
- Climate services in agriculture, construction, energy, etc.

Jing-Shan Hong

Director,
Research and Development
Center, Central Weather Bureau,
Taiwan

Speech Title

Enhancing Climate Services by Building Partnerships in Taiwan

Abstract

“Basically, the weather is what is happening to the atmosphere at any given time. Climate is a measure of what to expect in any month, season, or year, and this measure is found using statistics based on local observations over many years”, said Dr. Galdies. Thus, learning from the past, predicting the statistics for the future, and delivering a perspective of the local extreme from the average climate is the essence of climate science.

Climate services ensure that the best available climate science is effectively communicated with agriculture, water, health, and other sectors, to develop and evaluate adaptation strategies. Easily accessible, timely, and decision-relevant scientific information can help society to limit the economic and social damage caused by climate-related disasters, build resilience to future change and take advantage of opportunities provided by favorable conditions. However, effective climate services require established technical capacities and active communication and exchange among information producers, translators, and user communities. All above rely on the close partnership relations among the government agency, research institutes, non-governmental organizations, and the private sector enterprises to distribute climate services.

Taiwan Central Weather Bureau (CWB) has collaborated with public/private partners to promote the climate service. Plenty of weather/climate information was provided, including the local climate data, real-time monitoring of climate variability on seasonal to interannual time scales, and their linkage to weather events. CWB also provides short-term climate outlook products ranging from the months to seasonal outlooks.

This presentation will share the experience of what CWB has done to enhance climate services among government agencies, particularly the effort to extend the climate services to private sector enterprises and promote the development of the weather industry.

Biography

Dr. Jing-Shan Hong is now the Director of the Research and Development Center of the Central Weather Bureau (CWB). He is in charge of the business development of the global-climate model systems, the short-term climate forecast, the CWB observatory observation data management, and the cross-domain cooperation/service for renewable energy, water resource, agriculture, etc. Dr. Hong specialized in mesoscale meteorology and numerical weather prediction. He led the CWB regional model team to develop the operational WRF-based regional data assimilation system, the ensemble prediction system, and the convective-scale radar data assimilation system. He has engaged in promoting the application of the ensemble products in all aspects, especially for the risk assessment and decision making for the high-impact weather forecast.

Education

- Ph.D. Atmospheric Sciences, National Taiwan University, Taiwan 1993-1998
- M.S. Atmospheric Sciences, National Taiwan University, Taiwan 1988-1990
- B.S. Atmospheric Sciences, National Taiwan University, Taiwan 1984-1988

Work Experience

- 12/1993 - Present Central Weather Bureau

Research Interests / Field of Expertise

- Numerical Weather Prediction
- Application of the Ensemble forecast
- Mesoscale Meteorology

Nelly Florida Riama

Director,
Centre For Research and Development,
Indonesia Agency for Meteorology
Climatology and Geophysics (BMKG),
Indonesia

Speech Title

From Research to Operation on the Development of Climate Information Services in Indonesia

Abstract

The development of climate information services in Indonesia has been conducted by Center for Research and Development (R&D) of BMKG through the mechanism of research to operation (R2O).R&D center has developed several tools and applications to support the climate information services for operational and sectoral application. For operational modeling, R&D center developed HyBMG (Hybrid BMG), a statistical time-series forecasting tool to help forecasters in producing seasonal predictions. In addition, BMKG has been involved in the CORDEX-SEA project in running a dynamical model to produce a high-resolution future climate projection in Indonesia, which the output was used by policymakers in making national mitigation and adaptation policies. In sectoral services, early warning information of dengue for 3 months ahead has been developed for health sector. For forestry sector, the seasonal forest fire early warning system, namely API KHATULISTIWA, has been developed and is currently used for operational services. Currently, R&D center also works on a project to support the renewable energy sector by analyzing solar radiation and cloud cover and project related to urban climate information by generating the comfort level index from climate parameters. In addition, the landslide early warning system has also been developed through Blueprint for Indonesia Landslide Early Warning System (BILEWS). Lastly, R&D center is currently developing the air quality forecast system, particularly the PM10 by using the Artificial Intelligence system. From our experience, the clear mechanism of research activities to be successfully implemented in operational will expedite the goal for the provision of better information of climate services.

Biography

Dr. Nelly Florida Riama is currently the Director of Centre for Research and Development at Indonesian Agency for Meteorology Climatology and Geophysiscs (BMKG).

She is responsible for coordinating and conducting research, development, and engineering in the field of meteorology, climatology, and geophysics. She started her career as a staff of Meteorology Analysis Sub Division since 1998. She was then promoted to be the Head of Climatological Network Observation Sub Division and continued as the Head of Agroclimate and Marine Climate Information Division. In 2016, she was appointed as the Director of Marine Meteorology Center which allowed her to manage the provision of information services of marine meteorology and ocean climate. In recent years, she has been working on several national and international research activities including in marine meteorology and oceanography. One of her accomplishment is to develop the Indonesian Coastal Inundation Forecasting System by the assistance of WMO. From 2017 to 2020, she had been appointed to be the Vice Chair of JCOMM's Expert Team on Disaster Risk Reduction. Currently she has also been appointed as the Vice Chair Working Group on Buoy Vandalism (DBCP) since 2020.

Education

- 1988 – 1994: B.Sc., Meteorology, Institut Teknologi Bandung, Bandung
- 2002 – 2004: M.Sc, Geography, Universitas Indonesia, Jakarta
- B.Sc., Meteorology, Institut Teknologi Bandung, Bandung 2016 – 2021:PhD,School of Environmental Science, Universitas Indonesia, Jakarta

Work Experience

- 1998-Present : Indonesia Agency for Meteorology, Climatology and Geophysics (BMKG),
  Director of Centre For Research and Development (2019 – Present)
  Director of Marine Meteorology Center (2016~2019)
  Head of Agroclimate and Marine
  Climate Information Division (2009~2016)
  Head of Climatological and Air Quality Network Observation Sub Division(2004~2009)
  Staff of Meteorology Analysis sub Division (1998~2004)

Research Interests / Field of Expertise

- Meteorology
- Climatology
- Oceanography
- Remote sensing
- Environmental science

Daniela Jacob

Director,
Climate Service Center Germany (GERICS), Helmholtz-Zentrum Hereon, Germany

Speech Title

Time to act: regional climate change information for social transformation

Abstract

The effects of climate change are becoming more and more tangible. Especially in recent years extreme events such as heat waves, heavy rains and flood events are becoming more frequent. Based on the results of the Intergovernmental Panel on Climate Change (IPCC), it is clear that in some regions of the world there would be fewer droughts, less heat waves, heavy rain events and floods if global warming could be limited to 1.5 °C instead of 2 °C by the end of this century. This poses new challenges for regions and many sectors. It is therefore high time to urgently drive forward climate protection and adaptation to the effects of climate change and to avoid any further warming, because every half degree count. Regional climate information and climate services are key for this.

Biography

Daniela Jacob is Head of the Climate Service Center Germany (GERICS), a scientific organizational entity of Helmholtz-Zentrum Hereon, and visiting professor at Leuphana University, Faculty of Sustainability. She holds a PhD in meteorology, was Lead Author of the 5th Assessment Report of the Intergovernmental Panel of Climate Change (IPCC) and Coordinating Lead Author for the IPCC Special Report “Global Warming of 1.5 °C”. She is member of several committees and Ex-officio member of the ‘Earth League’, an international alliance of prominent scientists from world-class research institutions. Her research interests focus on regional climate modelling, the hydrological cycle, adaption to climate change, and climate services.

Education

- 1991 PhD in Meteorology, University of Hamburg, Germany
- 1986 Diploma in Meteorology, Technical University Darmstadt, Germany

Work Experience

- Since 2016 Visiting professor at Leuphana University, Faculty of Sustainability, Lüneburg, Germany
- Since 2015 Head of the Climate Service Center Germany (GERICS), Helmholtz-Zentrum Hereon, Hamburg, Germany
- 1995 – 2015 Founder and leader of the wind energy consultant anemos-jacob, Germany
- 1993-2015 Scientist, Max-Planck-institute for Meteorology, Hamburg, Germany

Research Interests / Field of Expertise

- Regional climate modelling
- Hydrological cycle
- Adaption to climate change
- Climate service

Session II

Scenery of Sun Moon Lake

Session II

Chair: Jong Ahn Chun (APCC)
Simon Wang (USU)

Jong Ahn Chun
(Research Fellow, Prediction Research Department, APEC Climate Center, Korea)

Amir Sapkota
(Professor, Maryland Institute for Applied Environmental Health, University of Maryland School of Public Health, USA)

Kiichi Shirakawa
(Group Leader, Environmental Analysis Section, Environment and Energy Department, Japan Weather Association, Japan)

Mandira Singh Shrestha
(Programme Coordinator, ICIMOD), India)

Bo Ra Kim
(Senior International Project Manager, External Affairs Department, APEC Climate Center, Korea)

Meng-Shih Chen
(Senior Technical Specialist, Research and Development Center, Central Weather Bureau, Taiwan)

Chair of Session II

Jong Ahn Chun

Research Fellow,
Prediction Research Department / Climate Services and Research Division, APEC Climate Center, Republic of Korea

Dr. Jong Ahn Chun completed his Ph.D. in Agricultural and Biological Engineering from the University of Illinois at Urbana-Champaign in 2007. He has focused on the terrestrial hydrological and biogeochemical aspects of Earth Systems through his broad research areas. At USDA-ARS, he investigated the impacts of temperature and elevated CO2 on crop yields and water resources through crop modeling and observational methods, suggesting less water will be used by crops under high-CO2 environments in the future. Prior to join in APCC, at the Johns Hopkins University, he incorporated and applied irrigation schemes to Land Information System (LIS) to enhance the simulation of regional water balances and to quantify potential feedback of agricultural water managements to local climate change. He also numerically modeled CO2 effluxes from a suburban area to provide detailed belowground carbon dynamics. He continues to contribute to investigation of the impacts of global climate change on agricultural productivity and water resources and support of developing economies to provide technologies of adaption to and mitigation of climate change in agriculture.

S.-Y. Simon Wang

Professor,
Plants, Soils and Climate, Utah State University, USA

Dr. Simon Wang studies climate variability, weather process, extreme events, and climate prediction. His research has appeared in various academic journals with over 150 publications. He authored the first monograph on Climate Extremes published by the American Geophysical Union. He also leads the research and development in the Utah Climate Center and is frequently interviewed by the news media. Dr. Wang is an advocate in climate services and contributed to the 2019 APCSW.

Jong Ahn Chun

Research Fellow,
Prediction Research Department / Climate Services and Research Division, APEC Climate Center, Republic of Korea

Speech Title

Climate Information Services for Resilient Development in Vanuatu

Abstract

It is widely known that Vanuatu is one of the most vulnerable countries to climate impacts, including climate-related natural disasters including tropical cyclones. The main objective of the whole Van-KIRAP (Vanuatu Klaemet Infomesen blong Redy, Adapt mo Protekt) project were to strengthen the adaptive capacity of vulnerable communities to climate risks at the seasonal timescale and to enhance resilience in Vanuatu. Among the five targeted development sectors (tourism; agriculture; infrastructure; water and fisheries), the agricultural sector is the main target of the APEC Climate Center (APCC). APCC develops the VaCSA (Vanuatu Climate Services for Agriculture) system with the three phases. The current phase of the development of the VaCSA system includes four major components: (1) Real-time and recorded weather information services; (2) Warning services based on agro-climate indices; (3) Improvement of Crop-Climate Diary; and (4) Crop modelling-based decision-making support system. In this presentation, we will mainly introduce the project and discuss APCC' major activities for enhancing the resilience in Vanuatu. We believe that this presentation will be helpful to understand the Van-KIRAP project and the contribution of APCC for building the resilience in the Pacific Islands.

Biography

Dr. Jong Ahn Chun completed his Ph.D. in Agricultural and Biological Engineering from the University of Illinois at Urbana-Champaign in 2007. He has focused on the terrestrial hydrological and biogeochemical aspects of Earth Systems through his broad research areas. At USDA-ARS, he investigated the impacts of temperature and elevated CO2 on crop yields and water resources through crop modeling and observational methods, suggesting less water will be used by crops under high-CO2 environments in the future. Prior to join in APCC, at the Johns Hopkins University, he incorporated and applied irrigation schemes to Land Information System (LIS) to enhance the simulation of regional water balances and to quantify potential feedback of agricultural water managements to local climate change. He also numerically modeled CO2 effluxes from a suburban area to provide detailed belowground carbon dynamics. He continues to contribute to investigation of the impacts of global climate change on agricultural productivity and water resources and support of developing economies to provide technologies of adaption to and mitigation of climate change in agriculture.

Education

- Ph.D., Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign (USA), 2007
- M.S., Agricultural Engineering, Seoul National University (Korea), 2001
- B.S., Agricultural Engineering, Seoul National University (Korea), 1999

Work Experience

- 2012~present, Research Fellow, APEC Climate Center
- 2011~2012, Assistant Research Scientist, Johns Hopkins University
- 2008~2011, Research Associate, USDA-ARS

Research Interests / Field of Expertise

- Land-atmosphere interactions in ecosystems
- Hydrologic resilience of the terrestrial ecosystems
- Climate resilient sustainable agriculture
- Soil-plant-atmosphere interactions

Amir Sapkota

Professor,
Maryland Institute for Applied Environmental Health, University of Maryland School of Public Health, USA

Speech Title

Early Warning Systems for Addressing Climate Change Driven Infectious Diseases Burden

Abstract

Most recent IPCC report suggest that the frequency, intensity, and duration of extreme weather events are increasing and this trend will continue into the foreseeable future because of ongoing climate change. This poses a fundamental question – how are we going to adapt to these new set of hazards as a society? Recent development in sub-seasonal to seasonal (S2S) forecasting provides a unique opportunity for the development of early warning systems that are specifically geared towards enhancing public health adaptation to climate change. The presentation will provide example of ongoing work that is geared towards reducing extreme weather driven diarrheal disease burden in the Asia Pacific Region.

Biography

Dr. Amir Sapkota is a Professor of Environmental Health at the University of Maryland, School of Public Health (UMD-SPH) in College Park, Maryland. He received his PhD in Environmental Health from The Johns Hopkins Bloomberg School of Public Health, and Postdoctoral training in Environmental Epidemiology from the International Agency for Research on Cancer in Lyon, France. His research focuses on the impacts of climate change on human health, and cardiopulmonary health effects of combustion-related air pollutants. Currently he is leading a multinational consortium to develop an early warning system for diarrheal diseases in the Asia Pacific Region, funded through Belmont Forum, NSF, and NOAA.

Education

- PhD: Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA
- Post Doc: International Agency for Research on Cancer, Lyon, France

Work Experience

- Professor

Research Interests / Field of Expertise

- Climate change and Health
- Early warning system

Kiichi Shirakawa

Group Leader,
Environmental Analysis Section,
Environment and Energy Department,
Japan Weather Association, Japan

Speech Title

Our services for climate change mitigation and adaptation in Japan's energy sector

Abstract

Climate change and the increase in extreme weather are becoming apparent around the world, and there are concerns about their impact on various industries, including energy sector. We have to know what the impacts will be and adapt to them. Moreover, it is indispensable to significantly expand renewable energy for realization of net-zero emission society and climate change mitigation, but for such expansion, there are still various issues to be solved such as instabilities of power supply and environmental trade-offs.

Japan Weather Association (JWA) has long supported the expansion of renewable energy (solar and wind energy) in Japan through various surveys, and has also contributed environmental conservation through implementation of a lot of EIAs (environmental impact assessments) on power plants. JWA also help energy companies to enhance resilience by conducting various surveys on the impact of climate change and adaptation strategies. In this presentation, I will introduce our efforts for climate change mitigation and adaptation in Japan’s energy sector, and also talk about recent trend of climate-related information disclosure such as TCFD.

Biography

Since joining JWA, I engaged in meteorological and atmospheric observations, renewable energy surveys, and EIAs on power plants. In 2015, I conducted a survey on the possibility of introducing renewable energy at a research institute in Vietnam as an intern. Currently, I'm in charge of climate change impact assessment and consulting on adaptation strategies for private companies and local governments.

Education

- Master of Human and Environmental Studies, Kyoto University (2010)
- Bachelor of Integrated Human Studies, Kyoto University (2008)

Work Experience

- Environmental Analysis Section, Environment and Energy Department, Japan Weather Association (July 2016 - present)

Research Interests / Field of Expertise

- Climate change impact assessment and adaptation strategy
- Renewable energy
- Environmental impact assessment

Mandira Singh Shrestha

Programme Coordinator,
Climate Services initiative, International Centre for Integrated Mountain Development (ICIMOD), India

Speech Title

Climate services for informed decision making in the Hindu Kush Himalayan region

Abstract

The Hindu Kush Himalaya (HKH) region is identified as one of the critically sensitive region of the world in the context of climate change and its impacts. Climate risk sensitive growth sectors like agriculture, tourism, health, water and energy, coupled with disasters are affected due to climate variability and change in terms of loss of productivity, property and lives. Growing concern about the impacts of climate change has increased attention to the role of climate information for building resilience to risk and adapting to change. There is a diversity in the HKH region in the knowledge and delivery of climate services. The region do not have credible operational climate services supporting alleviation of climate related risks. WMO categorized HKH countries except India and China as low capacitated and less effective in providing operational climate service support. There is enormous opportunity to tailor global and regional products to the mountain context, where biophysical and socioeconomic context are quite distinct from typical environment for which such products are generally produced for use. ICIMOD in partnership with the UK Met Office implemented the Asia Regional Resilience to a changing climate (ARRCC) in four countries Afghanistan, Bangladesh, Nepal and Pakistan is a four-year programme aiming to strengthen the provision and uptake of weather and climate services across South Asia. This programme focuses across all meteorological timescales (weather, season, climate), aiming to build climate and environmental resilience by improving the application of and access to weather and climate services at regional to national levels. Various trainings and capacity building activities at a regional level have been organized along with pilots to demonstrate the use of climate services for informed decision making at the local level.

Biography

Dr. Mandira Singh Shrestha is a Programme Coordinator of Climate Services initiative at ICIMOD. She has over 25 years of research experience that cover broad areas of climate services, water related disaster risk reduction and water resources management. Her research interest center on transboundary flood forecasting and monitoring, application of satellite based products and end user engagement for reduced risks and increased resilience. Her current research focuses on localizing climate services for Agriculture and Tourism and institutional capacity building in Future Climate Change Projections. She has coordinated the development of a web based regional flood information system in the Himalayan region where the countries share real-time data and information for flood risk reduction thereby strengthening regional cooperation. Ms. Shrestha holds a Doctor of Engineering from the University of Kyoto, Japan and a Masters in Civil Engineering from the University of Washington, Seattle, USA.

Education

- Doctor, Engineering, University of Kyoto, Japan
- Masters, Civil Engineering, University of Washington, Seattle, USA

Work Experience

- Programme Coordinator of Climate Services initiative at ICIMOD

Research Interests / Field of Expertise

- Transboundary flood forecasting and monitoring
- Water resources management
- Disaster risk management

Bo Ra Kim

Senior International Project Manager,
External Affairs Department, APEC
Climate Center, Republic of Korea

Speech Title :

The intersectoral needs for climate services in the face of climate change

Abstract :

With the growing certainty of the changes in climate variability and patterns that are inevitable under expected warming trends in the 21st century, the top global risks are reflective of this, citing extreme weather as the top global risk by likelihood in 2021. The recent IPCC report highlights that hot temperature extremes, heavy precipitation, and agricultural/ecological droughts will increase in frequency and intensity, and indicates the various simulated changes in mean temperature and precipitation for each warming scenario.

Changes in climate variability and patterns impact a great deal of different sectors – agriculture, disaster risk reduction, energy, health, and water, tourism, infrastructure, and more. With this, we can imagine the important and central role that climate services will play in reducing the damages caused by climate extremes now and even more in the future. Climate services will be imperative in climate change adaptation, but in order for climate services to be effective, climate service providers need to be willing to provide climate information that are customized to the needs of each sector and user in each region.

Biography

Ms. Bo Ra Kim is a Senior International Project Manager at the APEC Climate Center, where she develops and manages international projects and APCC's international partnership network with organizations such as GCF, UNEP, SPREP, and others. With a background in environmental science and policy, she has a wide range of understanding of the scientific, economic, and policy aspects of climate-related issues, allowing for effective communication across various expert groups. She specializes in working with partners and developing countries to develop project proposals for climate finance, as well as implementation of climate change adaptation projects in the Asia Pacific region. Ms. Kim recently received the Korean Meteorological Administration 2021 World Meteorological Day Award in recognition of great contributions to the development of meteorological services. Ms. Kim's project portfolio currently includes two GCF-funded projects, "Enhancing Climate Information and Knowledge Services for resilience in 5 island countries of the Pacific Ocean" and "Climate Information Services for Resilient Development in Vanuatu".

Education

- MPA in Environmental Science and Policy, Columbia University
- BA in Environmental Studies, Bates College

Work Experience

- Senior International Project Manager, APEC Climate Center (2018-present)
- International Project Manager, APEC Climate Center (2015-2018)

Research Interests / Field of Expertise

- Climate change
- Climate change adaptation
- Climate finance
- Project Development
- Project Management

Meng-Shih Chen

Senior Technical Specialist,
Research and Development Center,
Central Weather Bureau, Taiwan

Speech Title

Responding to the worst drought on record in Taiwan: Climate services in support of water management decision-making

Abstract

Tropical cyclones are the main source of precipitation for Taiwan, but none invaded Taiwan last year. Together with less spring rainfall and late arrival of rainy season this year, the precipitation in western Taiwan was only half of the climate normal, resulting in suspension of rice paddy irrigation, severe impact on economic and industrial activities, and almost two months' of water rationing in parts of the island.

Traditional water resources management is based on past rainfall observation, i.e. adopting rainfall scenarios with different probability of exceedance to estimate possible future changes in reservoir water level, while rainfall forecasts are not used at all. In order to bridge the gap between meteorology and hydrology, the Central Weather Bureau has improved its global model forecast skills. We use statistical post-processing methods to correct the model forecast bias, and apply downscaling and multi-model ensemble techniques to produce customized products for decision-making. During the drought, the Central Weather Bureau and the Water Resource Agency even held meetings every week, where we provided appropriate seamless forecast information on the basis of which different measures could be taken at different stages, to overcome the challenge of water shortage.

The intensive cooperation between the Central Weather Bureau and the Water Resource Agency demonstrated a good role model for climate services in water resources sector throughout the whole drought response process. In the face of more frequent extreme events caused by climate change, seamless forecasts can provide better climate services, so that people can be better informed and prepared, and more effective actions can be taken to reduce the loss of life and property.

Biography

Ms. Meng-Shih Chen is currently the team leader of long-range forecasts at Taiwan's Central Weather Bureau, where she has worked for more than 20 years. At earlier stages of her career, she developed statistical downscaling techniques, and in recent years she has been dedicated to establishing a framework of extended-range and long-range forecast operation. She specializes in understanding sub-seasonal to seasonal and inter-annual climate variability, applying statistical post-process techniques to numerical model predictions, providing sub-seasonal and seasonal forecast guidance, and developing tailored products for application in climate adaptation and risk management, especially in the water resources sector. Ms. Chen also takes an interest in popular science promotion, with topics ranging from basic state of climate, seasonal cycle, to climate change, hoping to raise public awareness of climate issues.

Education

- M.S., Institute of Atmospheric Physics, National Central University
- B.S., Department of Atmospheric Sciences, National Central University

Work Experience

- Section Chief, Agrometeorology Section, Applied Meteorology Division, CWB
- Section Chief, Long-range forecast Section, Weather Forecast Center, CWB

Research Interests / Field of Expertise

- Extended-range and Long-range Forecasting
- Climate Application Service
- Climate Change Monitoring

Session III

Taipei 101

Session III

Chair: Jaiho Oh (Nano C&W Co. Ltd.)
Kung-Yueh Camyale Chao (ICDI)

Jaiho Oh
(CEO/ Prof. Emeri., Nano C&W Co. Ltd., Korea)

Chi-Ming Peng
(General Manager, WeatherRisk Explore Inc., Taiwan)

Daisuke Abe
(Executive Officer, Service Operation and Development, Weathernews Inc., Japan)

Kung-Yueh Camyale Chao
(Executive Director, International Climate Development Institute)

Chuansi Gao
(Associate Professor, Thermal Environment Laboratory, Division of Ergonomics and Aerosol Technology, Department of Design Sciences, Faculty of Engineering, Lund University, Sweden)

Elisabeth Simelton
(Climate Change Scientist, World Agroforestry Asia Program, Vietnam country office, CIFOR-ICRAF in Sweden)

Chair of Session III

Jaiho Oh

CEO/ Professor Emeritus,
Nano C&W Co. Ltd., Repulic of Korea

Jai-Ho Oh (吳 載 鎬): He is CEO and founder of C&W Co. Ltd. since 2018. He is also a Professor Emeritus in the Department of Environmental Atmospheric Sciences of the Pukyong National University. His primary field of research is disaster prevention, early warning, and the regional impact of climate change. He has published more than 150 research papers and 28 books. He had been the President of Asia Oceania Geosciences Society, Atmospheric Science Section, and Editor-in-chief of Advances in Geosciences for 2008-2010. He had also been the President of the Korean Meteorological Society and the President of the KOREN/APII/TEIN user group for 2008-2009. He served as the president of the Korean Quaternary Association for 2007-2008.

Kung-Yueh Camyale Chao

Executive Director,
International Climate Development Institute, Taiwan

Kung-Yueh Camyale Chao has been working in the public affairs fields for 20 years, and he is currently the Executive Director of International Climate Development Institute (ICDI). In addition, Camyale also served as the General Secretary of the International Forum of Meteorological Societies (IFMS) from January 2016 to September 2018, and has been elected as the Treasurer of IFMS since Sep 2018. He was Deputy Director for Administration of APEC Research Center for Typhoon and Society (ACTS) for 4 years, and was Director of International Affairs in Meteorological Society of ROC-Taiwan from 2009 to 2017. Camyale is a certified trainer of UNDRR, and was also CSO Representative of European Bank for Reconstruction and Development (EBRD) since 2017.

Jaiho Oh

CEO/ Professor Emeritus,
Nano C&W Co. Ltd., Repulic of Korea

Speech Title

A role of the private sector to weather & climate service

Abstract

Government-oriented weather & climate information delivery system is aimed at the public rather than special consumers, rather than in any specific region, so it has no choice but to stay in the one-sided delivery of information that considers the opinions of consumers at least. However, it is now necessary to change the system from supplier-centered to consumer-centered. For this, the establishment of infrastructure for providing weather information will be an essential procedure. In particular, future-oriented weather information provision infrastructure to closely examine and respond to the vulnerability of national industrial activities due to the frequent occurrence of abnormal weather due to global environmental changes such as global warming and the uncertainty of prediction of large-scale atmospheric circulation such as El Niño/La Niña. It is judged to be the wisest way to improve the quality of life of the people.

The role of the private sector has been reviewed together with the government weather service in terms of competition and collaboration. Technical approaches of the private sector have been discussed to distinguish them from governmental services. In this paper, the approaches of private sectors have been introduced in a temporal and spatial domain beyond the government service domain. Recently digital twin concept is an example of data-driven real-time weather and climate service with hyper-local information less than several 10 meters and every several 10 seconds or even more frequently.

Biography

Jai-Ho Oh (吳載鎬): He is CEO and founder of C&W Co. Ltd. since 2018. He is also a Professor Emeritus in the Department of Environmental Atmospheric Sciences of the Pukyong National University. His primary field of research is disaster prevention, early warning, and the regional impact of climate change. He has published more than 150 research papers and 28 books. He had been the President of Asia Oceania Geosciences Society, Atmospheric Science Section, and Editor-in-chief of Advances in Geosciences for 2008-2010. He had also been the President of the Korean Meteorological Society and the President of the KOREN/APII/TEIN user group for 2008-2009. He served as the president of the Korean Quaternary Association for 2007-2008.

Education

- Ph.D., Atmospheric sciences, Oregon State University, Corvallis, Oregon, USA
- M.S., Atmospheric Sciences, Oregon State University, Corvallis, Oregon, USA
- B.S., Meteorology, Seoul National University, Seoul, Kore

Work Experience

- CEO, Nano C&W Co. Ltd
- Professor Emeritus, Dept. Env. & Atmos. Sci., Pukyong National University

Research Interests / Field of Expertise

- Hyper-local weather and climate information for the industry
- Disaster prevention, early warning, and the regional impact of climate change

Chi-Ming Peng

General Manager,
WeatherRisk Explore Inc., Taiwan

Speech Title

How Open Government Can Encourage the Public-Private Partnership to Make A Well Weather-industry Ecosystem

Abstract

Taiwan began officially implementing the first open government national action plan in 2021. This involved announcing five major categories of commitment: “open data”, “gender”, “public participation”, “integrity” and “anti-money laundering”. In this process, the government and civil society work together to formulate topics for discussion and form a common opinion of an open government policy, which has become a concrete and feasible way.

But from the perspective of public-private collaboration, there are not only social issues, but also a mechanism for industry and government to work together. What is the role of the government in the face of climate change? If it becomes the leader, funding distributor or participant of the ecosystem, it will greatly affect the development of the future industry.

From the perspective of the development of countries in the world, listening to the development of private industries and participating in the development of the ecosystem is the best way.

Rather than relying on the old method, led by the government, the taxpayer’s tax as the capital for industrial development can easily be obviously insufficient in terms of innovation and efficiency.

Biography

Dr. Chi-Ming Peng is the founder and CEO of WeatherRisk Explore, Inc., and an Adjunct Professor in the Department of Atmospheric Science in the National Central University and the CTBC business school in Taiwan.

To fulfill his mission as an atmospheric scientist, he has outreached to broadcast weather and climate-related issues as a program host in Broadcasting Corporation of China(Taiwan) and a weather presenter in DaAi Television. In 2016, Dr. Peng was invited by Yahoo TV! for a popular live show.

Dr. Peng is also a member of an international community of weather anchors initiated by WMO, and Climate Without Borders. Beyond meteorology, he has also worked in climate change adaptation, mitigation, disaster prevention and reduction, emergency management, atmospheric chemistry, and science communication.

With his experience in dealing with climate data, Dr. Peng served as the president of Taiwan Open Data Alliance and Taiwan Disaster Industry, which promotes the transparency of government resources in public-private partnerships. He is also co-chair of the Civil Society member of Taiwan inaugural Open Government/ Parliment National Action Plan Multi-Stakeholder Forum. Besides, he also lead the Asia Open Data, are the chair of AODP (Asia Open Data Partnership) in 2016, 2018, 2020.Dr. Peng got the Taiwan Outstanding I.T. Elite Awards in 2017.

Education

- Ph.D., Atmospheric Physics, National Central University, Taiwan, 1999
- M.S., Atmospheric Physics, National Central University, Taiwan, 1994
- B.S., Atmospheric Sciences, National Central University, Taiwan, 1992

Work Experience

- Taiwan Climate Partnership, Secretary-General (2021-)
- Executive Yuan Open Government National Action Plan Taskforce, co-convener (2021-)
- Da Ai TV Weather Presenter (2006-)
- YahooTV Weather Presenter (2016-)
- Taiwan Disaster Industry, Chairman (2019-)
- CTBC business school, Professor (2017-)
- Open Data Alliance, President (2013-)
- Asian Open Data Partnership, President (2015-2016, 2017-2018)
- Member of Digital National Innovative Economy Steering (Digi+) Group,
- Executive Yuan (2017-)
- Member of External Council, National Information and Communication Initiative
- Committee (NICI), Executive Yuan (2014-2016)
- Technology consultant of BOST, Executive Yuan (2015-2017)
- National Central University, Academic Foundation Board (2010-)
- Taipei City Government County Government adviser (2015-)
- Taiwan Climate Change and Sustainable Energy Association, Director (2010-)
- New Taipei City Disaster Prevention and Response Expert Advisory Committee(2010-)
- Taiwan Environmental Protection Society, Secretary-General (2008-2021)
- Fubon Insurance Company, Advisor (2006-2012)
- WeatherRisk Explore Inc., General manager (2005-)
- Broadcasting Corporation of China, Program host (2005-)

Research Interests / Field of Expertise

- Climate change, data economy, risk management

Daisuke Abe

Executive Officer,
Service Operation and Development,
Weathernews Inc. (WNI), Japan

Speech Title

A Private Sector View of Weather and Climate Services towards Net Zero Goals

Abstract

Weathernews Inc. (WNI), as a private meteorological service company based in Japan, provides BtoB and BtoS weather and climate services in/for 44 fields of industries and individuals all over the world. Due to the recent increase of the number and intensity of severe weather induced by the global warming, the customers have high expectations for reducing their risks. WNI provides them with risk management solutions in terms of both “mitigation” of and “adaptation” to the climate change.

For mitigation, WNI provides global ship routing services which optimize both engine speed and fuel consumption. Along with safety support services, WNI is challenging in monitoring and visualizing CO2 reduction, and in fact, the Optimum Ship Routing service has contributed to the reduction of 2.8 million MT of CO2 from June 2018 to May 2019. Also in this context, WNI is providing services to energy and retail markets to predict demand/supply balance, which lead to optimizing the power generation and minimizing the foods waste in our society.

For adaptation, WNI has contributed to building resilience and risk assessment for natural disasters for a long time. Especially in the market of transportation, such as railways/road management, WNI has a remarkable experience to support, with its high-quality forecasts and original observation networks, in optimizing the customers’ operation for the severe weather condition.

Some of key opportunities for enhancing and maximizing the contribution of weather and climate services to the “Net Zero” goals are: accumulation of daily monitoring data; a sustainable collaboration with Public-Private Partnership; and a balanced Public/Mutual/Self-support in disaster situations and environmental problems.

Biography

Mr. Abe has been working as the Managing Executive Officer for Service Operation and Development of Weathernews Inc. (WNI) since 2012 and as the Director of Weathernews America Inc. and Weathernews Benelux B.V. His 25 years’ experience at WNI includes Data Management and Analysis, Weather Forecasting as a certified meteorological forecaster, and Research & Development with the latest technologies. As Chief of the WNI Data Management team, he collaborated with NMHSs globally within the WMO PPE framework to acquire, manage and maximize the value of various weather, environmental and climate data.

Education

- MSc in Meteorology, Hokkaido University, Japan,1995
- BSc in Meteorology, JMA Meteorological College, Japan,1993

Work Experience

- Executive Officer, Service Operation and Development

Research Interests / Field of Expertise

- Climate Data Management and Analysis
- Weather Forecasting
- Research & Development with the latest Climate technologies

Kung-Yueh Camyale Chao

Executive Director,
International Climate Development Institute

Speech Title

Enhance Climate Services Partnerships in the Asia Pacific Region

Abstract

Net Zero Target is the common goal for countries all over the world, and Climate Emergency is the trend we are facing when all sectors are trying to recover their economy in the post pandemic era. Climate Service for building resilience and new business model are the essential to all sectors. In this regard, it will be beneficial to all countries to build a platform for public and private sectors to share experiences and ideas to enhance Climate Services Partnerships in the Asia Pacific Region.

Biography

Kung-Yueh Camyale Chao has been working in the public affairs fields more than 20 years, and he is currently the Executive Director of International Climate Development Institute (ICDI). In addition, Camyale also served as the General Secretary of the International Forum of Meteorological Societies (IFMS) from January 2016 to September 2018, and has been elected as the Treasurer of IFMS since Sep 2018. He was Deputy Director for Administration of APEC Research Center for Typhoon and Society (ACTS) for 4 years, and was Director of International Affairs in Meteorological Society of ROC-Taiwan from 2009 to 2017. Camyale is a certified trainer of UNDRR, and was also CSO Representative of European Bank for Reconstruction and Development (EBRD) since 2017.

Education

- Ph.D. Candidate in Politics, the University of York, UK
- Ph.D. in Educational Policy and Management, National Taipei University of Education, Taiwan

Work Experience

- Executive Director, International Climate Development Institute (ICDI) (2016.Feb-present)
- Treasurer, International Forum of Meteorological Societies (IFMS) (2018.Sep-present)
- Advisor and Co-Chair of Organizing Committee, SMART CITY SUMMIT & EXPO (SCSE) (2016-present)
- Lecturer, Soochow University (2017 Aug.-present)

Research Interests / Field of Expertise

- Climate Change and Adaptation Policy
- Smart City Governance
- Climate Finance / TCFD
- SDGs

Chuansi Gao

Associate professor,
Thermal Environment Laboratory, Division of Ergonomics and Aerosol Technology, Department of Design Sciences, Faculty of Engineering (LTH), Lund University, Sweden

Speech Title

ClimApp – a personalized heat and cold stress warning tool with integrated weather forecast, human thermal models and indices

Abstract

Climate change has increased the frequency and intensity of extreme weather events. Heat waves and cold spells pose a threat to human health, well-being and productivity. The impact of thermal stress depends on not only climate factors, but also individual factors and vulnerability. Current heat wave early warning systems are mainly based on air temperature. It is necessary to extend and improve current climate services by taking into account individual factors and all thermal climate variables to provide personalized heat-health early warnings to increase thermal resilience.

ClimApp is smartphone app developed based on a European project to translate climate service into personalized adaptation strategies to cope with heat and cold stress. The app incorporated more than 10 relevant parameters that determine the heat exchange between human body and the environment. Weather forecast data are automatically extracted from user's local weather forecast through GPS, as inputs into four human thermal models for hot, moderate and cold environments. The app works globally in a temperature range from -50 to +50 °C. ClimApp is publically available for Android and iPhone in 10 languages. The App provides personalized health risk warnings and advice for individuals, vulnerable groups and organizations to support decision-making to increase adaptation capacity when extreme weather events. ClimApp was awarded by The World Meteorological Organization for Originality and Innovation.

Biography

Chuansi Gao is the head of Thermal Environment Laboratory, an associate professor and PhD supervisor at Lund University in Sweden. He received his PhD in ergonomics in Sweden. His current research focuses on climate change and health, heat and cold stress, effects of physical activity, clothing and extreme weather events on health, thermal physiological responses, thermal comfort and work performance, development of heat/cold stress early warning system, personal protection and adaptation strategies.

Dr. Gao, as the lead PI, coordinated the EU ERA4CS co-fund project “Translating climate service information into personalized adaptation strategies to cope with thermal climate stress (ClimApp)”. He is a partner of EU H2020 Heat-Shield and ENBEL projects, and a Co-PI of International Belmont AWARD-APR project. Dr. Gao is an editorial board member of the International Journal of Environmental Research and Public Health, and edited the special issue “Climate Services, Weather Forecasts and Prevention of Human Thermal Stress”.

Education

- PhD in ergonomics, Sweden
- MSc and BSc in occupational and environmental health, China

Work Experience

- Thermal Environment Laboratory, Division of Ergonomics and Aerosol Technology, Faculty of Engineering (LTH), Lund University, Sweden

Research Interests / Field of Expertise

- Climate change and health, heat and cold stress, thermal physiology, thermal comfort, heat and health warning system

Elisabeth Simelton

Climate Change Scientist,
World Agroforestry Asia Program,
Vietnam country office, CIFOR-ICRAF ,
Sweden

Speech Title

What apps are up for farmers?

Abstract

At the APEC meeting in Papua New Guinea 2018, I talked about how participatory agro-climate advisories improved the communication between met officers, extension, and farming communities. Since then, the push for digital solutions (the fourth agricultural revolution) have become stronger. In the UN Decade of Ecosystem Restoration, digital climate services can support fast and updated agricultural management decisions. Today I ask: “What apps are up for farmers?”

The presentation will demonstrate our recent attempts to achieve a comparable overview of app-based digital climate services apps of relevance for Southeast Asian smallholder farming systems. Drawing on four dimensions of the Responsible Research and Innovation framework, we evaluate, e.g. what production systems are promoted; and how the services contribute to achieving (inter)national targets for sustainable development goals, biodiversity and climate conventions. Among the findings: (1) Services are developed for but not necessarily with farmers, thereby overlooking critical needs and social factors such as (e)-literacy; (2) Most apps were driven by foreign capital. Partnerships/joint-ventures with public agencies, in particular national Met Offices, are rare; (3) The reviewed apps primarily supported single solutions, none of them targeted mixed or integrated farming systems. We call for a systematic and simple means for users to assess and compare climate services e.g. transparent intercomparison protocol, and challenge developers to innovate applications in an inclusive manner, that support farmers and governments in achieving their commitments to national and global sustainability targets.

Biography

Elisabeth Simelton is based at ICRAF with Southeast Asia as focus area since 2010. Since 2014 she has been involved in the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) and led one of the climate-smart village projects in central Vietnam. Currently she leads a Support to Implement Paris Agreement (SIPA) project that builds on synergies between climate-smart agriculture and ecosystem-based adaptation. She enjoys external communication and collaboration, and e.g. co-authored the ASEAN Guidelines for agroforestry development; developed a framework for nature-based solutions in agriculture and guidelines for tenure in agroforestry with the FAO; and is guest lecturing in ASEAN Climate Leadership Programmes.For publications and more information, please visit: https://www.worldagroforestry.org/staff/elisabeth-simelton .

Education

- PhD Geography
- BA Education

Work Experience

- Project leader, Climate change scientist at ICRAF since 2010
- Technical/scientific advisor

Research Interests / Field of Expertise

- multi-functional land uses, agroforestry, nature-based solutions
- smallholder farmer livelihoods and adaptation strategies
- agro-climate information systems, rural advisory services (extension)
- participatory methods, social inclusion, gender

Note

Note

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Registration

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https://apcsw.cier.edu.tw/

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