1.1 **Welcome from Mexico City Secretariat of Integral Risk Management and Civil Protection**

**Myriam Urzúa Venegas** is the Secretary of Integral Risk Management and Civil Protection for Mexico City. She is an architect with a concentration in urban planning and has been involved in environmental management for 40 years. She has consulted internationally on disaster assessments in various places in Central and South America. She also works with disaster reduction programmes of the World Bank and the United Nations Disaster Risk Reduction office.

1.2 **Welcome from the International Association of Emergency Managers (IAEM)**

**Ellis Stanley** is Managing Partner of Ellis Stanley Partners, LLC. After 32 years as an Emergency Manager that included North Carolina, Atlanta-Fulton County Georgia, and the City of Los Angeles California, he worked in the private sector. Ellis is currently Chair of the Global Board of Directors of the International Association of Emergency Managers. He is also on the Advisory Board Coastal Hazards Center of Excellence; Board of Directors National Disaster Resiliency Center; and the Hope Coalition America Advisory Board. He is a former Board Member of Atlanta and Los Angeles Red Cross Chapters; Disaster Recovery Institute International; and a former Chair of the Emergency Management Accreditation Program. Ellis serves as an adjunct professor at American University teaching Senior Crisis Management, and at Harvard University teaching Meta-Leadership.

1.3 **Welcome from the International Federation of Red Cross and Red Crescent Societies (IFRC)**

**Jessica Ports Robbins** is the Technical Advisor, Preparedness ICTs for the Global Disaster Preparedness Center (GDPC). She has worked with the American Red Cross since 2001. In her role with GDPC she manages the Center’s digital tools, including the Universal App Program, the WhatNow Service, and Atlas: Ready for Business preparedness app, and she provides technical guidance to partner Red Cross and Red Crescent National Societies. Her education includes a BA in History from Elon College, an MS in History & Sociology of Technology & Science from Georgia Institute of Technology, and a Ph.D. in international development, also from Tulane. Areas of expertise include information and communication technology for development (ICT4D), mobiles for development (M4D), disaster risk reduction, shelter operations, pet evacuation and sheltering, volunteer management, international humanitarian law, and community disaster preparedness.
1.4 Welcome from the International Telecommunication Union (ITU)

3.7 CAP from an ITU Perspective

**Maritza Delgado** is a Program Officer of the Environment and Emergency Telecommunications Division within the International Telecommunication Union’s (ITU) Telecommunications Development Bureau (BDT). Maritza is responsible in the context of emergency telecommunications for developing ICT projects for early warning, disaster management and risk reduction, and for providing assistance for disaster mitigation, prevention, response and recovery. She holds a University degree in Electronic Engineering and Telecommunications and has over 13 years of experience in the field of disaster management. Her recent focus is on encouraging countries: to develop their own emergency telecommunication plan, integrated with the national emergency plan; to design an early warning system addressing hazard threats that affect the region; and, to include ICTs in their early warning systems.

1.5 Welcome from OASIS (standards organization)

3.20 Event Terms for Use in CAP

3.21 Update on OASIS Emergency Management Technical Committee Work

**Elysa Jones** is an internationally recognized expert in Emergency Interoperability Communications via Data Messaging. She is Chair of the OASIS Emergency Management Technical Committee since 2004. Her Committee developed and maintains the Common Alerting Protocol (CAP) Standard, also known as ITU Recommendation x.1303. Additional Standards for message distribution, resource messaging, hospital availability, tracking of emergency patients and clients and situation reporting are products of her committee. She is an Emergency Communication Expert for the International Telecom Union (ITU), Chief Technology Officer and Advisor for various Companies, Organizations and Countries providing guidance on the development of systems that utilize data messaging standards. She holds a Baccalaureate Degree in Economics, and a Master’s Degree in Computer Science from the University of Alabama in Huntsville. Elysa is a tireless advocate for the use of open standards in support of emergency communications.

1.6 Welcome from the World Meteorological Organization (WMO)

3.18 Developments with CAP in WMO

**Miriam Andrioli** is Chief of the Service Delivery Division in the Weather and Disaster Risk Reduction Services Department of the World Meteorological Organisation. She graduated in Meteorology at the University of Buenos Aires, Argentina, and joined the National Meteorological Service. There she held management positions in Marine Meteorology, International Affairs, and in Public Relations and Communications Media. She was President of the Marine Meteorology Capacity Building Group of the World Meteorological Organisation and the Intergovernmental Oceanographic Commission and member of the International Airways Volcanic Watch Operations Group of the International Civil Aviation Organization. She has also been a weather journalist, presenter and producer at a leading television and radio national network in Argentina.

2 Organization of the Workshop

**Eliot Christian** is a *pro bono* consultant to various organizations. He leads the Filtered Alert Hub initiative, part of the U.S. NOAA Big Data Project, and he conducts CAP training for the USAID/Office of Foreign Disaster Assistance. He is also a pro bono consultant to, and retired from, WMO. He was a chief architect of the WMO Information System and the Global Earth Observations System of Systems. Eliot is retired from, but remains a volunteer to, the United States Geological Survey (USGS) where for many years he helped lead broad programs for environmental data sharing. Since 2001, he has been active in developing and promoting CAP, especially internationally.
3.2 **CAP and Public Awareness**

**Guillermo Ayala** has worked in public service for 32 years, and for 20 years held strategic managerial positions in Civil Protection and in Education, including Director of Emergency Management and Technical Director, and Director of Health and Safety in Schools. He helped implement the CENAPRED computer park, and a monitoring system for the Popocatépetl Volcano. He collaborated in the Early Warning System for Hurricanes, PRESISMICO, the Plan for Major Contingencies for Mexico City, the Strategic Facilities Coordinating Group, the Public Administration Institutions operating the National Civil Protection System, the SUMA Project for Supply Management after Disaster, and the Pan American Health Organisation, among others. He regularly participates in national and international conferences, including the Global Disaster Information Network, Evaluation of Preparations and Response to Hurricanes Georges and Mitch, the Binational Work Meeting for Disaster Prevention, and the Binational Meeting on Disaster Mitigation.

3.3 **CAP and CREWS - Climate Risk & Early Warning Systems**

**John Harding** is the Head of the Climate Risk and Early Warning Systems (CREWS) secretariat at the World Meteorological Organization (WMO). The objective of CREWS is to significantly increase access to early warning systems and risk information to protect lives and livelihoods in Least Developed Countries (LDCs) and Small Island Developing States (SIDS). John has worked for 19 years for the United Nations. Previously he served as Political Advisor to the UN Special Envoy to Haiti, President William Jefferson Clinton; as Head of UNDP’s Disaster Risk Reduction Unit in Haiti; as Advisor to the UN Resident Coordinator in Pakistan; and, as Team Leader for the Global Facility for Disaster Risk Reduction (GFDRR) at World Bank in Washington DC.

3.4 **CAP and Google Public Alerts**

**Ruha Devanesan** leads crisis response product partnerships at Google Search, making critical information more accessible in times of disaster through Google Search and other products. Ruha has a J.D. and Masters in International Relations from Boston University and is a former Fellow of the Berkman Center for Internet and Society at Harvard Law School. Areas of expertise include information and communication technology for development (ICT4D), mobiles for development (M4D), crisis alerting technologies, designing for equitable access, international human rights law, and community disaster preparedness.

3.4 **CAP and Google Public Alerts**

**Thomas Riga** is a Technical Solution Consultant at Google in Milan, Italy, where he focuses on technical integrations in Google Search. He currently leads the CAP data ingestion program in Google Public Alerts, and in previous positions worked as a researcher in AI & machine learning at Plymouth University, UK, and in a software engineering role in the field of computer vision.
3.5 **CAP and MeteoAlarm**

**Rainer Kaltenberger**

Rainer Kaltenberger is a consulting meteorologist with the Austrian Central Institution for Meteorology and Geodynamics (ZAMG). He works in the programme management of EUMETNET EMMA/Meteoalarm, an integrated regional weather warning system in Europe. His long-term experience as an operational meteorologist with a focus on impact-oriented warnings is requested by several national and international initiatives. His roles have included WMO/Worldbank missions on capacity development (Myanmar) and service delivery (Ghana, Seychelles), member of WMO expert group on a Global multi-hazard Alert System (GMAS), task team member of the WMO HIWeather research project and a number of European initiatives in the field of crowdsourcing and post-disaster damage assessment (European Severe Storms Laboratory). In Austria, he works as a trainer of weather enthusiasts and is consultant in commercial and research projects including the fields of human biometeorology, motivation of laypersons to engage with meteorology and weather in contemporary arts.

3.6 **CAP to Protect Cultural Heritage in Italy**

**Marcello Marzoli**, Fire Captain, master's degree in aerospace engineering, since 1990 he has been working for the Italian Ministry of interior, Department of fire corps. He has been working at the National control centre, Air service, IT office and now at the National fire academy. Since 2001 he has been working on several European and National R&D projects focussed on satellites, indoor location, control centres' interoperability and mass evacuation. He has been appointed as EC expert evaluator and to serve on the NFPA Committee on Mass Evacuation and Sheltering. Inventor and assignee of Italian patents, he has published several papers.

3.8 **BE AWARE Project in Europe**

**José Diego** is an expert-evaluator for the European Commission within three different initiatives: Horizon2020 Secure Societies challenge; DG HOME Research Programmes; and, Radicalisation Awareness Network. He began his career as a consultant at Deloitte, and nowadays is the Project Manager of the Valencia Local Police, as well as International Lecturer, OSCE Hate crimes trainer and Liaison officer, and also Professor for a Master on Human Resources, for two Masters in Criminology, and for the Chiefs’ Police Academy as well. He has managed 23 EU projects (including seven H2020-Secure Societies projects) in matters like R&D, domestic violence, police mediation and training, community policing, forensics, youth offending, crime fighting, road traffic, police management, diversity, emergencies, environmental police, etc. He holds Degrees in Law and in Criminology and a Master in Human Resources Management as well.

3.9 **CAP Implementation with Social Media Channel in Taiwan**

**Mei-Chun Kuo** graduated from the National Taipei University of Technology with a degree in Civil Engineering. Her career field is GIS, and her job function is GIS spatial analyst, alerts warning information system analyst/design/project management. She is a research assistant since 2007 in the National Science and technology Center for Disaster Reduction. She is a member of the team that develops and maintains the CAP warning system in Taiwan.
3.10 **CAP in Brazil**

Carlos Frederico Angelis works in the National Centre for Monitoring and Early Warning of Natural Disasters (CEMADEN) of Brazil. He holds a PhD in Geography and Environmental Sciences from The University of Birmingham, UK, a Masters in Remote Sensing from Brazil's National Institute for Space Research (INPE) and a BSc. in Geography. As a researcher at INPE, he developed research and studies focusing rainfall estimation using remote sensing of the atmosphere (weather radar and satellites). He is the current Head of the Satellite and Environmental Systems Division at INPE. He also teaches Remote Sensing of the Atmosphere using active and passive microwave at the INPE Postgraduate program. (Source: Lattes Curriculum)

3.10 **CAP in Brazil**

Osvaldo Moraes heads Brazil's National Centre for Monitoring and Early Warning of Natural Disasters (CEMADEN), within the Ministry of Science, Technology, Innovation and Communication. The CEMADEN mission is to find solutions for urban resilience to nature’s challenges by developing and expanding a national system network for monitoring of risk areas, forecasting of natural disasters, and issuing emergency warnings and alerts. His education includes a postgraduate degree in Atmospheric Sciences Research Center from SUNY; and Ph.D; M.Sc. and B.Sc. in Physics at Brazil Universities. He has expertise with Geosciences, focusing on Micrometeorology, planetary boundary layer, turbulent flows, eddy diffusivity coefficient, air pollution and experiment studies. His positions in Brazil government have included: Research and Development Secretary; Policy and Programs Secretary; Brazil's Centre for Weather Forecasts and Climate Studies Coordinator; Scientific Director of the Research Support Foundation; Centre of Meteorology for MERCOSUL. His academic career has ranged from local to international.

3.11 **CAP in Canada**

3.20 Event Terms for Use in CAP

Norm Paulsen is a senior meteorologist with Environment Canada and one of the principle architects of the CAP Canadian Profile. He has over 25 years of experience in alert information modelling and alerting systems design. During this time, Norm has contributed to the advancement of CAP - both in Canada and the WMO - is an active participant in OASIS CAP sub-committee working groups, and is currently the chair of the CAP Canadian Profile Standards Working Group. His current position involves the strategic planning of the Environment Canada alerting Program and how that Program interfaces with radio, television, and wireless public alerting. Norm is also a consultant to many Federal Government departments engaged in Public Alerting in Canada.

3.12 **CAP in Cuba: Perspectives and Plans for its implementation in 2020**

Jose Rubiera Ph.D. is a Senior Specialist in Tropical Meteorology and Hurricane Forecaster, also Vice Chairman of the WMO Regional Association IV Hurricane Committee (North America, Central America and the Caribbean) since 1991. He is a Member of the International Science Council (ISC) Steering Committee on Disaster Risk Reduction for Latin America and the Caribbean and Full Professor at the University of Havana, Cuba. His work is aimed at operational weather forecasting, watch and warning processes in meteorological hazards and weather communication through the Media, mainly TV and radio. He is directing and presenting TV and Radio Weather programs for Cuba and the Caribbean area. He currently is the Head of a National Project whose aim is to introduce new ways and modern technology to improve Hazardous Weather Public Communication at the Cuban NWS. He was Director of the Cuban Meteorological Service National Forecast Center for 28 years.
3.14 CAP in India

**Saurabh Basu** is a Senior Research Engineer at India's Centre for Development of Telematics (C-DOT) in New Delhi. His primary expertise is end-to-end development of telecom products. His responsibilities include brainstorming with stakeholders to frame and prioritise requirements for products, and the design and implementation of telecom solutions. Saurabh was the solution architect for various Geo-Intelligence projects of C-DOT, such as the Optical Network planning for NOFN, Fiber Fault Localization System, and more recently the geo-spatial service for a critical project with extreme national importance: Centralised Monitoring System. He actively participates in and contributes to OneM2M, the international standardisation body on M2M (machine-to-machine communications). In 2016 his C-DOT Team received the Aegis Graham Bell award for "Innovative Managed Services".

3.15 CAP in Mexico

**Mario Alvaro Ruiz Velazquez** is an advisor to the Mexico, Institute of Research and Studies on Alerts and Risks A.C. and a specialist in Emergency Alert Systems. He holds a Master's Degree in Computing Systems and his Ph.D. studies focus on Emergency Alert Systems and Crises Leadership. An information technology advisor in Safety and Warning Systems to various levels of government in Mexico, he participates in design, development and installation of the Mexican Earthquake Alert System (SASMEX) using EAS-SAME and CAP. He also works with academic, specialist and civil protection authorities in developing the Earthquake Warning System in California, USA.

3.16 Weather and Climate Ready Nations Project - CAP Implementation

**Shawn Boyce** is the Chief Hydrologist at the Caribbean Institute for Meteorology and Hydrology (CIMH). The CIMH is a training and research organisation of the Caribbean Community (CARICOM) with a mandate to improve the meteorological and hydrological services and to assist in promoting the awareness of the benefits of these services for the economic well-being of the region. He joined the CIMH in 2006 as a hydrologist after completing a MSc in Sustainable Management of the Water Environment at Newcastle University, United Kingdom. Current interests include operational hydrology, early warning systems and impact-based forecasting. He is also responsible for the Hydrological Training Programme at the CIMH.

3.17 CAP over MQTT

**Efraim Petel** contributed to the effective USA Integrated Public Alert and Warning System (IPAWS) starting in 2003, joining a panel of experts whose mandate was to write a National Policy for Warning. This policy was crafted for country leaders in their quest for a good warning system for the nation. In addition, he took a part in the development of the international Common Alerting Protocol (CAP) and developed warning systems based on this protocol, including IPAWS. The systems developed and installed under his supervision are "system of systems" with plug-and-play capability. Between 1999 and 2012 Efraim led Alerting Solutions, Inc. in California, a company that developed, installed and maintained many warning systems all over the world. From 2012 to 2018 Efraim served in AtHoc (Blackberry) as a Senior Director for Strategic Initiatives and as a Vice President for Global Public Safety. Now Efraim is a consultant and provider with AlertNetUSA.
3.19 **Experiences in Baja California Sur, Mexico**  
**Ramon Ojeda-Mestre** is President of the Center for Integral Studies of Innovation and the Territory. In a prior position, he was General Director of Civil Protection of the Federal Government of Mexico. He is a recognized authority in environmental law and holds advanced degrees from universities in Mexico, Great Britain, and the U.S. From 2006 to 2012, he was Secretary General of the International Court of Arbitration and Environmental Conciliation, and he was President of the Mexican Academy of Environmental Law. Over his career, he has taught and lectured in many universities and litigated many social and environmental issues. He has also been an advisor to many government and non-government organizations, internationally as well as in Mexico.

3.22 **Update on the Filtered Alert Hub**  
**Ian Ibbotson** is owner and Director of Knowledge Integration Limited, a company in Sheffield, United Kingdom, primarily specializing in distributed information indexing and retrieval architectures. Ian also volunteers as principal designer and developer on the Filtered Alert Hub initiative, part of the NOAA Big Data Project. This cloud-based, free resource is a global-scale aggregator of Internet news feeds that link to emergency alerts in the CAP standard format. This Alert Hub aggregates about 80 national-scale CAP news feeds from 66 countries and it is growing steadily. Ian migrated the Filtered Alert Hub to use Rabbit Message Queue as its base technology.