



International Academy of Astronautics

IAA Climate Change and Disaster Management Conference

Space Systems for the Benefit of Earth and Humankind

September 17, 2015
Mexico City, Mexico

CONFERENCE PROGRAM



2015 IAA Climate Change and Disaster Management Conference **PROGRAM**

07:30 – 08:30 Registration, Salons Imperio, 2nd floor

Plenary Opening Ceremony

Thursday 17 September 2015

8:30-11:15

Location : Salon Fiestas

Session Chair: JeanMichel Contant

General Rapporteur of the Conference: Miss Sandra Cabrera

8:30

Dr. Madhavan Nair, President, International Academy of Astronautics

8:35

Dr. Francisco Mendieta-Jimenez, Director General, Mexican Space Agency

8:40

Dr. Jean-Yves Le Gall, President CNES, France, IAA COP21 Coordinator

Movie of CNES

8:50

Dr. James H. Crocker, Vice President & General Manager, Lockheed Martin Space Systems Company

Keynote Speakers

9:00

IAA-MEX-15-00-01 Climate Change, Biodiversity and Space

Prof. Jose Sarukhan Kermez, National Coordinator CONABIO, Mexico

9:30

IAA-MEX-15-00-02 Climate Change and Natural Disasters

Dr. Carlos Nobre, Brazil

10:00

IAA-MEX-15-00-03 NASA SCIENCE: Understanding Climate Change and
Enhancing Climate Resilience

Dr, Ellen Stofan, NASA, USA

10:30

IAA-MEX-15-00-04 The United Nations on Climate Change and Disaster Management:
OOSA bringing space-based tools and applications at the heart of the
post-2015 development agenda

Dr. Simonetta Di Pippo, Director UNOOSA

11:00-11:15

Inauguration of the Satellite Image Exhibit

Coffee Break 11 :15-11 :30

2015 IAA Climate Change and Disaster Management Conference

PROGRAM

Session 1 : Carbon Monitoring System

Thursday 17 September 2015

11:30-13:30

Location : Room Imperio A

Session Chair: John Petheram

Rapporteur: Rafael Ortiz

11:30

IAA-MEX-15-01-01 Developing a Carbon Observing System
Berrien Moore III - University of Oklahoma; USA, Piers Sellers - Goddard Space Flight Center; USA, Dave Schimel - JPL/California Institute of Technology; USA

11:50

IAA-MEX-15-01-02 Using Satellites For The Monitoring Of Climate Treaties : Possibilities And Challenges
Max Grimard - Airbus Defence and Space, France

12:10

IAA-MEX15-01-03 MicroCarb mission: a CNES initiative for monitoring the CO2 exchanges
Francois Buisson, CNES, France

12:25

IAA-MEX-15-01-04 geoCARB : Wide-area Sensing of Carbon Dioxide and Methane from Geostationary Orbit
James Mulroy, James Lemen, Joseph Mobilla, John Kumer - Lockheed Martin Advanced Technology Center, USA

12:45

IAA-MEX-15-01-05 Information's noise on climate negotiation and its effects on GHG emissions: A system dynamics approach to the Prisoner's Dilemma.
Manuel G. Chávez-Ángeles - Universidad de la Sierra Sur, Mexico

13:00

IAA-MEX-15-01-06 Earth Observation to monitor global forest biomass, an Essential Variable of the climate system
Thuy Le Toan - Centre d'Etudes Spatiales de la Biosphere (CESBIO), France, Selma Cherchali - CNES, France

13:15

IAA-MEX-15-01-07 Drought monitoring and analysis in Northeast Brazilian using MODIS Satellite
Ana Paula M. A. Cunha, Carlos A. Nobre, Regina C. S. Alvalá and Magog A. Carvalho - Brazilian Centre for Monitoring and Warning of Natural Disasters, Brazil

13:30

End

2015 IAA Climate Change and Disaster Management Conference

PROGRAM

**Session 2 : Earth Quakes and Disaster
Management**

Thursday 17 September 2015

11:30-13:30

Location : Room Imperio B

Session Chair: Masanori Homma

Rapporteur: Ms Bereniz Castañeda

11:30

IAA-MEX-15-02-01 Recent Disaster Response of ALOS-2 PALSAR-2 Based on SAR Interferometry
Ryo Natsuaki, Hiroto Nagai, Manabu Watanabe, Masato Ohki, Takeshi Motohka, Rajesh Thapa, Takeo Tadono, Masanobu Shimada and Shinichi Suzuki - Japan Aerospace Exploration Agency (JAXA), Earth Observation Research Center (EORC), Japan

11:50

IAA-MEX-15-02-02 Short-term Powerful Earthquakes Forecasting and Warnings Through
the Using of Ground-Space Monitoring Data: Russian Approach and Prospects
of Regional Cooperation
Anatoly N. Perminov - JSC "Russian Space Systems", Russia, Sergey A. Pulinets - Space Research Institute, Russian Academy of Sciences, Russia, Ivan V Stepanov - JSC "Russian Space Systems", Russia, Sergei V.Cherkas - JSC "Russian Space Systems", Russia

12:10

IAA-MEX-15-02-03 Space Researches Of Earthquake Precursors And Atmospheric
Aerosols
A. Degtyarev, A. Makarov, S. Moskalov - Yuzhnoye State Design Office, Ukraine, Ya. Yatskiv - Main Astronomical Observatory of National Academy of Sciences of Ukraine, Ukraine

12:20

IAA-MEX-15-02-04 Directions Of Space Researches Of Earthquake Precursors
A. Degtyarev, A. Makarov - Yuzhnoye State Design Office, Ukraine, O. Fedorov - Space Research Institute of National Academy of Sciences of Ukraine and Space Agency of Ukraine, Ukraine, V. Korepanov - Lviv Center of Space Research Institute of National Academy of Sciences of Ukraine and Space Agency of Ukraine, Ukraine

12:30

IAA-MEX-15-02-05 Application Of Fast-Response Space Information Acquisition System
In The Sudden Natural Disaster
Xiang Bin, Zhang Bin - The system design department of Hubei aerospace technology academy, China

12:50

IAA-MEX-15-02-06 Sentinel Asia: A Space-Based Disaster Management Support System
In The Asia-Pacific Region
Kazuya Kaku - Japan Aerospace Exploration Agency (JAXA), Satellite Applications and Operations Center, Japan

13:10

IAA-MEX-15-02-07 A Complexity Science Approach Of Emergency Telecommunications
For Managing Disasters
Arturo Serrano-Santoyo, Veronica Rojas-Mendizabal, Alvaro Armenta-Ramade, Roberto Conte-Galvan - CICESE Research Center, Mexico

2015 IAA Climate Change and Disaster Management Conference

PROGRAM

Session 3 : Big Data and Land Remote Sensing

Thursday 17 September 2015

11:30-13:30

Location : Room Imperio C

Session Chairs: E. Pacheco

Rapporteur : Mrs. Lourdes Garcia

11:30

IAA-MEX-15-03-01 Augmenting the Landsat Constellation to Decrease Revisit Times
Robert LeRoy - Lockheed Martin Space Systems Company, USA

11:50

IAA-MEX-15-03-02 Research on global spatial information service architecture based on big data technology
Yuhong Yu, China

12:10

IAA-MEX-15-03-03 MIROS -Mexican Infrared Optical System
Andreas Eckardt, Winfried Halle, Eckehard Lorenz - DLR- Institute of Optical Sensor Systems, Germany, Michael Schmidt - CONABIO, Mexico

12:30

IAA-MEX-15-03-04 Study on the Coordination Sharing and Value-added Application for Remote Sensing Data
Zhao Min, China

12:50

IAA-MEX-15-03-05 Governmental Virtual Private Network as a solution for the big data – big network problem for geomatic information in Mexico
R. Torres-Coronado¹, V. Hanessian-De la Garza¹, A. Arellano-Soto¹ - Mexican Space Agency, Mexico

13:10

IAA-MEX-15-03-06 Solutions To Intelligent Processing Of Remote Sensing Big Data - A Case Of Titan Super Computing Platform
Ni Jinsheng - Council of Science and Technology of China Aerospace Science & Industry Corporation & Beijing Aerospace TITAN Technology Co., LTD, China

2015 IAA Climate Change and Disaster Management Conference PROGRAM

13:30-15:00 Lunch Room Fiestas

Session 4 : Water and Weather

Thursday 17 September 2015

15:00-18:00

Location : Room Imperio A

Session Chair: Berrien Moore

Rapporteur : Isai Fajardo

15:00

IAA-MEX15-04-01

The U.S. GOES-R Satellites: Sentinels for a New Generation

John Petheram - Lockheed Martin Space Systems Company, USA, Jamison Hawkins - Lockheed Martin Washington Operations, USA

15:30

IAA-MEX-15-04-03

Use Of Satellite Data To Improve Climate Assessments And Water Management

Diane Evans, Tom Farr, Duane Waliser - JPL/California Institute of Technology, USA

15:55

IAA-MEX-15-04-04

Estimation of rainfall rate from infrared images from GOES 13, RedCIAQ tool "Hidroestimador"

Meza-Ruiz Marilu, Gutiérrez-López Alfonso, Carvajal-Ríos Jesús - Centro de Investigaciones del Agua. Facultad de Ingeniería. Universidad Autónoma de Querétaro, Mexico

16:30

IAA-MEX-15-04-05

Measuring Soil Moisture In A Tropical Area To Calibrate/Validate Radar Images
Judith Ramos Hernández, Jesús-Gracia Sánchez - Instituto de Ingeniería-UNAM, Mexico, Haydn-Thompson - THHINK Wireless Technologies Ltd, Kevin-Vargas Zamudio, Tania-Ramírez Martínez - Instituto de Ingeniería-UNAM, Mexico

16:55

IAA-MEX-15-04-06

Precipitation patrons from statistical information from IR image from GOES-13 for Ingrid and Manuel Hurricanes

Robles-Aguilar Luis Fernando, Gutiérrez-López Alfonso, and Meza-Ruiz Marilu - Centro de Investigaciones del Agua. Facultad de Ingeniería. Universidad Autónoma de Querétaro. Centro Universitario, Mexico

17:20

IAA-MEX-15-04-07

GLM-R: A Regional Lightning Mapper for Early Warning of Severe Storms

S. F. Edgington, C. E. Tillier - Lockheed Martin Space Systems Company, Advanced Technology Center, USA, H. J. Christian - University of Alabama in Huntsville, USA

17:45

IAA-MEX-15-04-08

The Application in the Field of Meteorology Information of Fortune-Star System

Zhang Nan, Rao Jianbing, Cao Yu, Bei Chao - Beijing Institute of Electronic System Engineering, China

18:00

End

2015 IAA Climate Change and Disaster Management Conference

PROGRAM

Session 5 : Climate Change

Thursday 17 September 2015

15:00-18:00

Location : Room Imperio B

Session Chair:Max Grimard

Rapporteur : Mrs. Fabiola Vazquez

15:00

IAA-MEX-15-05-01 Collect Data On The Properties Of Aerosols And Clouds, Using Polarimetry Sensor In Cubesat-Gxiba Satellite
Héctor Vargas, Aurelio Heredia, Juan Cisneros, Luz García - Universidad Popular Autónoma del Estado de Puebla, Mexico

15:25

IAA-MEX-15-05-02 The Cansat Technology For Climate Monitoring In Small Regions At Altitudes Below 1 Km
Angel Colin - Universidad Autónoma de Nuevo León – Facultad de Ciencias Físico Matemáticas, Mexico

15:50

IAA-MEX-15-05-03 Airbus Defence & Space activities for climate change: two decades of optical instruments
Didier Morançais, Gilbert Uguen, Ralf Maurer, Yves Toulemont - Airbus Defence & Space, France & Germany

16:15

IAA-MEX-15-05-04 Social and epidemiological landscape vulnerability to climate change: the case of vectors of Dengue and Chagas
María Guadalupe Galindo Mendoza - National Laboratory of Geoprocessing Plant Information Academic technical attached, at Coordinación para la Innovación y Aplicación de la Ciencia y la Tecnología, Universidad Autónoma de San Luis Potosí, Mexico

16:40

IAA-MEX-15-05-05 Relation of climate change with pests and diseases in Mexico
Carlos Contreras Servin - Laboratorio Nacional de Geoprocésamiento de Información Fitosanitaria, at Coordinación para la Innovación y Aplicación de la Ciencia y la Tecnología, Universidad Autónoma de San Luis Potosí, Mexico, María Guadalupe Galindo Mendoza - National Laboratory of Geoprocessing Plant Information Academic technical attached, at Coordinación para la Innovación y Aplicación de la Ciencia y la Tecnología, Universidad Autónoma de San Luis Potosí, Mexico

17:05

IAA-MEX-15-05-06 Space Monitoring of Cirrus Clouds and Contrails for Climate Change Correction and Control
Harijono Djojodihardjo - Universiti Putra Malaysia, Malaysia

17:30

IAA-MEX-15-05-07 Climate change and damage to the forest cover in Mexico: The case of *Dendroctonus Mexicanus*
Luis Manuel Leyva González, Luis Enrique Santana Vázquez, Rogelio Santana Arias - Academic technical attached to Geomedicine area on the Laboratorio Nacional de Geoprocésamiento de Información Fitosanitaria, at Coordinación para la Innovación y Aplicación de la Ciencia y la Tecnología, Universidad Autónoma de San Luis Potosí, Mexico

2015 IAA Climate Change and Disaster Management Conference

PROGRAM

Session 6 : Disaster Management

Thursday 17 September 2015

15:00-18:00

Location : Room Constitución C

Session Chair: Julio Castillo

Rapporteur : Mrs. Anahi Arellano

15:00

IAA-MEX-15-06-01 Overview of New Technology for Improving Disaster Management
Masanori Homma, JAXA, Japan

15:20

IAA-MEX-15-06-02 Integrating an Early-Warning Space-based System as a Key Priority in Mexico
E. Pacheco-Cabrera, F.J. Mendieta-Jimenez - Mexican Space Agency, Mexico

15:40

IAA-MEX-15-06-03 Brazil's experience in data management and Data sharing for monitoring and early warning for natural disaster
Moraes Osvaldo - National Center for Monitoring and Early Warning of Natural Disasters, Brazil

16:00

IAA-MEX-15-06-04 International Charter Space and Major Disasters: one answer to crisis management further to extreme climatological events, but not the only one
de Boissezon Hélène, Hosford Steven, Tinel Claire, Proy Catherine, Giros Alain - CNES, France

16:20

IAA-MEX-15-06-05 Research On Architecture Of Natural Disaster Prevention And Reduction System Based On Space Information
Na Yao, Yue Shi - Qian Xuesen Laboratory of Space Technology, China, Sha You - China Academy of Space Technology, China

16:40

IAA-MEX-15-06-06 The NASA-ISRO Synthetic Aperture Radar Mission: Potentials for Disaster Monitoring and Response
Frank Webb, Diane Evans, James Graf, Paul Rosen - JPL/California Institute of Technology; USA

17:00

IAA-MEX-15-06-07 A Case Study about Civil Remote Sensing Satellite Operation in Emergent Situation
Zhao Zhiwei, GAO ji, Wang Qianying, Zhang Yue, Song Zhengji - Institute of Spacecraft System Engineering, China Academy of Space Technology, China

17:20

IAA-MEX-15-06-08 Ionosphere Status Monitoring and Alert System for the Mexican Territory
V.J. Gatica-Acevedo, M. Sánchez Meraz - National Polytechnic Institute, Mexico

17:40

IAA-MEX-15-06-09 Earth Observation Satellites Of Jaxa For Climate Change And Disaster Management

2015 IAA Climate Change and Disaster Management Conference **PROGRAM**

Toshiyoshi Kimura- Japan Aerospace Exploration Agency (JAXA), Japan

Session 7 : Space in Support of People

Thursday 17 September 2015

15:00-18:00

Location :Room Imperio C

Session Chair: James Mulroy

Rapporteur : Mrs Virginia Hanessian

15:00

IAA-MEX-15-07-01 Space-based applications, end-users requirements and global development agendas: connecting the dots".
Luc St-Pierre, Simonetta Di Pippo - United Nations Office for Outer Space Affairs (UNOOSA), Vienna International Centre, Austria

15:30

IAA-MEX-15-07-02 Haze elimination in northern China based on space technology
Zhenyu Tang, Qiongying Ren, Shaohua Zhang and Hua Zhao - Beijing Institute of Spacecraft Environment Engineering, China

15:50

IAA-MEX-15-07-03 Space Care
Jacques Arnould, CNES, France

16:10

IAA-MEX-15-07-04 Strategy to develop Space Medicine in Mexico
Benito Orozco-Serna - Mexican Space Agency, Mexico, Raúl Carrillo-Esper - Fundación Médica Sur, Mexico, J.M. Guzmán-González - Fundación Médica Sur, Mexico, Fabiola Vazquez-Torres - Mexican Space Agency, Mexico, Luz E. Morán-Solares - Instituto Mexicano del Seguro Social, Mexico

16:35

IAA-MEX-15-07-05 Use of space technologies to support World Heritage sites: the case of archaeological sites
Mario Hernandez - International Society of Photogrammetry and Remote Sensing (ISPRS), Mexico

17:00

IAA-MEX-15-07-06 A Study on Improving Sea Ice Monitoring with Ka-Band SAR Data
Shuang Li - Beijing Institute of Radio Measurement, China

17:20

IAA-MEX-15-07-07 Green Space Propulsion
Space Systems for the Benefit of Earth and Humankind
Kjell Anflo - ECAPS, Sweden

17:40

IAA-MEX-15-07-08 A Designing Solution of Low Cost LEO Constellation by Micro/Nano-Satellite
Xianbin Chi - The system design department of Hubei aerospace technology academy, China

2015 IAA Climate Change and Disaster Management Conference

PROGRAM

18:00-18:15 *Coffee Break*

Session 8 : Plenary Closing Session

Thursday 17 September 2015

18:15-19:00

Location : Constitución A,B & C

Session Chair: JeanMichel Contant

Rapporteur : Mrs Virginia Hanessian

18:15

Synthesis Report from all Sessions

Miss Sandra Cabrera, Mexican Space Agency, General Rapporteur of the Conference

18:40

The Heads of Space Agencies Summit in Mexico and the COP 21 conference in Paris

Dr. Jean-Yves Le Gall, President CNES, France

18:50

Dr. Francisco Mendieta-Jimenez, Director General, Mexican Space Agency

Dr. Madhavan Nair, President, International Academy of Astronautics

19:00 *End*

20:00-23:00

Location : Salon Fiestas

20:00 Cocktail

20:30 Gala Dinner