Inputs to the ESA SWWT Steering Board

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ESA SWWT SB

A KEY OUTCOME OF WMO CG-17

World Meteorological Organisation (WMO) Resolution on SWx

- The 17th WMO Congress occurred on 25 May-12 June 2015 in Geneve (Switzerland)
- The Final Report is available at the URL:

  http://cg-17.wmo.int/
- On page 467 it is reported the Resolution 38 (Cg-17) “Four-Year Plan For WMO Coordination of Space Weather Activities”
- The Annex to Resolution 38 contains the draft of this document prepared by the Interprogramme Coordination Team on Space Weather (ICTSW)

WMO CG-17 RESOLUTION 38

Resolution 38 (Cg-17)

FOUR-YEAR PLAN FOR WMO COORDINATION OF SPACE WEATHER ACTIVITIES

THE WORLD METEOROLOGICAL CONGRESS,

Having considered:

(1) The *Abridged Final Report with Resolutions of the Sixty-sixth Session of the Executive Council* (WMO-No. 1136),

(2) The *Abridged Final Report with Resolutions and Recommendations of the Extraordinary Session 2014 of the Commission for Basic Systems* (WMO-No. 1140),

(3) The *Abridged Final Report with Resolutions and Recommendations of the Fifteenth Session of the Commission for Aeronautical Meteorology* (WMO-No. 1139),

(4) The report of the International Civil Aviation Organization (ICAO) and WMO Conjoint Meteorology Divisional Meeting in July 2014,

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Noting:

(1) The impact of space weather on observation and telecommunication infrastructures, aviation and maritime safety, energy distribution networks and satellite-based navigation services, among other areas,

(2) The need for a coordinated effort by Members to address the observing and service requirements to protect against the hazards of space weather as stated by the Sixteenth World Meteorological Congress,

(3) The potential for synergy between the delivery of space weather services and of meteorological services,

(4) The recommendation of the Conjoint ICAO/WMO Meteorology Divisional Meeting concerning development of provisions for space weather in view of enabling space weather services to international air navigation with a forthcoming amendment to ICAO Annex 3/WMO Technical Regulations in 2018,

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Noting further:

(1) The valuable achievements of the Inter-programme Coordination Team on Space Weather under the joint leadership of the Commission for Basic Systems (CBS) and the Commission for Aeronautical Meteorology (CAeM),

(2) The expected benefit of including space weather observing systems as the WMO Integrated Global Observing System components in order to ensure coordinated, sustained, quality observations required to support space weather services,

(3) The expected benefit of managing and sharing space weather data in the WMO Information System framework,

(4) The need to ensure the right level of operational expertise to support the development of space weather services in support of international air navigation and other key areas,

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Having considered the draft Four-year Plan for WMO Coordination of Space Weather Activities, as given in the annex to the present resolution,

Invites the space agencies, especially agencies with meteorological and environmental space observation programmes, to maintain or to implement the capability to observe space weather phenomena from space, including observations at Lagrangian points;

Requests CAeM and CBS to consider existing responsibilities, working mechanisms, expert teams and integration within relevant WMO programmes in finalizing the draft Four-year Plan for WMO Coordination of Space Weather Activities, and present to the Executive Council a recommendation to approve it and jointly ensure its efficient alignment and implementation, within available resources;

Requests CBS to re-examine the naming and the definitions of space weather and space meteorology in all WMO official languages, in consultation with the International Council for Science, specifically the International Astronomical Union and the International Union for Geodesy and Geophysics, and ensure that proper language is used in WMO guidance and that regulatory material is publicized as appropriate;

Requests Members to support the implementation of the planned space weather activities with participation of experts and through voluntary contributions to the Space Weather Trust Fund and through in-kind contributions;

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Requests the Secretary-General:

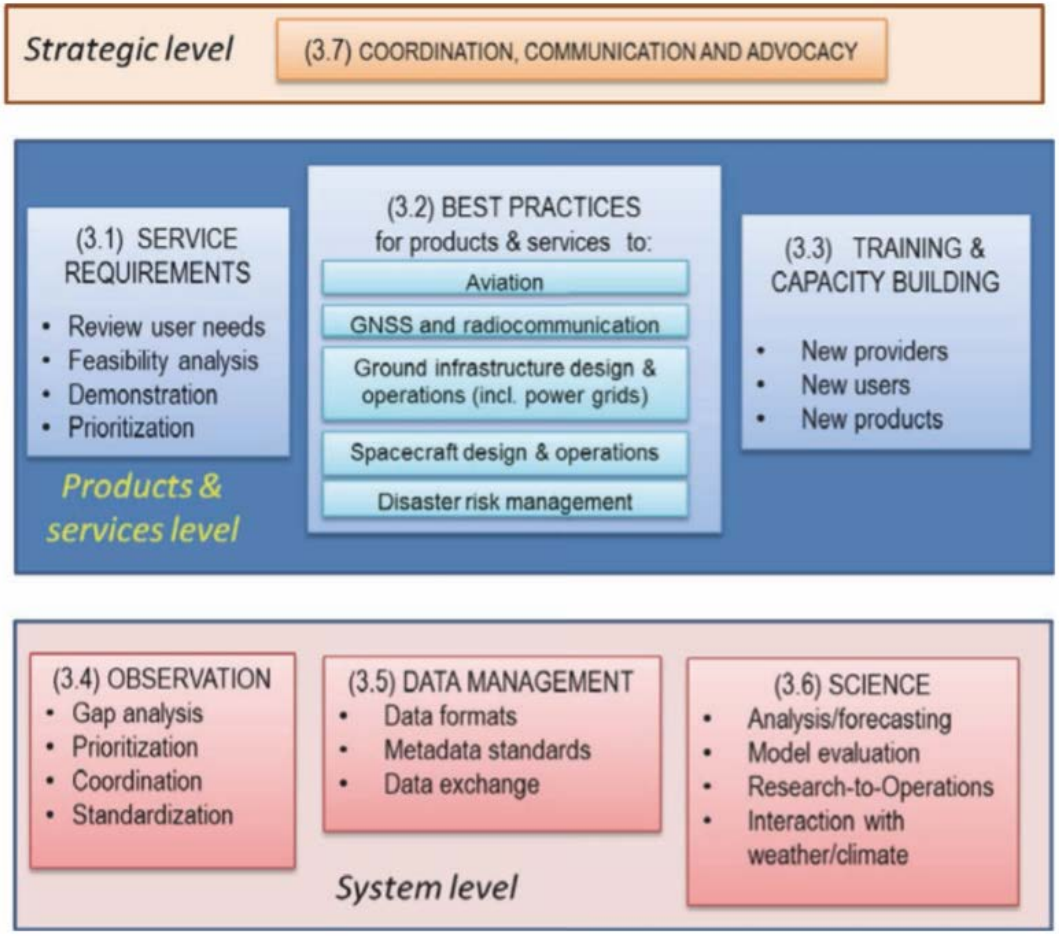
(1) To take appropriate actions to support these activities including the partnership with relevant organizations such as the International Space Environment Service, as well as national and international space agencies;

(2) To submit a report on the achieved results and a proposal for future actions in this domain to Eighteenth Congress.

Annex to Resolution 38 (Cg-17)

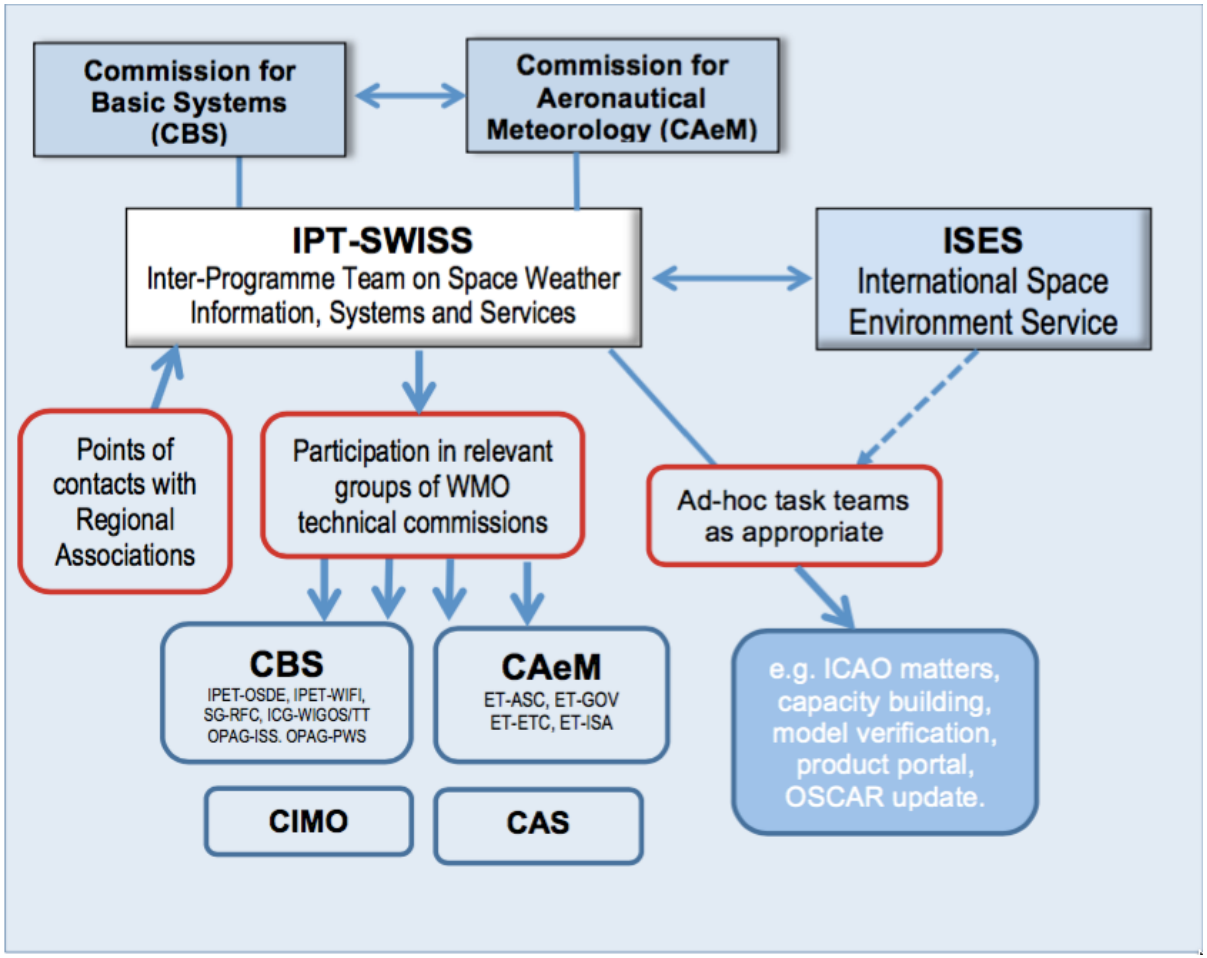
FOUR-YEAR PLAN FOR WMO COORDINATION OF SPACE WEATHER ACTIVITIES

Schematic Functional Breakdown of Proposed Key Activities for SWx



Annex to Resolution 38 (Cg-17) Four-Year Plan…

Proposed Organisation of SWx Activities

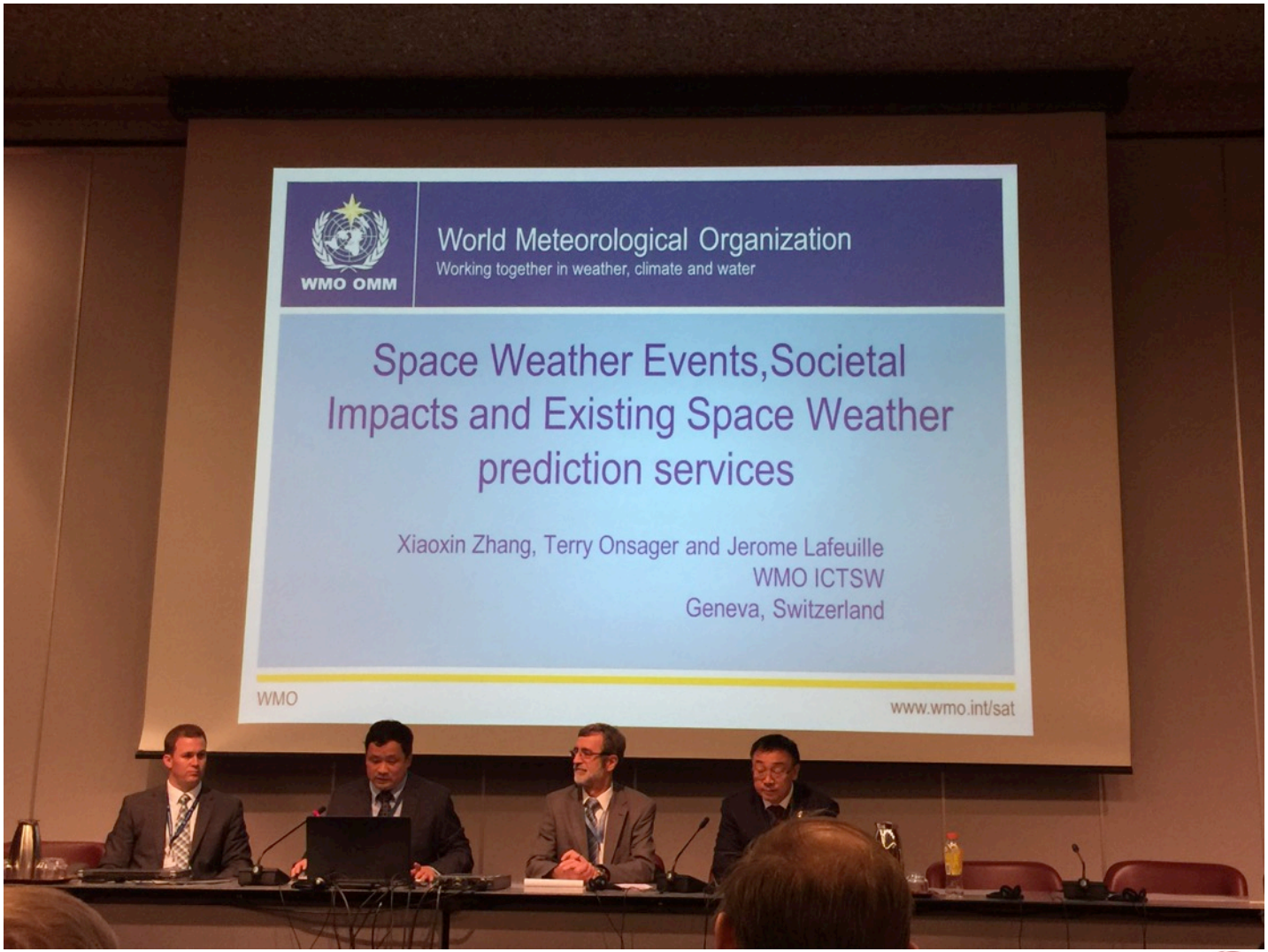


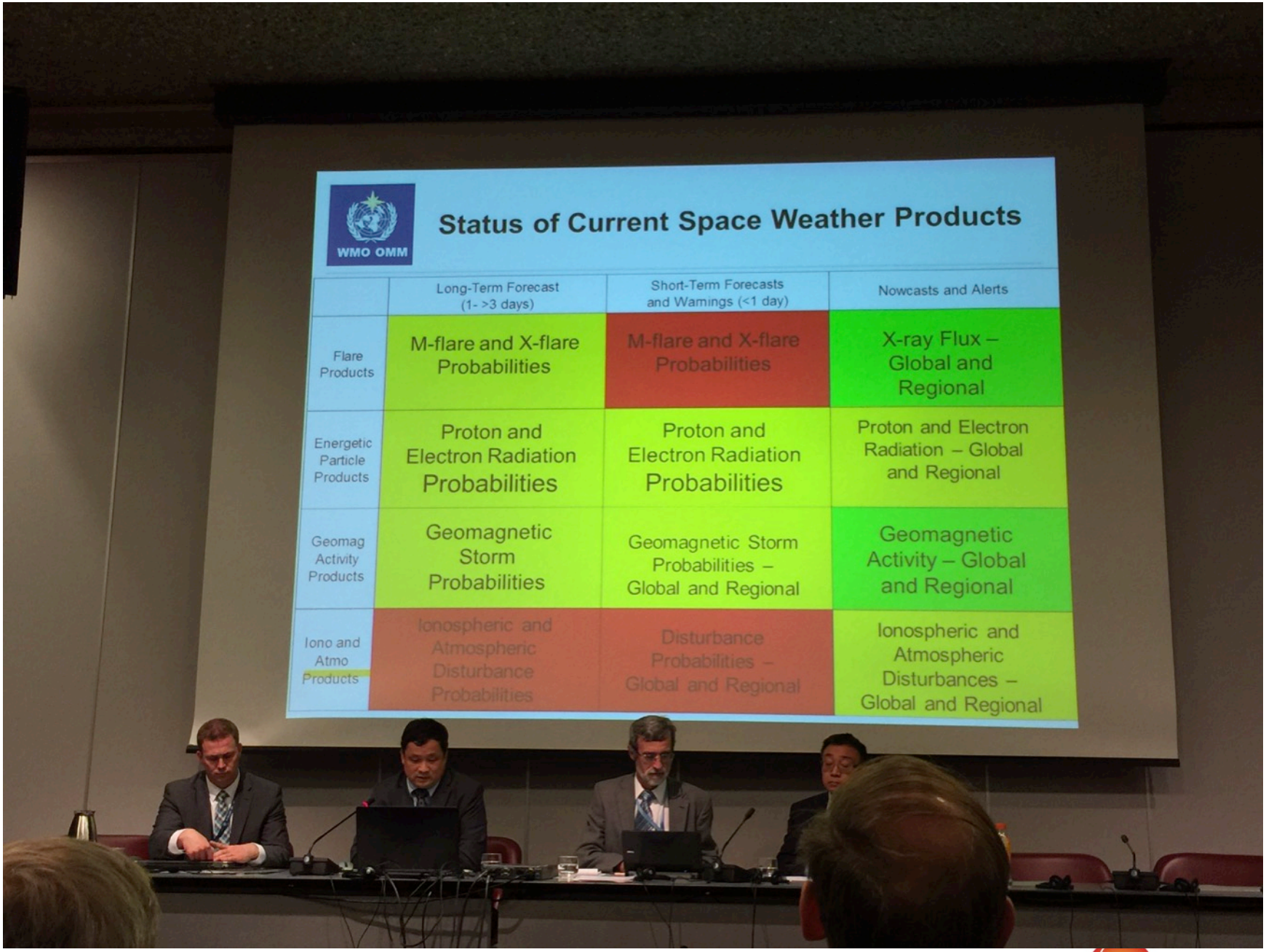
Annex to Resolution 38 (Cg-17) Four-Year Plan…

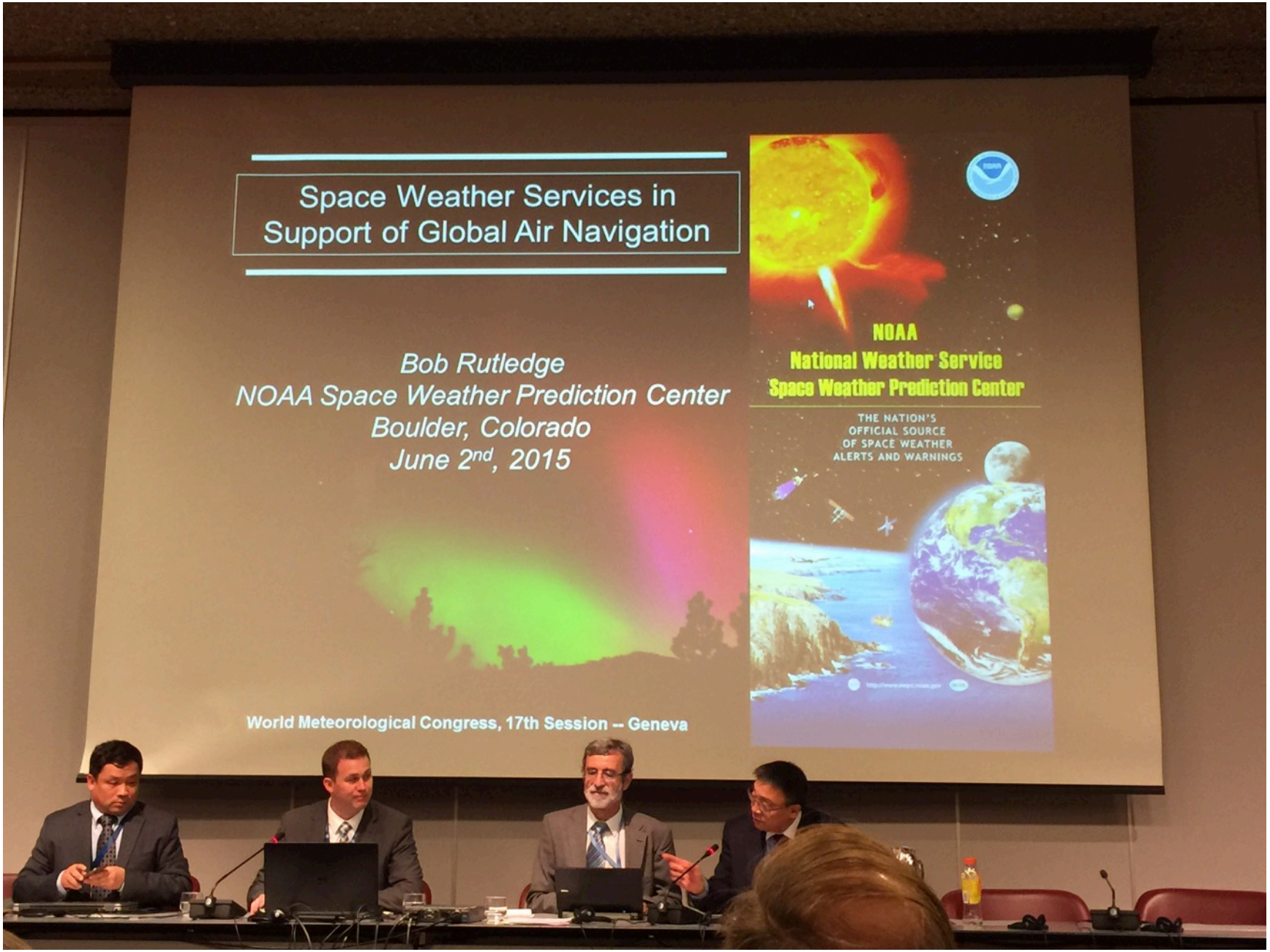
WMO CG-17

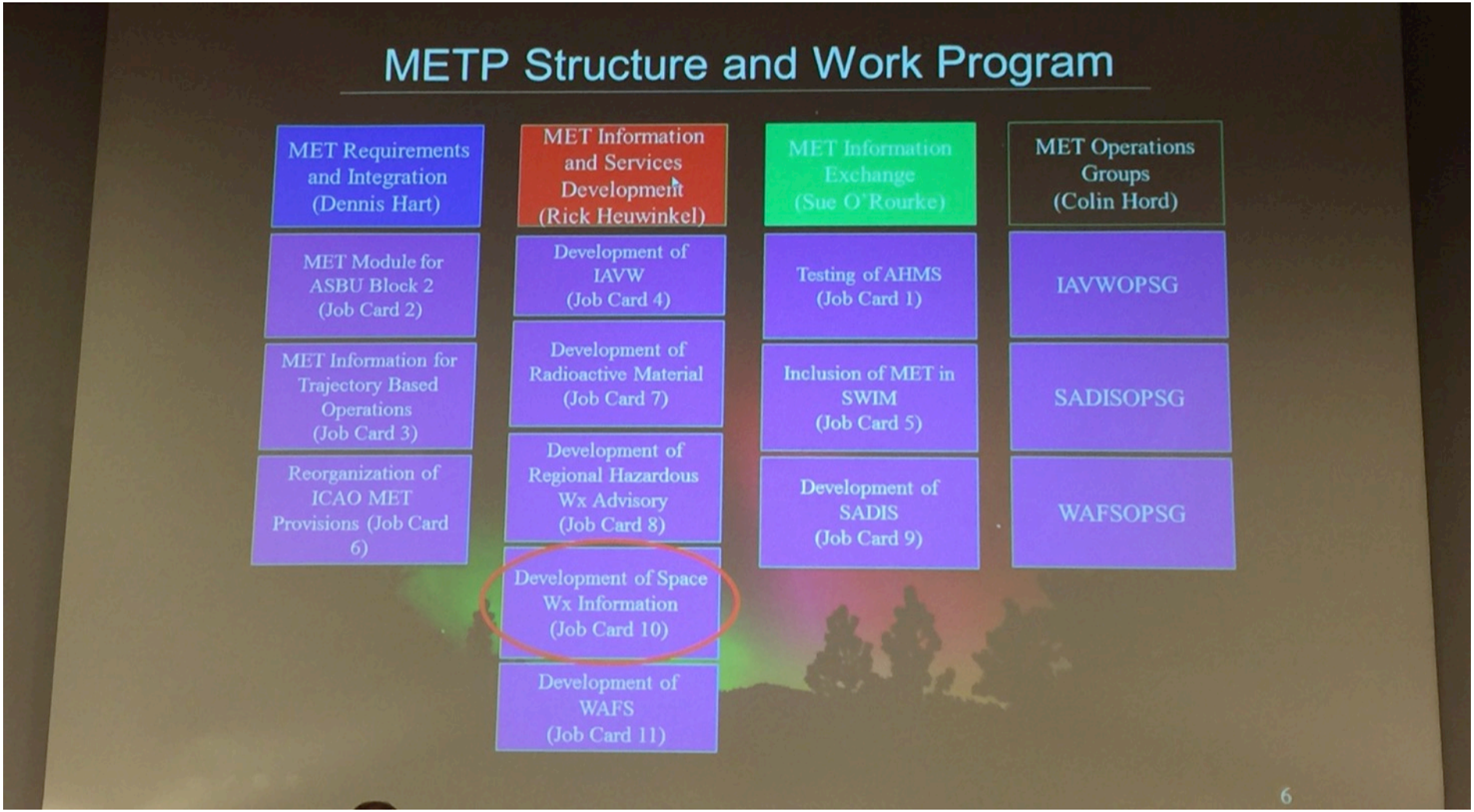
SIDE MEETING ON SPACE WEATHER ORGANISED BY ICTSW AT CG-17

Side Meeting on Space Weather Organised by ICTSW at WMO Cg-17 on 2 June 2015




WMO OMM
Status of Current Space Weather Products
Long-Term Forecast (1- >3 days)
Short-Term Forecasts and Warnings (<1 day)
Nowcasts and Alerts
Flare Products
M-flare and X-flare Probabilities
M-flare and X-flare Probabilities
X-ray Flux – Global and Regional
Energetic Particle Products
Proton and Electron Radiation Probabilities
Proton and Electron Radiation Probabilities
Proton and Electron Radiation – Global and Regional
Geomag Activity Products
Geomagnetic Storm Probabilities
Geomagnetic Storm Probabilities – Global and Regional
Geomagnetic Activity – Global and Regional
Iono and Atmo Products
Ionospheric and Atmospheric Disturbance Probabilities
Disturbance Probabilities – Global and Regional
Ionospheric and Atmospheric Disturbances – Global and Regional


Space Weather Services in
Support of Global Air Navigation
Bob Rutledge
NOAA Space Weather Prediction Center
Boulder, Colorado
June 2nd, 2015
NOAA
National Weather Service
Space Weather Prediction Center
THE NATION'S
OFFICIAL SOURCE
OF SPACE WEATHER
ALERTS AND WARNINGS
World Meteorological Congress, 17th Session -- Geneva


METP Structure and Work Program
MET Requirements and Integration (Dennis Hart)
MET Information and Services Development (Rick Heuwinkel)
MET Information Exchange (Sue O'Rourke)
MET Operations Groups (Colin Hord)
MET Module for ASBU Block 2 (Job Card 2)
MET Information for Trajectory Based Operations (Job Card 3)
Reorganization of ICAO MET Provisions (Job Card 6)
Development of IAVW (Job Card 4)
Development of Radioactive Material (Job Card 7)
Development of Regional Hazardous Wx Advisory (Job Card 8)
Development of Space Wx Information (Job Card 10)
Development of WAFS (Job Card 11)
Testing of AHMS (Job Card 1)
Inclusion of MET in SWIM (Job Card 5)
Development of SADIS (Job Card 9)
IAVWOPSG
SADISOPSG
WAFSOPSG
6

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SOME INFORMATION ABOUT ACTIVITIES IN ITALY

FOUNDATION OF THE SPACE WEATHER ITALIAN COMMUNITY (SWICO)

Foundation of the Space Weather Italian Community (SWICO)

- SWICO has been founded on 31 Oct. 2014
- It is aimed at joining all the Italian scientists that are interested in space weather
- More than 100 colleagues have expressed their interest
- The elected President is prof. Vincenzo Carbone (Univ. of Calabria)
- SWICO has been undergoing a structuring on thematic working groups

FOUNDATION OF AN INNOVATIVE START-UP COMPANY FOR NANOSATELLITES

PicoSaTs S.r.l.

- A start-up company, spin-off of the University of Trieste (http://picosats.eu/)
- Founded in Nov. 2014
- Located in the Area Science Park in Trieste
- Aimed at research and development of technological solutions to make access to space faster and cheaper
- Four co-founders: A. Gregorio, A. Cuttin, M. Messerotti, M. Fragiacomo

Main Fields of PicoSaTs RD

- PicoSaTs envisages a new generation of telecommunication systems for space applications dedicated to CubeSat pico-satellites. The key technologies at the core of this system are a software defined radio and a highly directive and configurable antenna, operating in the Ka band, and providing very high data rates.
- SWx applications by specialised payloads have been considered.