Overview of ICAO Meteorology Panel

Rick Heuwinkel, Manager
NextGen Aviation Weather Division (ANG-C6)
Federal Aviation Administration
US Member of ICAO Meteorology Panel
Overview of ICAO

• A UN specialized agency established in 1944 by the “Chicago Convention” that oversees international cooperation on regulations, standards, and procedures governing civil aviation
• 191 member States
• Headquarters: Montreal
• Regional Offices: Bangkok, Cairo, Dakar, Lima, Mexico City, Nairobi, Paris
• Composed of three main bodies
  • Assembly
  • Council
  • Secretariat
ICAO Organizational Structure

The Assembly
- Comprised of all 191 Member States
- Meets every 3 years to set policy and adopt triennial budget

The Council
- Comprise of 36 Members
- Adopts SARPs and PANs

The Secretariat
- Executive arm of ICAO overseeing implementation and compliance

Air Navigation Commission
Previous Management of MET

• MET Section within the Air Navigation Bureau (ANB) managed the development of standards by study groups, operations groups, and a project team
  ✷ Aerodrome Meteorological Observation and Forecast Study Group (AMOFSG)
  ✷ Meteorological Warnings Study Group (METWSG)
  ✷ International Airways Volcano Watch Operations Group
  ✷ Satellite Distribution System for Information Relating to Air Navigation (SADIS) Operations Group
  ✷ World Area Forecast System (WAFS) Operations Group
  ✷ Meteorological Aeronautical Requirements and Information Exchange Project Team (MARIE-PT)

• ANB Secretary reported the results from each SG and OPSG to the Air Navigation Commission
Reorganization of ICAO

• In 2014, ICAO completed a significant reorganization of the Secretariat and the panel structure

• Two primary reasons for the reorganization:
  + The adoption of the Global Air Navigation Plan (GANP) and the Aviation System Block Upgrades (ASBUs) by the 12th Air Navigation Conference
    • The GANP and the ASBUs reoriented the focus on the provision of services to meet operational needs
  + Increased ANC oversight and panel accountability
    • Panels report to the ANC which improves accountability
    • Panels are composed of experts, not representatives of States
    • There are 17 ICAO panels, the MET Panel is one of approximately 11 new or “rebranded” panels
Reorganization of ICAO, Cont.

• Impact on provision of Meteorological Services
  ✦ The SGs are disbanded
  ✦ The OPSGs are now collocated in a MET Panel working group
  ✦ Less chance of individual States pursuing parochial interests
  ✦ More rigorous user need identification and requirements
devolution process leading to SARPs

• Principal Panels with which the MET Panel will collaborate
  ✦ Air Traffic Management Requirements Performance Panel
  ✦ Information Management Panel
  ✦ Communications Panel (for testing AMHS with IWXXM)
## MET Panel Membership

<table>
<thead>
<tr>
<th>State/Org.</th>
<th>Member</th>
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<tbody>
<tr>
<td>Australia</td>
<td>Sue O’Rourke</td>
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<tr>
<td>Canada</td>
<td>Bill Maynard</td>
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<tr>
<td>Chile</td>
<td>Rodrigo Rossel</td>
</tr>
<tr>
<td>China</td>
<td>Zhongfeng Zhang</td>
</tr>
<tr>
<td>France</td>
<td>Christiane Givone</td>
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<tr>
<td>Germany</td>
<td>Dirk Engelbart</td>
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<td>Japan</td>
<td>Koichiro Kakihara</td>
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<tr>
<td>New Zealand</td>
<td>Peter Lechner</td>
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<tr>
<td>Russian Federation</td>
<td>Yukia Naryshkina</td>
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<tr>
<td>South Africa</td>
<td>Maluta Tshifaro</td>
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<tr>
<td>United Kingdom</td>
<td>Colin Hord</td>
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<tr>
<td>United States</td>
<td>Rick Heuwinkel</td>
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<tr>
<td>ASECNA</td>
<td>Moise Betole-Ada</td>
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<tr>
<td>EUROCONTROL</td>
<td>Dennis Hart</td>
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<tr>
<td>IATA</td>
<td>Atholl Buchan</td>
</tr>
<tr>
<td>IFALPA</td>
<td>Capt. Klaus Sievers</td>
</tr>
<tr>
<td>WMO</td>
<td>Dimitar Ivanov</td>
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- Several additional States/Organizations have applied to nominate experts to the MET Panel, including Argentina, Cuba, and IFATCA.
MET Panel Leadership

• Chair: Peter Lechner (New Zealand)
• Vice Chair: Bill Maynard (Canada)
• Secretary: Neil Halsey/Raul Romero (ICAO)
• Working Group Rapporteurs/Deputy Rapporteurs
  • Group 1 - Requirements and Integration: Dennis Hart (ECTL)/Jun Ryuzaki (JPN)
  • Group 2 - Information and Services Development: Rick Heuwinkel (USA)/CM Shun (HKG)
  • Group 3 - Information Exchange: Sue O’Rourke (AUS)/Bill Maynard (CAN)
  • Group 4 - Operations Groups: Colin Hord (GBR)
MET Panel Organization

• MET Panel organized its work program around 11 job cards provided by the Secretary
  ✦ Job cards are based on recommendations from the 2014 ICAO Meteorology Divisional Meeting
  ✦ A twelfth job card to address cost recovery is being drafted
  ✦ ANC will approve final versions of all job cards

• MET Panel established four working groups to complete work program
• Each working group has a Rapporteur reporting to the Chair
• Two working groups are further split into work-streams each with a coordinator
METP Structure and Work Program

**MET Requirements and Integration** (Dennis Hart)
- 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)

**MET Information and Services Development** (Rick Heuwinkel)
- 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)

**MET Information Exchange** (Sue O’Rourke)
- Testing of AHMS (Job Card 1)
- Inclusion of MET in SWIM (Job Card 5)
- Development of SADIS (Job Card 9)

**MET Operations Groups** (Colin Hord)
- IAVWOPSG
- SADISOPSG
- WAFSOPSG

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Inclusion of MET in SWIM (Job Card 5)
## US Advisors to METP WGs

<table>
<thead>
<tr>
<th>Coordinator Name</th>
<th>WG-MRI (Group 1 – Dennis Hart)</th>
<th>WG-MISD (Group 2 – Rick Heuwinkel)</th>
<th>WG-MIE (Group 3 – Sue O’Rourke)</th>
<th>WG-MOG (Group 4 – Colin Hord)</th>
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<tr>
<td>Coordinator</td>
<td>N/A</td>
<td>Engelbart (GER)</td>
<td>Lisk (GBR)</td>
<td>Gait/Tyson (GBR)</td>
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<td>US Expert</td>
<td>Heuwinkel</td>
<td>Shun (HKG)</td>
<td>Murphy (USA)</td>
<td>Lisk (GBR)</td>
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<td>US Advisor 1</td>
<td>Johnston</td>
<td>Albersheim (USA)</td>
<td>Albersheim</td>
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<td>US Advisor 2</td>
<td>Albersheim</td>
<td>Strahan</td>
<td>Rutledge (ASB Chief)</td>
<td>Kaplun</td>
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<tr>
<td>US Advisor 3</td>
<td>Murphy</td>
<td>Rutledge (ASB Chief)</td>
<td>Don Moore</td>
<td>Simmons</td>
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<tr>
<td>Contractor 1</td>
<td>Burch</td>
<td>Helms</td>
<td>Burch</td>
<td>Dash</td>
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<tr>
<td>Contractor 2</td>
<td>Helms</td>
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<td>Braekel</td>
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**US ATO:** Kevin Johnston (AJR), Alfred Moosakhanian (AJM), Mark Kaplun (AJM), Aaron Braekel (NCAR/AJM), Ernie Dash (AvMet/AJM)
**FAA ANG:** Steve Albersheim, Rick Heuwinkel, Pat Murphy, Larry Burch (AvMet), Tom Helms (AvMet)
**NOAA:** Jamie Kibler (WAS VAAC), Don Moore (ANC VAAC), Bob Rutledge (ASWSB), Ryan Simmons (OSTI), Matt Strahan (AWC)
MET Panel Requirements Development Process

User Need Identification

Current Capability

Shortfall Analysis

Concept of Operations (use of information)

Preliminary Performance Requirements

Validation

Final Performance Requirements

SARP Development (broad material)

Service Description

Manual & PANS Development (refined material)

IATA, IFALPA, IFATCA, ANC, States

WG-MRI

WG-MISD

WG-MIE

WG-MOG

WMO Scientific Development

WMO

ANC and ANB
Bottom Line for Global Met Standards?

• Greater focus on operational support
  • ANC directed work and priorities toward implementing GANP
  • Directed coordination with operationally focused Panels (ATMRPP, IMP)
  • Increased focus on users groups (IATA, IFALPA, ?IFACTA?)

• Greater Accountability
  • All work goes through 17 members, the chairman, to the ANC

• Disciplined requirements and standards setting

• **Challenge**: how to get more effective input from users
THANK YOU
ICAO Organizational Structure

• The Assembly
  + Comprised of all 191 member States
  + Meets every 3 years to review the work of ICAO, set policy for the next 3 years, and adopt the triennial budget

• The Council
  + Governing body of 36 States elected to a 3-year term by the Assembly
  + Provides overall direction on the work of ICAO
  + Adopts Standards and Recommended Practices (SARPs) that are incorporated into ICAO Annexes and Procedures for Air Navigation (PANS)
  + Assisted by technical experts on the Air Navigation Commission

• The Secretariat
  + Led by the Secretary General
  + 5 main divisions: Air Navigation Bureau, Air Transport Bureau, Technical Cooperation Bureau, Legal Bureau, and Bureau of Administration
  + Executive arm of ICAO overseeing implementation and compliance by member States
ICAO Panel Formation

- Panels are technical groups composed of qualified experts.
- Panels are established by the ANC to address specific problems or develop standards for the planned evolution of air navigation within specified timeframes.
- Panels are governed by ICAO Doc 7984 and the Terms of Reference approved by the ANC.
- Generally, panels are comprised of 15-20 members.
  - ANC invites approximately 15 States and international organizations to nominate members.
  - Other States/organizations may request to nominate a member.
- Panel members participate in their personal, expert capacity, not as representatives of their nominating States/organizations.
- By nominating a panel member, States/organizations are committing the resources (e.g., time, travel costs) for the member to contribute freely and effectively.
ICAO Panel Operation

• Panel participation is limited to:
  + Panel Members nominated by States/organizations
  + Advisors who provide technical expertise to members
  + Observers designated by States/organizations
    • Cannot vote, move or second motions or amendments
  + Secretariat provided by ICAO

• Each Panel includes the following roles:
  + Chairperson – Elected by Panel members
  + Secretary – Technical expert designated by the ANB
  + Rapporteur – Facilitates a working group established under a Panel
Current ICAO Leadership

- President of the Council
  - Dr. Olumuyiwa Benard Aliu (Nigeria)
- Secretary General
  - Raymond Benjamin (France)
- Air Navigation Commission (ANC)
  - President: Farid Zizi (France)
  - US Member: Bill Voss
- Air Navigation Bureau
  - Director: Steve Creamer (United States)
Role of the MET Panel

• Develop the requirements for meteorological information to support global air navigation
  ✪ Address the recommendations from the 2014 ICAO/WMO MET Divisional Meeting
  ✪ Gather user needs within the context of the ICAO panel structure
  ✪ Ensure the requirements for MET information support the capabilities described in the Global Air Navigation Plan and Aviation System Block Upgrades
Roles and Responsibilities

- **US Expert**
  - Technical expert – does not represent US interests
  - Responsible for all input provided by US Advisors
  - Seeks advise from US advisors to ensure recommendations are in harmony with US policies

- **US Advisors**
  - Coordinate with US Expert to ensure METP WGs are working toward global harmonization of MET information standards
  - Attend meetings and telcons
  - Volunteer for/accept tasks from Rapporteurs
  - Draft, review, and edit documents (e.g., ConOps, requirements, SARPs, guidance material) necessary to meet working group deliverables
METP and WG Meetings

- Full MET Panel tentatively scheduled to meet October 2016 in Montreal
- Working Groups expected to rely heavily on virtual meetings scheduled by Rapporteurs
- Expect limited face-to-face meetings
  - WG-MRI: November 2015
  - WG-MISD: November 2015
  - WG-MOG: September 2015
- Not all US Advisors expected to travel to face-to-face meetings and/or stay for entire duration