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# ATM and ATFM Requirements for MET Information

ICAO Secretariat

# Asia/Pacific ASBU Implementation

| Priority | Explanation |
|---|---|
| Priority 1 | Critical upgrade assignment based on whether the implementation of an element could bring most benefit to the region or regional upgrade by States and is essential to achieve the service level required globally |
| Priority 2 | Recommended upgrade for those elements which would bring benefits to the region and generally to be implemented from 2022, but States are encouraged to implement earlier if beneficial |
| Priority 3 | Assigned to those elements which may not be universally implemented in the Asia/Pacific Region |

# Asia Pacific Seamless ANS Plan Priority Elements

| Functional Category | APSAP Element | ASBU Element | Priority |
|---|---|---|---|
| Information | MET Information | AMET-B0/1 to B0/4 | 1 |
| | Flight Information | FICE-B2/2 | 2 |
| Operational | Airport CDM | ACDM-B0/1 | 1 |
| | Airport CDM | ACDM-B0/2 | 2 |
| | PBN Approaches | APTA-B0/1 and B0/2 | 1 |
| | ATFM | NOPS-B0/1 to B0/5 | 1 |
| | ATFM | NOPS-B1/1 to B-1/10 | 2 |
| | RSEQ | RSEQ-B0/1 and B0/2 | 1 |
| | RSEQ | RSEQ-B1/1 | 2 |

# MET B0 Elements ( Priority 1 )

| MET B0 Elements | Description |
|---|---|
| AMET-B0/1 Meteorological observations products | This element represents the provision of meteorological observational products including:<br>• Automatic Weather Observation System (AWOS) information (including real-time exchange of wind and RVR data)<br>• Local reports (MET REPORT / SPECIAL)<br>• Aerodrome reports (METAR / SPECI)<br>• Lightning information<br>• Ground-based weather radar information<br>• Meteorological satellite imagery<br>• Aircraft meteorological report (ie. ADS-B, AIREP, AMDAR etc.)<br>• Vertical wind and temperature profiles<br>• Volcano Observatory Notice for Aviation (VONA)<br>• Wind shear alerts |

# MET B0 Elements ( Priority 1 )

| MET B0 Elements | Description |
|---|---|
| AMET-B0/2<br><br>Meteorological forecast and warning products | This element represents the provision of meteorological forecast (including advisory and warning) products including:<br>• World Area Forecast System (WAFS) gridded products<br>• Significant Weather (SIGWX)<br>• Low-level Area Forecast (GAMET)<br>• Aerodrome Forecast (TAF)<br>• Trend Forecast (TREND)<br>• Take-off Forecast<br>• Tropical Cyclone Advisory (TCA)<br>• Volcanic Ash Advisory (VAA)<br>• AIRMET<br>• SIGMET<br>• Aerodrome Warning<br>• Wind Shear Warning |

# MET B0 Elements ( Priority 1 )

| MET B0 Elements | Description |
|---|---|
| AMET-B0/3<br><br>Climatological and historical meteorological products | This element represents the provision of climatological products including:<br>• Aerodrome climatological tables;<br>• Aerodrome climatological summaries.<br>This element also represents the provision of historical products including meteorological observations, forecasts, advisories and warnings. |

# MET B0 Elements ( Priority 1 )

| MET B0 Elements | Description |
|---|---|
| AMET-B0/4<br><br>Dissemination of meteorological products | This element represents the dissemination of meteorological products using a variety of formats and means.<br>Formats include:<br>• TAC<br>• Gridded<br>• Graphical (i.e., PNG format)<br>• BUFR code<br>• IWXXM (in XML/GML)<br>Dissemination means includes aeronautical fixed service (AFTN with increasing use of AMHS), and via secure internet services (ie. WIFS/SADIS). |

# ASBU NOPS B0 Elements

| NOPS | Description | Relation-information need |
|---|---|---|
| NOPS-B0/1 | Initial integration of collaborative airspace management with air traffic flow management | AMET-B0/1 - Meteorological observations products |
| NOPS-B0/2 | Collaborative Network Flight Updates | AMET-B0/2 - Meteorological forecast and warning products |
| NOPS-B0/3 | Network Operation Planning basic features | AMET-B0/2 - Meteorological forecast and warning products<br><br>AMET-B0/3 - Climatological and historical meteorological products |

# NOPS B1 Elements

| NOPS | Description | Relation-information need |
|---|---|---|
| NOPS-B1/2 | Enhanced Network Operations Planning | AMET-B1/3 - Climatological and historical meteorological information |

# A-CDM B0 Elements

| ACDM Elements | Description | Relationship Information Needed |
|---|---|---|
| ACDM-B0/1 | Airport CDM Information Sharing (ACIS) | AMET-B0/1 - Meteorological observations products<br><br>AMET-B0/2 - Meteorological forecast and warning products |
| ACDM-B0/2 | Integration with ATM Network function | |

# RSEQ B0 Elements

| RSEQ Elements | Description | Relationship Information Required |
|---|---|---|
| RSEQ-B0/1 | Arrival Management | AMET-B0/1 - Meteorological observations products<br><br>AMET-B0/2 - Meteorological forecast and warning products |
| RSEQ-B0/2 | Departure Management | |
| RSEQ-B0/3 | Point Merge | AMET-B0/1 - Meteorological observations products |

# FICE B2 Elements

| FFICE Elements | Description | Relationship Information Needed |
|---|---|---|
| FICE-B2/2 | Filing Service | AMET-B2/1 - Meteorological observations information<br><br>AMET-B2/2 - Meteorological forecast and warning information<br><br>AMET-B2/4 - Meteorological information service in SWIM |

# More Information……

- ASBU Elements - ICAO GANP Portal
- Asia/Pacific Seamless ANS Plan Ver. 4.0
- Asia-Pacific Regional Framework for Collaborative ATFM version 4.0 (October 2022).pdf
- icao.int/APAC/Documents/APAC A-CDM Impl. Plan_Second Edition.pdf
- 2023-09_APAC-REG-GUIDANCE-FOR-TAILORED-MET-TO-SUPPORT-ATM_4TH-ED

# Proposal

- Mapping of Priority 1 Elements of ASAP to ASBU elements under AMET;
- Mapping of Priority 2 Elements of ASAP to ASBU elements under AMET;
- Conduct a survey of implementation progress and report the analysis ;
- If necessary, review the assignment of Priority of AMET B0 and AMET B1 elements and recommend to MET SG;
- Integrate the above information into the APAC Regional Guidance for tailored MET information and services to support ATM.
- The regional Guidance document will be referred during the proposed update of ASAP in 2026.

# Thank You

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