



*International Civil Aviation Organization*

**NINETEENTH MEETING OF THE METEOROLOGY SUB-GROUP  
(MET SG/19) OF APANPIRG**

Bangkok, Thailand, 3 – 6 August 2015

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**Agenda Item 4: Planning and monitoring**

**ASIA/PAC AIR NAVIGATION PLAN**

(Presented by the Secretariat)

**SUMMARY**

This paper presents progress on MET parts of the draft new Asia/Pacific Air Navigation Plan (ANP) based on the electronic Air Navigation Plan (eANP) template for possible future adoption by APANPIRG.

**1. INTRODUCTION**

1.1 The regional ANP represents the bridge from (on one side) the global provisions contained in ICAO Standards and Recommended Practices (SARPs) and the Global Air Navigation Plan (GANP) to (on the other side) the States' national plans and actual implementation. As part of the ANP, the FASID contains a detailed description/list of the facilities and/or services to be provided to fulfill the basic requirements of the ANP as agreed between the provider and user States concerned.

1.2 The meeting is reminded that, in accordance with the APANPIRG terms of reference, the regional ANP (and FASID) is kept under constant review in consultation with user and provider States and with the assistance of the ICAO Asia and Pacific Office, Bangkok.

1.3 This paper presents progress on the development of MET parts of a draft new Asia/Pacific electronic Air Navigation Plan (eANP), which is based on the common eANP template approved by the Council in June 2014 to align the regional ANPs with the fourth edition of the GANP (Doc 9750), for possible adoption by APANPIRG/26 in September 2015.

**2. DISCUSSION**

2.1 APANPIRG/25, held in Kuala Lumpur, Malaysia, from 8 to 11 September 2014, decided to support ICAO efforts to align the regional ANPs with the fourth edition of the GANP by including the development of a new Asia/Pacific eANP (based on the eANP template and the related action plan) in the work programmes of the APANPIRG contributory bodies and the presentation of the relevant Parts of the draft new Asia/Pacific eANP to APANPIRG/26 (by mid-2015) for final review and endorsement (APANPIRG/25 Decision 25/1 refers).

2.2 In anticipation of the APANPIRG decision to adopt the eANP as the basis for future development of the Asia/Pacific ANP, the MET SG/18, held in Beijing, China, from 18 to 21 August 2014, noted that the Secretariat would be in the best position to coordinate the work plan for populating the MET parts of the draft new Asia/Pacific eANP (based on the eANP template) in preparation for APANPIRG/26.

2.3 A draft version of the MET parts of the new ANP was presented for review by the Thirteenth Meeting of the APAC Regional Operational Meteorological (OPMET) Bulletin Exchange Working Group (ROBEX WG/13), 16 to 18 March 2015, Seoul, Republic of Korea.

2.4 ROBEX WG/13 noted that the draft version of the MET parts of the new ANP was still a work in progress (e.g., the population of data in Table MET II-1 – Meteorological Watch Offices, Table MET II-2 – Aerodrome Meteorological Offices and Table MET II-3 – VOLMET Broadcasts was to be completed and would require alignment of the data with the outstanding amendments to current FASID Tables MET) and provided additional feedback for inclusion in the draft (ROBEX WG/13 - WP/17 [revised 18/03/15] refers) before a final review by MET SG/19 prior to submission of the draft new ANP to APANPIRG/26.

2.5 A copy of the revised draft material for the MET parts of the new Asia/Pacific ANP, including Table MET II-1, Table MET II-2 and Table MET II-3, is provided at the **Attachment** to this paper for review by the meeting.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) Review the information in this paper; and
- b) Update, as appropriate, the ASIA/PAC ANP VOLUMES I and II - PARTs V – METEOROLOGY (MET) at the **Attachment** to this paper, in particular TABLEs MET I-1, MET II-1, MET II-2 and MET II-3.

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Draft (MET Parts) of new Asia/Pacific ANP**ASIA/PAC ANP, VOLUME I****PART V – METEOROLOGY (MET)****1. INTRODUCTION**

1.1 This part of the **ASIA/PAC** ANP constitutes the agreed regional requirements considered to be the minimum necessary for effective planning and implementation of aeronautical meteorology (MET) facilities and services in the **ASIA/PAC** Region(s) and complements the provisions of ICAO SARPs and PANS related to MET. It contains stable plan elements related to the assignment of responsibilities to States for the provision of MET facilities and services within the ICAO **ASIA/PAC** region(s) in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300) and mandatory requirements related to the MET facilities and services to be implemented by States in accordance with regional air navigation agreements.

1.2 The dynamic plan element related to the assignment of responsibilities to States for the provision of MET facilities and services and the mandatory requirements based on regional air navigation agreements related to MET are contained in the **ASIA/PAC** ANP Volume II, Part V - MET.

1.3 The **ASIA/PAC** ANP Volume III contains dynamic/flexible plan elements related to the implementation of air navigation systems and their modernization in line with the ICAO Aviation System Block Upgrades (ASBUs) methodology and associated technology roadmaps described in the Global Air Navigation Plan. The Aviation System Block Upgrades (ASBUs) modules are aimed at increasing capacity and improving efficiency of the aviation system whilst maintaining or enhancing safety level, and achieving the necessary harmonization and interoperability at regional and global level. This includes the regionally agreed ASBU modules applicable to the specified ICAO region/sub-region and associated elements/enablers necessary for the monitoring of the status of implementation of these ASBU modules.

***Standards, Recommended Practices and Procedures***

1.4 The Standards, Recommended Practices and Procedures (SARPs) and related guidance material applicable to the provision of MET are contained in:

- *Annex 3 - Meteorological Service for International Air Navigation*; and
- *Regional Supplementary Procedures (Doc 7030)*;
- *Handbook on the IAVW (Doc 9766)*;
- *Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds (Doc 9691)*; and
- *Manual of Aeronautical Meteorological Practice (Doc 8896)*.

**2. GENERAL REGIONAL REQUIREMENTS*****World area forecast system (WAFS) and meteorological offices***

2.1 In the **ASIA/PAC** Region(s), WAFC **London and Washington** have been designated as the centres for the operation of the aeronautical fixed service satellite distribution system / WAFS Internet File Service (SADIS and WIFS) and the Internet-based Secure SADIS FTP service. The status of implementation of SADIS/WIFS by States in the **ASIA/PAC** Region(s) is detailed in Volume III.

2.2 In the **ASIA/PAC** Region(s), WAFS products in digital form should be disseminated by WAFC **London and Washington** using the SADIS 2G satellite broadcast and the Secure SADIS FTP service and/or WIFS.

***Volcanic Ash***

2.3 Volcanic ash advisory centres (VAACs) **Darwin, Tokyo and Wellington** have been designated to prepare volcanic ash advisory information for the **ASIA/PAC** Region(s), ~~as indicated below~~. The status of implementation of volcanic ash advisory information is detailed in Volume III.

2.4 Selected State volcano observatories have been designated for notification of significant pre-eruption volcanic activity, a volcanic eruption and/or volcanic ash in the atmosphere for the **ASIA/PAC** Region(s) to their corresponding

ACC/FIC, MWO and VAAC, as indicated at **Table MET I-1**. The status of implementation of volcano observatory notice for aviation (VONA) is detailed in Volume III.

*Tropical Cyclone*

2.5 Tropical cyclone advisory centres (TCACs) **Darwin, Honolulu, Nadi, New Delhi and Tokyo** have been designated to prepare tropical cyclone advisory information for the **ASIA/PAC** Region(s), ~~as indicated below~~. The status of implementation of tropical cyclone advisory information is detailed in Volume III.

**3. SPECIFIC REGIONAL REQUIREMENTS**

3.1 **TBD (if necessary)**

**TABLE MET I-1 - STATE VOLCANO OBSERVATORIES**

**Explanation of the Table**

**Column**

- 1 Name of the State responsible for the provision of a volcano observatory
- 2 Name of the volcano observatory

**TABLE MET I-1 - STATE VOLCANO OBSERVATORIES**

State	Volcano observatory
1	2
China	Heilongjiang Wudalianchi Volcano Observatory
China	Jilin Changbai Mountain Tianchi Volcano Observatory
Japan	Fukuoka Volcano Observations and Information Center, Japan Meteorological Agency
Japan	Kagoshima Local Meteorological observatory, Japan Meteorological Agency
Japan	Sapporo Volcano Observations and Information Center, Japan Meteorological Agency
Japan	Sendai Volcano Observations and Information Center, Japan Meteorological Agency
Japan	Tokyo Volcano Observations and Information Center, Japan Meteorological Agency
India	TBD
Indonesia	Directorate of Volcanology and Geological Hazard Mitigation (DVGHM)
New Zealand	Wairakei Research Centre Institute of Geological and Nuclear Sciences
Papua New Guinea	Rabaul
Philippines	Philippine Institute of Volcanology and Seismology (PHIVOLCS) Central Office

**ASIA/PAC ANP, VOLUME II****PART V – METEOROLOGY (MET)****1. INTRODUCTION**

1.1 This part of the **ASIA/PAC** ANP, Volume II, complements the provisions in the ICAO SARPs and PANS related to aeronautical meteorology (MET). It contains dynamic plan elements related to the assignment of responsibilities to States for the provision of MET facilities and services within a specified area in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and mandatory requirements related to the MET facilities and services to be implemented by States in accordance with regional air navigation agreements. Such agreement indicates a commitment on the part of the States concerned to implement the requirements specified.

**2. GENERAL REGIONAL REQUIREMENTS***Meteorological offices*

2.1 In the **ASIA/PAC** Region(s), meteorological watch offices (MWO) have been designated to maintain continuous watch on meteorological conditions affecting flight operations within their area(s) of responsibility, as indicated at **Table MET II-1**.

*Meteorological observations and reports*

2.2 In the **ASIA/PAC** Region(s), routine observations, issued as a METAR, should be made throughout the 24 hours of each day at intervals of one hour or, for RS and AS designated aerodromes ~~if so determined by regional air navigation agreement~~, at intervals of one half-hour at aerodromes as indicated in **Table MET II-2**. For aerodromes included on the VHF VOLMET broadcast as indicated in **Table MET II-3**, routine observations, issued as METAR, should be made throughout the 24 hours of each day.

2.3 At aerodromes that are not operational throughout 24 hours, METAR should be issued at least 3 hours prior to the aerodrome resuming operations in the **ASIA/PAC** Region(s).

*Forecasts*

2.4 In the **ASIA/PAC** Region(s), an aerodrome forecast, issued as a TAF, should be for the aerodromes indicated in **Table MET II-2**.

2.5 In the **ASIA/PAC** Region(s), the period of validity of a routine TAF should be of 9-, 12-, 18-, 24-, or 30-hours to meet the requirements indicated in **Table MET II-2**.

2.6 In the **ASIA/PAC** Region(s), the forecast maximum and minimum temperatures expected to occur during the period of validity, together with their corresponding day and time of occurrence, should be included in TAF at aerodromes indicated in **Table MET II-2**.

2.7 In the **ASIA/PAC** Region(s), landing forecasts (prepared in the form of a trend forecast) should be provided at aerodromes indicated in **Table MET II-2**.

*Requirements for and use of communications*

2.8 Operational meteorological information prepared as METAR, SPECI and TAF for aerodromes indicated in **Table MET II-2**, and SIGMET and AIRMET ~~if applicable~~ messages prepared for flight information regions or control areas indicated in **Table MET II-1**, should be disseminated to the international OPMET databanks designated for the **ASIA/PAC** Region(s) (namely Bangkok, Brisbane, Nadi, Singapore and Tokyo) and to the centre designated for the operation of the aeronautical fixed service satellite distribution system (SADIS) and the Internet-based service (Secure SADIS FTP) and/or WIFS in the **ASIA/PAC** Region(s).

2.9 SIGMET messages should be disseminated to other meteorological offices in the **ASIA/PAC** Region(s) ~~in accordance with the regional OPMET bulletin exchange scheme. if applicable~~.

2.10 Special air-reports that do not warrant the issuance of a SIGMET should be disseminated to other meteorological offices in the **ASIA/PAC** Region(s) ~~in accordance with the regional OPMET bulletin exchange scheme. if applicable~~.

2.11 In the **ASIA/PAC** Region(s), meteorological information for use by aircraft in flight should be supplied through VOLMET broadcasts.

2.12 In the **ASIA/PAC** Region(s), the aerodromes for which METAR and SPECI are to be included in VOLMET broadcasts, the sequence in which they are to be transmitted and the broadcast time, is indicated in **Table MET II-3**.

### 3. SPECIFIC REGIONAL REQUIREMENTS

#### EXAMPLES

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Meteorological observations and reports

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3.1 ~~—————~~ For the EUR Region, routine observations, issued as METAR, should be made throughout the 24 hours of each day at intervals of one half hour.

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3.2 ~~—————~~ In the **(NAME)** Region, aeronautical meteorological stations have been established on offshore structures or at other points of significance in support of helicopter operations to offshore structures, as indicated at Table MET II MID X **(Former MET 1C Offshore structures)**. **[if applicable]**

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3.3 ~~—————~~ In the **(NAME)** Region, information on the sea surface temperature and the state of the sea or the significant wave height from aeronautical meteorological stations established on offshore structures in support of helicopter operations should be included as supplementary information in METAR and SPECI as indicated in Table MET II MID X **(MET 1C Offshore structures)**. **[if applicable]**

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3.4 ~~—————~~ In the **(NAME)** Region, information on the state of the runway should be included as supplementary information in METAR and SPECI as indicated in Table MET II 2 **(Former MET 1A Aerodrome meteorological offices)**. **[if applicable]**

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3.5 ~~—————~~ In the **(NAME)** Region, GAMET area forecasts and/or area forecasts for low level flights in chart form prepared in support of the issuance of AIRMET information, and AIRMET information for low level flights relevant to the whole route, should be supplied to operators and flight crew members and kept up to date. Section II of the GAMET area forecast should include information, in addition to the provisions in Annex 3, as contained at Appendix MET LLF to Part V (MET). **[if applicable]**

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AIRMET information

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3.6 ~~—————~~ In the **(NAME)** Region, AIRMET information should be issued by a MWO for its areas of responsibility as indicated in Table MET II 1 **(Former MET 1B Meteorological watch offices)**. **[if applicable]**

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OPMET information

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3.7 ~~—————~~ In the EUR Region, The details of the exchange scheme to be used the OPMET information is given in the EUR Region EUR OPMET Data Management Handbook (EUR Doc 018). **[if applicable]**

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Service for operators and flight crew members

3.8 ~~—————~~ In the **(NAME)** Region, meteorological information for pre flight planning by operators of helicopters flying to offshore structures as indicated in Table MET II MID X **(Former MET 1C Offshore structures)** should include data covering the layers from sea level to FL 100. Particular mention should be made of [the expected surface visibility, the amount, type (where available), base and tops of cloud below FL 100, the sea state and sea surface temperature, the mean sea level pressure and the occurrence or expected occurrence of turbulence and icing]. **[if applicable]**

3.9 In the APAC Region, scheduled VOLMET broadcasts should contain TAF and SIGMET.

3.10 In the APAC Region, METAR, SPECI and TAF should be available for uplink to aircraft in flight via D-VOLMET.

**TABLE MET II-1 - METEOROLOGICAL WATCH OFFICES****Explanation of the Table****Column**

- 1 Name of the State where meteorological service is required
- 2 Name of the flight information region (FIR) or control area (CTA) where meteorological service is required  
*Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.*
- 3 ICAO location indicator of the FIR or CTA
- 4 Name of the meteorological watch office (MWO) responsible for the provision of meteorological service for the FIR or CTA  
*Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.*
- 5 ICAO location indicator of the responsible MWO
- 6 Requirement for SIGMET information (excluding for volcanic ash and for tropical cyclones) to be provided by the MWO for the FIR or CTA concerned, where:  
Y – Yes, required  
N – No, not required
- 7 Requirement for SIGMET information for volcanic ash to be provided by the MWO for the FIR or CTA concerned, where:  
Y – Yes, required  
N – No, not required
- 8 Requirement for SIGMET information for tropical cyclone to be provided by the MWO for the FIR or CTA concerned, where:  
Y – Yes, required  
N – No, not required
- 9 Requirement for AIRMET information to be provided by the MWO for the FIR or CTA concerned, where  
Y – Yes, required  
N – No, not required

**TABLE MET II-1 - METEOROLOGICAL WATCH OFFICES**

State	FIR or CTA Where Meteorological Service is Required		Responsible Meteorological Watch Office		Meteorological Service To Be Provided			
	Name	ICAO Location Indicator	Name	ICAO Location Indicator	SIGMET (WS)	SIGMET (WV)	SIGMET (WC)	SIGMET (WA)
1	2	3	4	5	6	7	8	9
<b>AFGHANISTAN</b>	KABUL FIR / SSR	OAKX	KABUL AD	OAKB	Y	Y	N	N
<b>AUSTRALIA</b>	MELBOURNE FIR <sup>1</sup> □	YMMM	ADELAIDE (REGIONAL FORECASTING CENTRE)	YPRM□	Y	N	N	N
	BRISBANE FIR <sup>2</sup>	YBBB	BRISBANE (REGIONAL FORECASTING CENTRE)	YBRF□	Y	N	Y	N
	BRISBANE FIR <sup>4</sup> MELBOURNE FIR <sup>5</sup>	YBBB YMMM	DARWIN (REGIONAL FORECASTING CENTRE)	YPDM	Y	Y	Y	N

State	FIR or CTA Where Meteorological Service is Required		Responsible Meteorological Watch Office		Meteorological Service To Be Provided			
	Name	ICAO Location Indicator	Name	ICAO Location Indicator	SIGMET (WS)	SIGMET (WV)	SIGMET (WC)	SIGMET (WA)
1	2	3	4	5	6	7	8	9
	MELBOURNE FIR <sup>6</sup> □	YMMM	HOBART (REGIONAL FORECASTING CENTRE)	YMHF □	Y	N	N	N
	BRISBANE FIR MELBOURNE FIR □	YBBB YMMM	MELBOURNE (WORLD MET CENTRE, BUREAU OF METEOROLOGY)	YMMC	Y	N	N	N
	BRISBANE FIR <sup>7</sup> MELBOURNE FIR <sup>8</sup>	YBBB YMMM	MELBOURNE (REGIONAL FORECASTING CENTRE)	YMRF	Y	N	N	N
	BRISBANE FIR <sup>9</sup> MELBOURNE FIR <sup>10</sup>	YBBB YMMM	PERTH (REGIONAL FORECASTING CENTRE)	YPRF	Y	Y	N	N
	BRISBANE FIR <sup>11</sup> MELBOURNE FIR <sup>12</sup>	YBBB YMMM	SYDNEY (REGIONAL FORECASTING CENTRE)	YSRF	Y	N	N	N
<b>BANGLADESH</b>	DHAKA FIR / SRR	VGFR	HAZRAT SHAHJALAL INTERNATIONAL AIRPORT	VGHS	Y	Y	Y	N
<b>CAMBODIA</b>	PHNOM PENH FIR / SRR	VDPP	PHNOM PENH <sup>14</sup>	VDPP	Y	Y	Y	N
<b>CHINA</b>	BEIJING FIR / SRR	ZBPE	BEIJING/CAPITAL	ZBAA	Y	Y	Y	N
	GUANGZHOU FIR / SRR	ZGZU	GUANGZHOU/BAIYUN	ZGGG	Y	Y	Y	N
	KUNMING FIR / SRR	ZPKM	CHENGDU/SHUANGLIU	ZUUU	Y	Y	Y	N
	LANZHOU FIR / SRR	ZLHW	XI'AN/XIANYANG	ZLXY	Y	Y	N	N
	SANYA FIR / SRR	ZJSA	HAIKOU/MEILAN	ZJHK	Y	Y	Y	N
	SHANGHAI FIR / SRR	ZSHA	SHANGHAI/HONGQIAO	ZSSS	Y	Y	Y	N
	SHENYANG FIR / SRR	ZYSH	SHENYANG/TAOXIAN	ZYTX	Y	Y	N	N
	TAIBEI FIR / SRR	RCAA*	TAIBEI CITY/TAIBEI INTL AP	RCTP	Y	Y	Y	N
	URUMQI FIR / SRR	ZWUQ	URUMQI/DIWOPU	ZWWW	Y	Y	N	N
	WUHAN FIR / SRR	ZHWH	WUHAN/TIANHE	ZHHH	Y	Y	N	N
	HONG KONG FIR / SRR	VHHK	HONG KONG/INTL	VHHH	Y	Y	Y	N
<b>DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA</b>	PYONGYANG FIR / SRR	ZKKP	SUNAN	ZKPY	Y	Y	Y	N
<b>FIJI</b>	NADI FIR / SRR	NFFF	NADI/INTL	NFFN	Y	Y	N	N
<b>FRENCH POLYNESIA</b>	TAHITI FIR / SRR	NTTT*	TAHITI/FAAA	NTAA	Y	Y	Y	N
<b>INDIA</b>	CHENNAI FIR / SRR	VOMF	CHENNAI	VOMM	Y	Y	Y	N
	DELHI FIR / SRR	VIDF	DELHI/INDIRA GHANDI INTL	VIDP	Y	Y	N	N
	KOLKATA FIR / SRR	VECF	KOLKATA/KOLKATA	VECC	Y	Y	N	N
	MUMBAI FIR / SRR	VABF	MUMBAI/CHHATRAPATI SHIVAJI INTL.	VABB	Y	Y	Y	N



State	FIR or CTA Where Meteorological Service is Required		Responsible Meteorological Watch Office		Meteorological Service To Be Provided			
	Name	ICAO Location Indicator	Name	ICAO Location Indicator	SIGMET (WS)	SIGMET (WV)	SIGMET (WC)	SIGMET (WA)
1	2	3	4	5	6	7	8	9
INDONESIA	JAKARTA FIR/UIR / SRR	WIIF	JAKARTA/SOEKARNO-HATTA (COMM CENTER)	WIII	Y	Y	Y	N
	UJUNG PANDANG FIR/UIR / SRR	WAAF	UJUNG PANDANG/HASANUDDIN (COMM CENTER)	WAAA	Y	Y	Y	N
JAPAN	FUKUOKA FIR / TOKYO SRR	RJJJ	TOKYO (CITY)	RJTD	Y	Y	Y	N
LAO PEOPLE'S DEMOCRATIC REPUBLIC	VIENTIANE FIR / SRR	VLVT	VIENTIANE/WATTAY	VLVT	Y	Y	Y	N
MALAYSIA	KOTA KINABALU FIR / SRR	WBFC	SEPANG/KL INTL AIRPORT	WMKK	Y	Y	Y	N
	KUALA LUMPUR FIR / SRR	WMFC						
MALDIVES	MALE FIR / SRR	VRMF	MALE/INTL	VRMM	Y	Y	Y	N
MONGOLIA	ULAANBAATAR FIR / SRR	ZMUB	ULAANBAATAR	ZMUB	Y	Y	N	N
MYANMAR	YANGON FIR / SRR	VYYY	YANGON INTL	VYYY	Y	Y	Y	N
NAURU	NAURU FIR / SRR	ANAU	NAURU I. <sup>15</sup>	ANYN	Y	Y	Y	N
NEPAL	KATHMANDU FIR / SRR	VNSM	KATHMANDU	VNKT	Y	Y	N	N
NEW ZEALAND	AUCKLAND OCEANIC FIR / SRR	NZZO	WELLINGTON (AVIATION WEATHER CENTRE)	NZKL	Y	Y	Y	N
	NEW ZEALAND FIR / SRR	NZZC						
PAKISTAN	KARACHI FIR / SRR	OPKR	KARACHI/JINNAH INT'L	OPKC	Y	Y	Y	N
	LAHORE FIR / SRR	OPLR	LAHORE/ALLAMA IQBAL INT'L	OPLA	Y	Y	N	N
PAPUA NEW GUINEA	PORT MORESBY FIR / SRR	AYPY	PORT MORESBY INTL	AYPY	Y	Y	Y	N
PHILIPPINES	MANILA FIR / SRR	RPHI	MANILA/NINOY AQUINO INTL, PASAY CITY, METRO MANILA	RPLL	Y	Y	Y	N
REPUBLIC OF KOREA	INCHEON FIR / SRR	RKRR	INCHEON	RKSI	Y	Y	Y	N
SINGAPORE	SINGAPORE FIR / SRR	WSJC	SINGAPORE/CHANGI	WSSS	Y	Y	Y	N
SOLOMON ISLANDS	HONIARA FIR / SRR	AGGG	HONIARA (HENDERSON)	AGGH	Y	Y	Y	N
SRI LANKA	COLOMBO FIR / SRR	VCBI	BANDARANAIKE INTL AIRPORT COLOMBO	VCBI	Y	Y	Y	N
THAILAND	BANGKOK FIR / SRR	VTBB	BANGKOK/SUVARNABHUMI INTL AIRPORT	VTBS	Y	Y	Y	N
UNITED STATES	ANCHORAGE FIR	PAZA	ANCHORAGE	PAWU	Y	N	Y	N

State	FIR or CTA Where Meteorological Service is Required		Responsible Meteorological Watch Office		Meteorological Service To Be Provided			
	Name	ICAO Location Indicator	Name	ICAO Location Indicator	SIGMET (WS)	SIGMET (WV)	SIGMET (WC)	SIGMET (WA)
1	2	3	4	5	6	7	8	9
	OAKLAND OCEANIC / HONOLULU SRR <sup>16</sup>	KZAK	HONOLULU	PHFO	Y	Y	Y	N
	OAKLAND OCEANIC FIR <sup>17</sup>	KZAK	KANSAS CITY	KKCI	Y	N	Y	N
VIET NAM	HANOI FIR / SRR HO-CHI-MINH FIR / SRR	VVNB VVTS	GIA LAM	VVGL	Y	Y	Y	N

Notes:

1. Limited by the coordinates: 27S/128E; 27S/135E; 26S/138E; 2806S/14012E; 29S/142E; 3414S/14205E; 3345S/14045E; 40S/14045E; 45S/14045E; 45S/129E; 33S/129E; 30S/129E; 2715S/12830E

2. Outside the AOR of YBTL MWO and limited by the coordinates: 0937S/14102E; 0916S/14203E; 0913S/14206E; 0911S/14214E; 0914S/14217E; 0922S/14230E; 0922S/14230E; 0923S/14236E; 0919S/14248E; 0908S/14352E; 0924S/14414E; 0957S/14405E; 1130S/14402E; 1144S/14404E; 12S/144E; 12S/155E; 14S/155E; 14S/16115E; 1740S/163E; 2830S/163E; 2830S/155E; 2850S/15316E; 29S/150E; 29S/14330E; 26S/138E; 14S/138E; 0937S/14102E

~~3. Limited by the coordinates: 26S/138E; 29S/143E; 29S/142E; 2806S/14012E; 26S/138E~~

4. Limited by the coordinates: 1055S/12447E; 0920S/12650E; 07S/135E; 0950S/13940E; 0950S/141E; 14S/138E; 18S/138E; 2215S/138E; 26S/138E; 2218S/13638E; 2128S/13609E; 2111S/13134E; 2151S/13058E; 2313S/12828E; 2322S/12629E; 2327S/12415E; 2250S/12330E; 2030S/12330E; 20S/129E; 16S/12915E; 1528S/12806E; 1450S/12825E; 14S/12730E; 1345S/12609E; 14S/124E; 1055S/12447E

5. Limited by the coordinates: 2250S/12330E; 2327S/12415E; 2322S/12629E; 2313S/12828E; 2151S/13058E; 2111S/13134E; 2128S/13609E; 2218S/13638E; 26S/138E; 27S/135E; 2715S/12830E; 25S/12815E; 25S/12330E; 2250S/12330E

6. Limited by the coordinates: 40S/14045E; 40S/143E; 3953S/14353E; 4006S/14759E; 40S/150E; 45S/150E; 45S/14045E; 40S/14045E

7. Limited by the coordinates: 3730S/15033E; 3730S/163E; 45S/163E; 45S/150E; 4434S/150E; 4351S/15040E; 43S/151E; 3811S/15019E; 3730S/15033E

8. Limited by the coordinates: 3345S/14045E; 3414S/14205E; 3510S/14728E; 3730S/150E; 3730S/15033E; 3811S/15019E; 43S/151E; 4351S/15040E; 4434S/150E; 40S/150E; 4006S/14759E; 3953S/14353E; 40S/143E; 40S/14045E; 3811S/14045E; 3345S/14045E

9. Limited by the coordinates: 2311S/12831E; 2313S/12827E; 2321S/12631E; 2326S/12414E; 2133S/12226E; 2015S/12113E; 1858S/1203E; 1752S/11821E; 148S/1158E; 12S/11430E; 12S/12319E; 12S/12320E; 1055S/12446E; 140S/1240E; 1345S/1268E; 140S/12730E; 1449S/12825E; 1528S/1286E; 16S/12915E; 20S/1290E

10. Limited by the coordinates: 12S/11430E; 148S/1158E; 1752S/11821E; 1858S/1203E; 2015S/12113E; 2133S/12226E; 2326S/12414E; 2321S/12631E; 2313S/12827E; 2311S/12831E; 25S/12815E; 2715S/12830E; 30S/1290E; 50S/1290E; 50S/75E; 60S/75E; 20S/78E; 20S/92E; 12S/107E

11. Limited by the coordinates: 29S/14632E; 29S/150E; 2850S/15328E; 2830S/155E; 2830S/163E; 3730S/163E; 3730S/15033E; 3657S/15045E; then east of the minor arc of a circle of 120NM radius centred on 3457S/15032E; 3519S/15256E; 3421S/15140E; 3359S/15201E; 3351S/15154E; 3328S/15148E; 3315S/15126E; 3312S/15114E; 3320S/15042E; 3327S/15033E; 3206S/14850E; 29S/14632E

12. Limited by the coordinates: 29S/142E; 29S/14330E; 29S/14632E; 3206S/14850E; 3327S/15033E; 3320S/15042E; 3312S/15114E; 3315S/15126E; 3328S/15148E; 3351S/15154E; 3359S/15201E; 3421S/15140E; 3519S/15256E; then east of the minor arc of a circle of 120NM radius centred on 3457S/15032E; 3657S/15045E; 3730S/15033E; 3730S/150; 3510S/14728E; 3414S/14205E; 29S/142E.

13. Limited by the coordinates: 14S/138E; 10S/141E; 09S/142E; 09S/144E; 13S/145E; 15S/147E; 1817S/148E; 2309S/15252E; 2334S/14811E; 1818S/14332E; 18S/138E; 14S/138E

14. PHNOM PENH MWO not implemented, however arrangement made for issuance of SIGMET by CHENGDU/SHUANGLIU MWO
15. NAURU I. MWO not implemented, however arrangement made for issuance of SIGMET by PORT MORESBY INTL MWO
16. FIR South of 30N, East of 130E and West of 140W, Honolulu SRR
17. North of 30N of Oakland Oceanic FIR (excluding KZOA); South of 30N between 120W and 140W

## TABLE MET II-2 - AERODROME METEOROLOGICAL OFFICES

### Explanation of the Table

#### Column

- 1 Name of the State where meteorological service is required
- 2 Name of the AOP aerodrome where meteorological service is required  
*Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.*
- 3 ICAO location indicator of the AOP aerodrome
- 4 Designation of AOP aerodrome:  
RG - international general aviation, regular use  
RS - international scheduled air transport, regular use  
RNS - international non-scheduled air transport, regular use  
AS - international scheduled air transport, alternate use  
ANS - international non-scheduled air transport, alternate use
- 5 Name of the aerodrome meteorological office responsible for the provision of meteorological service  
*Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.*
- 6 ICAO location indicator of the responsible aerodrome meteorological office
- 7 Requirement for METAR/SPECI from the aerodrome concerned, where:  
Y – Yes, required  
N – No, not required
- 8 Requirement for information on the state of the runway provided by the appropriate airport authority to be included as supplementary information in METAR/SPECI from the aerodrome concerned, where:  
Y – Yes, required  
N – No, not required
- 9 Requirement for trend forecast to be appended to METAR/SPECI from the aerodrome concerned, where  
Y – Yes, required  
N – No, not required
- 10 Requirement for TAF from the aerodrome concerned, where  
C - Requirement for 9-hour validity aerodrome forecasts in TAF code (9H)  
T - Requirement for 18/24-hour validity aerodrome forecasts in TAF code (18/24H)  
X - Requirement for 30-hour validity aerodrome forecasts in TAF code (30H)  
N – No, not required
- 11 Requirement for maximum and minimum temperature (expected to occur during the period of validity of the TAF) to be included in TAF from the aerodrome concerned, where:  
Y – Yes, required  
N – No, not required
- 12 Availability of METAR/SPECI and TAF from the aerodrome concerned, where:  
F – Full availability : OPMET information as listed issued for the aerodrome all through the 24-hour period  
P – Partial availability: OPMET information as listed not issued for the aerodrome for the entire 24-hour period

TABLE MET II-2 - AERODROME METEOROLOGICAL OFFICES

State	AOP Aerodrome where meteorological service is to be provided			Responsible aerodrome meteorological office		Observations and forecasts to be provided					METAR/SPECI and TAF availability
	Name	ICAO Location Indicator	Use	Name	ICAO Location Indicator	METAR/SPECI	State of the runway	Trend forecast	TAF	Temperature Tx/Tn	
1	2	3	4	5	6	7	8	9	10	11	12
AFGHANISTAN	KABUL INTERNATIONAL	OAKB	RS	KABUL INTERNATIONAL	OAKB			Y	T		F
	KANDAHAR	OAKN	AS	KABUL INTERNATIONAL	OAKB				T		F
AMERICAN SAMOA (UNITED STATES)	PAGO PAGO INTERNATIONAL, TUTUILA I.	NSTU	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
AUSTRALIA	ADELAIDE/ADELAIDE INTL	YPAD	RS	ADELAIDE/ADELAIDE INTL	YPAD			Y	X		F
	ALICE SPRINGS	YBAS	AS	DARWIN/DARWIN INTL	YPDN				T		F
	BRISBANE/BRISBANE INTL	YBBN	RS	BRISBANE/BRISBANE INTL	YBBN			Y	X		F
	CAIRNS/CAIRNS INTL	YBCS	RS	TOWNSVILLE/TOWNSVILLE INTL	YBTL			Y	T		F
	CHRISTMAS ISLAND	YPMX	RS	PERTH/PERTH INTL	YPPH				T		F
	COCOS (KEELING) ISLANDS INTL	YPCC	RS	PERTH/PERTH INTL	YPPH				T		F
	DARWIN/DARWIN INTL	YPDN	RS	DARWIN/DARWIN INTL	YPDN			Y	X		F
	HOBART	YMHB	RS	HOBART	YMHB				T		F
	MELBOURNE/MELBOURNE INTL	YMML	RS	MELBOURNE/MELBOURNE INTL	YMML			Y	X		F
	NORFOLK ISLAND	YSNF	RS	SYDNEY/SYDNEY (KINGSFORD SMITH) INTL	YSSY				T		F
	PERTH/PERTH INTL	YPPH	RS	PERTH/PERTH INTL	YPPH			Y	X		F
	PORT HEDLAND	YPPD	RS	PERTH/PERTH INTL	YPPH				T		F
	ROCKHAMPTON	YBRK	AS	BRISBANE/BRISBANE INTL	YBBN			Y	T		F
	SYDNEY/SYDNEY (KINGSFORD SMITH) INTL	YSSY	RS	SYDNEY/SYDNEY (KINGSFORD SMITH) INTL	YSSY			Y	X		F
TINDAL	YPTN	AS	DARWIN/DARWIN INTL	YPDN			Y	T		F	
TOWNSVILLE/TOWNSVILLE INTL	YBTL	RS	TOWNSVILLE/TOWNSVILLE INTL	YBTL			Y	T		F	
BANGLADESH	M.A. HANNAN INTL. CHITTAGONG	VGEG	RS		VGZR			Y	T		F
BHUTAN	PARO/INTL	VQPR	RS	PARO/INTL	VQPR						F
BRUNEI DARUSSALAM	BRUNEI/INTL	WBSB	RS	BRUNEI/INTL	WBSB				X		F
CAMBODIA	PHNOM PENH	VDPP	RS	PHNOM PENH	VDPP			Y	T		P
	SIEM REAP	VDSR	AS	PHNOM PENH	VDPP				T		P
CHINA	BEIJING/CAPITAL	ZBAA	RS	BEIJING/CAPITAL	ZBAA			Y	X		F
	CHANGSHA/HUANGHUA	ZGHA	RS	GUANGZHOU/BAIYUN	ZGGG				T		F
	CHENGDU/SHUANGLIU	ZUUU	RS	CHENGDU/SHUANGLIU	ZUUU				T		F
	CHONGQING/JIANGBEI	ZUCK	RS	CHENGDU/SHUANGLIU	ZUUU			Y	T		F
	DALIAN/ZHOUSHUIZI	ZYTL	RS	SHENYANG/TAOXIAN	ZYTX				T		F
	FUZHOU/CHANGLE	ZSFZ	RS	SHANGHAI/HONGQIAO	ZSSS				T		F
	GAOXIONG	RCKH	RS	TAIBEI CITY/TAIBEI INTL AP	RCTP			Y	X		F
	GUANGZHOU/BAIYUN	ZGGG	RS	GUANGZHOU/BAIYUN	ZGGG			Y	X		F
	GUILIN/LIANGJIANG	ZGKL	RS	GUANGZHOU/BAIYUN	ZGGG				T		F
	HANGZHOU/XIAOSHAN	ZSHC	RS	SHANGHAI/HONGQIAO	ZSSS				T		F

State	AOP Aerodrome where meteorological service is to be provided			Responsible aerodrome meteorological office		Observations and forecasts to be provided					METAR/SPECI and TAF availability
	Name	ICAO Location Indicator	Use	Name	ICAO Location Indicator	METAR/SPECI	State of the runway	Trend forecast	TAF	Temperature Tx/Tn	
1	2	3	4	5	6	7	8	9	10	11	12
	HARBIN/TAIPING	ZYHB	RS	SHENYANG/TAOXIAN	ZYTX				T		F
	HEFEI/XINQIAO	ZSOF	AS	SHANGHAI/HONGQIAO	ZSSS				T		F
	HUHHOT/BAITA	ZBHH	RS	BEIJING/CAPITAL	ZBAA				T		F
	JINAN/YAOQIANG	ZSJN	RS	SHANGHAI/HONGQIAO	ZSSS				T		F
	KASHI/KASHI	ZWSH	RS	URUMQI/DIWOPU	ZWWW				X		F
	KUNMING/CHANGSHUI	ZPPP	RS	CHENGDU/SHUANGLIU	ZUUU				X		F
	LANZHOU/ZHONGCHUAN	ZLLL	AS	XI'AN/XIANYANG	ZLXY				T		F
	NANJING/LUKOU	ZSNJ	RS	SHANGHAI/HONGQIAO	ZSSS				T		F
	NANNING/WUXU	ZGNN	AS	GUANGZHOU/BAIYUN	ZGGG				T		F
	QINGDAO/LIUTING	ZSQD	RS	SHANGHAI/HONGQIAO	ZSSS				T		F
	SANYA/PHOENIX	ZJSY							T		F
	SHANGHAI/HONGQIAO	ZSSS	RS	SHANGHAI/HONGQIAO	ZSSS			Y	T		F
	SHANGHAI/PUDONG	ZSPD	RS	SHANGHAI/HONGQIAO	ZSSS			Y	X		F
	SHENYANG/TAOXIAN	ZYTX	RS	SHENYANG/TAOXIAN	ZYTX			Y	T		F
	SHENZHEN/BAOAN	ZGSZ	RS	GUANGZHOU/BAIYUN	ZGGG				X		F
	TAIBEI CITY/TAIBEI INTL AP	RCTP	RS	TAIBEI CITY/TAIBEI INTL AP	RCTP			Y	X		F
	TAIBEI/SONGSHAN	RCSS	AS	TAIBEI CITY/TAIBEI INTL AP	RCTP				T		F
	TAIYUAN/WUSU	ZBYN	AS	BEIJING/CAPITAL	ZBAA				T		F
	TIANJIN/BINHAI	ZBTJ	RS	BEIJING/CAPITAL	ZBAA				X		F
	URUMQI/DIWOPU	ZWWW	RS	URUMQI/DIWOPU	ZWWW				X		F
	WUHAN/TIANHE	ZHHH	RS	GUANGZHOU/BAIYUN	ZGGG			Y	T		F
	XIAMEN/GAOQI	ZSAM	RS	SHANGHAI/HONGQIAO	ZSSS			Y	T		F
	XI'AN/XIANYANG	ZLXY	RS	XI'AN/XIANYANG	ZLXY			Y	T		F
	XICHANG/QUINGSHAN	ZUXC	RNS	CHENGDU/SHUANGLIU	ZUUU						F
<b>COOK ISLANDS</b>	RAROTONGA INTL.	NCRG	RS	NADI/INTL	NFFN				T		F
<b>DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA</b>	SUNAN	ZKPY	RS	SUNAN	ZKPY			Y	T		F
<b>FIJI</b>	NADI/INTL	NFFN	RS	NADI/INTL	NFFN			Y	T		F
	NAUSORI/INTL	NFNA	RS	NADI/INTL	NFFN				T		F
<b>FRENCH POLYNESIA (FRANCE)</b>	TAHITI FAAA	NTAA	RS	TAHITI FAAA	NTAA			Y	T		F
<b>HONG KONG, CHINA (CHINA)</b>	HONG KONG/INTERNATIONAL	VHHH	RS	HONG KONG/INTERNATIONAL	VHHH			Y	X		F
<b>INDIA</b>	AHMEDABAD	VAAH	RS	AHMEDABAD	VAAH				X		F
	AMRITSAR	VIAR	RS	DELHI (IGI)	VIDP				X		F
	BANGALORE INTL. AIRPORT	VOBL	RS	BANGALORE INTL. AIRPORT	VOBL			Y	X		F
	CALICUT	VOCL	RS	THIRUVANANTHAPURAM	VOTV				X		F
	CHENNAI	VOMM	RS	CHENNAI	VOMM			Y	X		F
	COCHIN INTL.	VOCI	RS	THIRUVANANTHAPURAM	VOTV			Y	X		F
	COIMBATORE	VOCB	RS	CHENNAI	VOMM				T		F

State	AOP Aerodrome where meteorological service is to be provided			Responsible aerodrome meteorological office		Observations and forecasts to be provided					METAR/SPECI and TAF availability
	Name	ICAO Location Indicator	Use	Name	ICAO Location Indicator	METAR/SPECI	State of the runway	Trend forecast	TAF	Temperature Tx/Tn	
1	2	3	4	5	6	7	8	9	10	11	12
	DELHI (IGI)	VIDP	RS	DELHI (IGI)	VIDP			Y	X		F
	GAYA	VEGY	RS	PATNA	VEPT				T		F
	GUWAHATI	VEGT	RS	GUWAHATI	VEGT			Y	T		F
	HYDERABAD INTL. AIRPORT	VOHS	RS	HYDERABAD INTL. AIRPORT	VOHS			Y	X		F
	JAIPUR	VJIP	RS	JAIPUR	VJIP			Y	T		F
	KOLKATA	VECC	RS	KOLKATA	VECC			Y	X		F
	LUCKNOW	VILK	RS	LUCKNOW	VILK			Y	T		F
	MANGALORE	VOML	RS	BANGALORE INTL. AIRPORT	VOBL				T		F
	MUMBAI	VABB	RS	MUMBAI	VABB			Y	X		F
	NAGPUR	VANP	RS	NAGPUR	VANP			Y	T		F
	PATNA	VEPT	RS	PATNA	VEPT				X		F
	THIRUVANANTHAPURAM	VOTV	RS	THIRUVANANTHAPURAM	VOTV				X		F
	TIRUCHIRAPPALLI	VOTR	RS	CHENNAI	VOMM				T		F
	VARANASI	VIBN	RS	LUCKNOW	VILK				X		F
<b>INDONESIA</b>	AMBON/PATTIMURA	WAPP	RNS	AMBON/PATTIMURA	WAPP				T		F
	BALI INTL/NGURAH RAI	WADD	RS	BALI INTL/NGURAH RAI	WADD				X		F
	BALIKPAPAN/SEPINGGAN	WALL	RS	BALIKPAPAN/SEPINGGAN	WALL				X		F
	BANJARMASIN/SYAMSUDIN NOOR	WAOO	AS	BANJARMASIN/SYAMSUDIN NOOR	WAOO				T		F
	BATAM/HANG NADIM	WIDD	AS	BATAM/HANG NADIM	WIDD				T		F
	BIAK/FRANS KAISIEPO	WABB	RS	BIAK/FRANS KAISIEPO	WABB			Y	X		F
	JAKARTA INTL/SOEKARNO-HATTA	WIII	RS	JAKARTA INTL/SOEKARNO-HATTA	WIII			Y	X		F
	JAKARTA/HALIM PERDANAKUSUMA	WIHH	RNS	JAKARTA/HALIM PERDANAKUSUMA	WIHH			Y	T		P
	JAYAPURA/SENTANI	WAJJ	RS	JAYAPURA/SENTANI	WAJJ				T		F
	KUPANG/EL-TARI	WATT	RS	KUPANG/EL-TARI	WATT				T		F
	MAKASSAR/SULTAN HASANUDDIN	WAAA	RNS	MAKASSAR/SULTAN HASANUDDIN	WAAA			Y	X		F
	MANADO/SAMRATULANGI	WAMM	RS	MANADO/SAMRATULANGI	WAMM				X		F
	MEDAN/KUALANAMU	WIMM	RS	MEDAN/KUALANAMU	WIMM			Y	T		F
	MERAUKE/MOPAH	WAKK	RNS	JAYAPURA/SENTANI	WAJJ				T		P
	PALEMBANG/SULTAN MAHMUD BADARUDDIN II	WIPP	RNS	PALEMBANG/SULTAN MAHMUD BADARUDDIN II	WIPP				T		F
	PANDANG/MINANGKABAU	WIPT		PANDANG/MINANGKABAU	WIPT			Y	T		F
	PEKANBARU/SULTAN SYARIF KASIM II	WIBB	RS	PEKANBARU/SULTAN SYARIF KASIM II	WIBB				T		F
	PONTIANAK/SUPADIO	WIOO	RS	PONTIANAK/SUPADIO	WIOO				T		F
	SURABAYA/JUANDA	WARR	RS	SURABAYA/JUANDA	WARR				T		F
	TANJUNG PINANG/RAJA HAJI FISABILILLAH	WIDN	RS	BATAM/HANG NADIM	WIDD				T		P
	TARAKAN/JUWATA	WALR	RS	BALIKPAPAN/SEPINGGAN	WALL				T		P
<b>JAPAN</b>	CHUBU CENTRAIR INTL	RJGG	RS	TOKYO (CITY)	RJTD				X		F
	FUKUOKA	RJFF	RS	TOKYO (CITY)	RJTD				T		F
	HAKODATE	RJCH	AS	TOKYO (CITY)	RJTD				X		F

State	AOP Aerodrome where meteorological service is to be provided			Responsible aerodrome meteorological office		Observations and forecasts to be provided					METAR/SPECI and TAF availability
	Name	ICAO Location Indicator	Use	Name	ICAO Location Indicator	METAR/SPECI	State of the runway	Trend forecast	TAF	Temperature Tx/Tn	
1	2	3	4	5	6	7	8	9	10	11	12
	HIROSHIMA	RJOA	RS	TOKYO (CITY)	RJTD				T		F
	KAGOSHIMA	RJFK	RS	TOKYO (CITY)	RJTD				T		F
	KANSAI INTL	RJBB	RS	TOKYO (CITY)	RJTD			Y	X		F
	KUMAMOTO	RJFT	RS	TOKYO (CITY)	RJTD				T		F
	NAGASAKI	RJFU	RS	TOKYO (CITY)	RJTD				T		F
	NAHA	ROAH	RS	TOKYO (CITY)	RJTD				X		F
	NARITA INTL	RJAA	RS	TOKYO (CITY)	RJTD			Y	X		F
	NIIGATA	RJSN	RS	TOKYO (CITY)	RJTD				T		F
	OITA	RJFO	RS	TOKYO (CITY)	RJTD				T		F
	OKAYAMA	RJOB	RS	TOKYO (CITY)	RJTD				T		F
	OSAKA INTL	RJOO	AS	TOKYO (CITY)	RJTD				T		F
	SAPPORO/NEW CHITOSE	RJCC	RS	TOKYO (CITY)	RJTD				X		F
	SENDAI	RJSS	RNS	TOKYO (CITY)	RJTD				X		F
	TAKAMATSU	RJOT	RS	TOKYO (CITY)	RJTD				T		F
	TOKYO INTL	RJTT	AS	TOKYO (CITY)	RJTD				T		F
<b>KIRIBATI</b>	CHRISTMAS ISLAND	PLCH	RS	NADI/INTL	NFFN				T		F
	TARAWA/BONRIKI INTL	NGTA	RS	NADI/INTL	NFFN				T		F
<b>LAO PEOPLE'S DEMOCRATIC REPUBLIC</b>	VIENTIANE(WATTAY)	VLVT	RS	VIENTIANE(WATTAY)	VLVT			Y	T		P
<b>MACAO, CHINA (CHINA)</b>	MACAO/INTL AIRPORT	VMMC	RS	MACAO/INTL AIRPORT	VMMC			Y	X		F
<b>MALAYSIA</b>	JOHOR BAHRU/SULTAN ISMAIL	WMKJ	RS	SEPANG/KL INTERNATIONAL AIRPORT	WMKK				T		F
	KOTA KINABALU/INTL	WBKK	RS	KOTA KINABALU/INTL	WBKK			Y	T		F
	KUCHING/INTL	WBGG	RS	KOTA KINABALU/INTL	WBKK				T		F
	PENANG/INTL	WMKP	RS	SEPANG/KL INTERNATIONAL AIRPORT	WMKK				T		F
	PULAU LANGKAWI/INTL	WMKL	RS	SEPANG/KL INTERNATIONAL AIRPORT	WMKK				T		F
	SEPANG/KL INTERNATIONAL AIRPORT	WMKK	RS	SEPANG/KL INTERNATIONAL AIRPORT	WMKK			Y	X		F
<b>MALDIVES</b>	GAN/GAN INTERNATIONAL AIRPORT	VRMG	AS	IBRAHIM NASIR INTERNATIONAL AIRPORT	VRMM				X		F
	HANIMAADHOO	VRMH	RS	IBRAHIM NASIR INTERNATIONAL AIRPORT	VRMM				X		F
	IBRAHIM NASIR INTERNATIONAL AIRPORT	VRMM	RS	IBRAHIM NASIR INTERNATIONAL AIRPORT	VRMM				X		F
	VILLA AIRPORT MAAMIGILI	VRMV	RS	IBRAHIM NASIR INTERNATIONAL AIRPORT	VRMM						
<b>MARSHALL ISLANDS</b>	MARSHALL ISLANDS/INTL MAJURO ATOLL	PKMJ	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		P
<b>MICRONESIA (FEDERATED STATES OF)</b>	POHNPEI INTL,POHNPEI ISLAND	PTPN	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		P

State	AOP Aerodrome where meteorological service is to be provided			Responsible aerodrome meteorological office		Observations and forecasts to be provided					METAR/SPECI and TAF availability
	Name	ICAO Location Indicator	Use	Name	ICAO Location Indicator	METAR/SPECI	State of the runway	Trend forecast	TAF	Temperature Tx/Tn	
1	2	3	4	5	6	7	8	9	10	11	12
	WENO ISLAND ,FM CHUUK INTL.	PTKK	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
	YAP INTL,YAP ISLAND	PTYA	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
<b>MONGOLIA</b>	ULAANBAATAR/CHINGGIS KHAAN	ZMUB	RS	ULAANBAATAR/CHINGGIS KHAAN	ZMUB			Y	X		F
<b>MYANMAR</b>	YANGON INTERNATIONAL	VYYY	RS	YANGON INTERNATIONAL	VYYY			Y	T		F
<b>NAURU</b>	NAURU AIRPORT	ANYN	RS	NAURU AIRPORT	ANYN			Y	T		F
<b>NEPAL</b>	KATHMANDU	VNKT	RS	KATHMANDU	VNKT			Y	T		F
<b>NEW CALEDONIA (FRANCE)</b>	NOUMEA LA TONTOUTA	NWWW	RS	NOUMEA LA TONTOUTA	NWWW			Y	T		F
<b>NEW ZEALAND</b>	AUCKLAND INTL	NZAA	RS	KELBURN (MET OFFICE)	NZKL			Y	T		F
	CHRISTCHURCH INTL	NZCH	RS	KELBURN (MET OFFICE)	NZKL			Y	T		F
	WELLINGTON INTL	NZWN	RS	KELBURN (MET OFFICE)	NZKL			Y	T		F
<b>NIUE (NEW ZEALAND)</b>	NIUE INTL	NIUE	RS	NADI/INTL	NFFN				T		F
<b>NORTHERN MARIANA ISLANDS (UNITED STATES)</b>	ANDERSON AFB,GUAM ISLAND	PGUA	AS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
	FRANCISCO C. ADA/SAIPAN INTERNATIONAL, OBYAN	PGSN	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
	GUAM INTERNATIONAL, GUAM ISLAND	PGUM	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				X		F
	ROTA/INTL,ROTA I.	PGRO	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		P
<b>PAKISTAN</b>	GWADAR/INTL.	OPGD	RS	KARACHI/JINNAH INT'L	OPKC				T		F
	ISLAMABAD/BENAZIR BHUTTO INT'L	OPRN	RS	KARACHI/JINNAH INT'L	OPKC			Y	X		F
	KARACHI/JINNAH INT'L	OPKC	RS	BINDO	OPBI				X		F
	LAHORE/ALLAMA IQBAL INT'L	OPLA	RS	LAHORE/ALLAMA IQBAL INT'L	OPLA			Y	X		F
	NAWABSHAH	OPNH	AS	LAHORE/ALLAMA IQBAL INT'L	OPLA				T		F
	PESHAWAR/INTL.	OPPS	RS	LAHORE/ALLAMA IQBAL INT'L	OPLA				X		F
<b>PALAU</b>	BABELTHUAP/KOROR, BABELTHUAP ISLAND	PTRO	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
<b>PAPUA NEW GUINEA</b>	PORT MORESBY INTL	AYPY	RS	PORT MORESBY INTL	AYPY				T		F
	VANIMO	AYVN									F
<b>PHILIPPINES</b>	DAVAO/FRANCISCO BANGOY INTL	RPMD	RNS	MANILA/NINOY AQUINO INTL	RPLL			Y	T		P
	LAOAG, LAOAG INTL	RPLI	AS	MANILA/NINOY AQUINO INTL	RPLL			Y	T		P
	LAPU-LAPU/MACTAN INTL	RPVM	RS	MANILA/NINOY AQUINO INTL	RPLL			Y	X		F
	MANILA/NINOY AQUINO INTL	RPLL	RS	MANILA/NINOY AQUINO INTL	RPLL			Y	X		F
	SUBIC BAY,SUBIC BAY INTL	RPLB	RNS	MANILA/NINOY AQUINO INTL	RPLL			Y	T		P



State	AOP Aerodrome where meteorological service is to be provided			Responsible aerodrome meteorological office		Observations and forecasts to be provided					METAR/SPECI and TAF availability
	Name	ICAO Location Indicator	Use	Name	ICAO Location Indicator	METAR/SPECI	State of the runway	Trend forecast	TAF	Temperature Tx/Tn	
1	2	3	4	5	6	7	8	9	10	11	12
	ZAMBOANGA INTL	RPMZ	RNS	MANILA/NINYO AQUINO INTL	RPLL			Y	T		P
REPUBLIC OF KOREA	CHEONGJU	RKTU	RS	INCHEON INTL	RKSI				T		F
	DAEGU INTL	RKTN	RS	INCHEON INTL	RKSI				T		F
	GIMHAE INTL	RKPK	RS	INCHEON INTL	RKSI				T		F
	GIMPO	RKSS	AS	INCHEON INTL	RKSI			Y	X		F
	INCHEON INTL	RKSI	RS	INCHEON INTL	RKSI			Y	X		F
	JEJU INTL	RKPC	RS	INCHEON INTL	RKSI				X		F
	MUAN	RKJB	RS	INCHEON INTL	RKSI				X		F
	YANGYANG	RKNY	RS	INCHEON INTL	RKSI				T		F
SAMOA	FALEOLO/INTL	NSFA	RS	FALEOLO/INTL	NSFA			Y	T		F
SINGAPORE	PAYA LEBAR (RSAF)	WSAP	AS	SINGAPORE/CHANGI	WSSS				X		F
	SELETAR	WSSL	RS	SINGAPORE/CHANGI	WSSS				X		F
	SINGAPORE/CHANGI	WSSS	RS	SINGAPORE/CHANGI	WSSS			Y	X		F
SOLOMON ISLANDS	HONIARA (HENDERSON)	AGGH	RS	HONIARA (HENDERSON)	AGGH			Y	T		F
SRI LANKA	HINGURAKGODA/MINNERIYA	VCCH									F
	KATUNAYAKE/BANDARANAIKE INTERNATIONAL AIRPORT COLOMBO	VCBI	RS	KATUNAYAKE/BANDARANAIKE INTERNATIONAL AIRPORT COLOMBO	VCBI			Y	X		F
	MATTALA/MATTALA RAJAPAKSA INTERNATIONAL AIRPORT	VCRI	RS	MATTALA/MATTALA RAJAPAKSA INTERNATIONAL AIRPORT	VCRI			Y	X		F
THAILAND	BANGKOK/DON MUEANG INTL AIRPORT	VTBD	RS	BANGKOK/SUARNABHUMI INTL AIRPORT	VTBS			Y	X		F
	BANGKOK/SUARNABHUMI INTL AIRPORT	VTBS	RS	BANGKOK/SUARNABHUMI INTL AIRPORT	VTBS			Y	X		F
	CHIANG MAI/CHIANG MAI INTL AIRPORT	VTCC	RS	CHIANG MAI/CHIANG MAI INTL AIRPORT	VTCC			Y	X		F
	CHIANG RAI/MAE FAH LUANG-CHIANG RAI INTL AIRPORT	VTCT	RS	CHIANG MAI/CHIANG MAI INTL AIRPORT	VTCC			Y	X		F
	KHON KAEN	VTUK	RS	UBON RATCHATHANI	VTUU				T		P
	KRABI	VTSG	RS	PHUKET/PHUKET INTL AIRPORT	VTSP				T		F
	PHITSANULOK	VTTP	RS	CHIANG MAI/CHIANG MAI INTL AIRPORT	VTCC				T		P
	PHUKET/PHUKET INTL AIRPORT	VTSP	RS	PHUKET/PHUKET INTL AIRPORT	VTSP			Y	X		F
	RAYONG/U-TAPAO PATTAYA INTL AIRPORT	VTBU	RS	RAYONG/U-TAPAO PATTAYA INTL AIRPORT	VTBU				T		F
	SONGKHLA/HAT YAI INTL AIRPORT	VTSS	RS	SONGKHLA/HAT YAI INTL AIRPORT	VTSS			Y	T		F
	SURAT THANI	VTSB	RS	SONGKHLA/HAT YAI INTL AIRPORT	VTSS				T		P
UBON RATCHATHANI	VTUU	RS	UBON RATCHATHANI	VTUU			Y	T		F	
TONGA	FUA'AMOTU INTL.	NFTF	RS	NADI/INTL	NFFN				T		F
	VAVA'U	NFTV	RS	NADI/INTL	NFFN				T		F
TUVALU	FUNAFUTI/INTL	NGFU	RS						T		F

State	AOP Aerodrome where meteorological service is to be provided			Responsible aerodrome meteorological office		Observations and forecasts to be provided					METAR/SPECI and TAF availability
	Name	ICAO Location Indicator	Use	Name	ICAO Location Indicator	METAR/SPECI	State of the runway	Trend forecast	TAF	Temperature Tx/Tn	
1	2	3	4	5	6	7	8	9	10	11	12
UNITED STATES	ANCHORAGE/ELMENDORF AFB,AK.	PAED	AS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
	COLD BAY,AK.	PACD	AS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
	FAIRBANKS INTERNATIONAL, AK.	PAFA	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				X		F
	FAIRBANKS/EIELSON AFB,AK.	PAEI	AS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
	HILO INTERNATIONAL, HILO HI.	PHTO	AS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
	HONOLULU INTERNATIONAL, OAHU, HI.	PHNL	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				X		F
	KAHULUI, HI.	PHOG	AS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
	KING SALMON,AK.	PAKN	AS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				T		F
	TED STEVENS ANCHORAGE INTERNATIONAL, AK.	PANC	RS	WASHINGTON (NWS NATIONAL MET CENTER), DC.	KWBC				X		F
VANUATU	PORT VILA/BAUERFIELD	NVVV	RS	PORT VILA/BAUERFIELD	NVVV				T		F
	SANTO/PEKOA	NVSS	RS	PORT VILA/BAUERFIELD	NVVV				T		F
VIET NAM	CAM RANH	VVCR	RS	CAM RANH	VVCR			Y	T		F
	CAN THO	VVCT	RS	CAN THO	VVCT			Y	T		F
	DA NANG	VVDN	RS	DA NANG	VVDN			Y	T		F
	HA NOI/NOI BAI	VVNB	RS	HA NOI/NOI BAI	VVNB			Y	T		F
	HO CHI MINH/TAN SON NHAT	VVTS	RS	HO CHI MINH/TAN SON NHAT	VVTS			Y	X		F
	HUE/PHU BAI	VVPB	RS	HUE/PHU BAI	VVPB			Y	T		F
	PHU QUOC	VVPQ	RS	PHU QUOC	VVPQ			Y	T		F
WALLIS AND FUTUNA ISLANDS (FRANCE)	WALLIS HIHIFO	NLWW	RS	NADI/INTL	NFFN				T		F

**TABLE MET II-3 – VOLMET BROADCASTS****Explanation of the Table**

The transmitting station appears at the top of each block.

Names in lower case letters indicate aerodromes for which reports (routine or selected special) are required.

Names in upper-case letters indicate aerodromes for which forecasts are required.

**TABLE MET II-3 – VOLMET BROADCASTS****PAC (FREQUENCIES 2863, 6679, 8828, 13282 kHz)**

Tokyo		Hong Kong		Auckland	
10–15		15–20		20–25	
40–45		45–50		50–55	
Tokyo (Narita)		Hong Kong		Auckland	
Tokyo (Haneda)		Naha		Christchurch	
Sapporo		Taibei		Wellington	
Chubu		Gaoxiang		Nadi	
Osaka		Manila		Nouméa	
Fukuoka		Mactan		Pago Pago	
Incheon		Guangzhou		Tahiti	
TOKYO (NARITA)		HONG KONG		20–25	50–55
TOKYO (HANEDA)				NADI	AUCKLAND
				NOUMÉA	CHRISTCHURCH

**PAC (FREQUENCIES 2863, 6679, 8828, 13282 kHz)**

Honolulu		
10–15		20–25
40–45		50–55
Honolulu	San Francisco	Anchorage
Hilo	Los Angeles	Fairbanks
Kahului	Seattle	King Salmon
Agana	Portland	Elmendorf
	Sacramento	Cold Bay
	Ontario	Vancouver
	Las Vegas	
SIGMET	SIGMET	SIGMET
HONOLULU	SAN FRANCISCO	ANCHORAGE
HILO	SEATTLE	FAIRBANKS
AGANA	LOS ANGELES	VANCOUVER
		COLD BAY

**ASIA (FREQUENCIES 2965, 6676, 11387 kHz)**

Sydney	Kolkata	Bangkok	Karachi	Singapore	Mumbai
00–05	05–10	10–15	15–20	20–25	25–30
30–35	35–40	40–45	45–50	50–55	55–60
Sydney	Kolkata	Bangkok	Karachi	Singapore	Mumbai
Brisbane	Delhi	Yangon	Islamabad	Sebang	Ahmadabad
Melbourne	Dhaka	Ha Noi	Lahore	Jakarta	Chennai
Townsville	Yangon	Ho-Chi-Minh	Delhi	Kuching	Colombo
Adelaide	Kathmandu	Phnom-Penh	Mumbai	Brunei	Karachi
Alice Springs		Utapao		Kota Kinabalu	Male
Darwin		Vientiane		Denpasar	
Perth				Penang	
00–05	KOLKATA	BANGKOK	KARACHI	20–25	MUMBAI
SYDNEY	DELHI	YANGON	LAHORE	SINGAPORE	COLOMBO
BRISBANE			MUMBAI	SEBANG	MALE
			DELHI		

Sydney	Kolkata	Bangkok	Karachi	Singapore	Mumbai
00-05 30-35	05-10 35-40	10-15 40-45	15-20 45-50	20-25 50-55	25-30 55-60
30-35 MELBOURNE PERTH	HO-CHI-MINH		SINGAPORE	50-55 SINGAPORE JAKARTA	

**ASIA (FREQUENCIES 3458, 5673, 8849, 13285 kHz)**

Guangzhou			Beijing		
00-05 30-35	05-10 35-40	10-15 40-45	15-20 45-50	20-25 50-55	25-30 55-60
Xiamen	Guangzhou Nanning	Changsha Chengdu Kunming Wuhan	Beijing Harbin Dalian Shenyang Hohhot Taiyuan Tianjin	Hangzhou Shanghai	Lanzhou Xian Urumqi
	GUANGZHOU	CHENGDU	BEIJING	SHANGHAI	XIAN

**EXAMPLE FOR SPECIFIC REGIONAL REQUIREMENTS**

**TABLE MET-II-MID-X-OFFSHORE STRUCTURES**

**EXPLANATION OF THE TABLE**

- Column -
- 1 Name of the State where meteorological service is required
  - 2 Name of the offshore structure where meteorological service is required  
*Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.*
  - 3 ICAO location indicator of the offshore structure
  - 4 Latitude of the offshore structure (in the form Nnnnn or Snnnn)
  - 5 Longitude of the offshore structure (in the form Ennnnn or Wnnnnn)
  - 6 Name of the meteorological office responsible for the provision of meteorological service  
*Note: The name is extracted from the ICAO Location Indicators (Doc 7910) updated quarterly. If a State wishes to change the name appearing in Doc 7910 and this table, ICAO should be notified officially.*
  - 7 ICAO location indicator of the responsible meteorological office
  - 8 Availability of information on the sea surface temperature as supplementary information in METAR/SPECI from the offshore structure concerned, where:  
 Y—Yes, available  
 N—No, not available
  - 9 Availability of information on the state of the sea or significant wave height as supplementary information in METAR/SPECI from the offshore structure concerned, where:  
 Y—Yes, available  
 N—No, not available
  - 10 Availability of forecasts from the offshore structure concerned, where:  
 Y—Yes, available  
 N—No, not available

**EXAMPLE FOR SPECIFIC REGIONAL REQUIREMENTS**

Appendix MET-LLF to Part V (MET) Volume II

**EUR REGION ONLY**

In the EUR Region, Section II of the GAMET area forecast should include the following information in addition to the provisions in Annex 3:

- 
- a) — Short description of general weather situation in addition to the description of pressure centres and fronts;
- 
- b) — Information about mean surface wind also for values less than 15 m/s (30kt);
- 
- e) — Upper wind and temperature in mountainous areas for altitude 15000ft, or higher if necessary;
- 

*Note* — Upper wind and temperature information should have a horizontal resolution no more than 500km;

- 
- d) — Information about widespread surface visibility of 5000 m or more together with the weather phenomena (if any) causing a reduction of visibility and inserted between the upper wind and cloud information;
- 

- 
- e) — State of the sea and sea surface temperature; and
- 

*Note* — States under whose jurisdiction off shore structure or other points of significance in support of off shore helicopter operations are located should, in consultation with the appropriate operators, establish or arrange for the information on the state of the sea and sea surface temperature to be included in all low level area forecasts.

- 
- f) — An outlook concerning expected hazardous weather phenomena during the following validity period.
- 

*Note 1.* — When the area forecast for low level flights is issued as a GAMET, the following regional procedures should be followed:

- 
- i. — the term "widespread" should be used to indicate a spatial coverage of more than 75 per cent of the area concerned; and
- ii. — the visibility and cloud base information in section II may be complemented in the form of visibility/cloud base categories.
- 

*Note 2.* — Where combined cloud/visibility information is provided, this information should be in the form of visibility/cloud base categories and should be supplied for well defined sub areas and/or route segments. The boundaries of sub areas and/or route segments for which forecasts for low level flights are provided in condensed form should be published in the AIP. For each sub area and/or route segment, the reference height to which the cloud base information refers, should be specified.

*Note 3.* — Where visibility/cloud base categories are used in low level forecasts these should be as follows:

*O* — visibility equal to or more than 8 km and cloud base equal to or higher than 600 m (2000 ft);

*D* — visibility equal to or more than 5 km but less than 8 km with cloud base 300 m (1000 ft) or higher, or cloud base equal to 300 m (1000 ft) or higher but less than 600 m (2000 ft) with visibility equal to or more than 8 km;

*M* — visibility equal to or more than 1.5 km but less than 5 km with cloud base equal to or higher than 150 m (500 ft), or cloud base equal to or higher than 150 m (500 ft) but less than 300 m (1000 ft) with visibility equal to or more than 5 km;

*X* — visibility less than 1.5 km and/or cloud base less than 150 m (500 ft). The visibility/cloud base category indicated in the forecast for a sub area should refer to the prevailing conditions in the sub area concerned. Cloud information should refer to clouds with a coverage of BKN or OVC.

[1] Refer to Table AOP II-1, Explanation of the table