



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY

Awareness workshop on the
changes to the WAFS data sets and
the introduction of the SWIM
compliant version of SADIS

(Virtual, 14 March 2024)

Overview on the Evolution of Annex 3 to Chicago Convention and the New PANS-MET

By the Secretariat

Plan

- **Overview on the Annex 3 to Chicago Convention on International Civil Aviation**
- **Restructured Annex 3 and the New Procedures for Air Navigation Services (PANS – MET)**
- **Consequential developments of the Restructuring of Annex 3 and the Creation of PANS-MET – Need to upgrade /update your SADIS system**
- **WMO Action plan for the discontinuation of the Technical Regulations, Volume II - Meteorological Service for International Air Navigation Services (WMO No-49).**

Overview on Annex 3 to CC

Historical Background

- **1948 – SARPs relating to MET first adopted** under the Title : *Standards and Recommended Practices — Meteorological Codes*
- **1975 – AMD 60 with Title amended as** : *Meteorological Service for International Air Navigation*
- **2016 – AMD 77A** Introduction of **digital format** for **VAA, TCA, and AIRMET information**, and the provision of **METAR/SPECI, TAF and SIGMET information in digital format as a recommended practice**
- **March 2020 – AMD 79** SIGMET information concerning the release of radioactive material in the atmosphere; improved harmonization of SIGMET information; SWXA information; METAR information; TCA and related SIGMET information; **ICAO Meteorological Information Exchange Model (IWXXM)**; the IAVW; the world area forecast system (WAFS); ...
- **June 2020 – AMD 80** Delay of the date of applicability of Amendment n°77-B and AMD regarding the use of the GRF to improve the assessment and the provision of information on runway conditions.
- **Table A in Annex 3** – History of amendments

Overview on Annex 3 to CC

(Cont'd)

Relation to corresponding WMO publications

- WMO Technical Regulations Volume II, Parts I and II (WMO-No 49)
- WMO Publication No. 306 Volume I *Manual on Codes – Aeronautical MET code forms*

Overview on Annex 3 to CC

(Cont'd)

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- **SARPs** : *Adopted by the Council under the provisions of the Convention*
- **Appendices** : *Comprising material grouped separately for convenience but forming part of the Standards and Recommended Practices adopted by the Council*
- **Definitions** : *of terms used in the SARPs which are not self-explanatory in that they do not have accepted dictionary meanings – Are part of each Standard (STD) and Recommended Practice (RP) in which the term is used.*
- **Tables and Figures** : *which add to or illustrate a STD or RP - Form part of the associated SARP and have the same status.*
- **Forewords, introduction, notes, attachments**

Overview on Annex 3 to CC

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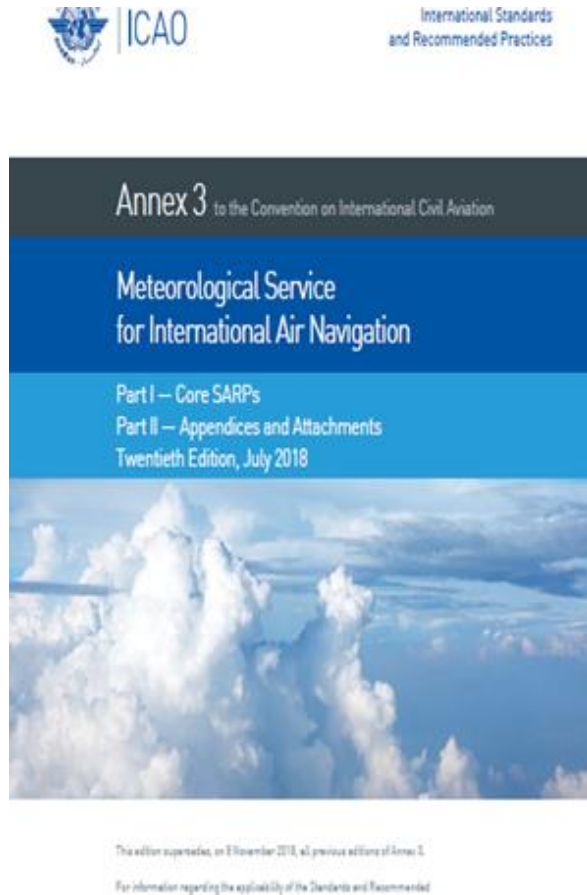
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- CHAPTER 11. Requirements for and use of communications
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STDs relating the exchange of OPMET data in Digital Format

Annex 3 to CC, 20th Edition – Table of Contents

- The OPMET data exchange in ICAO IWXXM format was introduced by Amendment 76 to ICAO Annex 3, made mandatory by Amendment 78 to ICAO Annex 3 and applicable by Amendment 79 from November 2020.

OPMET Data	Annex 3 STD
VAA, TCA, SWXA METAR, SPECI, TAF SIGMET, AIRMET, SIGWX	Applicability date: As of 5 November 2020 , <i>except for provisions related to the dissemination of significant weather (SIGWX) forecasts in IWXXM GML form, which are indicated as of 4 November 2021</i>



Restructured Annex 3 & New Procedures for Air Navigation Services – Meteorology (PANS-MET)



Background

- **Meteorology Divisional Meeting, Montreal 2014 : Rec. 5/2** - calling for an appropriate ICAO group, in close coordination with the WOM, to undertake a **restructuring of Annex 3** to Chicago Convention, in view of :
 - a) retaining provisions containing “REQUIREMENTS” in ANNEX 3; and
 - b) transferring provisions related to “MEANS OF COMPLIANCE” to a new PROCEDURES FOR AIR NAVIGATIONS SERVICES – METEOROLOGY (PANS-MET).
- **The restructuring of Annex 3 : subsequently conducted by the Meteorology Panel (METP)**



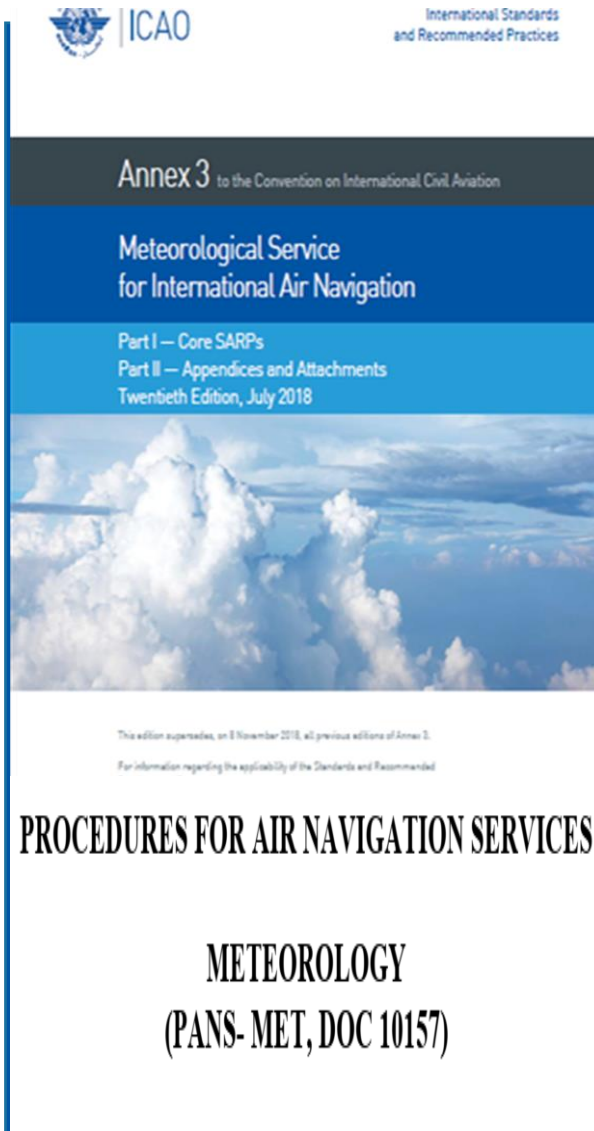
Meteorology Panel (METP/5)

RESTRUCTURED ANNEX 3 AND A NEW PANS-MET

Developed **Restructured Annex 3**: To contain **only organizational or technical requirements**, expected to be **fairly stable in time** (1)

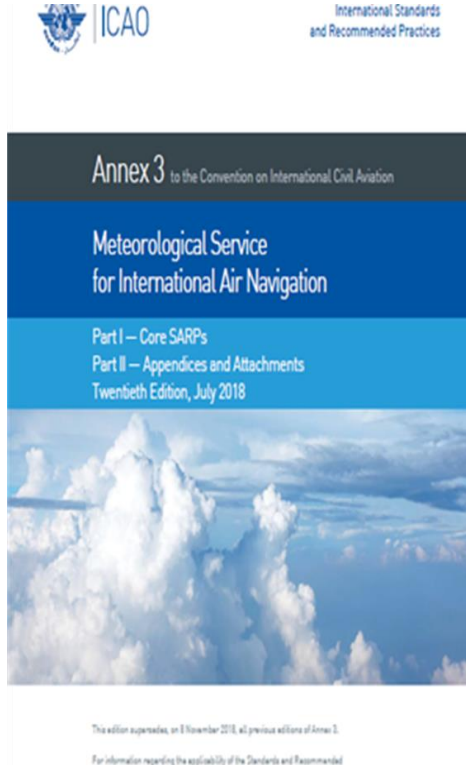
New **Procedures for Air Navigation Services — Meteorology (PANS-MET)**: To contain all the provisions that can be qualified **as means of compliance** (mostly in the form of technical specifications), **evolving more rapidly** (2)

This comprehensive change forms part of the **Amendment 81 to Annex 3 to Chicago Convention**



Restructuring of Annex 3 and New PANS-MET

- Provisions in current Annex 3 both in Part I (core Standards and Recommended Practices (SARPs)) and Part II (Appendices and Attachments) carefully reviewed, and classified as :
 - a) “Requirements” to be retained in Annex 3; or
 - b) “Means of compliance” to be transferred to the new PANS-MET.



PROCEDURES FOR AIR NAVIGATION SERVICES

METEOROLOGY
(PANS-MET, DOC 10157)

Restructured Annex 3 & the New PANS-MET - Benefits

The METP developed the Restructured Annex 3 & the New PANS-MET to:

- a) **Enable the transition to the data-centric environment.** Since the provision of **both aeronautical and meteorological information is expected to be integrated into the system-wide information management (SWIM) environment**, in line with the One-Sky concept detailed in the Global Air Navigation Plan (Doc 9750), it is essential that an approach similar to aeronautical information is applied to meteorological information.
- b) **Improve responsiveness to evolving future requirements.** The new PANS-MET containing **means of compliance** in the form of **technical specifications** are expected to **evolve rapidly** over the next few years.
- c) **Clarify the responsibilities of authorities in States** : i) Provisions retained in the restructured Annex 3 are all addressed to the **Meteorological regulator** (overseeing authority); ii) Provisions in the new PANS-MET would all be the responsibility of the **Meteorological service provider**.
- d) **Stability and flexibility of national regulations** : A benefit of introducing the PANS-MET will be that the **new content of Annex 3 will be more stable** and subject to fewer and less frequent changes, **since the more rapidly changing technical specifications are contained in the PANS-MET**

Overview on Annex 3 to CC

Restructured Annex 3 and the new PANS-MET – Main Changes

Further development of Space weather information services

- Upgrade of the provisions **from recommended practices to standards**;
- **Clarification of the roles** of both global and regional space weather centres:
- Update of the **template for the space weather advisory** (PANS-MET, table A7-4 refers), which allows the use of an intensity identifier in both observations and forecasts.

Quantitative volcanic ash information and IAVW updates

- Introduction of **quantitative volcanic ash information**, based on enhanced capabilities of quantitative monitoring and dispersion modelling of volcanic ash, as a new recommended practice.
- Extension of the **responsibility to all the VAACs** recommended to issue quantitative volcanic ash information as of 27 November 2025;
- Introduction of the issuance of **volcanological notice for aviation (VONA)** as a **recommended practice**. It also provides better **clarification to whom the notice needs to be disseminated**.

Overview on Annex 3 to CC

(Cont'd)

Restructured Annex 3 and the new PANS-MET – Main Changes

Further development of IWXXM

- Proposed amendments that require the dissemination of WAFS forecasts (i.e. upper air gridded and significant weather (SIGWX) forecast) and VONA in IWXXM format; and
- Removal of the limitation of the number of runway visual range (RVRs) values contained in a single METAR/SPECI in IWXXM format.

Further development of WAFS products

- Proposed amendments that incorporate updates to WAFS forecasts to better serve as an enabler to the GANP, allowing world area forecast centres (WAFCs) to issue upper air gridded information with increased spatial and temporal resolution for extended forecast periods (up to 36 hours).
- Proposed to start the issuance of SIGWX forecast in IWXXM format.

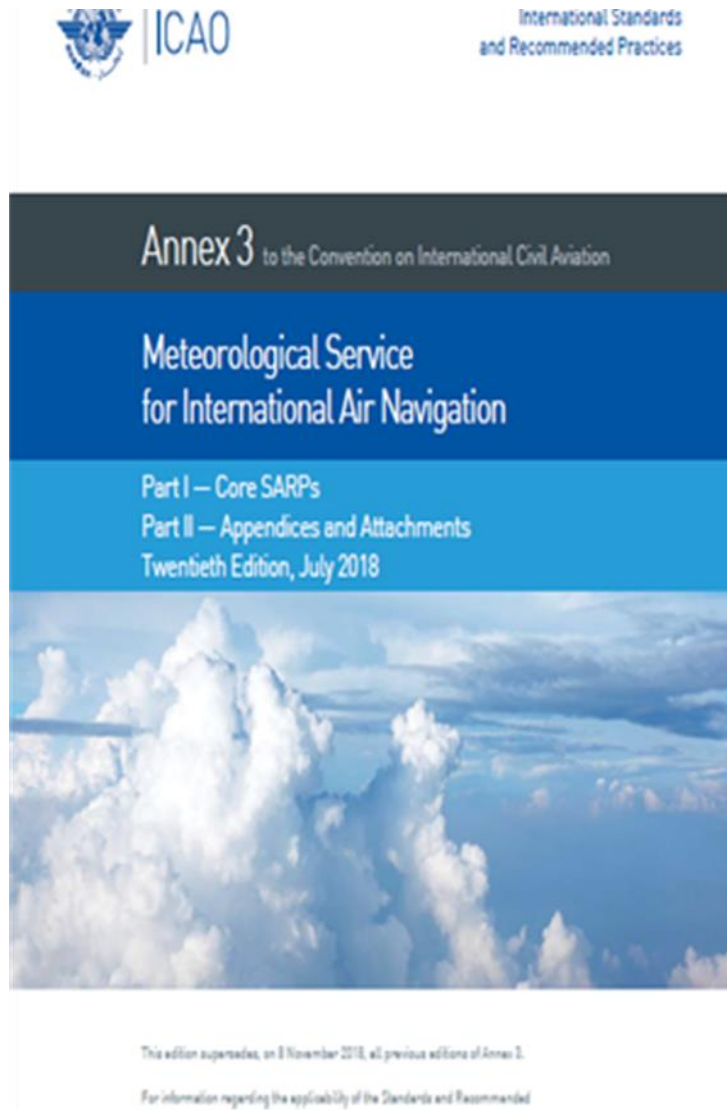
Overview on Annex 3 to CC

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Restructured Annex 3 and the new PANS-MET – Main Changes

Improved definition of meteorological authority

- Proposed amendments to clarify the existing definition for "meteorological authority»; and
- Introduction of a new definition for “meteorological service provider”, to better distinguish the roles and responsibilities of both entities. This proposal reflects the arrangements that are being implemented by an increasing number of States.



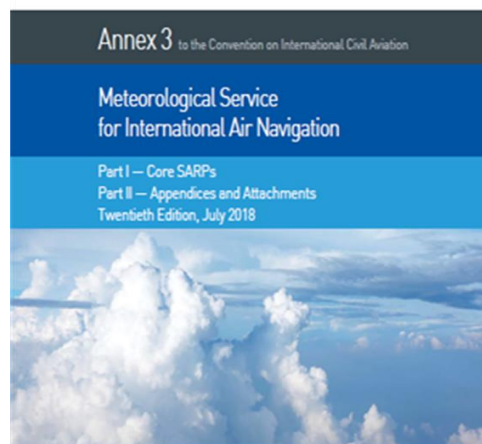
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RESTRUCTURED ANNEX 3 AND A NEW PANS-MET



International Standards
and Recommended Practices

~~PART I. CORE SARPs~~



This edition supersedes, on 8 November 2018, all previous editions of Annex 3.
For information regarding the applicability of the Standards and Recommended

Restructured Annex 3

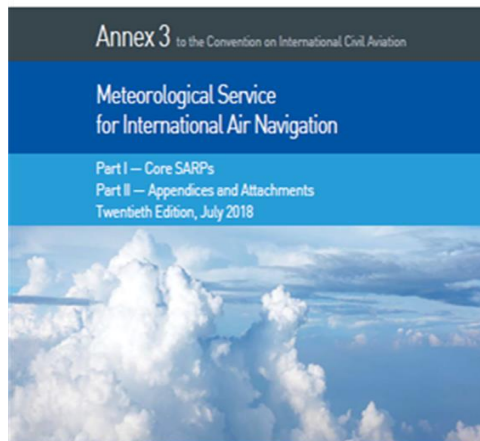
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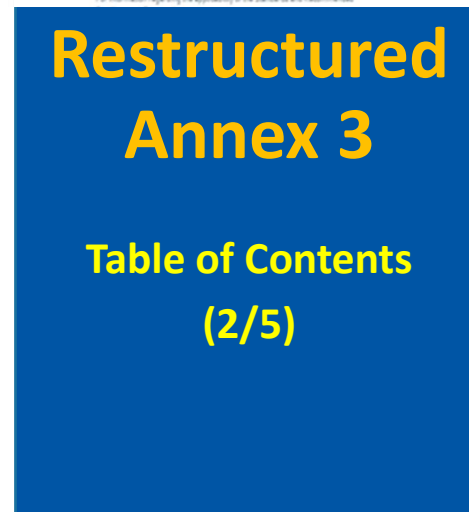
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International Standards
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Annex 3 to the Convention on International Civil Aviation

Meteorological Service for International Air Navigation

Part I – Core SARPs
Part II – Appendices and Attachments
Twentieth Edition, July 2018



This edition supersedes, on 8 November 2018, all previous editions of Annex 3.
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International Standards
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Annex 3 to the Convention on International Civil Aviation

Meteorological Service
for International Air Navigation

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Twentieth Edition, July 2018



This edition supersedes, on 8 November 2018, all previous editions of Annex 3.
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International Standards
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Meteorological Service
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PROCEDURES FOR AIR NAVIGATION SERVICES

METEOROLOGY
(PANS-MET, DOC 10157)

New PANS- MET

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Most of the provisions in the **appendices of Annex 3** are **transferred to the New PANS-MET**.

Those that are retained in the new edition of Annex 3 are singled out by an editorial note.

Attachments A to E **are transferred** to the New PANS-MET **without change**, except for **Attachment E, which is incorporated in Appendix 7** of the PANS-MET.

PROCEDURES FOR AIR NAVIGATION SERVICES

METEOROLOGY
(PANS-MET, DOC 10157)New PANS-
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METEOROLOGY
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METEOROLOGY
(PANS-MET, DOC 10157)

New PANS- MET

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PROCEDURES FOR AIR NAVIGATION SERVICES

METEOROLOGY
(PANS-MET, DOC 10157)

**New PANS-
MET**

Attachments

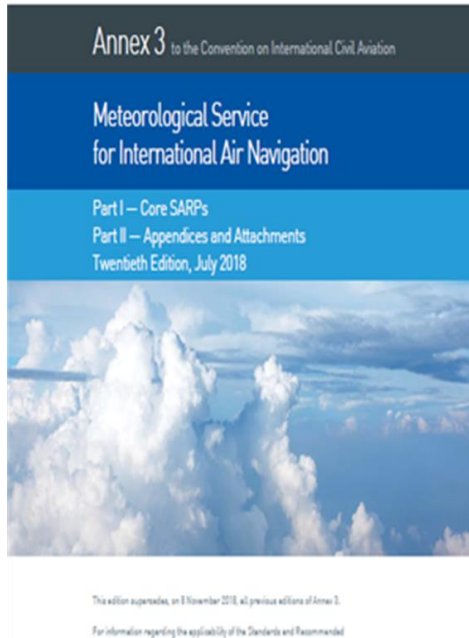
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International Standards
and Recommended Practices

Restructured Annex 3 & New PANS-MET - *Dates of applicability*



PROCEDURES FOR AIR NAVIGATION SERVICES

METEOROLOGY
(PANS-MET, DOC 10157)

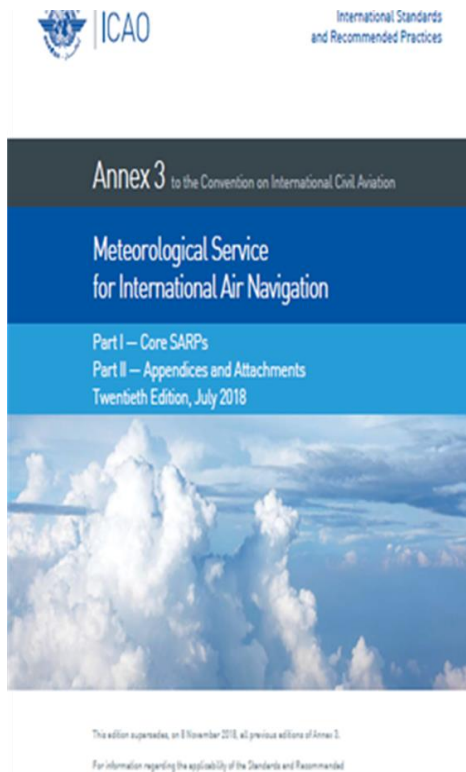
24 November 2022 : Meteorology Panel (METP/5) submitted the Proposal AMD of Annex and the New PANS-MET to the fifth meeting of ANC 221st Session.

Jan. 2023: SL Ref. AN 10/1-23/1 dated 26 January 2023 forwarding to States the Restructured Annex 3 and New PANS-MET for their comments not later than 26 July 2023.

Envisaged dates of applicability of Restructured Annex 3 and New PANS-MET : **20 Nov. 2024**, except for Proposed AMD to Annex 3 and PANS-MET related to quantitative volcanic ash information which is expected from 27 November 2025.

In November 2023:

- **Final review by ICAO ANC of the feedback received as part of the State consultation phase of the METP/5 Meeting Amendment proposals relating to the next update (Amendment 81) to ICAO Annex 3.**
- **As results, the ANC determined that the amendment proposals need further refinement and review in a subsequent review session in 2024.**
- **Impossibility to keep the intended amendment applicability date of November 2024. New expected applicability date : Most likely to be November 2025.**



PROCEDURES FOR AIR NAVIGATION SERVICES

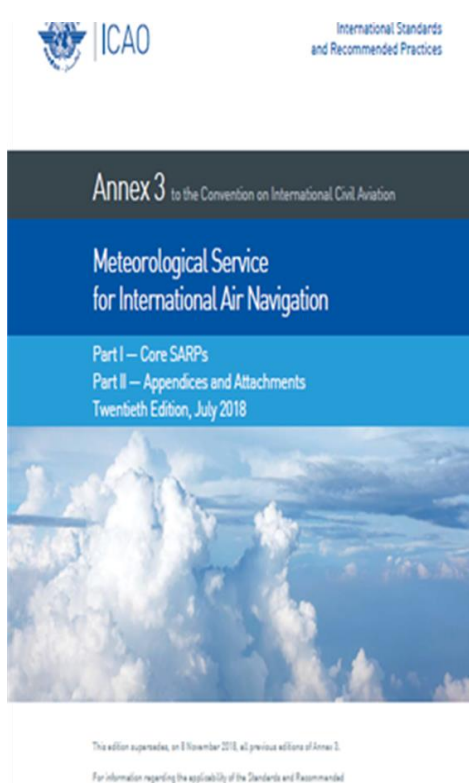
METEOROLOGY
(PANS-MET, DOC 10157)

Consequential developments of the Restructuring of Annex 3 and the Creation of PANS-MET – Need to upgrade /update your SADIS system

Changes to the World Area Forecast System (WAFS) data sets and the introduction of a SWIM compliant version of SADIS.

MET Service Providers and Users to upgrade their current SADIS System in order handle the new WAFS data sets.

Users will be strongly encouraged to migrate their systems over to use data from the New SADIS System as soon as possible in order to benefit from the improved data sets.



PROCEDURES FOR AIR NAVIGATION SERVICES

METEOROLOGY
(PANS-MET, DOC 10157)

Action plan for the discontinuation of the Technical Regulations, Volume II - Meteorological Service for International Air Navigation Services (WMO No-49).

WMO Cg-19 Resolution 12 – Action Plan for the Discontinuation of the Technical Regulations, Volume II - Meteorological Assistance to International Air Navigation (WMO No-49).

- *Part I, International Standards and Recommended Practices – Essential Standards and Practices, and Part II, International Standards and Recommended Practices – Appendices and Supplements, of Volume II of WMO Publication No. 49 : will be deleted with effect from 31 December 2023.*
- *Part III, Aeronautical Climatology, and Part IV, Form of Preparation and Presentation of Flight Documentation, of Volume II of WMO Publication No. 49 : will be deleted upon incorporation of those parts which continue to be relevant in the ICAO Procedures for Air Navigation Services – Meteorology (PANS-MET) (Doc 10157), preferably as part of Amendment 1 to PANS-MET.*



Thank You!