# Collaboration in the development of IWXXM

Steve Foreman (WMO)



**WMO OMM** 

World Meteorological Organization
Organisation météorologique mondiale

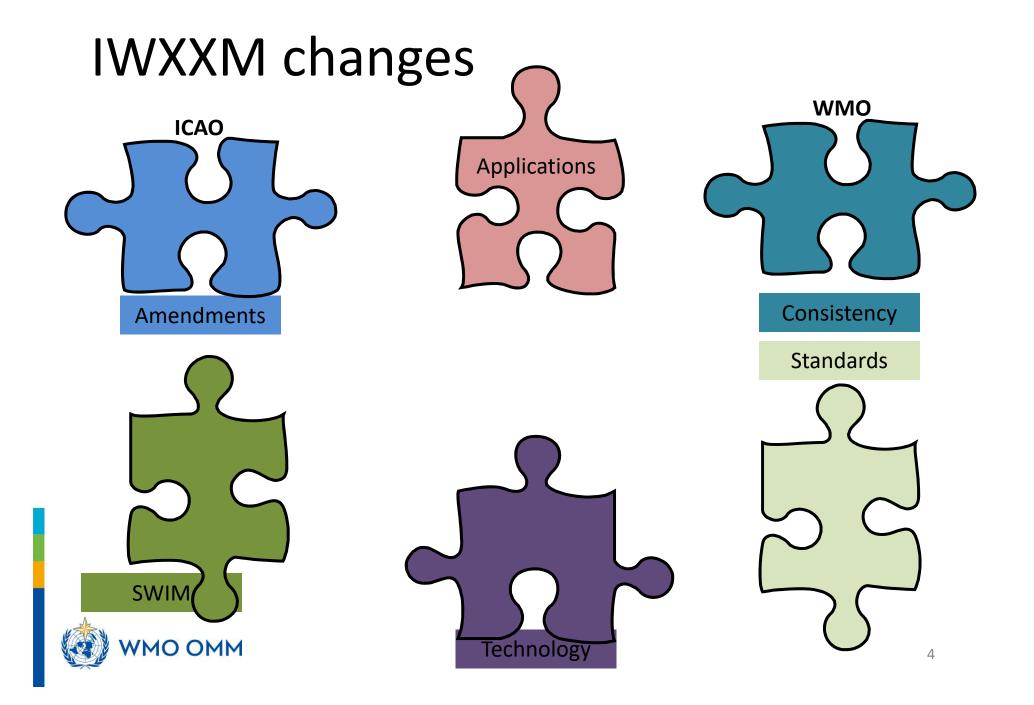
#### WMO and ICAO roles in IWXXM

- Definition
- Development
- Delivery



#### **DEFINITION OF IWXXM**





### **IWXXM** changes - ICAO

- Amendments
  - Rules on what has to be reported
- SWIM
  - Infrastructure used to deliver information



## **IWXXM** changes - WMO

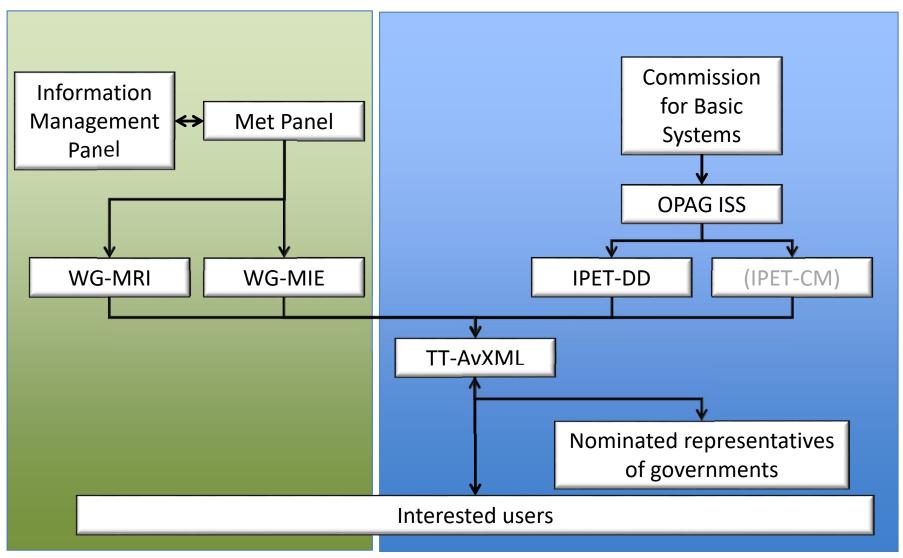
- Consistency
  - Compatible weather data for different applications
- Standards
  - Data representations, production, observing



#### IWXXM changes - external

- Application changes
  - Combine weather information with other types
- Technology changes
  - External standards evolve





OPAG ISS – Open Programme Area on Information Systems and Services

WG-MRI – Working Group on Meteorological Requirements and Integration

WG-MEI – Working Group on Meteorological Information Exchange

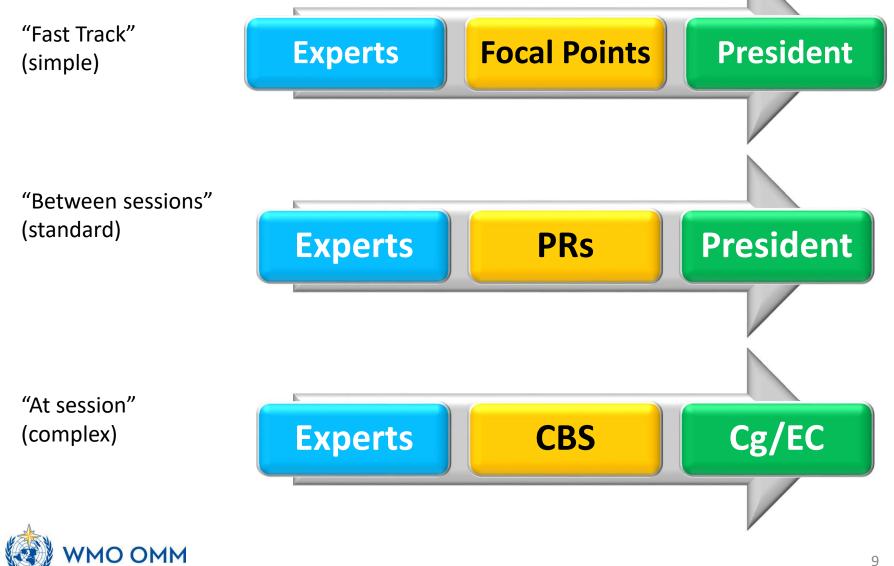
IPET-DD – Inter-Programme Expert Team on Data representation Development

IPET-CM – Inter-Programme Expert Team on Codes Maintenance

TT-Av-XML - Task Team on Aviation XML



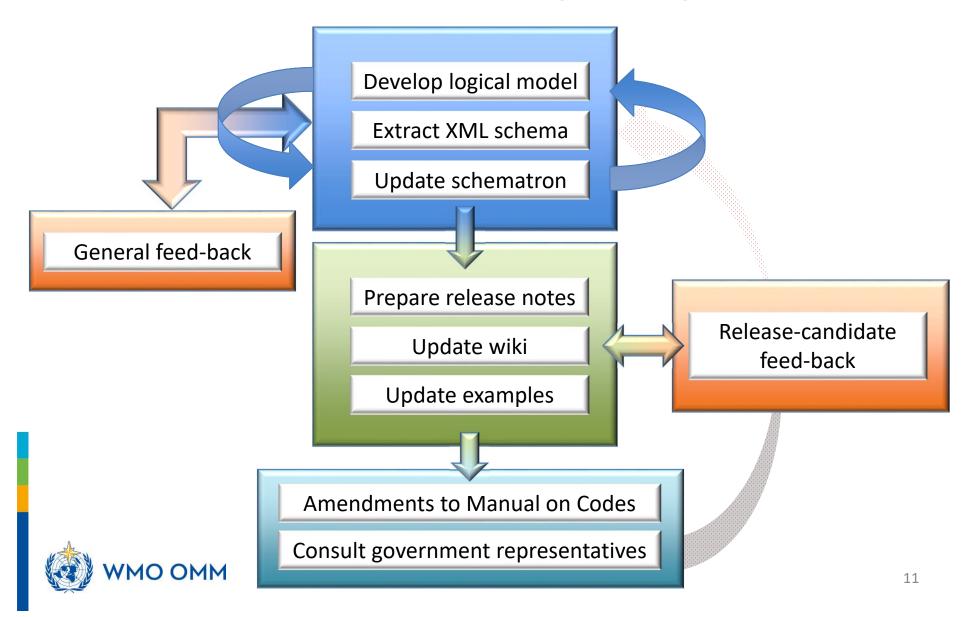
### WMO approvals procedures



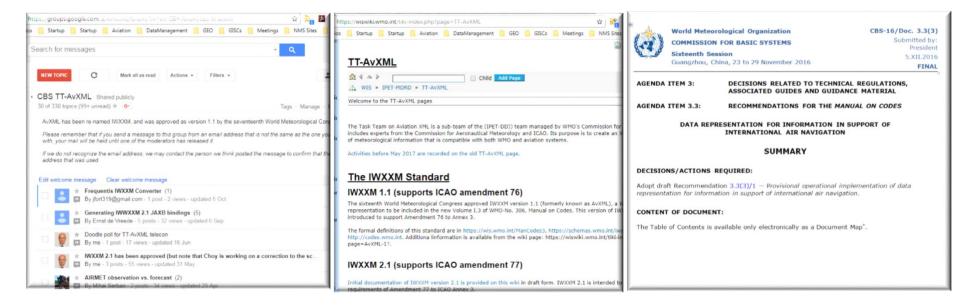
#### **DEVELOPMENT**



#### TT-AvXML work flow



#### Consultations



Ongoing - public
Feedback Google Group
cbs-tt-avxml

### Release candidate - public

http://wis.wmo.int/page=TT-AvXML http://schemas.wmo.int

Feedback: Google group (under consideration)

Intergovernmental WMO Procedures

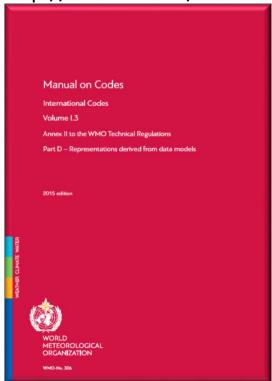


#### **DELIVERY**



#### Resources – formal definitions

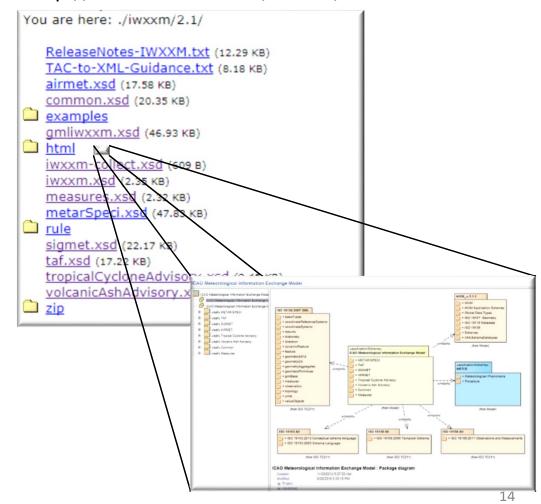
WMO-No 306
Manual on Codes – vol I.3
http://wis.wmo.int/ManCodes3





#### Schema definitions

http://schemas.wmo.int/iwxxm/2.1



#### Resources - explanatory

#### WIS wiki IWXXM-2-Tutorial http://wis.wmo.int/page=IWXXM-2 IWXXM-2 WIS » IPET-MDRD » TT-AVXML » IWXXM-2 » IWXXM-2-Tutorial Child Add Page # WIS > IPET-MDRD > TT-AVXML > IWXXM-2 IWXXM v2 - Tutorial This page is the entry point for documentation of WMO IWXXM v2. IWXXM v2 supports the exchange of meteorological information in XML, including support of international circ The following tutorial is intended to provide insight into the structure of XML-encode the online documentation for full details of the data models to which these products the regulations provided by ICAO Annex 3 and WMO-No. 49 Volume II as updated by Amendment 77-A. IWXXM v2 is expected to be issued in two sub-versions. The first (v2.0) had been presented to the sixteen WMO Commission for Basic Systems and a decision had been made on preliminary operational use. The ver by the WMO Executive Council, taking into account feedback from the Commission, will be IWXXM 2.1. Becat that WMO Executive Council will require further changes, IWXXM 2.1 will only be frozen following approval by You should work through the tutorial topics in the order listed, because the later one Structure of IWXXM The annotated examples are: IWXXM is built on several packages. 1. A simple METAR for Karlovy Vary Airport (no trend forecast) Packages managed by WMO 2. A volcanic ash SIGMET for Shanck Oceanic Flight Information Region METCE- 'Modele pour l'Echange des informations sur le Temps, le Climat et l'Eau' (METCE) - a set of foundai blocks to support application schema in the domains of interest to WMO, notably the weather, climate, hydro oceanography and space weather disciplines. 3. A TAF for the fictional airport Y Observable Property Model (OPM) - based on work by the OGC Sensor Working Group, this allows creation that are derived from the meteorological basic types. 4. A more complex METAR report for 5. "Bulletinizing" IWXXM repoMETAR Feature Collection Model (COLLECT) - used to represent a collection of GML feature instances of the same Karlovy Vary Airport, 12Z 25 July 2007 Packages managed for ICAO This METAR is intended as an example and does not represent actual observed conditions. IWXXM - ICAO Meteorological Information Exchange Model - defines the reports required by ICAO (the equiv METAR/SPECI, TAF, SIGMET, AIRMET, Tropical Cyclone Advisory (TCA) and Volcanic Ash Advisory (VAA)) that For simplicity, this METAR does not include a trend forecast. More details of these packages are available from the wiki page IWXXM-2-Packages. Release package for IWXXM v2 The full XML for this example can be found href="http://schemas.wmo.int/iwxxm/2.1/examples/metar-LKKV.xml">here. The draft version of packages including IWXXM 2.1 and METCE 1.2 are now available. The packages and rela ML Namespaces ar to have any style information associated with it. The document tree is shown below namespaces are used either directly or indirectly in this example: XML Namespace Default namespace gml:id+"ti-20070725T12Z"> on>2007-07-25T12:00:00Z</gml:timePosition> http://www.w3.org/2001/XMLSchema http://www.w3.org/1999/xlink Language tume 2 Meteorological Service for International Air Navigation APPENDIX 3 TECHNICAL SPECIFICATIONS RELATED TO METEOROLOG



## Release numbering for IWXXM

**IWXXM** b a Major release Minor release Patch release XML unchanged. XML not XML can be handled by backwards software for IWXXM compatible a.\*.\* Such as: new information rule changes new code table may be skipped entries



#### Time scales for IWXXM 2.1.1

#### **IWXXM 2.1.1** is patch release to **IWXXM 2.1** that:

- 1) Corrects validation issues that cause valid messages to fail validation
  - a) TAF: rules for CAVOK and cloud inconsistent
  - b) SIGMET: validation of TOP and ABV
- 2) Fills in missing entries in Manual on Codes tables (administrative only) This patch release does not change the XML within a report.

Date	Event
15 November 2017	2.1.1 released
	<ul> <li>Pre-operational</li> </ul>
	<ul> <li>Formal WMO consultation starts</li> </ul>
March 2018	Approval of IWXXM 2.1.1 by President WMO
May 2018	IWXXM 2.1.1 becomes "operational"



#### Time table for IWXXM 3.0

Date	Event
September 2017	Last opportunity for changes in requirements
Early December 2017	Issue document describing intended contents of 3.0
mid-December 2017	First draft Amd 78 received
1 April 2018	Test version (IWXXM 3.0 RC1) available for testing
1st September 2018	IWXXM 3.0RC2 schema
(optional release)	
1 <sup>st</sup> December 2018	Approval procedure initiated for IWXXM 3.0 RC3.
March 2019	Final IWXXM 3.0 schemas available on the web with
	draft documentation
May 2019	IWXXM 3.0 released
Nov 2019	IWXXM 3.0 operational



#### Outline time table for IWXXM 3.1+

Date	Driver	Release
Nov 2019	Amd 78	IWXXM 3.0
Nov 2021	Amd 79	IWXXM 4.0 (or IWXXM 3.1 if IWXXM 3.0 permits backwards compatibility of releases) Initial support for SWIM environment.
Nov 2023	Amd 80	IWXXM 4.1 (or IWXXM 3.2 if IWXXM 3.0 permits backwards compatibility of releases)
Nov 2025	Amd 81	IWXXM 5.0 (or 4.0). Compatible with SWIM "data centricity" requirements.



Definition
Development
Delivery

# cbs-tt-avxml@wmo.int wis-help@wmo.int



## Thank you Merci



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