

Background on the ICAO Meteorological Information Exchange Model (IWXXM)

Presented to: NAM/CAR/SAM Workshop on PANS-MET

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Date: 30 October to 1 November 2023



**Federal Aviation
Administration**



IWXXM

- Amendment 79 to Annex 3 (effective Nov. 2020):
 - Meteorological products in IWXXM form
 - Aerodrome routine and special reports (METAR and SPECI)
 - Aerodrome forecast (TAF)
 - In flight warnings (SIGMET and AIRMET)
 - Volcanic Ash Advisory (VAA)
 - Tropical Cyclone Advisory (TCA)
 - Space Weather Advisory (SWXA)
 - World Area Forecast System (WAFS) Significant Weather (SIGWX) forecasts



Example of a SIGMET in IWXXM form

Meteorological products in IWXXM form are not intended to be read by humans, rather they are intended to be read by machines.

```
LSPAO2 PHFO 121406
<?xml version="1.0" encoding="UTF-8"?>
<iwxxm:SIGMET xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:aixm="http://www.aixm.aero/schema/5.1.1" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:iwxxm="http://icao.int/iwxxm/3.0"
xsi:schemaLocation="http://icao.int/iwxxm/3.0 http://schemas.wmo.int/iwxxm/3.0/iwxxm.xsd"
gml:id="uuid.72f435a-a728-359e-98cd-006172f9bfa5" reportStatus="NORMAL"
permissibleUsage="OPERATIONAL" translatedBulletinID="WSPA02KZAK121406"
translatedBulletinReceptionTime="2021-10-12T14:21:56Z" translationTime="2021-10-12T14:21:56Z">
  <iwxxm:issueTime>
    <gml:TimeInstant gml:id="uuid.67e811ae-7f3c-372c-a331-2c0f245403bd">
      <gml:timePosition>2021-10-12T14:06:00Z</gml:timePosition>
    </gml:TimeInstant>
  </iwxxm:issueTime>
  <iwxxm:issuingAirTrafficServicesUnit>
    <aixm:Unit gml:id="uuid.b7f5eee4-dcde-3aa7-908b-a70c714882e4">
      <aixm:timeSlice>
        <aixm:UnitTimeSlice gml:id="uuid.7ffabdd9-8923-3cb7-863a-0877f96d3225">
          <gml:validTime/>
          <aixm:interpretation>SNAPSHOT</aixm:interpretation>
          <aixm:name>KZAK FIR</aixm:name>
          <aixm:type>FIR</aixm:type>
          <aixm:designator>KZAK</aixm:designator>
        </aixm:UnitTimeSlice>
      </aixm:timeSlice>
    </aixm:Unit>
  </iwxxm:issuingAirTrafficServicesUnit>
  <iwxxm:originatingMeteorologicalWatchOffice>
    <aixm:Unit gml:id="uuid.93c1ed17-5255-344d-9694-c12356e10cfa">
      <aixm:timeSlice>
        <aixm:UnitTimeSlice gml:id="uuid.82f9dedd-eb22-3892-933e-61b5d39b5735">
          <gml:validTime/>
          <aixm:interpretation>SNAPSHOT</aixm:interpretation>
          <aixm:name>PHFO MWO</aixm:name>
          <aixm:type>MWO</aixm:type>
          <aixm:designator>PHFO</aixm:designator>
        </aixm:UnitTimeSlice>
      </aixm:timeSlice>
    </aixm:Unit>
  </iwxxm:originatingMeteorologicalWatchOffice>
  <iwxxm:issuingAirTrafficServicesRegion>
    <aixm:Airspace gml:id="uuid.5bb562ac-ef82-30ad-93b5-4addd23617fd">
      <aixm:timeSlice>
        <aixm:AirspaceTimeSlice gml:id="uuid.4dad95a4-fdb0-3b4d-acf8-ae9f3613ced3">
          <gml:validTime/>
          <aixm:interpretation>SNAPSHOT</aixm:interpretation>
          <aixm:type>FIR</aixm:type>
          <aixm:designator>KZAK</aixm:designator>
          <aixm:name>OAKLAND OCEANIC FIR</aixm:name>
        </aixm:AirspaceTimeSlice>
      </aixm:timeSlice>
    </aixm:Airspace>
  </iwxxm:issuingAirTrafficServicesRegion>
  <iwxxm:sequenceNumber>OSCAR 1</iwxxm:sequenceNumber>
  <iwxxm:validPeriod>
    <gml:TimePeriod gml:id="uuid.4491e19e-f446-377b-969f-6b1104af97ab">
      <gml:beginPosition>2021-10-12T14:05:00Z</gml:beginPosition>
      <gml:endPosition>2021-10-12T18:05:00Z</gml:endPosition>
    </gml:TimePeriod>
  </iwxxm:validPeriod>
  <iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>
  <iwxxm:analysis>
    <iwxxm:SIGMETEvolvingConditionCollection gml:id="uuid.7811092e-1f31-3f2d-bf8b-3a5f7aa60705"
timeIndicator="OBSERVATION">
      <iwxxm:phenomenonTime>
```

IWXXM

- More information on IWXXM can be obtained from the *Manual on the ICAO Meteorological Information Exchange Model (IWXXM)* (Doc 10008)



IWXXM

- The global implementation of IWXXM
 - Different implementation paces across different regions
 - Many States using bi-lateral agreements for translation services (e.g., translating METAR from WMO code form to IWXXM form)
 - Full availability of global IWXXM is crucial for retirement of legacy Traditional Alphanumeric Text (TAC) (e.g., WMO code and abbreviated text) language

Questions

