# Amendments to IWXXM required to meet planned Amd 78 (WMO change request MM45)

| **ICAO (page, para)** | **Detail No** | **ICAO change** | **IWXXM component** | **Remarks** |
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| A-2/5.1 Note 1 bullet 2 | 1 | IWXXM timeline:  2018 Recommended practice for METAR/SPECI/Trend, TAF, VAA, TCA, SIGMET, AIRMET, Space Weather | Space weather (new) | 1. Proposed recommended practice SIX MONTHS after decision to implement. This is not feasible.  2. Changes to other forms proposed in other items with different implementation times would require separate releases of IWXXM. |
| A-2/5.1 Note 1 bullet 2 | 2 | IWXXM timeline:  2020: standard for METAR/SPECI/Trend, TAF, VAA, TCA, SIGMET, AIRMET, Space Weather | All | No technical changes to IWXXM purely to make IWXXM a standard practice. However, operational exchange will need to have been demonstrated well in advance. |
| B-5 Table A2-3 | 3 | Contents of Space weather advisory | Space weather (new) | 1. Definition in the State Letter is TAC approach.  2. Definitions of latitude bands is at B-11 Attachment E  3. “Daylight side” concept thought not to be available in GML as a definition of area – application programs will not recognize it (but could be represented by a circle?). “Daylight side” might be a description (coded) associated with the phenomenon  4. Need to use same structure in IWXXM as for other advisories.  5. Example payload (free text) is not suited to machine processing. Need categorization of impact types and impact levels.  6. If it is intended to provide additional information through a URL, the URL should be an (optional) element in the message.  7. Forecast is at specific times, not a path (in examples, “daylight side” could be represented by the disc facing the sun (a circle around the sub-solar point)). Is a path what is intended or are both paths and time series required?  8. Do we want to have detailed (complex boundaries) or is it possible to use “intersection” of two or more areas to simplify the descriptions (eg intersection of “daylight side” circle with zonal band).  9. Do we want to limit ourselves to forecasts at 6h intervals? What if a phenomenon stops – is the absence of a forecast period an absence of the phenomenon, or just a lack of forecast? Do we want to escribe the trajectory of the phenomenon? |
| B-11 Att E | 4 | Table of latitude bands | codes.wmo.int | 1. Gazeteer needed for conversion from TAC to IWXXM (codes.wmo.int – but software changes may be required). Reverse  2. IWXXM would code bands as areas within message to allow automated processing of the messages and combination with other information sources. |
| B-14 Table A6-1A  last entries in columns 3 & 4 | 5 | Add “within xxM or xxKM of lat/long” option | SIGMET/AIRMET | 1. Either allow intersection of FIR with circle around a fixed point, or define using a polygon. |
| B-15, B-16  Table A6-1A  last entries in columns 5 & 6 | 6 | Allow “WI” of lat/long | SIGMET | 1. Either allow intersection of FIR with circle around a fixed point, or define using a polygon.  2. OBS to FCST is really a trajectory (TimeseriesML?, representation as used for vehicles in other domains? - iwxxm 3 enhancement?) |
| B-17  Table A2-1 | 7 | Introduce message class (exercise etc) | VAA | Already included in iwxxm 2 |
| B-18 Table A2-2 Original note 3 | 8 | Introduce message class (exercise etc) | TCA | Already included in iwxxm 2 |
| B-19  Table A6-1A | 9 | Introduce message class (exercise etc) | SIGMET & AIRMET | Already included in iwxxm 2 |
| B-20 to B-24 | 10 | Implementation time scales for IWXXM | a) VAA, TCA; TAF METAR/SPECI  b) SIGMET/AIRMET  c) Space Weather Advisory | a) Contents already covered by iwxxm 2  b) Minor modifications that are achievable  c) Time scale not achievable. |
| B24-B27 Table A2-2 | 11 | a) Only optional element is “status”  b) Add year to advisory number  c) Observed position – add time stamp  d) Observed CB cloud  e) Direction and speed of motion | TCA | a) No change  b) Implication is that the number is made up from year, TC identifier and message sequence number, which implies three separate tagged items in iwxxm.  c) Check that there is a time stamp for the observed position of the centre that is identified as the observed position. (Expect no change)  d) Add observed CB cloud extend as box or circle together with top (could be ABV, BLW) a FL.  e) remove category “SLW”. Question: does this allow STNR convert to zero speed and notApplicable as the nilReason for direction? That would simplify programs to process iwxxm. |
| B-28  Table A6-1A | 12 | a) Test or exercise  b) Name of FIR/CTA – allow FIR, UIR, FIR/UIR  c) Location can include “entire UIR”  d) Allow location “within nn of point”  e) Allow “above” level expressed in feet  f) Add TC forecast position  g) Forecast position: allow ENTIRE UIR; change “NO VA” to “NO LONGER EXPECTED” | SIGMET  AIRMET | a) Already in iwxxm.  b) Check that iwxxm allows UIR by itself  c) Permit “entire UIR” as location  d) allow circle (or circular polygon) centred on point (or polygon limited by FIR/UIR boundary).  e) Allow “above/top above” [n]nnnnFT.  f) Add TC forecast position (not AIRMET).  g) Allow ENTIRE UIR change indication of phenomenon not expected to continue (or the applicability) (not AIRMET) |