



World Meteorological Organization

Weather • Climate • Water

Information modelling within IPET-MDRD

ET-CDMS, 4-7 November 2014

Jeremy Tandy, Met Office & chair IPET-MDRD

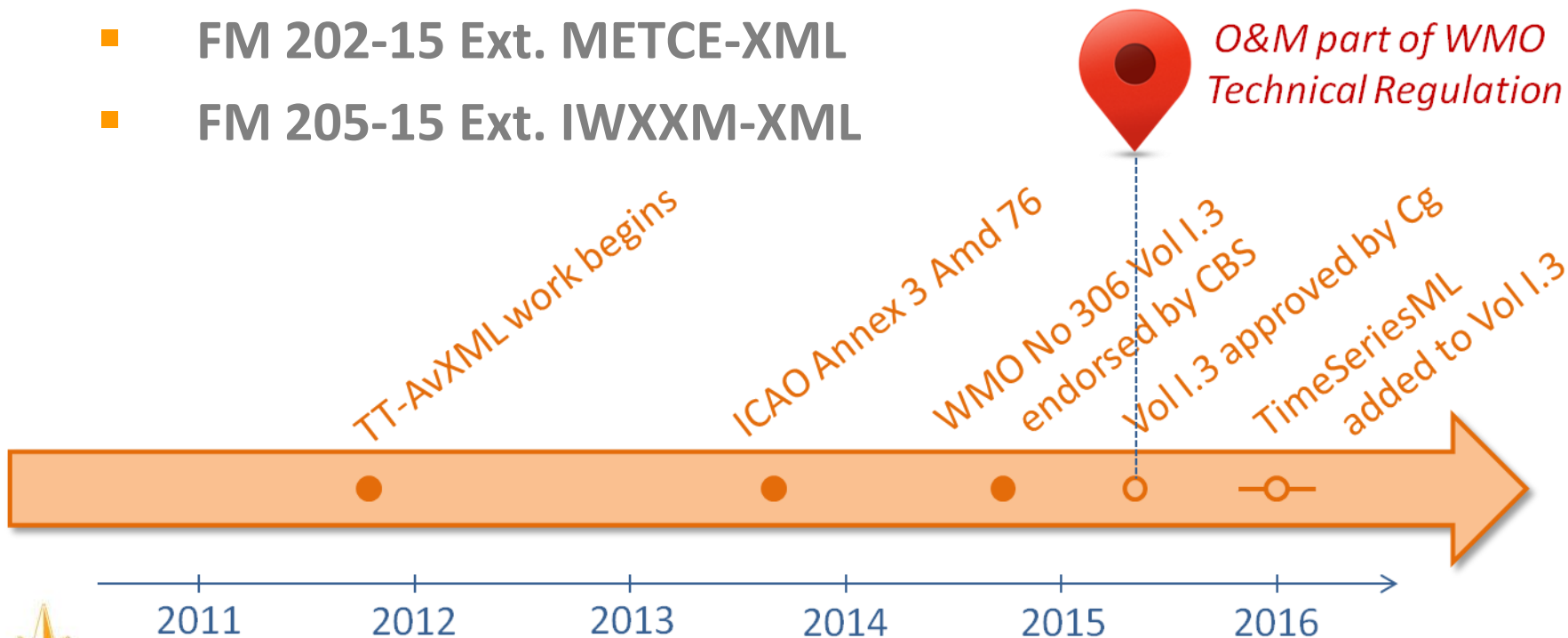
IPET-MDRD summary: Data models and formats

1. WMO logical data model “Modèle pour l’Échange des informations sur le Temps, le Climat et l’Eau” (METCE) [established](#).
2. Building on METCE, IWXXM GML Application Schema and XML code form delivered for civil aviation in response to ICAO Annex 3 Amendment 76; scope includes TAF, METAR/SPECI and SIGMET.
3. [WMO Codes Registry](#) delivered to enable WMO code tables to be used with new XML code forms.
4. Documentation for new XML code forms published as new volume of Manual on Codes (WMO No. 306 Vol I.3) and associated Guide; awaiting approval from Cg.
5. More work anticipated to support ICAO Annex 3 Amendment 77.
6. OGC WaterML2 Part 1 – Timeseries ([OGC #10-126r4](#)) to be included in WMO No. 306 Vol I.3 once refactored to separate generic timeseries model as TimeseriesML under OGC process (2015).
7. GML Application Schema for WIGOS observation metadata (as defined in anticipated WIGOS Core Metadata Specification; [draft](#)) to be developed – again building on METCE.
8. GML Application Schema for surface-based climate observations to be developed as profile of WIGOS observation metadata Application Schema.



WMO and O&M convergence

- WMO tasked by ICAO to deliver GML application schema for aeronautical meteorology data exchange
- WMO (TT-AvXML) adopt model-driven approach based on O&M; new code forms include
 - FM 202-15 Ext. METCE-XML
 - FM 205-15 Ext. IWXXM-XML



WIGOS Metadata

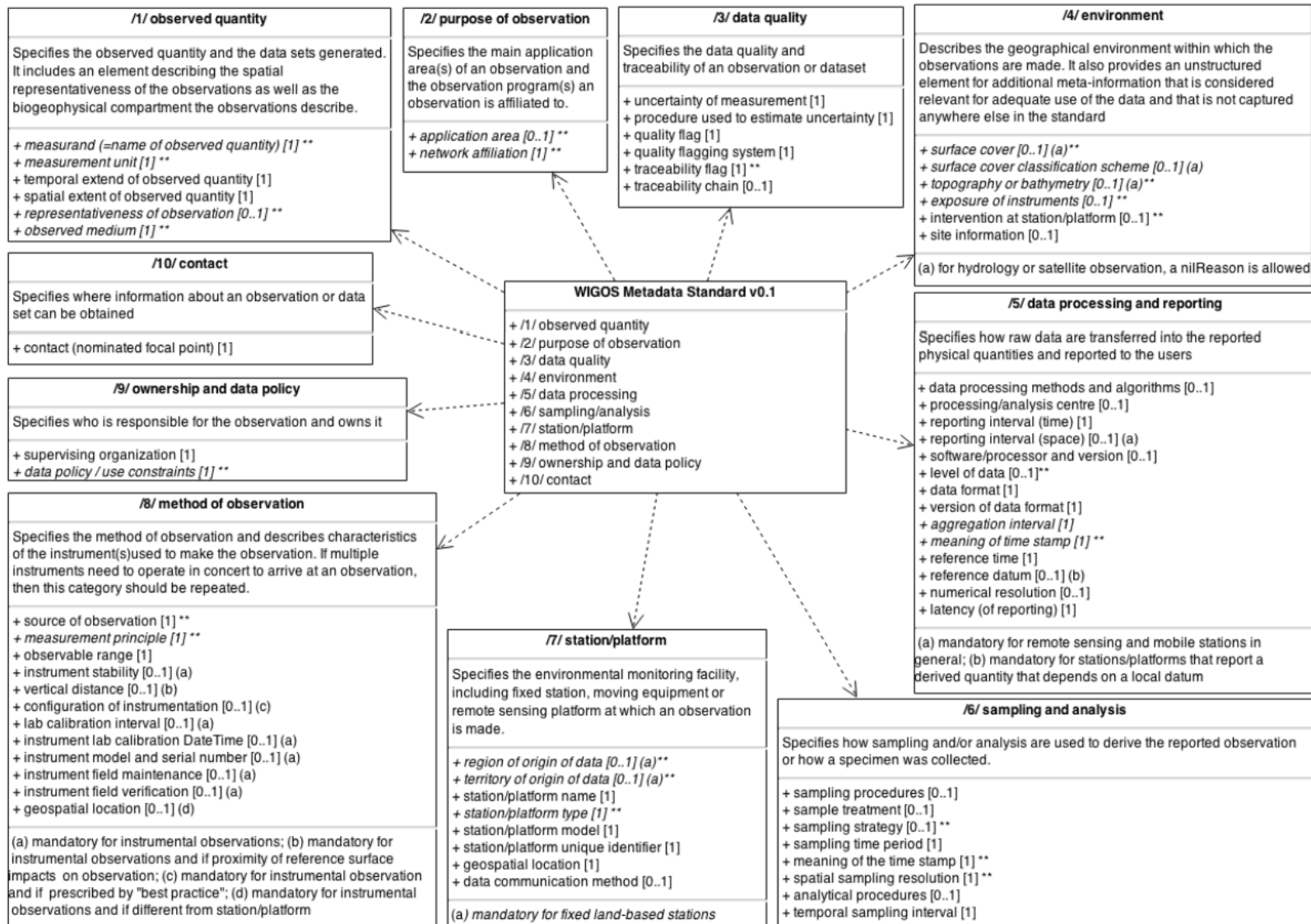
... should describe the observed quantity, the conditions under which it was observed, how it was measured, and how the data has been processed, in order to provide data users with confidence that the use of the data is appropriate for their application. GCOS (Global Climate Observing System) Climate Monitoring Principle #3 describes the relevance of metadata as:

“The details and history of local conditions, instruments, operating procedures, data processing algorithms and other factors pertinent to interpreting data (i.e., metadata) should be documented and treated with the same care as the data themselves.”

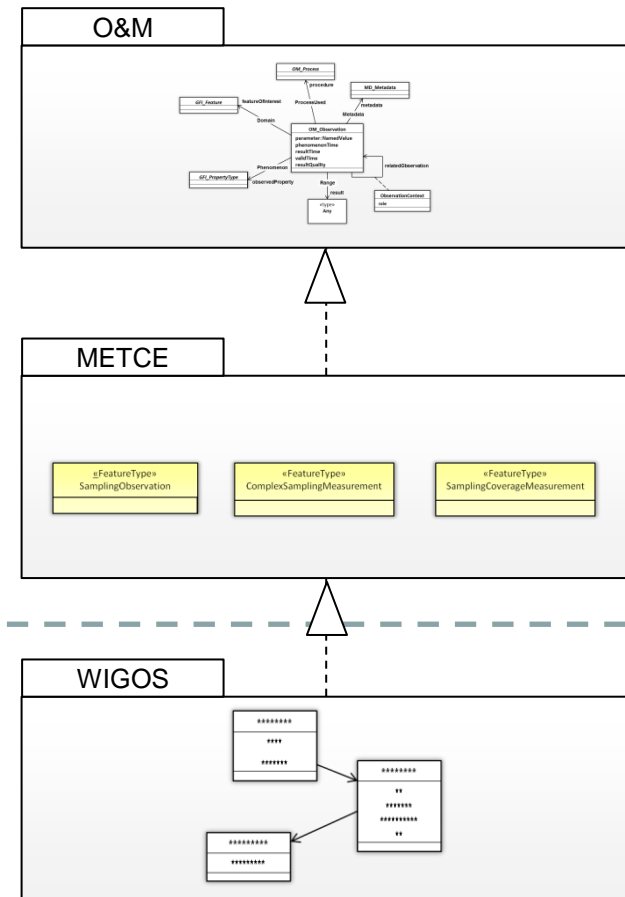
Source: WIGOS Metadata Standard v0.1



WIGOS Metadata categories



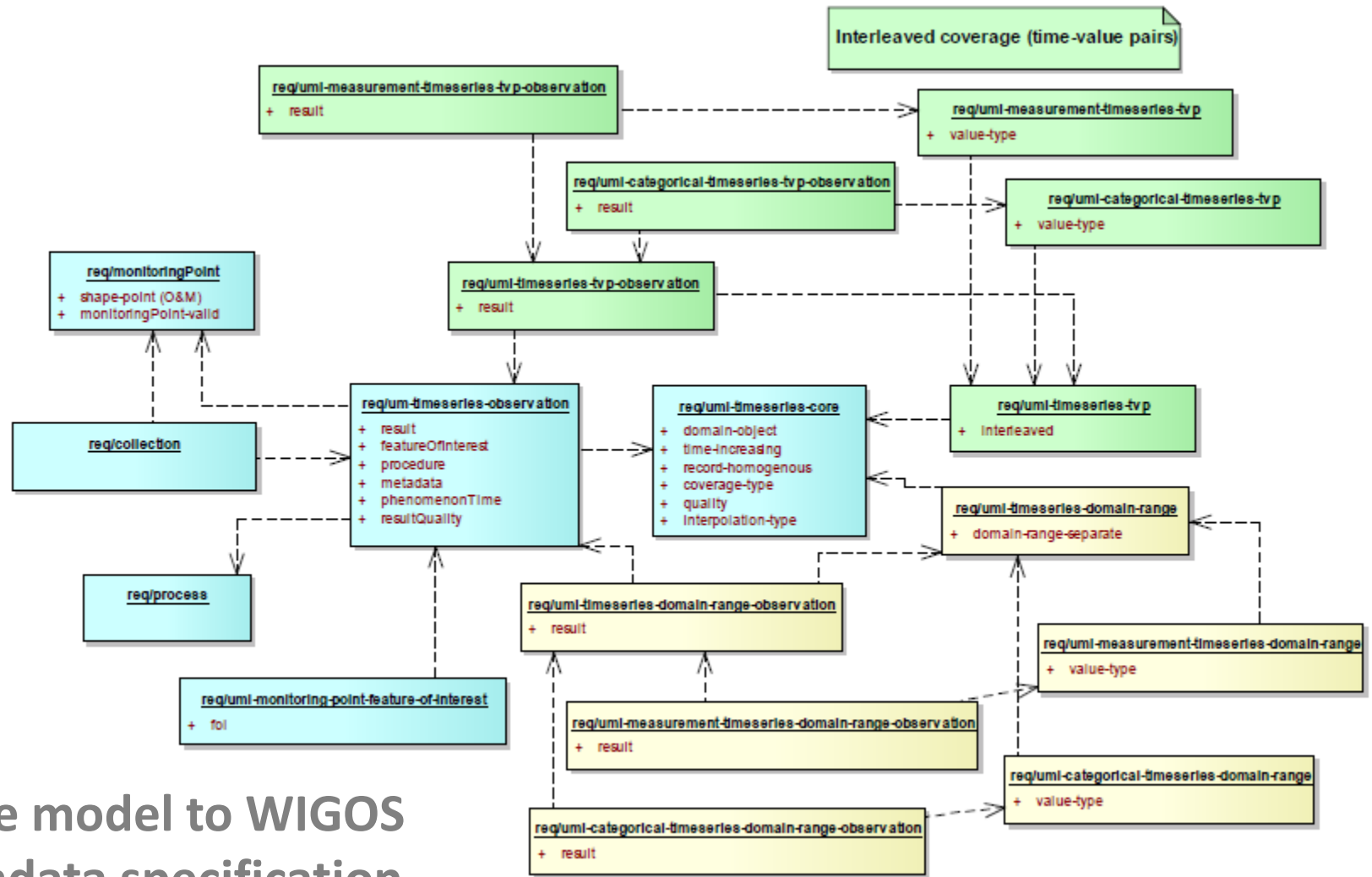
GML Application Schema for WIGOS Metadata



- *IPET-MDRD to establish new Task Team to work with TT-WMD to establish a formal data model and encoding of WIGOS Metadata*



Lessons learned: formal requirements model



relate model to WIGOS
Metadata specification

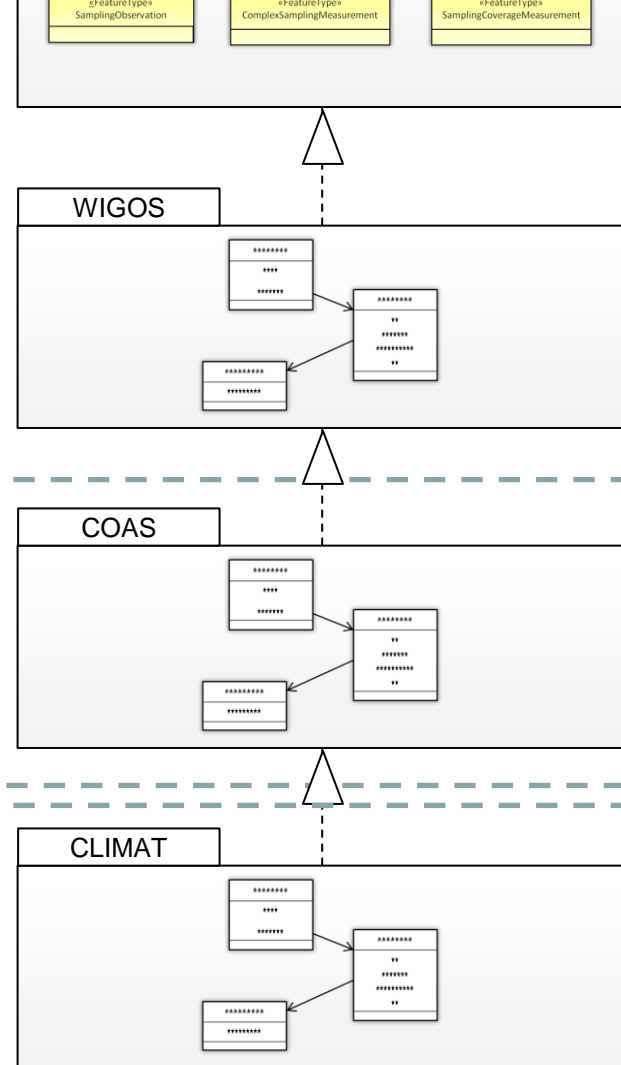
Source: OGC#10-126r4 WaterML2 - Part 1 - Timeseries



Further modelling ...

In collaboration with ET-CDMS ...

- *(land-surface based) Climate Observations Application Schema (COAS)*
- *CLIMAT message (derived from FM-71) – report of monthly values from a land station*



QUESTIONS & DISCUSSION

