

7.13 Publication of air quality data aggregations

Alejandro Llaves, Miguel Angel García-Delgado (OEG-UPM), Rubén Notivol, Javier Celma (Ayuntamiento de Zaragoza)

▲ Full use case description (click to collapse):

What: The local authorities of Zaragoza (Spain) want to publish the air quality data of the city. Each observation station has a spatial location described with an address. The dataset contains hourly observations and daily aggregations of different gases, e.g. SO₂, NO₂, O₃, CO, etc.

How: We use the [Location Core vocabulary](#) to model the address, e.g. :station locn:address "C/ Gran Vía (Paraninfo)"^^xsd:string. We use xsd:dateTime to represent hourly observations, e.g. :obs ssn:observationResultTime "2003-03-08T11:00:00Z"^^xsd:dateTime.

Open challenges: The combination of hourly observations and daily aggregations in the same dataset may cause confusion because the granularity of the observation is not explicit. For daily aggregations, we suggest using time:Interval from the Time Ontology. To make the temporal modeling more homogeneous, time:Instant could be used for the hourly observations.

A description of the data set, including its SPARQL endpoint, can be found at https://www.zaragoza.es/ciudad/risp/detalle_Risp?id=131.

[2.4 Semantic Sensor Network Vocabulary](#), [2.3 Time Ontology in OWL](#)

[5.10 Date, time and duration](#), [5.33 Observation aggregations](#)