4.40 Creation of "virtual observations" from "analysis" phase of weather prediction model

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▲ Full use case description (click to collapse):

National Meteorological Services (NMS), such as Met Office, maintain a network of weather observation sites within their region of responsibility in order, amongst other things, to provide input to their numerical weather prediction models. The cost of maintaining these weather observation sites means that their number is limited.

Within the UK, and likely in other places too, there is a high demand for weather observations for specific locations. To meet this demand, the Met Office provides data for many more locations than the number of weather observation sites they maintain. In order to do this, "virtual observations" for these locations are derived from the "analysis" of the numerical weather prediction model. ("Analysis" is the term used to describe the initial state of the numerically modeled atmosphere from which the forecast is calculated; it incorporates real observations and provides a dynamically balanced representation of the atmosphere at a snapshot in time.)

The metadata needed to provide context to a "virtual observation" is identical to that for normal observations; albeit that the procedure used to create the observation involves a computational simulation rather than a physical sensor and stimulus. Clearly, it is important to provide information about the procedure used to create the observation so that "real" observations can be distinguished from "virtual" observations.

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