



## **Solutions to time handling with OGC services, presenting a web based WMS client**

Maarten Plieger, Raymond Sluiter, Ernst de Vreede, and John van de Vegte

Royal Netherlands Meteorological Institute (KNMI), R&D Information and Observation Technology, De Bilt, Netherlands  
(plieger@knmi.nl)

OGC services are now being used more and more in several domains like meteorology, hydrology and climatology. These domains require capabilities that are often not available in existing OGC service implementations. For example the Web Mapping Service (WMS) has support for dimensions like time and height, but this feature is still hardly implemented in GIS clients. Because most geographical information systems have their origin in handling data as static 2D maps, support for other dimensions like time or height is generally hardly available. Many implementations of WMS services are now available, but clients supporting these features are still sparse.

Within the ADAGUC project, OGC services were used to make atmospheric data available to GIS users. To maintain compatibility with existing WMS clients, time information was encoded inside the WMS layer name where possible. This strategy keeps individual layers distinguishable from other layers without the need for an extra time dimension. This method could only be applied to data where time intervals are in the range of days to months. Such a time interval keeps the number of individual layers in the service small, hence making this a feasible approach for disseminating data to GIS users. For other datasets, like the precipitation radar data from the KNMI, this solution could no longer be applied. The precipitation radar dataset is updated with a five minute interval, a timestamp in the layer name would result in a large description of the service. Usage of the WMS time dimension was the best solution to this problem, but this breaks compatibility with a large number of existing GIS clients.

In order to display the radar precipitation service, the existing ADAGUC portal was adjusted to handle the WMS time dimension. The portal has been adapted and updated during several projects and now starts to evolve in a WMS 1.1.1 client with support for dimensions, projections and styles. The GUI of the portal is based on the javascript framework ExtJS. The portal has been tested with existing OGC services implementations like THREDDS, UMN MapServer and GeoServer. During the conference, the web portal and solutions to these time problems will be presented.