

# Extensions for the Deltares Open Archive

The Deltares Open Archive can be extended with two main components:

- the netCDF storage [External netcdf storage](#)
- the archive database [Alternative to file-based storage - Archive database](#)

This page introduces each component and how they relate to the Deltares Open Archive. Further details are provided on the page mentioned above.

## The netCDF storage

The main purpose of the netCDF storage is to make external (forecast) data from other data providers available as part of the Open Archive such that the FEWS functions for importing and dissemination the data can be applied to these external data too. The main requirements is that the data are stored in CF compliant netCDF files. These files may be locally available for harvesting or stored on a remote archive with THREDDS service. In the case of local data, the harvester will index the data by analyzing the actual netCDF files. If a remote archive is coupled, the harvester simply analyzes the remote THREDDS catalogue to index the data.

*Note that for the harvesting of remote data, it is not yet possible to update the catalogue when data of the remote archive is removed; the data will remain listed as available as the harvester does not check for this change. A work around is to clear the full catalogue of external storage metadata and rebuild it.*

How can the netCDF storage be used?

- data can be downloaded and imported from the netCDF storage by using the Delft-FEWS [Archive Catalogue Display](#).
- data of events can be tagged for easier downloading and maintenance using the Delft-FEWS [Archive Catalogue Display](#).
- data can be retrieved from the netCDF storage by using the FEWS WMS and PI webservice.

## The Archive database

Scalar data is stored in the Deltares Open Archive in netcdf-files.

This has several disadvantages:

- not possible to remove a single time series from the archive
- retrieving data from a file is slower than retrieving it from a database

To solve the disadvantages the Archive database is introduced. Instead of storing scalar data in netcdf files scalar data can now be stored in the archive database.

At the moment the only supported database flavour is MongoDB. It is however possible to store the scalar data in any database flavour. But it is however needed to write your own (java) plugin to support the connection to your own database type.

This is similar to writing a model adapter to connect your own model to FEWS.