

01 Requirements

What is required when setting up a DELFT-FEWS application?

Before starting configuration of a DELFT-FEWS application or editing a DELFT-FEWS configuration the following questions must be answered:

- What is the goal of the FEWS application?
- What do I want to use FEWS for?
- Who are the end-users of the FEWS application?
- What are the processes involved in making a forecast?
- Which external simulation models will I use in my FEWS application?
- Is there enough on-line observed meteorological and hydrological data available?
- Is there any meteorological forecast data available?

These questions are just a small selection of questions that should be asked before really starting to build a FEWS. Once a clear idea about what is required is established you can start designing and building a FEWS. Once your FEWS application is completed you can use the FEWS as a system that helps you on a structured manner through all required steps of making a forecast.

All of the above questions will not be answered in this section, but will focus on the practical side of the system. What data do you need when setting up a FEWS application.

- ESRI Shape files for GIS map layers of the area you want to make a FEWS for. The FEWS explorer uses shape files as a background for your locations. Make sure the GIS map layers are in the correct co-ordinate system.
- Meta-data of the locations that are used in the FEWS (id's, names, co-ordinates)
- Meta-data of the observed time series (hard and soft limits, thresholds, time steps)
- Parameters used in the FEWS (id's, names, units, etc..)

Next you need to know what data is available at the gauging stations and in what format this will be delivered in the operational system.

- All time series file formats, with good description of the file format for the time series you want to import. You also need to know the time step of the data.
- All grid file formats for the meteorological forecasts.
- What is the co-ordinate system used. The FEWS needs all data, maps and locations, to be in the same co-ordinate system.
- In what time zone is the date to be made available.

Extra information you need when setting up a FEWS application can be:

- What is the procedure of the meteorological institute for making observations and forecasts available.
- What interpolation procedures do I want to use for my time series and Grid data:
- Linear interpolation of water levels and discharges?
- Spatial interpolation of meteorological data, rainfall and temperature?
- What is the data flow I want to use, i.e. which data is required for input for the models and which data is coming out of the models.
- Do I have calibrated configuration files of the simulation models used in the FEWS
- When making reports what will be the layout of the reports you want to produce.

When setting up a FEWS system it is recommended that you have a complete set of the required data before you start configuring. Experience shows that incremental updating of the FEWS configuration files can cost you a lot of extra time. It is best to first make a layout of your system, prepare GIS map layers, decide on the number of stations and series you want to use, decide on the interpolation procedures, decide on the models to use, etc., before starting to build a FEWS application.