

How to	Flood Operations – Set Rainfall Policy
Description	Step by step description of options to create a rainfall scenario
Comments	The <i>italic</i> phrases correspond to the red markings in the screenshots. Please be aware that the screenshots may deviate slightly from the application
version	2016-01



Rainfall Policies enable the forecaster to control the rainfall use in the model runs – both observed and forecast.

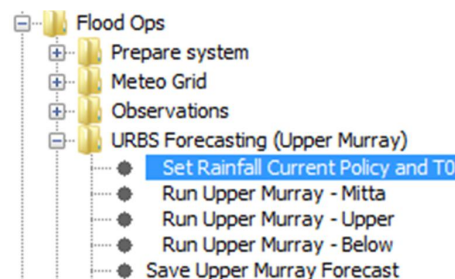
Current Policy - set on the Set Rainfall Policy node and is used in the URBS Forecast Local Runs and when the run is sent to the server on the Save URBS Forecast node.

Rainfall What-if Scenario - set on the Create Rainfall What-if Scenario node and is used in the Run What-If Scenario and when the scenario run is saved to the server.

Overview of steps:

While on the node “Set Rainfall Policy” open the Modifiers display and here:

1. Select a type of rainfall policy
2. Set the parameters
3. Add NWP of choice
4. Apply and re-run to create the rainfall
5. View resulting rainfall policy in graph
6. Run URBS model (see separate How-To)



Ad. 1. Create a catchment wide rainfall forecast of any of the following types

(see examples on next page):

- 1.1 Depth: Creates an even distribution of the Depth over the Duration starting after the Delay.  
Example: Depth (mm) = 10; Duration (hr) = 2; Delay (hr) = 2, will create [0, 5, 5]
- 1.2 Recession: Rainfall from the ‘Matching period’ is averaged and multiplied by the ‘Recession factor’ for the duration of the ‘Matching period’. This process is repeated to reach the ‘Duration period’. The start of this series can be delayed with ‘Delay (hr)’
- 1.3 Persistence: Rainfall for the ‘Matching period’ is multiplied by the “Recession factor” for the “Duration”. Similar to recession, except it repeats the actual observed values instead of the average. It makes use of the same modifiers.
- 1.4 None

Ad. 2. Attributes:

- 2.1 Depth (millimetres) – Total Amount of rainfall over a subcatchment [Depth]
- 2.2 Duration (hours) – length of the rainfall forecast [all rainfall types].
- 2.3 Delay (hours) – the length of time until the forecast rainfall forecast [Depth]
- 2.4 Matching Period (hours) – the length of time (in the past) that will be used as the base for the amount and/or pattern of rainfall. This also sets the amount of time that the recession will occur over. [Persistence and Recession Functions]
- 2.5 Recession Factor – the factor used to multiply the amount and/or pattern of rainfall in the matching period [Persistence]
- 2.6 T0 Offset – enter as a negative number. By default the user defined rainfall start from the current system time. T0 Offset allows the forecast rainfall to start at a time prior to T0, this can be useful when you do not have observed rainfall available up to T0.

Note: If observed data is available, this will replace the forecast, even if T0 offset is set.

Ad. 3. Add user defined catchment wide rainfall forecast to one of the NWPs (i.e. the scalar time series for the sub-areas). A multiplier can be applied to the (entire) NWP. Note that the user defined rainfall forecast at the previous step will override any gridded rainfall forecast defined at this step.

Ad. 4. A hierarchy is used to build the rainfall policy – starting with Observer Rainfall, then the User Defined Rainfall Forecast and finally the Gridded Rainfall Forecast. If no forecast is defined None (or 0 mm) is used.

