

06 Manual Forecast Display

- Manual Forecast Display
 - Workflow
 - Notification after completion workflow
 - What-if Scenario
 - Forecast description
 - Scheduler options (only in Operator Client)
 - Batch Forecast options (only in standalone)
 - Automatically approving forecasts
 - Run for selected locations
 - Run for selected ensemble member indices
 - State Selection
 - Priority
 - Forecast length
 - F12 popup menu options

Manual Forecast Display

The Manual Forecast display (see below) in the *Operator Client* allows for the running of single or a manually scheduled forecast.

Workflow

- > Imports
- > Pysteps Nowcasting
- > Modelruns
- > Exports
- > System Maintenance

What-if scenario

None

Combine

Forecast description

Scheduler options

Single forecast (yyyy-MM-dd HH:mm:ss MET/MEST)

T0

2024-06-27 11:40:00

Scheduled forecast

Start time

2024-06-27 11:40:00

End time

2024-06-27 11:45:00

Interval

day

1

Shift T0

day

0

☐ Approve

☐ Run for selected locations

Priority

High

Normal

Forecasting shells

Single

Parallel

1

State selection

Select initial state

Cold state

Type

Cold states (Default)

Run start time

2024-06-26 11:40:00

Warm state

Search interval

Start time

2024-06-25 11:40:00

End time

2024-06-26 11:40:00

Forecast length

Default

User defined

day

1

Macro

Run

Close

Help

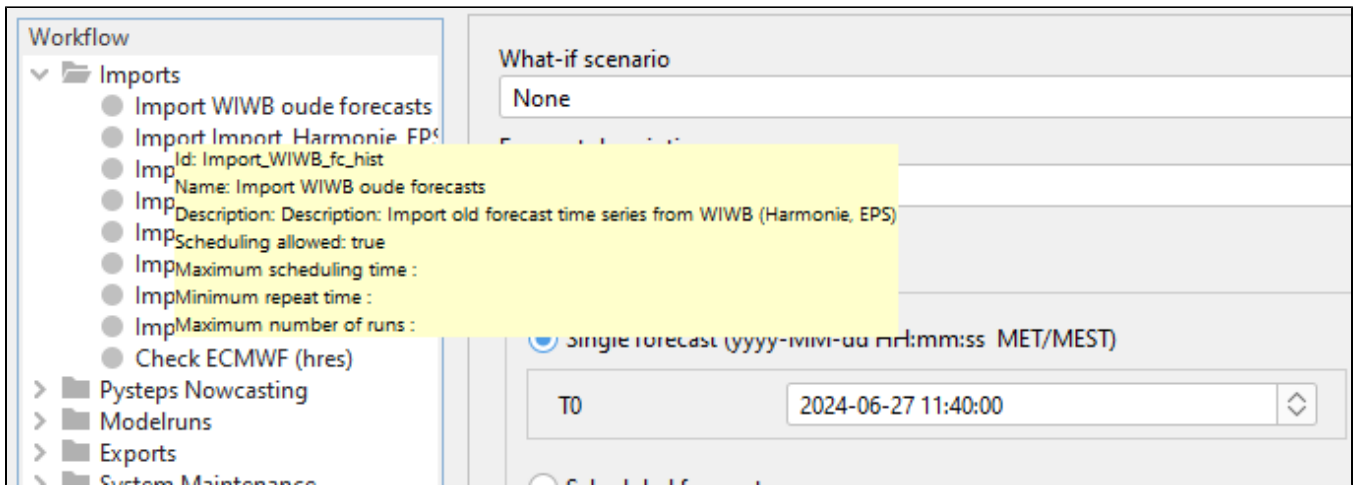
The Manual Forecast display in a Standalone system differs slightly from the one in the Operator Client. It allows users to run a single forecast or a batch of forecasts.

Users can submit a single forecast or a series of forecasts to the system by pressing [Run]. To exit the Manual Forecast display, users can press [Close].

Below is a description of the various items in the Manual Forecast display.

Workflow

You can select a workflow from a list of pre-configured options. When you hover over a workflow in this list, a tooltip will appear showing the description of the selected workflow.



Notification after completion workflow

An automatic notification pops up after the workflow is completed.

What-if Scenario

A What-if Scenario can be selected from a drop-down list of predefined options. When you hover over a What-if Scenario, a tooltip appears showing the description of the selected scenario. What-if Scenarios are defined through the What-if Scenario display.

Forecast description

A forecast description can be entered in this field, though it is not obligatory.

Please note that the forecast name is generated automatically by the system. It consists of (i) the start time of the forecast, (ii) the selected workflow, and (iii) the selected What-if Scenario.

Scheduler options (only in Operator Client)

Two types of manual forecasts can be defined:

1. Single Forecast
2. Scheduled Forecast

A single forecast runs only once. For a single forecast, only the T0 of the forecast needs to be entered in the date & time field (yyyy-MM-dd HH).

A scheduled manual forecast runs for a period of time, with a user-defined interval. For a scheduled forecast, the user must enter the following information:

- **Period of Time:** Defined by entering the Start time and End time (yyyy-MM-dd HH). The first forecast run occurs at the Start time.
- **Interval:** Defined via the Interval menu item, specifying the time interval at which the scheduled forecast should run.
- **Shift T0:** Allows the user to define a period of time over which the T0 of the forecast itself is set back in relation to the Start time of the forecast run.

Example: If a scheduled manual forecast should always be made at 8:00 AM and the T0 of the forecast should be midnight (00:00 AM), the Shift T0 should be set to -8 hours while the Start time is set to 08:00 AM.

Batch Forecast options (only in standalone)

Two types of manual forecasts can be defined:

1. Single Forecast
2. Batch Forecast

A single forecast will run only once. For a single forecast, only the T0 of the forecast needs to be entered in the date & time field (yyyy-MM-dd HH).

In batch mode, a scheduled manual forecast will run for a period of time with a user-defined time interval. When running a manual forecast in batch mode, the following information must be entered by the user:

- **Period of Time:** Defined by entering the Start T0 and End T0 (yyyy-MM-dd HH). The first forecast run will be made with the Start T0.
- **Interval:** Defined via the Interval menu item, specifying the time interval at which the T0 of consecutive forecasts should be increased when submitted.

All runs will be submitted simultaneously but will run with different T0s as defined by the user.

Automatically approving forecasts

Ticking the [Approve] checkbox will automatically set the status of the forecast to "current" after it has been completed. If you want to cancel or suspend this action, please use the Scheduled Forecast tab in the System Monitor. When using the default synchprofiles.xml, non-approved runs will not be automatically downloaded by the synchronizing OC and will need to be downloaded manually before they can be opened.

Run for selected locations

The [Run for selected locations] checkbox is enabled when the selected workflow has the option `<allowSelection=true>` in WorkflowDescriptors.xml. In this case, the workflow will run only for locations selected in the Explorer Filters. It is not allowed to configure a forecast workflow with the allowSelection option set to true.

Run for selected ensemble member indices

Specify the ensemble member indices for which the workflow should run, separated by commas or using hyphens for ranges. For example: 1, 5-7, 11.

The ensemble member selection will apply to any ensemble present in the workflow. If no selection is specified, the full ensemble will be run.

Please note that the user must ensure the selection is valid, as FEWS will not check if the specified ensemble members actually exist.

State Selection

When the "Select initial state" checkbox is left unchecked, the system will use the default state configured by the system manager to start the historic run preceding a forecast simulation (refer to Running Modules for details). This default state applies to stateful simulation models, such as hydrodynamic models, and follows the state selection rules configured in the General Adapter Module Instances.

Checking the "Select initial state" checkbox allows the user to choose a specific state to start the historic run. There are two types of states that can be selected: Cold state and Warm state.

A Cold state is a fixed module state defined in the system configuration. Different types of cold states representing characteristic catchment conditions (e.g., dry, normal, wet) may be available. When selecting a cold state at the start of the historic run, the following information is required:

- **Type:** Selected from a drop-down list of typical cold state types.
- **Relative Start Time:** Defines the length of the historic run relative to the forecast's T0.

A Warm state is a module state generated in a previous forecasting run and stored in the Central Database. To find a suitable warm state to start the historic run, a time interval must be defined. This interval is relative to the T0 of the forecast and is defined using the following entry fields:

- **Time Unit:** Specifies the unit (e.g., hours, days) used to define the search interval.
- **Start & End Time:** Define the start and end of the search interval by multiplying the time interval with the respective values entered in these fields. The system will search for the warm state with the closest date/time stamp to T0. Ensure that the multiplier for the Start time is set lower than for the End time to accurately define the search range.

If a Warm state is selected as the initial state and no suitable warm state is found within the defined search interval, the system will automatically revert to using the default state, as if the "Select initial state" checkbox was unchecked. This ensures continuity in the simulation process even when a warm state isn't available.

Understanding and correctly configuring these options is crucial for setting up accurate and efficient historic runs preceding forecast simulations in the system.

Priority

The user can assign a forecast run either a High or Normal priority. The Master Controller will prioritize high priority tasks over normal priority tasks.

It's important to note that setting the priority to 'high' does not guarantee immediate execution. If there are other high priority tasks already in the queue, the new task will join the queue and await its turn. If a normal priority task is currently being executed, it will not be canceled to accommodate a new high priority task. Instead, the ongoing normal priority task will be completed first before the high priority task is executed.

Forecast length

A default forecast length is configured during the setup of the forecasting system. It's important to note that within a given area, different forecast lengths may be configured based on factors such as the hydrological subsystem, specific forecasting models employed, or other relevant considerations.

F12 popup menu options

"Select modules to include in next run Ctrl+R": Since 2020.01, a workflow can also be run for the selected modules on FSS.