Wikiprint Book

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Forcing functions represent physical or other environmental parameters that may influence trophic interactions. These forcing functions can be used to directly influence primary production (see Primary production in Ecosim), or to modify the Q/B ratio of the consumer groups in the model (see Linking mediation and time forcing functions to trophic interaction rates).

To apply a forcing function to primary productivity directly, use the Apply FF (primary producer) form (*Time dynamic (Ecosim) > Input > Apply FF (primary producer)*). To apply a forcing function to trophic flows (i.e., predator-prey interactions), use the Apply FF (consumer) form. Before using either Apply FF form, you must first define at least one seasonal or long-term forcing function following the instructions for using the Forcing function form.

The *Apply FF (primary producer)* form consists of a grid representing only primary producers. Active cells are coloured white.

To apply a long-term forcing or seasonal function, select the cell representing the primary producer of interest. This will open the *Apply forcing and mediation functions* dialogue. The primary producer group will be displayed in both predator and prey boxes at the top of the form. In this case the multiplier can only be applied to the primary production rate (selected automatically at the bottom of the dialogue box).

Next, select the desired forcing or seasonal shape from the *Available shape functions* window at the left of the dialogue box by clicking the green arrow. This will move the shape function into the *Applied shape functions* window. You can remove a shape from this window by clicking the remove button immediately below the green arrow. Note that a common form is used to apply Mediation and Seasonal / Forcing functions. Do not select a mediation function.

Finally, click *OK*. You should see the number of the forcing or seasonal function you selected in the predator/prey cell (preceded by 'F').

Clear all

You can clear all applied seasonal, forcing and/or mediation functions from the grid by selecting *Clear* all from the top of the *Apply FF (primary producer)* form.

Set all ...

Opens the *Apply forcing and mediation functions* dialogue box. The selected forcing function will be applied to all primary producer groups.