

Release Notes for IWFM Version 4.0.266

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IMPORTANT NOTE:

In this version of IWFM, the definition of the irrigation trigger minimum soil moisture for non-ponded crops is changed (please see note 4 below as well as the IDC Theoretical Documentation). This change requires the modification of the values for this parameter in existing models if these models will be migrated to the new version of IWFM.

This version of IWFM includes the following modifications and corrections compared to IWFM v4.0.226:

1. **(09/10/2012)** Bypass flows taken out of streams and that were intended to be dumped into lakes were never delivered to the lakes. This error was corrected.
2. **(12/11/2012)** Irrigation period flags were included in simulating the ponded crops. This was done because for flooded decomposition of rice, farmers generally fill the ponds in fall and leave the ponds alone for the rest of the fall and winter instead of trying to maintain a certain pond depth. With the original approach of specifying pond depths during decomposition period, IWFM was calculating a water demand that did not exist in real world. The new approach modified the following input template files:
 - Root Zone Main Input File
 - Non-Ponded Crops Main Input File

- Pondered Crops Main Input File
3. **(12/21/2012)** A new method was implemented in the Budget post-processor to accumulate the Land and Water Use Budget columns over time to make sure that cumulative values are correct. This was necessary because when water supply shortages to meet the water demands occurred in two or more consecutive time steps, a simple linear addition led to double-counting of water demands. In return, this led to unrealistically large water demands when accumulated over multiple time steps. The new accumulation method implemented in the Budget post-processor keeps track of water demands that are already reported and makes sure that they are not added again.
 4. **(02/26/2013)** The definition of the irrigation trigger minimum soil moisture is changed and the source code is modified accordingly. In the previous version of IWFM, irrigation trigger soil moisture was defined as a fraction of the field capacity. In this version of IWFM, it is defined as a fraction of the Total Available Water ($TAW = \text{field capacity} - \text{wilting point}$) to be consistent with the definitions given in FAO Paper 56 (Crop evapotranspiration – Guidelines for computing crop water requirements, Allen et. al, 1998).