

APPENDIX A. List of GIS files for Treasure Valley model expansion

Type	Parameters	File Name	Comments
Model Grid/Discretization	Model grid and layer elevations	Grid_IBOUND_ext_Merge.shp	New active cells south of Payette River are assigned "2" and new active cells north of Payette River are assigned "3". New constant head cells are assigned "-2". Elevations in feet above mean sea level for top of Layer 1 (ground surface) and bottom of layers 1-4.
Model Grid/Discretization	Payette River bottom and monthly water stage elevations	PayetteRiverGrid_MonthlyStage.shp	Elevations in feet above mean sea level for Payette River bottom and monthly river stage. Initial conductance of 200,000 ft ² /day to be used for all cells
Model Grid/Discretization	Snake River water stage elevations	SnakeRiverGrid_MonthlyStage.shp	Elevations in feet above mean sea level for Snake River monthly river stage. Initial conductance to be same as used for Snake River upstream.
Model Grid/Discretization	Drain elevations	PayetteDrainGridCentroids.shp	Elevations in feet above mean sea level for drain cells. Initial conductance of 50,000 ft ² /day to be used for all cells
Water Budget	Tributary underflow	TribUnderflow.shp	Specified flux in AF per month, representing underflow into northern boundary, north of Emmett Bench, tributary underflow is overestimated due to lack of tributary streamflow data, but corresponds with equivalent overestimation of Payette reach gains
Water Budget	Municipal groundwater pumping	PV_MuniGWPU.shp	Groundwater pumping for cities (Emmett, New Plymouth, Fruitland) with wastewater discharge to rivers. Average monthly pumping in acre-feet is provided in fields "GWPU_01" through "GWPU_12". Emmett Well 5 and Plymouth Well 8 are listed in the file but are not assigned groundwater pumping.
Water Budget	Net recharge by model cell	Rech_NewActiveCells.shp NewRech_OldActiveCells.shp	Sum of on farm infiltration, canal seepage, net discharge on groundwater irrigated lands, net recharge/discharge on East Ada irrigated lands, net recharge/discharge on dry lands and water bodies, and net recharge/discharge on residential, commercial, and public recreation lands. Average monthly recharge rate in ft/day is provided in fields "Rech_01_ft" through "Rech_12_ft".
Observations	Water Levels	WellsMonthlyObs_67_97.shp	Average monthly water levels in the North Ada and East Ada areas based on available data from 1967 through 1997. Monthly values in feet above mean sea level are provided in fields "1" through "12".
Observations	Water Levels	NAdaMonthlyObs_08_10.shp EAdaMonthlyObs_99_10.shp	Average monthly water levels in the North Ada and East Ada areas based on available data between 1999 and 2010. Most measurements were between 2008 and 2010. Monthly values in feet above mean sea level are provided in fields "1" through "12".
Observations	Groundwater discharge to drains	DrainReturns.xlsx	Estimated groundwater portion of discharge to five drains in cubic feet per day, with list of model cells assigned to each drain.
Observations	Payette River Reach Gains	PayetteReachGains.xlsx	Groundwater discharge to Payette River in two reaches, Emmett to Below Sevenmile Slough and Below Sevenmile Slough to Payette. Monthly values in AF, with list of model cells assigned to each reach.