Eastern Snake Plain Aquifer Model Enhancement Project Update

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Idaho Falls
Model Concept

Recharge and Discharge
Aquifer Properties
Aquifer Boundaries

Aquifer Head
Exchange With Surface Water

Model Calibration
Compare to Measured Values

Slide courtesy Dr. Gary Johnson, IWRRI
Elementary Water Budget

Goezins - Goezouts = Change in Storage
Water Budget Components

Irr Precip | Non Irr | Land | Diversions | Irr ET | Perch | Seep | Underflow

Average Annual Acre Feet

-6,000,000
-4,000,000
-2,000,000
0
2,000,000
4,000,000
6,000,000
8,000,000
Recharge on Non-irrigated Lands

Non-Irrigated Recharge

Model Year

- Model Boundary
- Nirsp001
  - -1.998 - -1
  - -1 - -0.5
  - -0.5 - 0
  - 0 - 0.1
  - 0.1 - 0.2
  - 0.2 - 0.3
  - 0.3 - 0.4
  - 0.4 - 0.5
  - 0.5 - 0.6
  - No Data
Perched River Seepage

Model Year

Acre Feet

Non-Snake Perched River Seepage
Mixed-Source: 438,000 Acres
GW Irrigation: 846,000 Acres
SW Irrigation: 956,000 Acres

Net Surface-water Irrigation Diversions

Acre Feet

Model Year


Total: 2,241,000 Acres

SW Irrigation: 956,000 Acres
GW Irrigation: 846,000 Acres
Mixed-Source: 438,000 Acres
Total: 2,241,000 Acres
River Gains and Spring Discharges

Acre Feet

Model Year

Upper Gains
Lower Gains
Total Gain
Bingham County, Idaho
Hydrologic Unit Code 17040206
Latitude 43°12'40.8", Longitude 112°29'28.3" NAD27
Gage datum 4,456.89 feet above sea level NGVD29
The depth of the well is 40 feet below land surface.
The depth of the hole is 40 feet below land surface.

Breaks in the plot represent a gap of at least one calendar year between two consecutive points. Download a presentation-quality graph.
The End

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Eastern Snake River Plain
Ground Water Level Change Map
Spring of 2001 to Spring of 2002

From Nathan Erickson, IWRRI

Data Collected By USGS
Funding Provided By IDWR, Idaho Power, and USGS
Maps Prepared By University of Idaho IWRRI
Non-Irr Recharge - Ft^3/Stress Period
Last Slide