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# Creating the GWMA Groundwater Model

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In 2009, GWMA began development of the GWMA Hydrologic Groundwater Modeling project with the objective of creating a groundwater model for the four-county area of Adams, Franklin, Grant and Lincoln Counties that identifies the mechanisms and magnitudes of groundwater recharge and discharge on a four-county scale and within certain local subareas, or groundwater sub-regions, where groundwater availability is of particular concern. The goal of the groundwater model development effort is to enable the GWMA to be able to evaluate current and future groundwater needs, and support future decision-making about water resource issues relating to sub-regional and inter- and intra-sub-regional evaluations of groundwater location, movement and availability for beneficial use, and to address questions about the relative magnitude of pumping compared with groundwater replenishment in four sub-regions that are of immediate concern to local decision-makers in terms of groundwater supply and sustainability. Attached below are reports and educational information describing and summarizing GWMA's Hydrologic Groundwater Modeling project. These documents explain the current work being done to collect data about the static water level conditions of area wells, groundwater decline, recharge, age, sub-regions, interflow zones, and various informational data collected for use in constructing the four-county groundwater model. PLEASE BE AWARE THAT THE SIZE OF SEVERAL OF THE FOLLOWING DOCUMENTS IS QUITE LARGE AND MAY TAKE SOME TIME FOR THEM TO DOWNLOAD:

- Introduction to Geology and Hydrogeology of the Columbia River Basalt Group
- Summary of Columbia River Basalt Group Geology and Influence on Hydrogeology
- Groundwater Model Development Summary Report, September 2010
- Columbia River Group Basalt beneath the GWMA &ndash; Poster &ndash; November 2010
- Regional Hydrochemistry of Basalt Aquifers &ndash; Poster &ndash; November 2010
- Evidence of Stratigraphic (Vertical) and Lateral Compartmentalization, November 2010
- Geology and Hydrogeology &ndash; Handout &ndash; November 2010
- Hydrologic Groundwater Modeling Project &ndash; Interim Report, December 2010
- Evidence for Hydrogeologic Compartmentalization, June 2011
- Hydrochemical Evidence for Groundwater Compartmentalization and Modern Recharge, June 2011
- Integrated Remote Sensing and Geostatistical Evaluation of Groundwater Level Heterogeneity, June 2011
- Groundwater Flow Model Development, Calibration and Application to Evaluate Groundwater Supplies in Four Sub-Regions, June 2011
- Tracer Models of Groundwater Age, Mixing and Renewal, July 2011