Checklist: Presentation Topics for Basic Geology & Hydrogeology Overview

Scatter Creek Aquifer Citizens Group Meeting
Grand Mound, December 5, 2012
By
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Geology Basics: Scatter Creek Aquifer System & It's Boundaries

Quick overview of geologic time and geologic materials:

- Bedrock Geology (Tertiary) – 55 *mya* basalts, younger basalts & volcanics
- Unconsolidated Sediments Geology (Pleistocene & Holocene) - Older Glacial Events & Latest Vashon Continental Glaciation & Extent to Tenino
- Outburst Flood Deposits (Qgyo3-Unit)
- Geologic 'shapes' of basin
- Geologic Maps

Physiographic Model Boundaries & Geologic Controls (5 minutes)

- What makes the 'boundary' of our ground water numerical model
- LiDAR and basin topography

Hydraulic Properties of the Scatter Creek Aquifer & Drainage Basin

- Glacial outburst flood deposits at a primary hydrogeologic control of ground water discharge to the Chehalis River System.
- Hydraulic Properties of geologic materials (exploration lab – 8 minutes)

What is 'Ground Water Numerical Modeling' (Mostly to be given next session – a big topic**)**

- Goal: Creating a computer model that mimics the actual aquifer systems to the greatest degree possible
- Powerful predictive tools to 'manage' complexity: the amount of water in the system, rainfall, geologic properties, streams, etc.
- Using physical ground water and surface water data to 'calibrate' the physical model
- Prediction Capability vs Reality
- Once physical model is built: we add a 'contaminant' engine
- We begin next part of model: Contaminant Fate & Transport Modeling
- We load the model with 'land use scenarios' -- we run 'simulations'
- Grant component is to research/find "what" land use patterns *currently* are, what they *have been* and what they *will be* under future projections (Spatial & GIS Component)
- Models important 'learning tools': you can *optimize* & *constrain*.