



Moscow Water Supply Feasibility Study

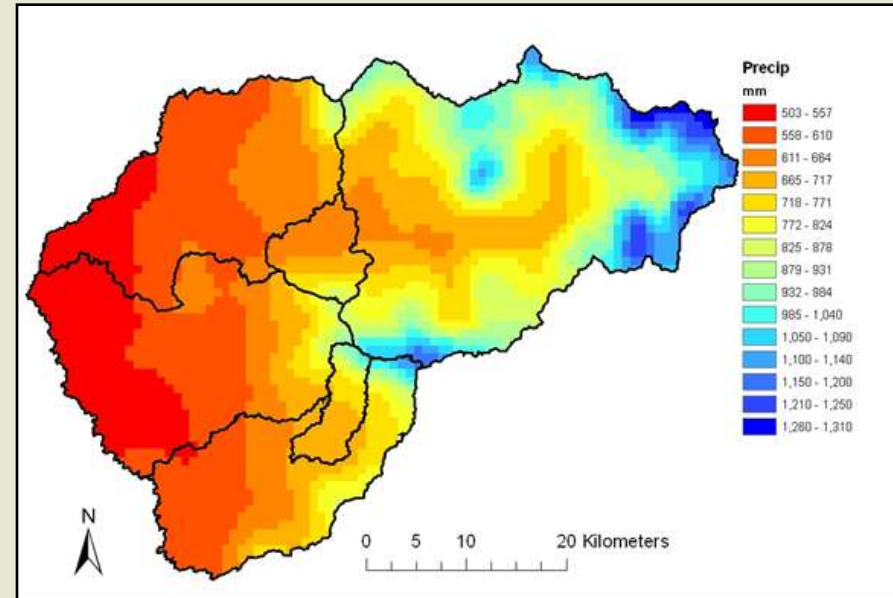
**TerraGraphics Environmental Engineering
URS**

**SPF Water Engineering
Hodge & Associates**

October 6, 2009

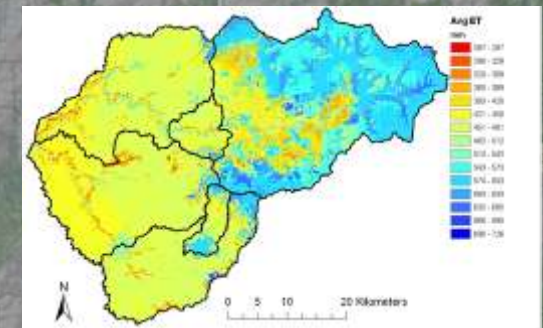
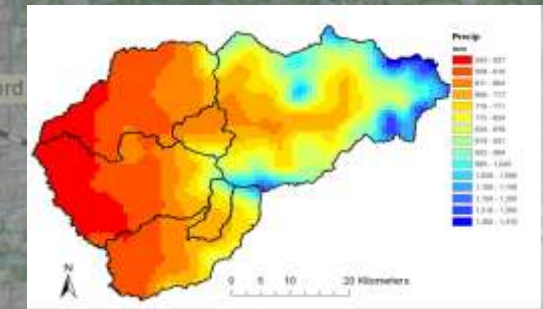
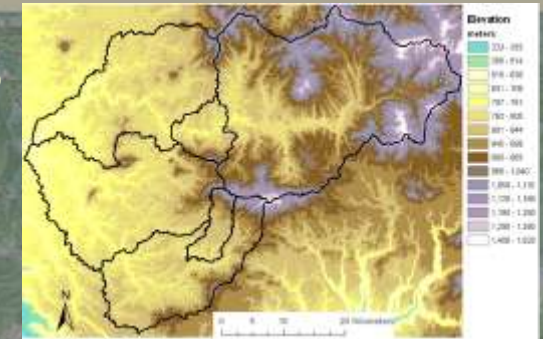
Project Understanding

- **Problem:** declining ground water levels in Grande Ronde Aquifer (despite regional efforts to limit growth in pumping)
- **Challenge:** Provide fundable high-quality sustainable water supply
- **Potential option:** augment ground water supply with surface storage from Moscow Mountain for
 - Direct use
 - Indirect use



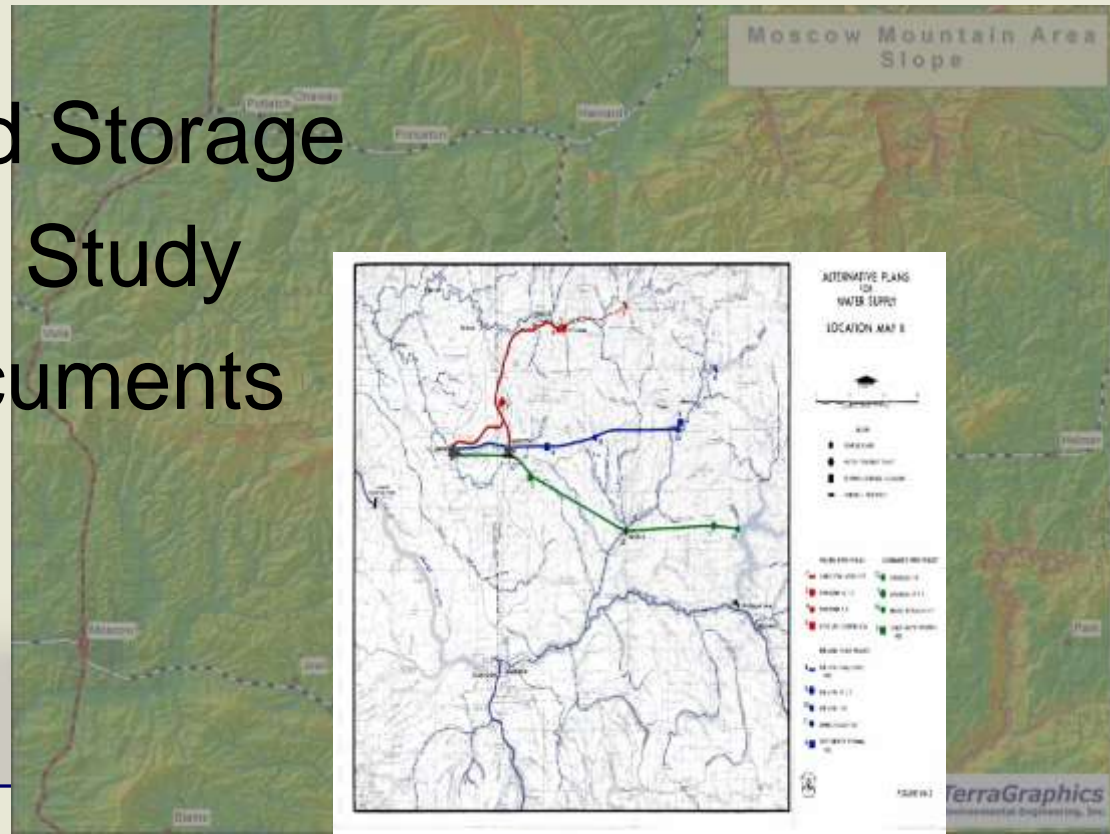
Surface Water Resources

- Assess distribution of water in area of interest on Moscow Mountain
- More detailed analysis at select sites
- Consistent, rigorous approach
- Data include: rainfall, snow, temperature, topography, geology, soils, vegetation, runoff



Understanding Previous Work

- *WSU/UI Research*
- 1970 Alternative Surface Water Study
- 1976 Pumped Storage
- 1989 USACE Study
- WRIA 34 Documents



Analysis of Reservoir Suitability

The Results

•Water Characteristics

- Nutrients
- Sedimentation Rate
- Water Flow Rate
- Watershed Contribution to flow, nutrients, sedimentation
- Other Factors Leading to Improved Decision Making
- Local Knowledge

Additional Considerations

Leverage Local Experience

- Diverse local issues and concerns
- Regional water supply characteristics
- Local politics
- Regional and local hydrology
- Geology
- Water system characteristics
- Land use and land ownership

Additional Considerations

- **Anticipate Permitting Requirements**
 - **Idaho water rights**
 - Idaho Department of Water Resources
 - **Environmental permitting**
 - Idaho Department of Water Resources
 - Idaho Department of Environmental Quality
 - Corps of Engineers
 - Endangered Species Act considerations

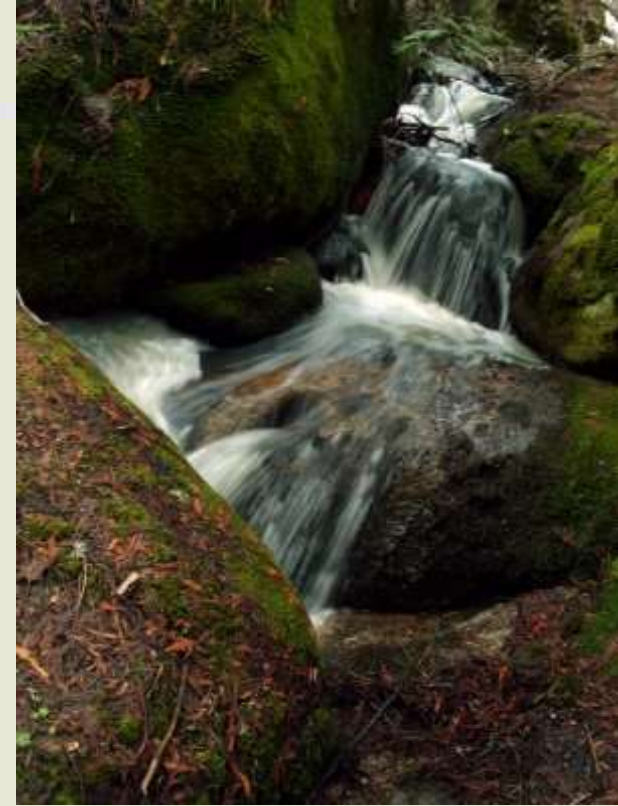
Additional Considerations

- Integrate reservoir options with:
 - Existing regional aquifer system
 - City water system
- Anticipate potential financing options



The Spectrum of Possibilities

- Large/Centralized Projects
 - Self-contained
 - Larger one-time costs
 - Less resilient
- Small/Distributed Projects
 - More variables
 - Phased implementation and costs
 - More resilient



Thank You



Surface Water Reservoir Feasibility Study