

Hydrogeology, Simulation of Ground-Water Flow, and Land- Surface Subsidence in the Chicot, Evangeline, and Jasper Aquifers, Houston Area, Texas

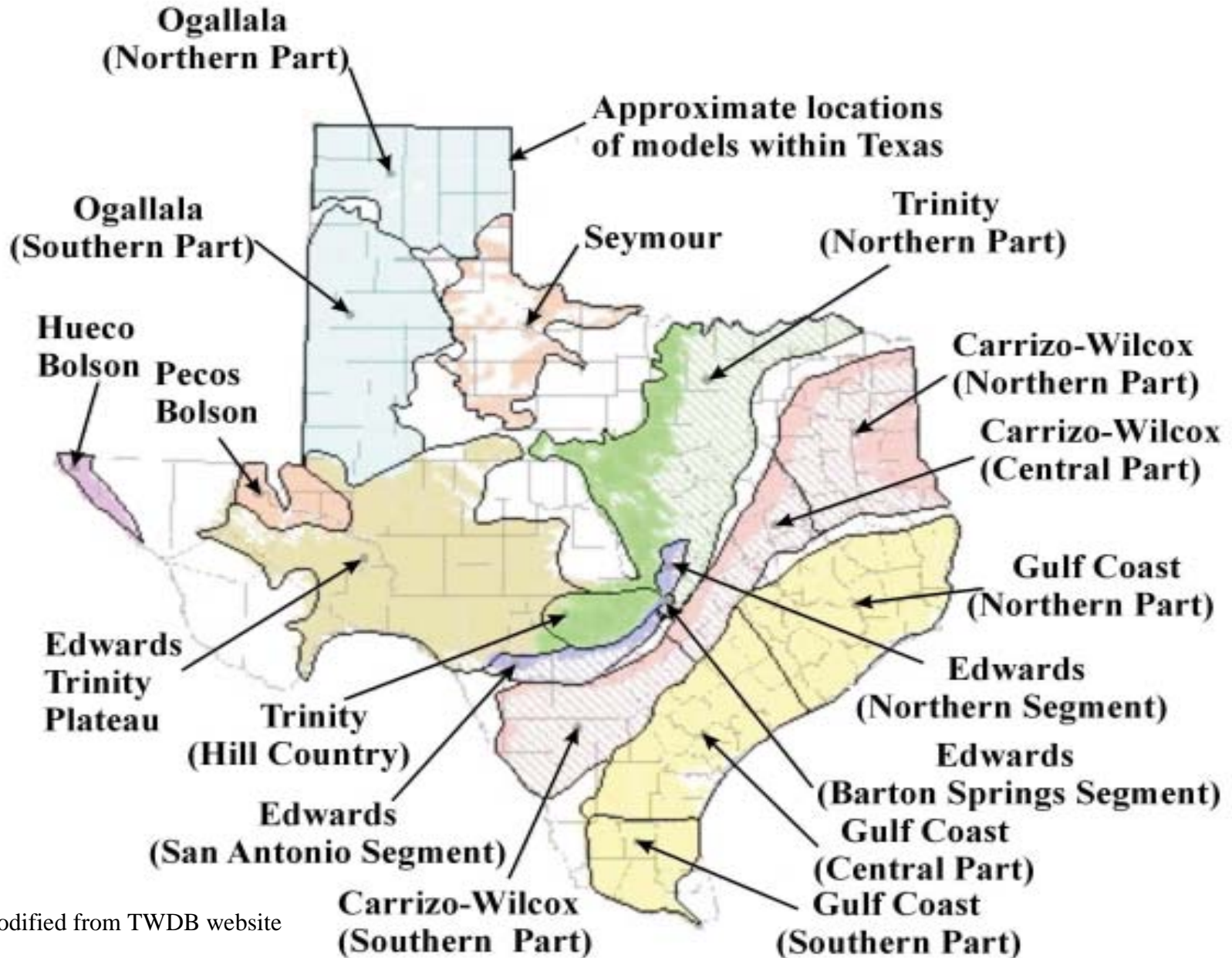
Mark C. Kasmarek & Eric W. Strom

In Cooperation with the Texas Water
Development Board and the Harris-Galveston
Coastal Subsidence District

GAM Upper Gulf Coast Aquifer Outcrops

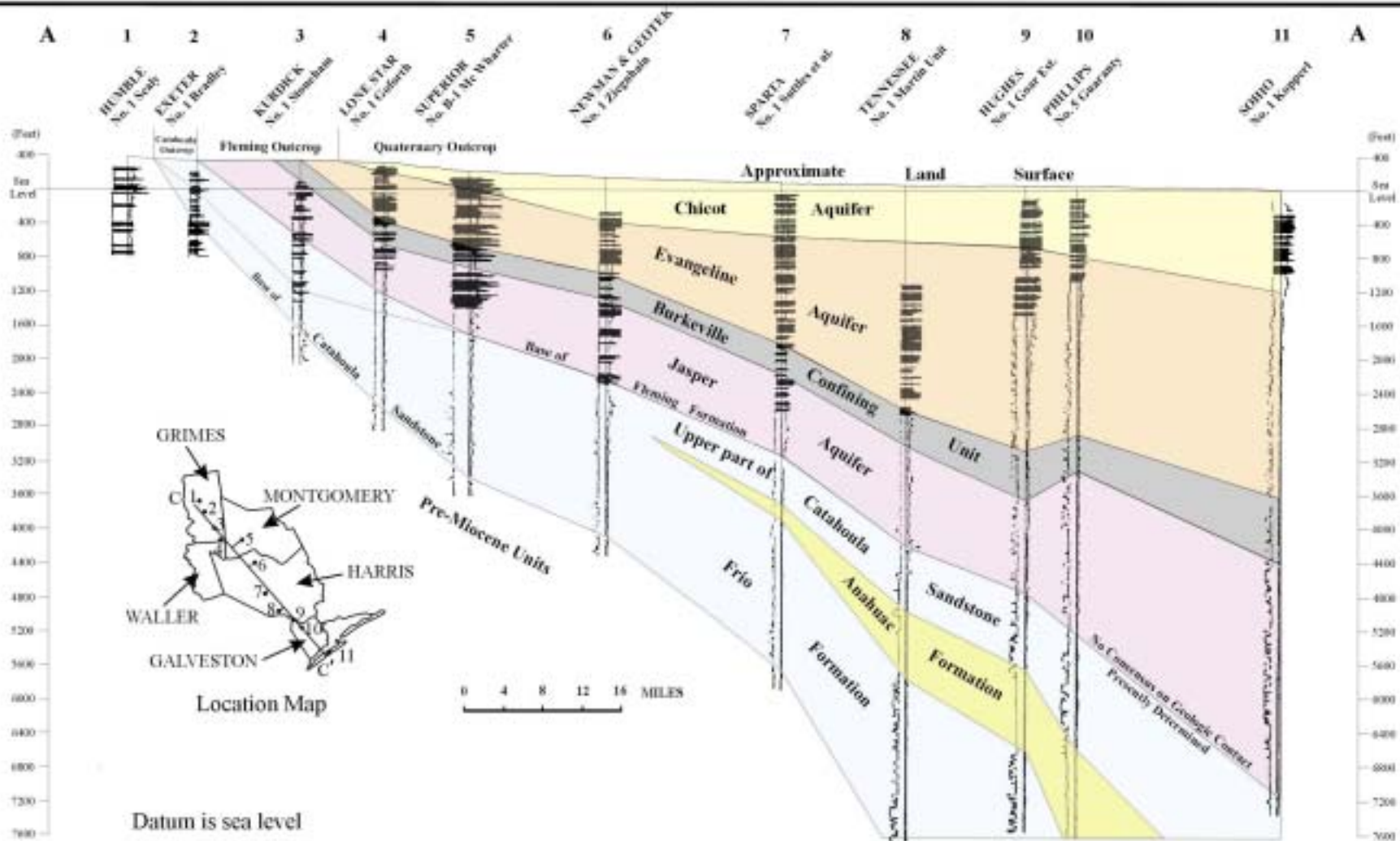


TWDB Ground-Water Availability Models in Texas



Modified from TWDB website

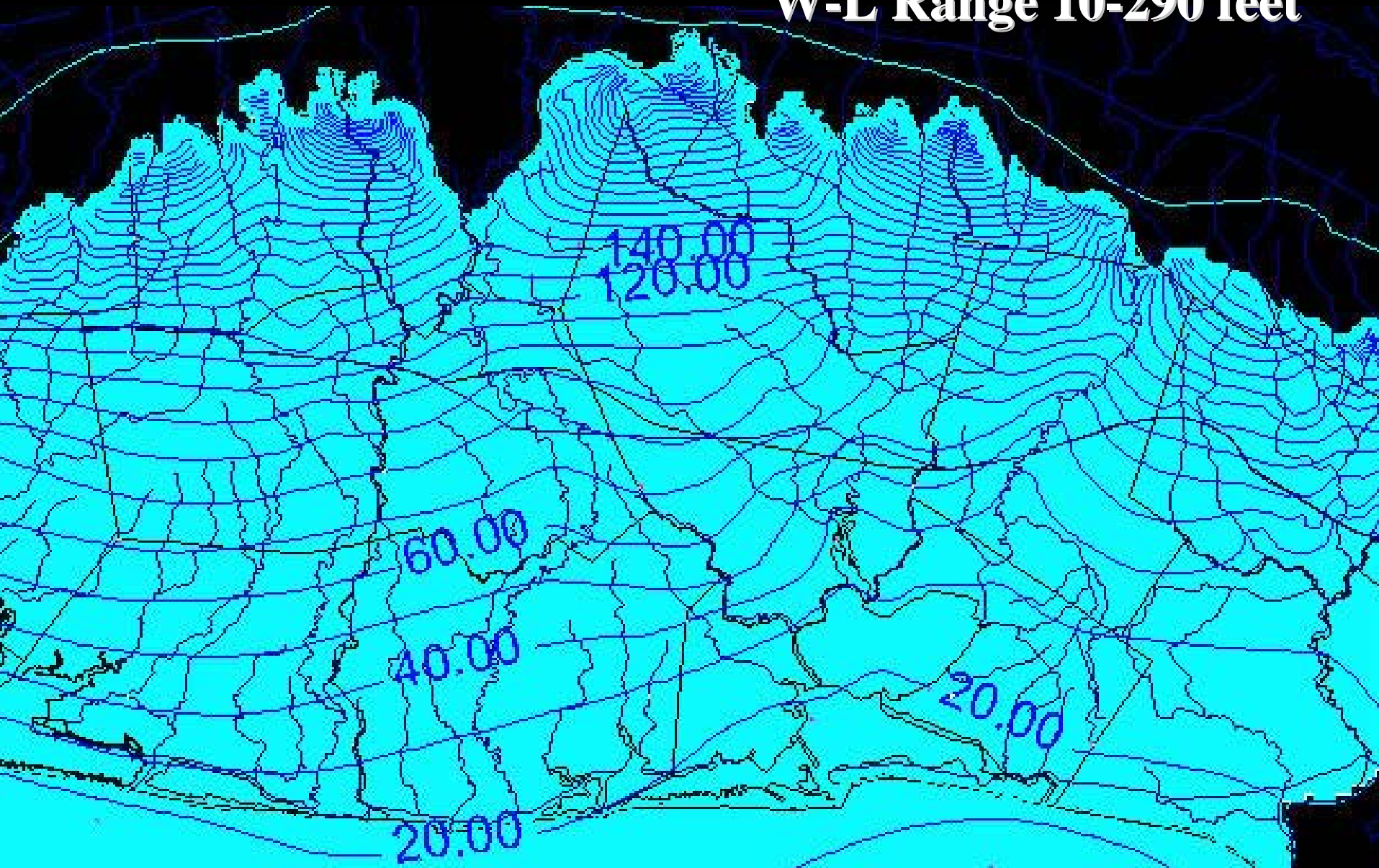
Stratigraphic and Hydrologic Sections



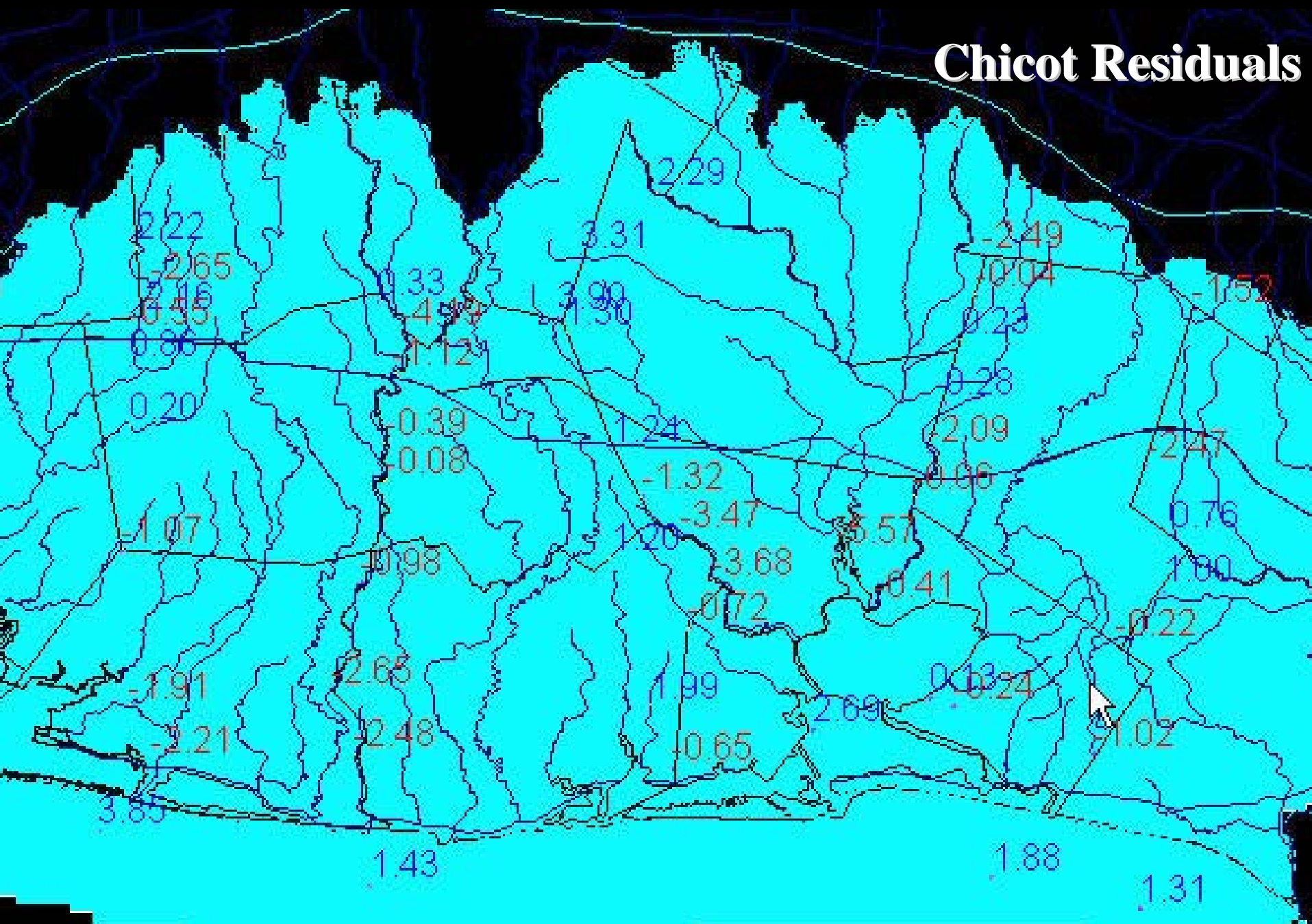
Geologic cross section showing the northwest to southeast dip and relation of stratigraphic and hydrologic units (modified from Baker, 1986).

Chicot Steady-State Heads

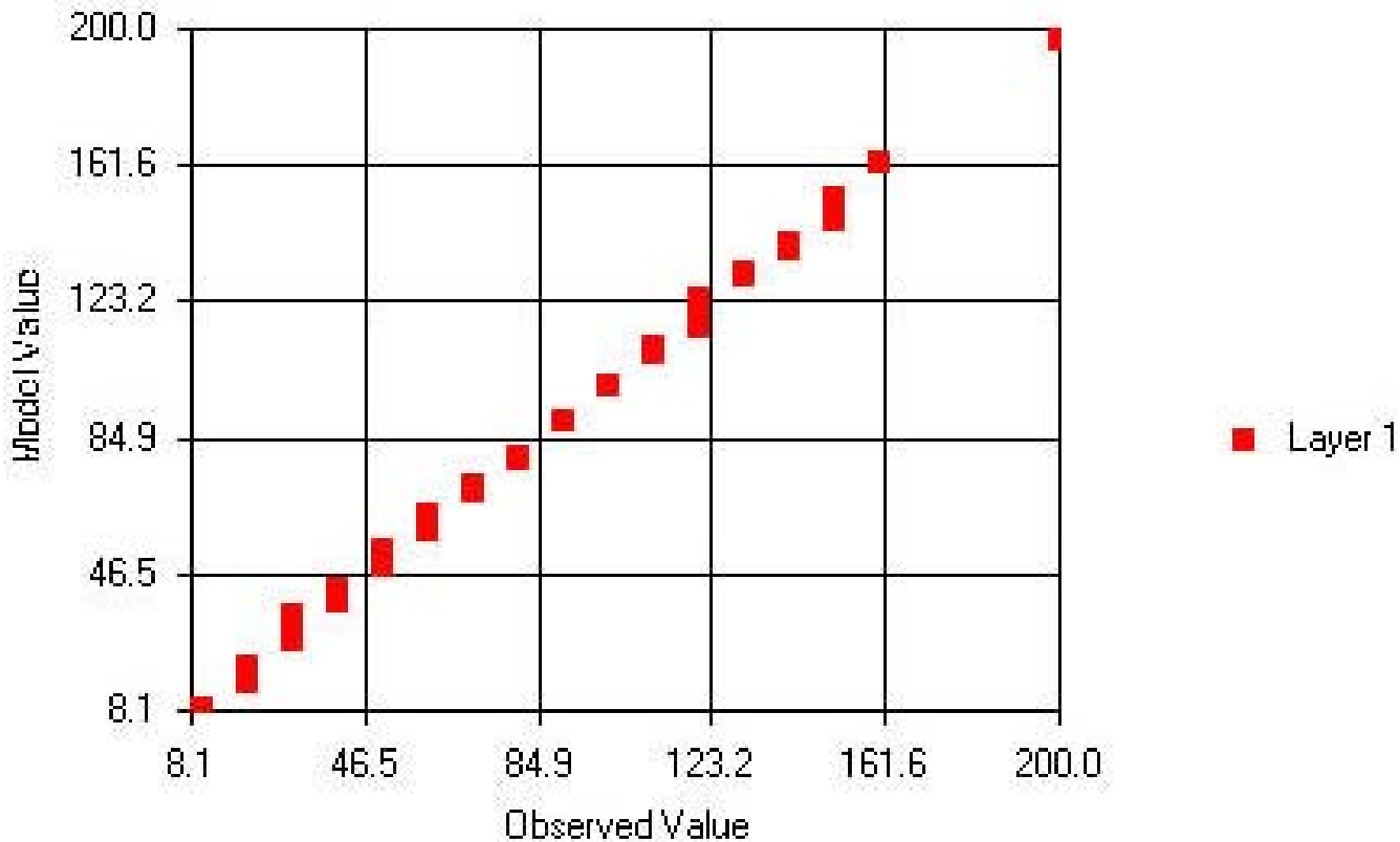
W-L Range 10-290 feet

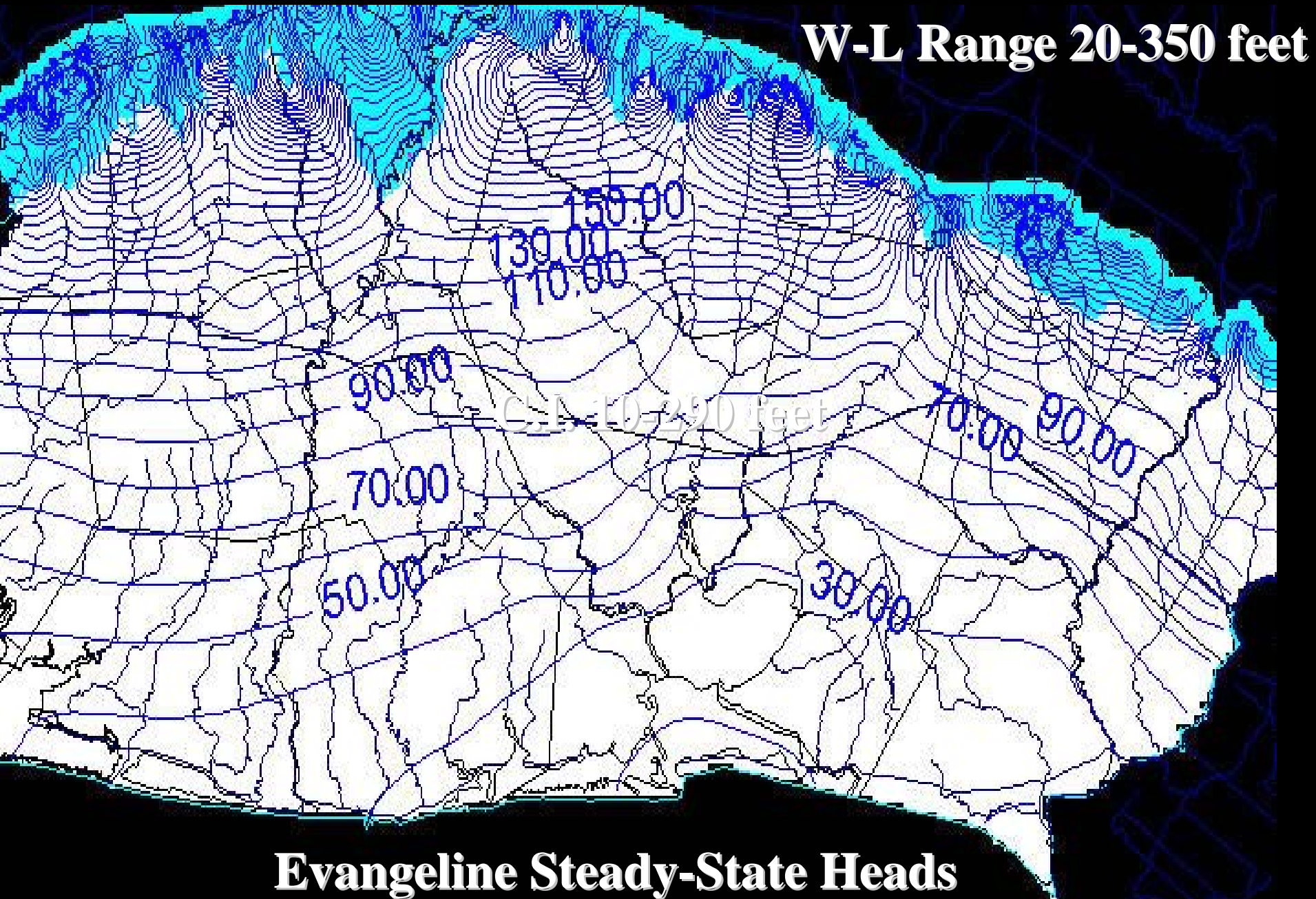


Chicot Residuals



Observed vs. Computed Target Values

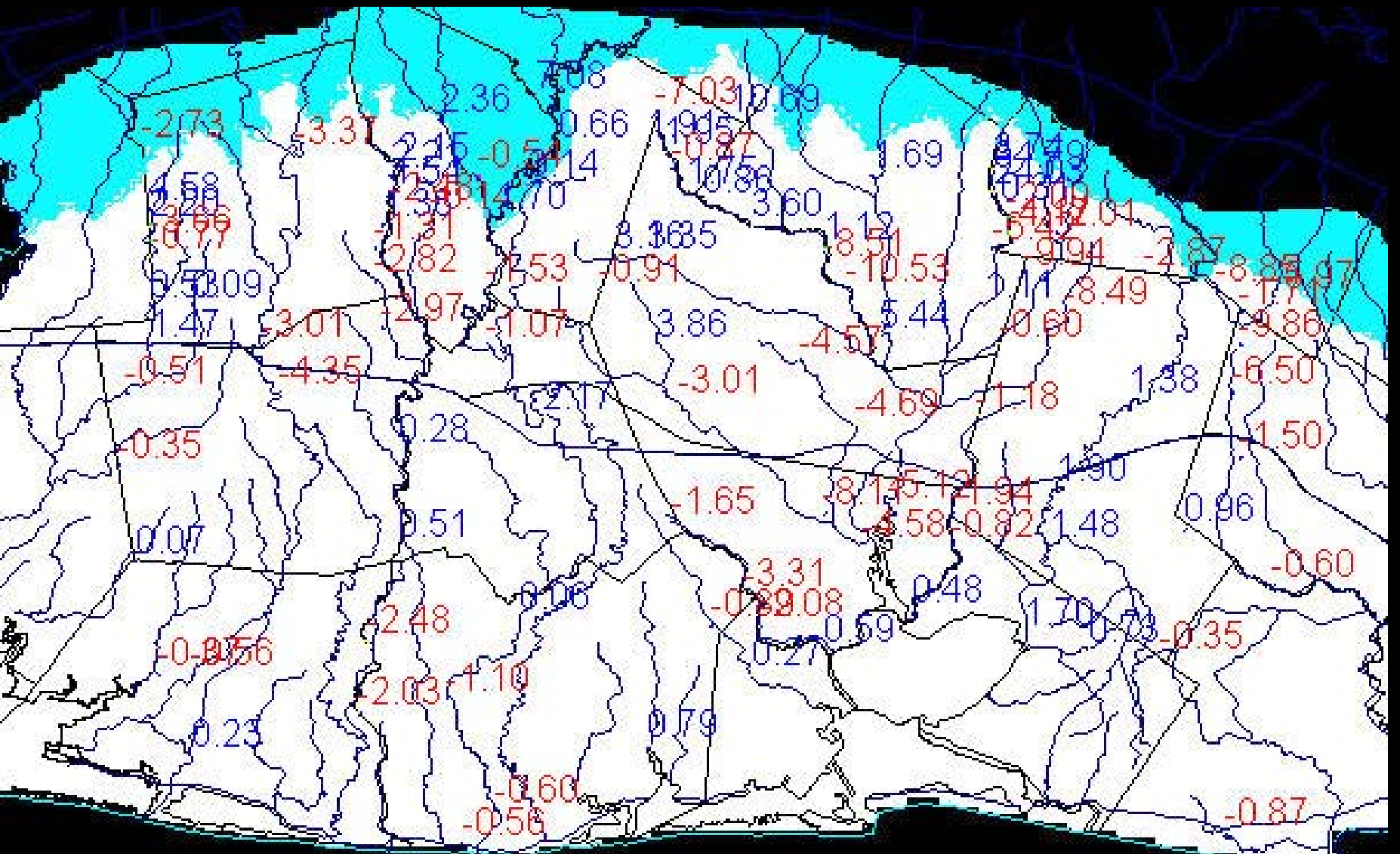




W-L Range 20-350 feet

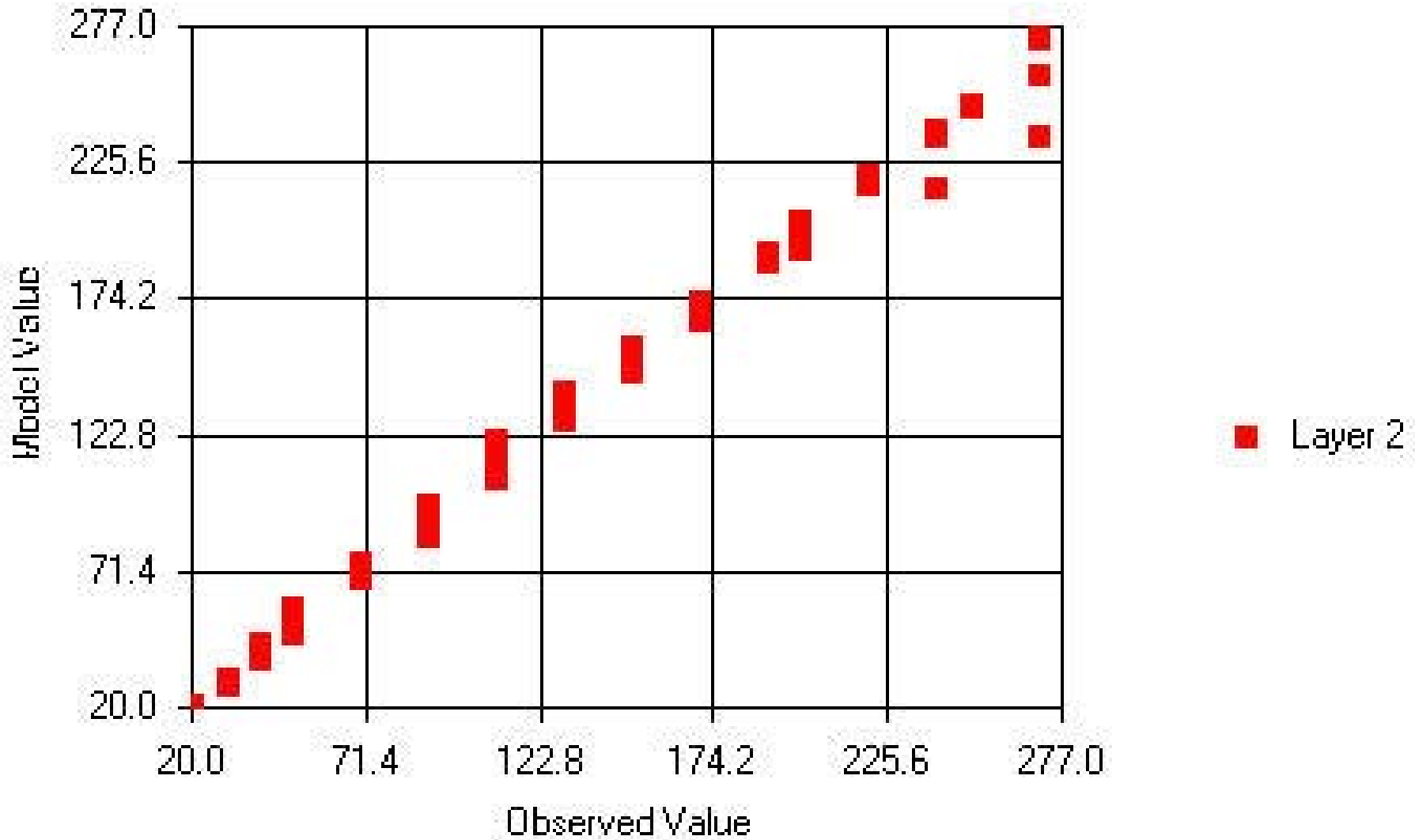
CSL 10-290 feet

Evangeline Steady-State Heads

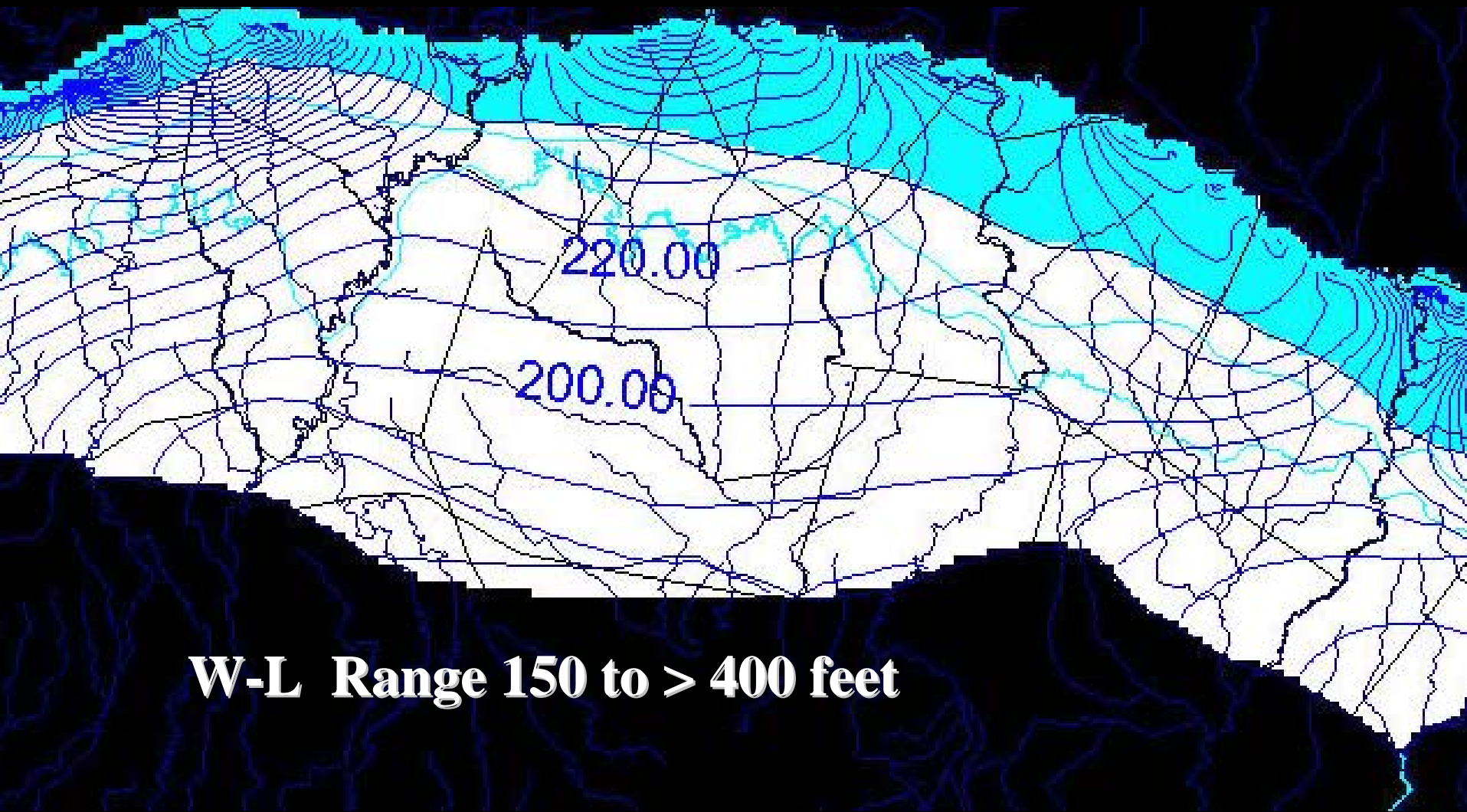


Evangeline Residuals

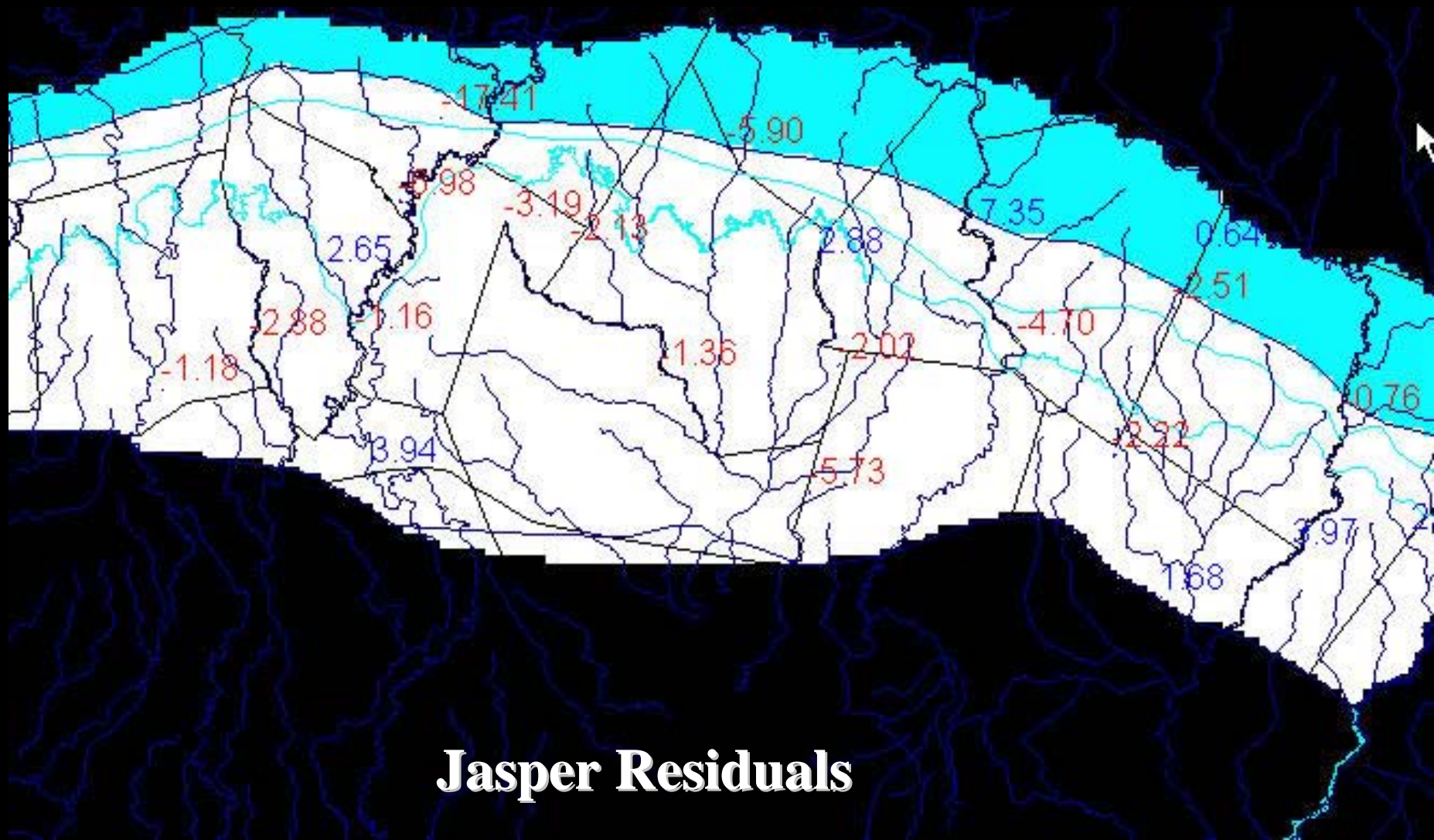
Observed vs. Computed Target Values



Jasper Steady-State Heads



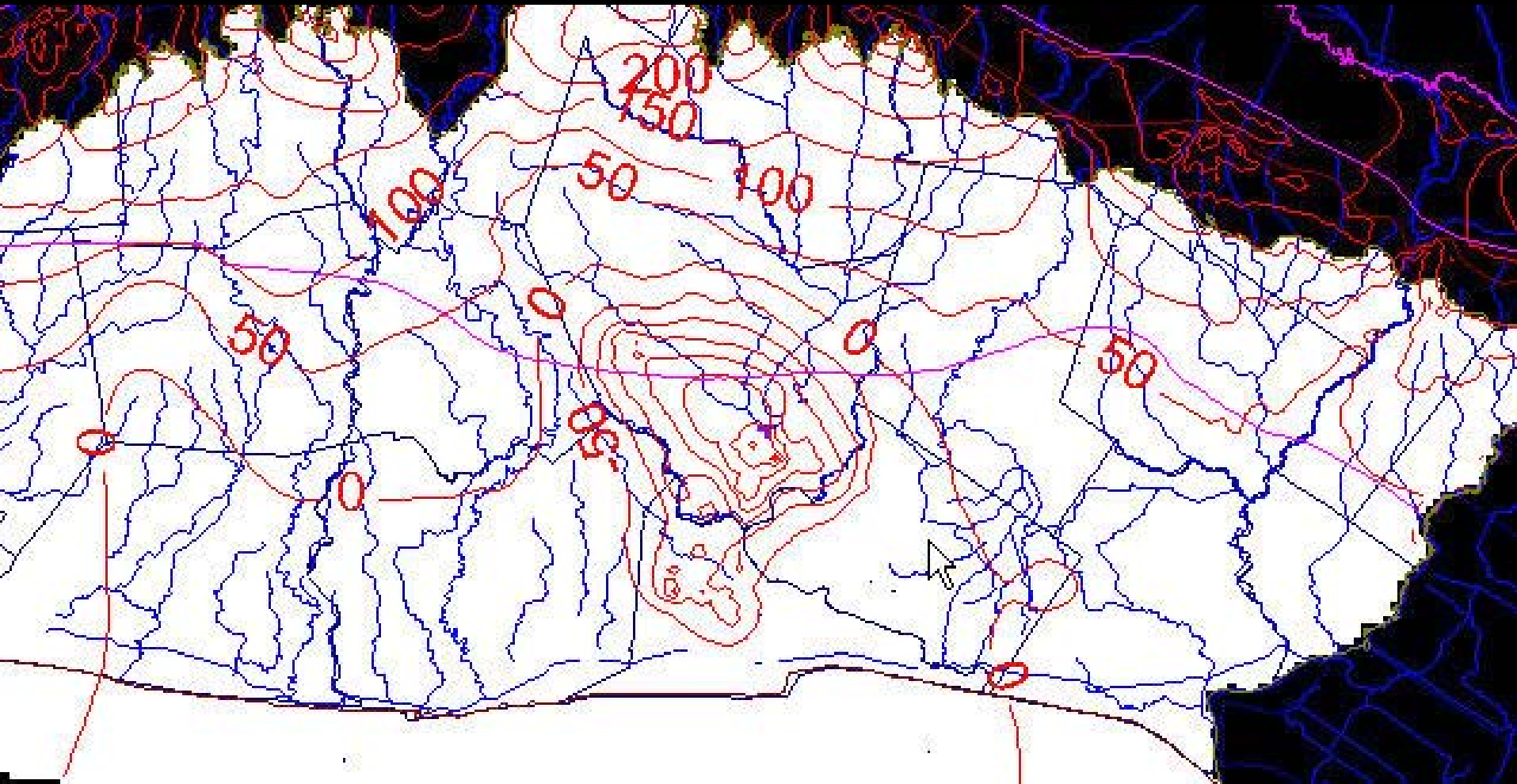
W-L Range 150 to > 400 feet



Jasper Residuals

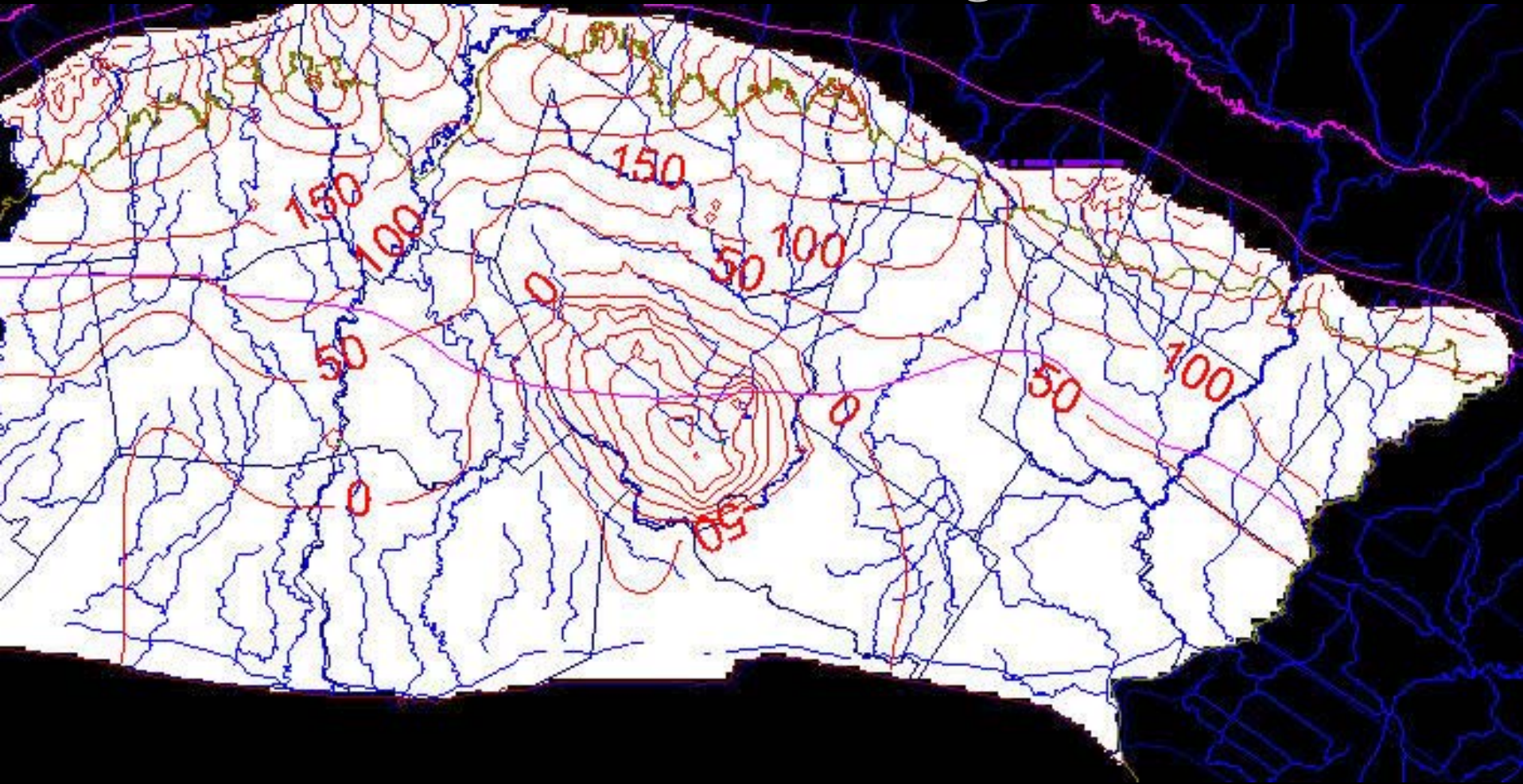
1977 Chicot Heads

W-L Range +300 to -350 feet



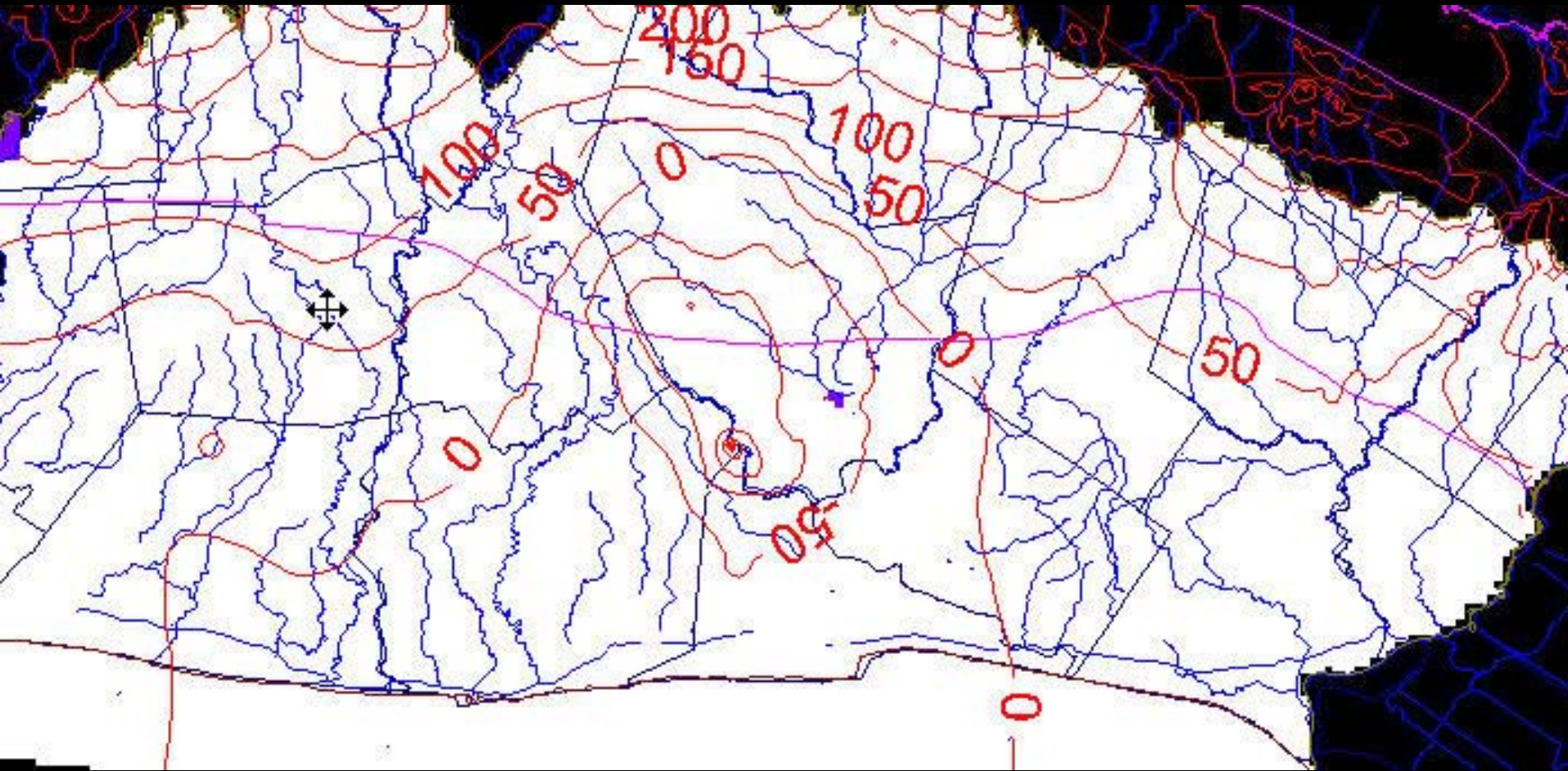
1977 Evangeline Heads

W-L Range +350 to -350 feet



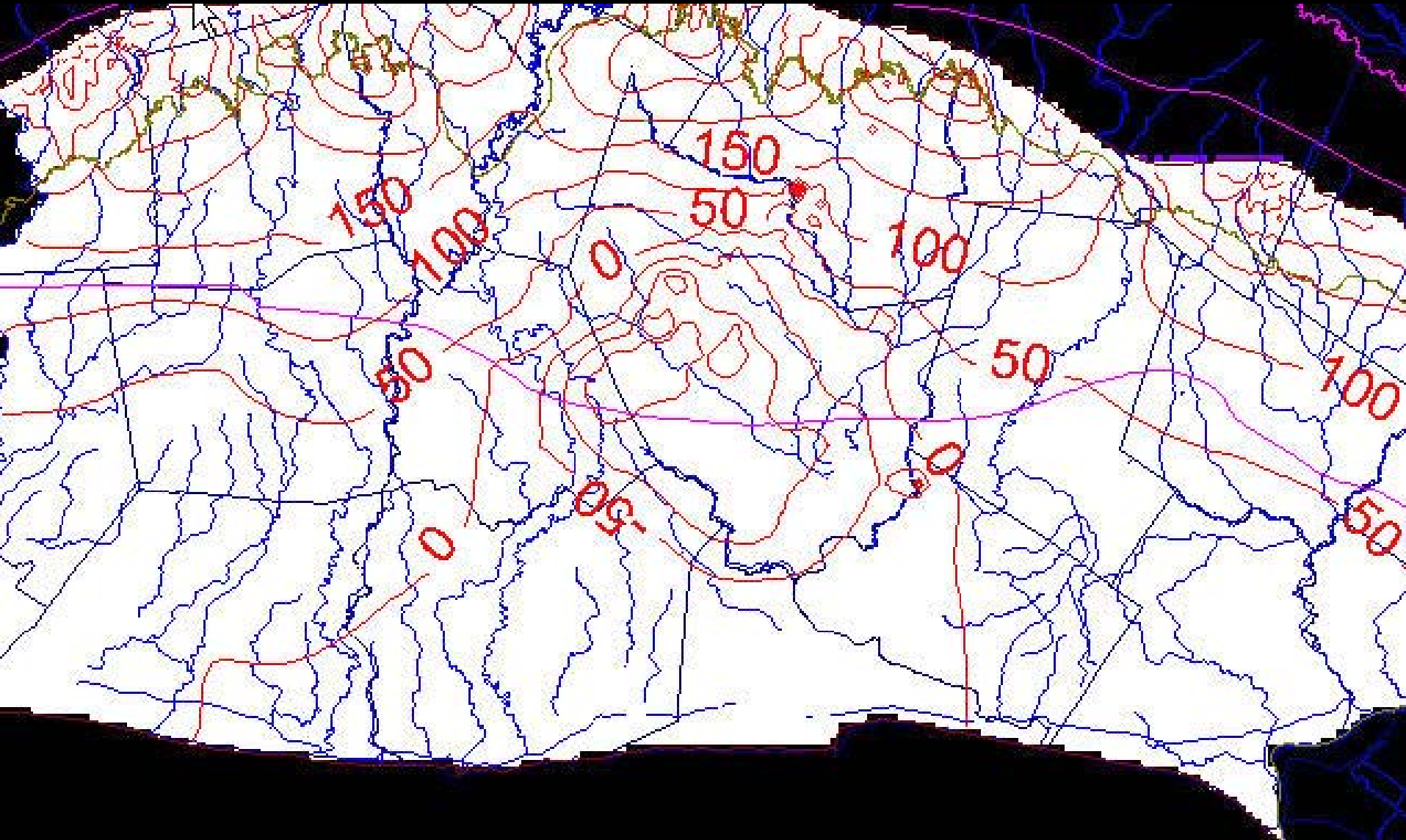
1996 Chicot Heads

W-L Range +250 to -250 feet

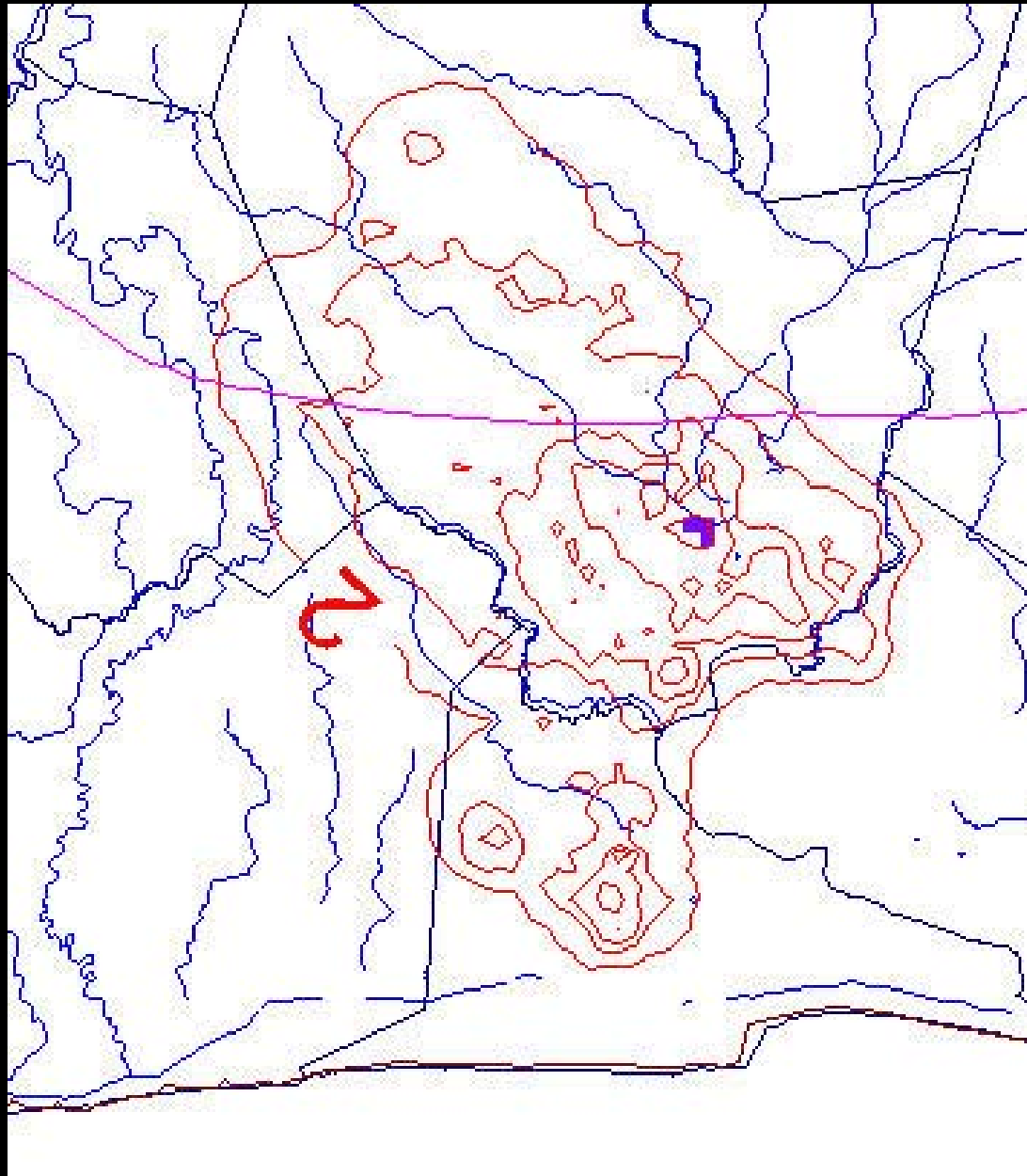


1996 Evangeline Heads

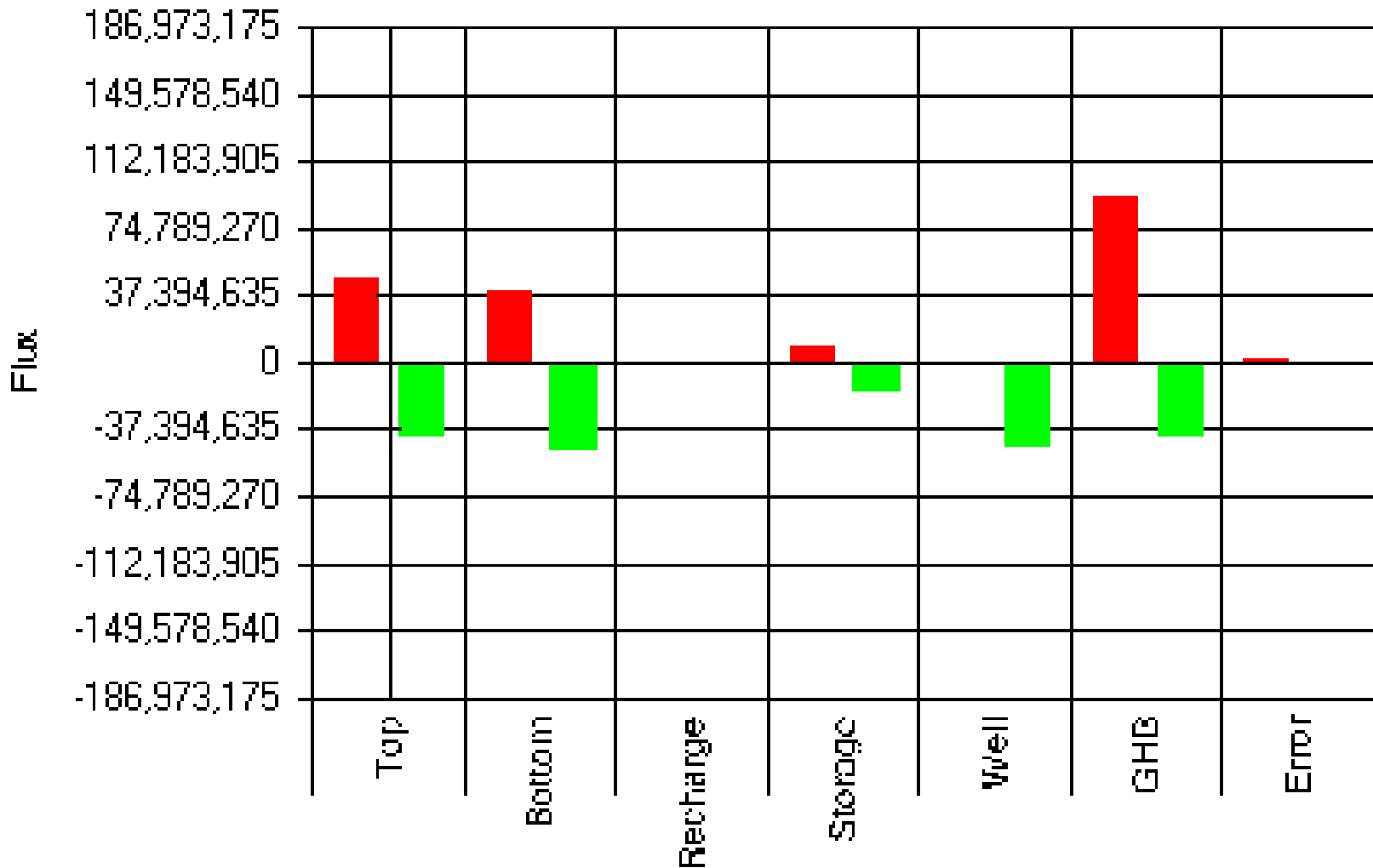
W-L Range +350 to -150 feet



Land-Surface Subsidence 1891-1996



1996 Mass Balance Summary



- Average recharge (in/yr) entire model = 1.09

Attendance list at the 5th Stakeholder Advisory Forum for the northern Gulf Coast aquifer Groundwater Availability Model, January 29, 2003

<u>Names</u>	<u>Affiliation</u>
Ali Chowdhury	Texas Water Development Board
Jun Chang	City of Houston
H.C. Clarke	Geology Consultant
Jim Adams	San Jacinto River Authority
Bob Pickens	Region K , Colorado County
Dave Killen	URS Corporation
Eric Strom	US Geological Survey
John Nelson	LBG-Guyton Associates
Mark C. Kasmarek	US Geological Survey
Robert K. Gabrysch	Consultant Hydrogeologist
Phil Savoy	Murfee Engineering
Tom Michel	Harris-Galveston CSD
David van Dresar	City of Texas City
Orval R. Love	Lone Star GCD
Kathy Jones	Lone Star GCD
Michael Klaus	
Reed Eichelberger	San Jacinto River Authority
Michael D. Campbell	Campbell and Associates