

# GROUNDWATER TEMPERATURES OF MISSOURI SOUTHEASTERN LOWLANDS PHYSIOGRAPHIC REGION

Geology and Digital Compilation by  
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## MAP DESCRIPTION

The Southeastern Lowlands region contains the greatest volume of groundwater per unit area. Parts of the St. Francois and Ozark aquifers are usable in the northwestern part of this province. However, most usable groundwater is contained in thick deposits of shallow alluvium and deeper Tertiary and Cretaceous-age unconsolidated sands.

Groundwater temperatures throughout the map range from mid-50°F to mid-60°F in the uppermost aquifer. The temperatures are permissible for GSHP system use. Areas of higher and lower temperatures are scattered throughout the map and range from upper 30°F values to values higher than 80°F. No values reached 90°F.

The Southeastern Lowlands, including the Bootheel of Missouri, generally have higher groundwater temperatures than does the rest of the state. Few temperatures in the 50°F range were measured in the province. Groundwater temperatures were in the 70°F to 80°F and higher range in southern Pemiscot County, Dunklin County, and western New Madrid County.

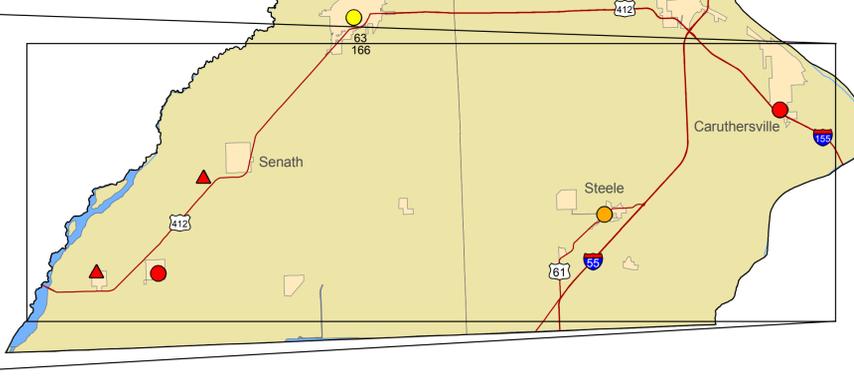
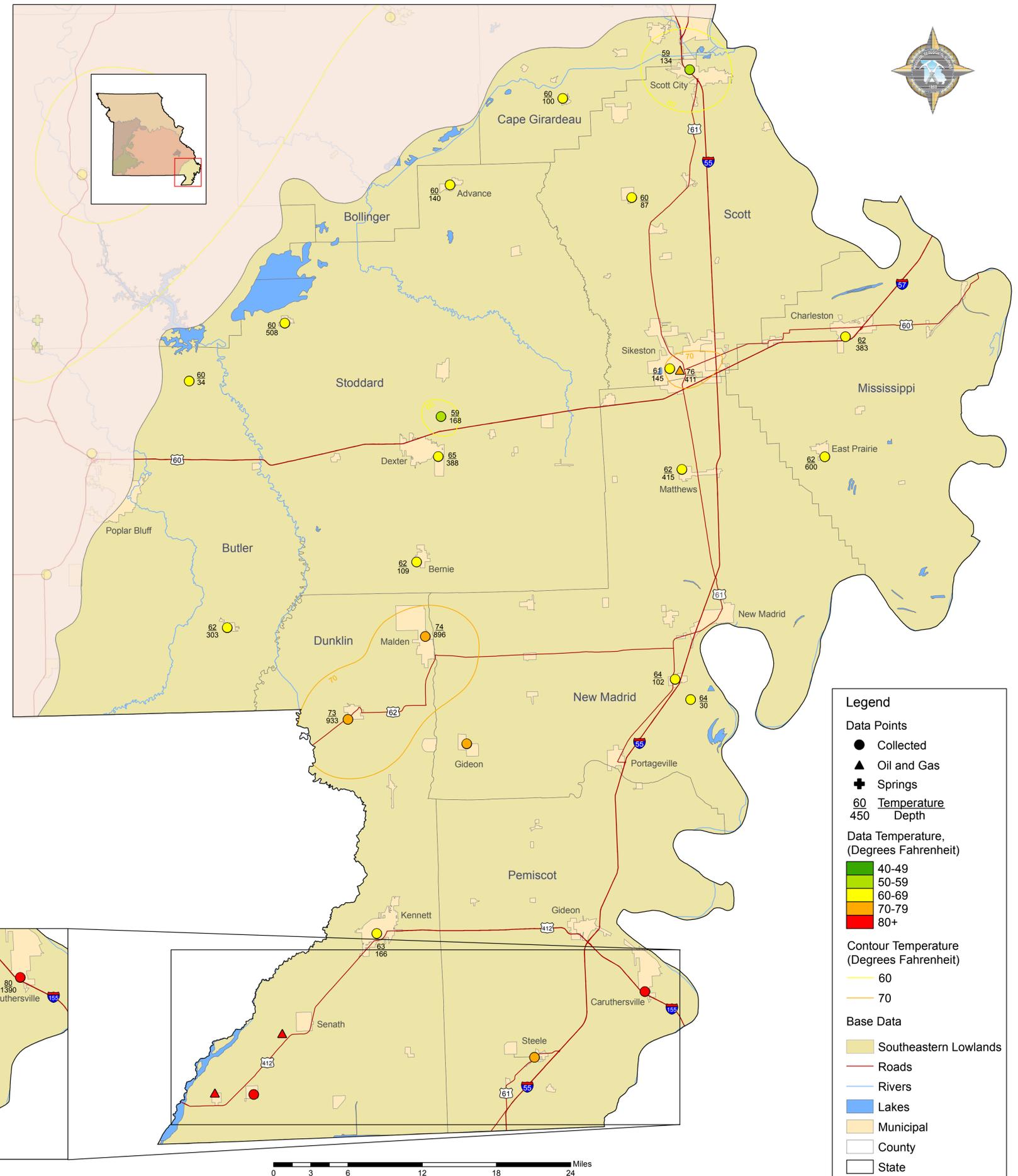
## DATA COLLECTION

New data collected included existing residential and commercial water wells and springs. Existing data used in this project was collected from multiple sources for greater detail: Missouri Department of Natural Resources, Division of Geology and Land Survey (DGLS) written data files; U.S. Geological Survey (USGS) National Water Information System (NWIS) electronic data files; U.S. Environmental Protection Agency (USEPA) STORET electronic data files; and CO2 Reduction (RCOR) Partnership data was collected in part with funding from the U.S. Department of Energy (DOE) through the PCOR regional partnership. Spring temperatures were obtained from DGLS files. Data from landfill monitoring wells was obtained from the Missouri Department of Natural Resources, Solid Waste Management Program records.

Temperature data on the map was contoured to all data collected at a depth of less than 1,000 feet, in intervals of 10°F. With the exception of the inset, data points that are deeper than 1,000 feet and were not contoured.

## ACKNOWLEDGEMENTS

Data collection could not have been possible without the generosity of Public Water Supply Districts and City Water Departments state-wide that provided access and accompaniment to their water wells. The Missouri Department of Natural Resources, Division of Environmental Quality provided access to their library for collection of landfill monitoring well data. The Missouri Department of Conservation and Missouri Department of Natural Resources, Division of State Parks allowed access to their private lands. The assistance of Fletcher Bone, DGLS, in data collection was invaluable. Thank you to Nicholas Newport, Division of Energy, for his overall support of the project.



**Legend**

**Data Points**

- Collected
- ▲ Oil and Gas
- ✚ Springs

**60 Temperature**  
450 Depth

**Data Temperature, (Degrees Fahrenheit)**

- 40-49
- 50-59
- 60-69
- 70-79
- 80+

**Contour Temperature (Degrees Fahrenheit)**

- 60
- 70

**Base Data**

- Southeastern Lowlands
- Roads
- Rivers
- Lakes
- Municipal
- County
- State

