EARTHFIELD TECHNOLOGY

**Earthfield Technology, LLC and Bird Geophysical are pleased to announce joint venture geothermal projects across the U.S. in Permian, Powder River, and Denver-Julesburg Basins, as well as the Gulf Coast region.**

bird GEOPHYSICAL

Supervised Machine Learning analyses integrate geothermal station data with magnetic basement and terrane interpretations to produce suites of products including predicted heat flow and thermal conductivity as well as 3D SEG-Y volumes: temperature, thermal conductivity, and heat production.

Sabine Uplift

Basin Layer Temperature

Crystalline Crust Layer Heat Production
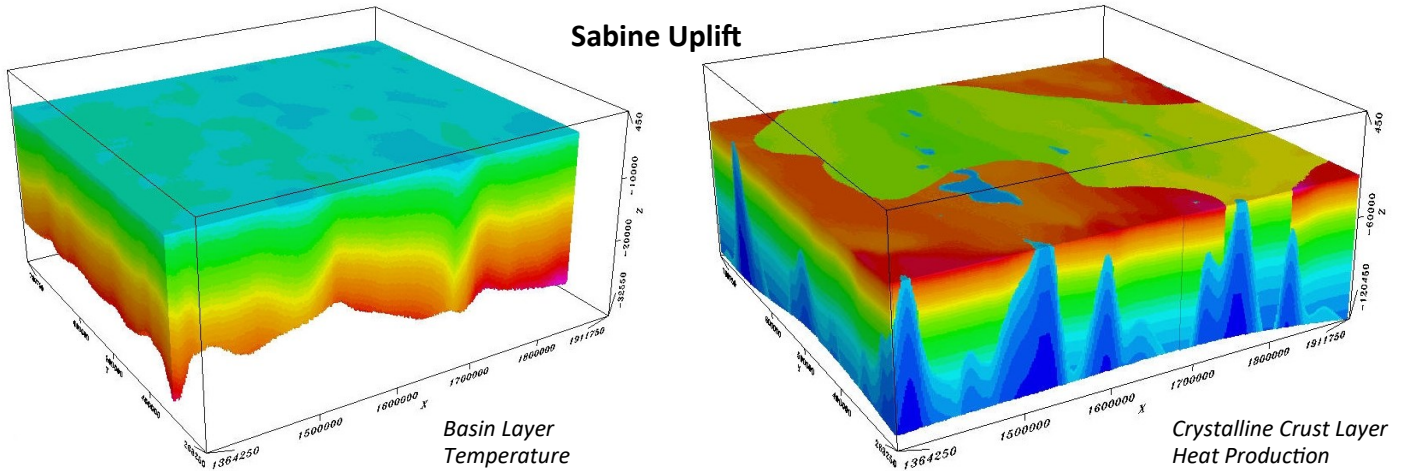
WORKFLOW

We define **The Magnetic Layer** (Bird et al., 2022, *IMAGE*), between the top of crystalline crust and Curie point depth, and use fundamental equations, such as Fourier's Law, to establish key temperature horizons (near surface, basement and Curie point) needed to produce geothermal grids and 3D volumes.

Critical elements of our projects:
- **High-resolution magnetic basement interpretation**
- **Basement terrane interpretation**
- **Supervised machine learning to predict heat flow and thermal conductivity**

In addition to non-exclusive projects, Earthfield Technology and Bird Geophysical have successfully completed proprietary projects world-wide.
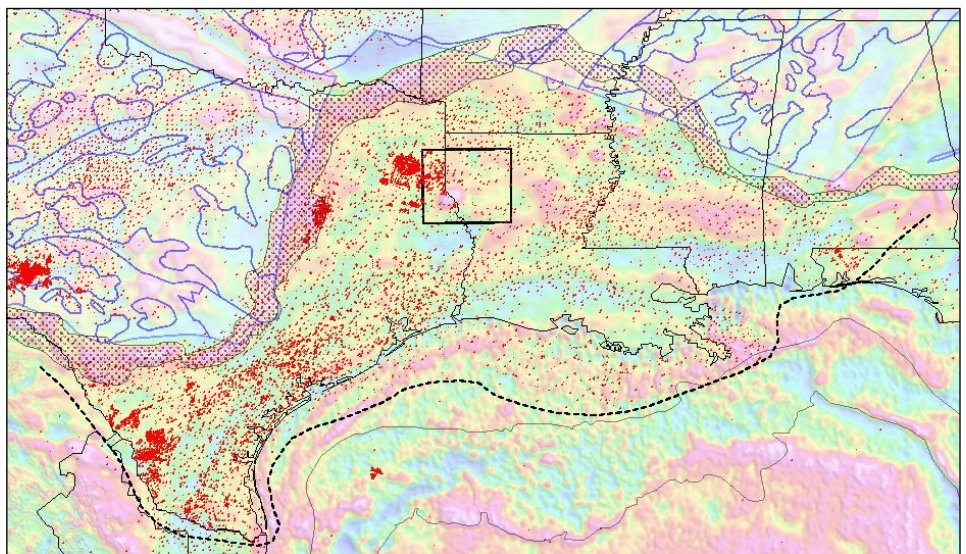
IN PROGRESS: **Gulf Coast Basins geothermal study**, extends south from the Marathon-Balcones-Ouachita-Suwanee Suture zone (black stipple) to the heavy dashed black line, and from Texas to Mississippi. Heat flow stations (red dots), residual Bouguer gravity anomalies (colored grid), Proterozoic basement terranes (blue/white polygons, after Whitmeyer and Karlstrom (2007, *Geosphere*), bathymetry contours (200 and 2500 m bsl), and Sabine Uplift study area (black box, 3D volumes shown above).

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