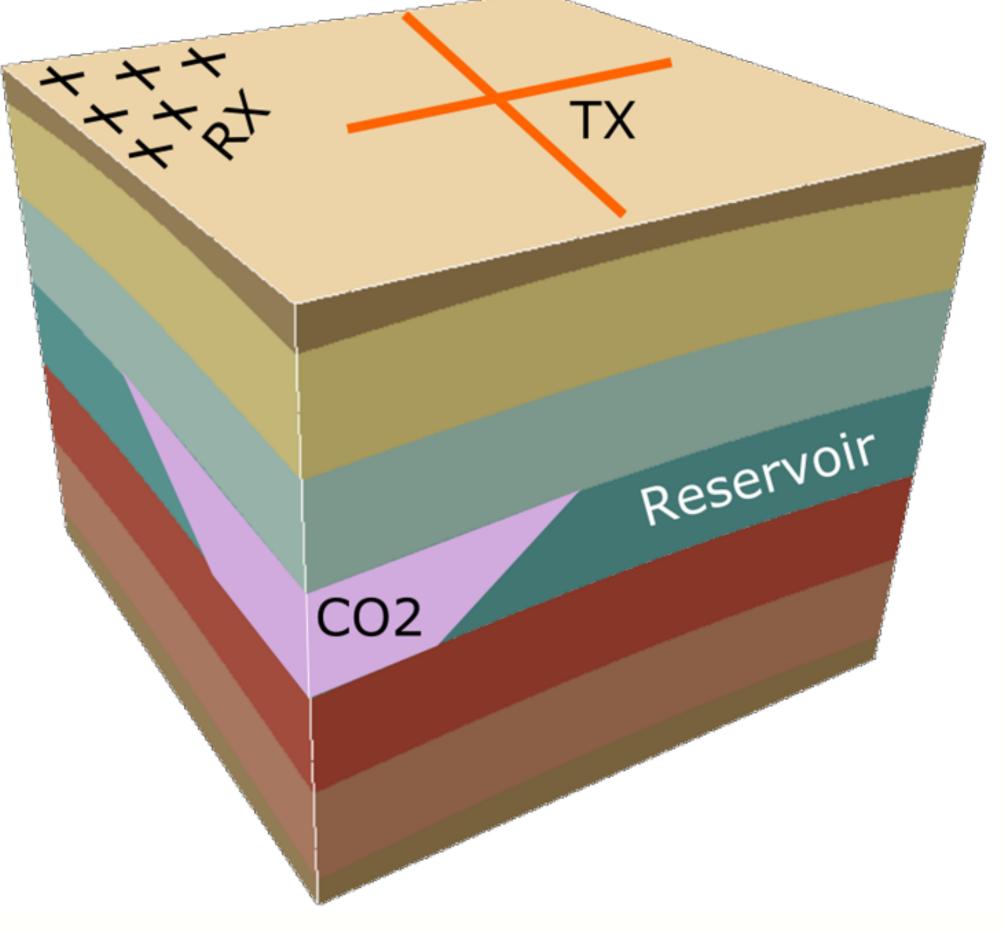


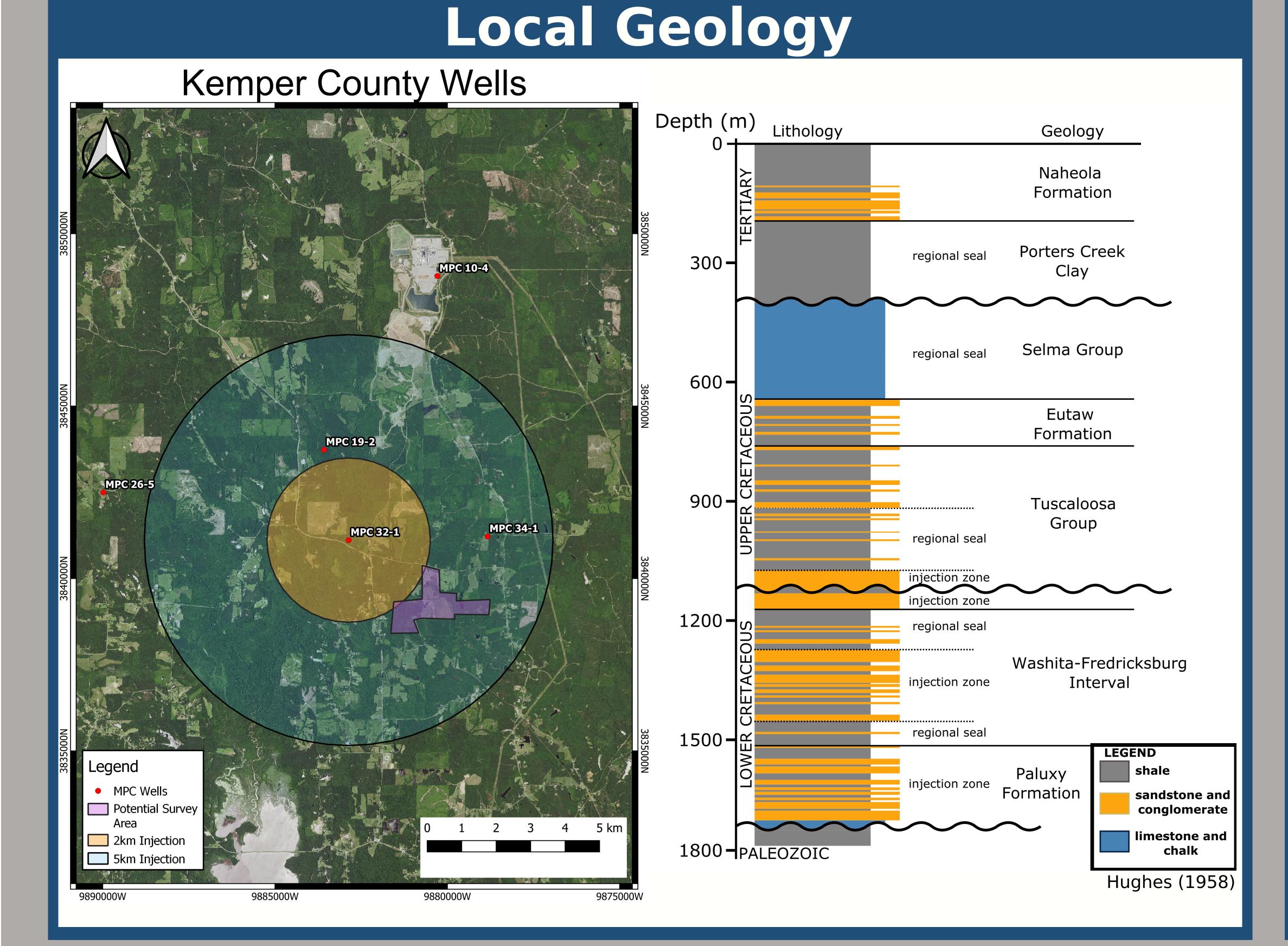


### Introduction

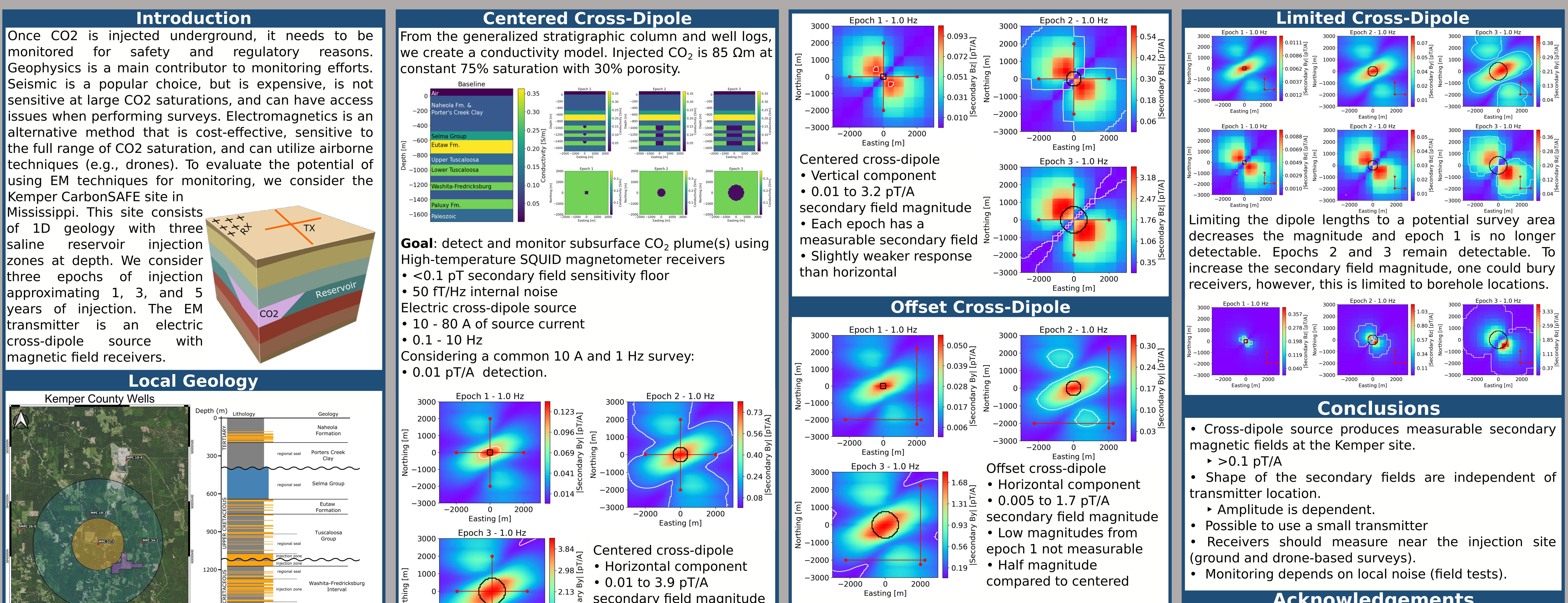
Geophysics is a main contributor to monitoring efforts. Seismic is a popular choice, but is expensive, is not sensitive at large CO2 saturations, and can have access issues when performing surveys. Electromagnetics is an alternative method that is cost-effective, sensitive to the full range of CO2 saturation, and can utilize airborne techniques (e.g., drones). To evaluate the potential of using EM techniques for monitoring, we consider the

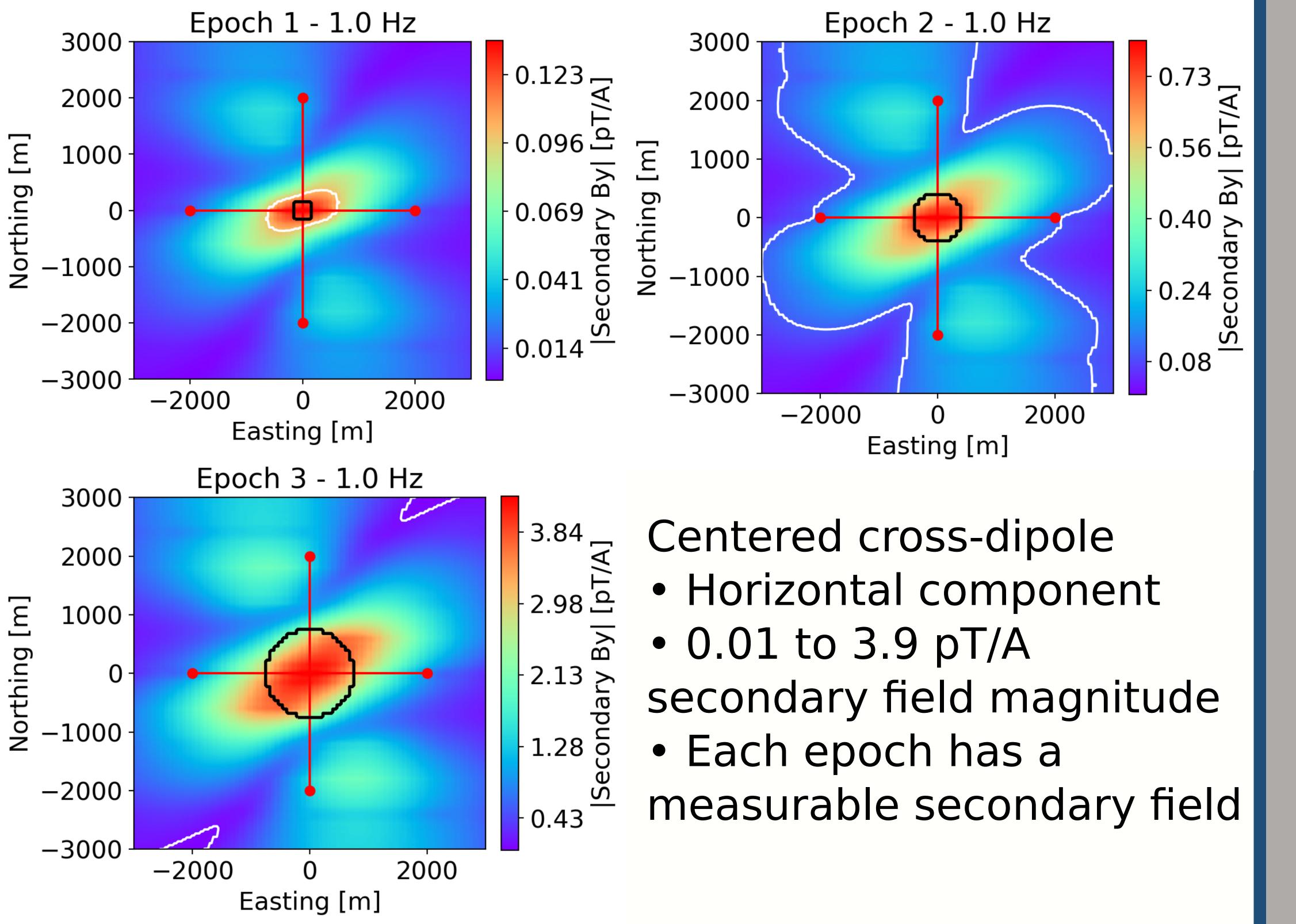
Kemper CarbonSAFE site in Mississippi. This site consists of 1D geology with three total injection saline reservoir zones at depth. We consider injection three epochs of approximating 1, 3, and 5 years of injection. The EM electric transmitter an with cross-dipole source magnetic field receivers.



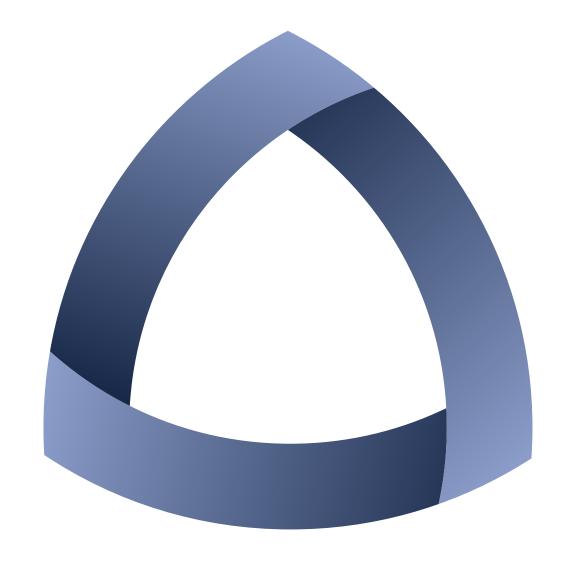


# Feasibility of FDEM monitoring at the Kemper CarbonSAFE site **Colton Kohnke\*, Yaoguo Li\*, and Richard Hammack<sup>†</sup>** \*Center for Gravity, Electrical, and Magnetic Research, Colorado School of Mines <sup>†</sup>National Energy Technology Lab, U.S. Department of Energy





Shape of the secondary magnetic fields is independent of the location of the cross-dipole source. The magnitude is dependent on location. However, long dipoles may not be feasible in the field.



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We thank David Alumbaugh (LBNL) for useful discussions on electromagnetic equipment and surveys, and SimPEG for the finite-volume EM modeling codes.