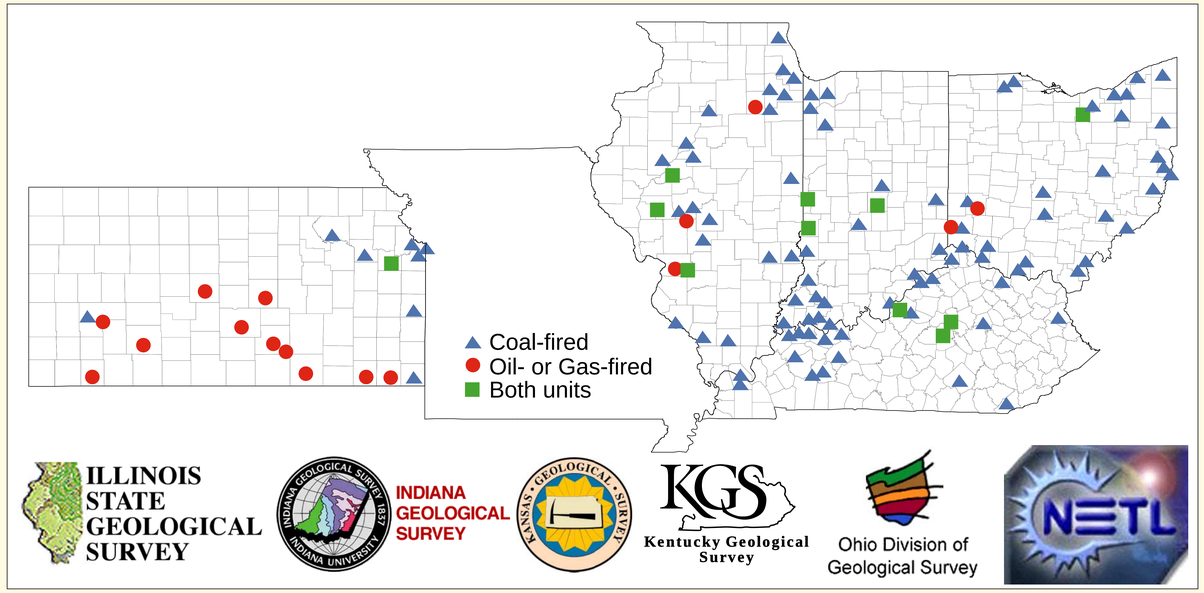
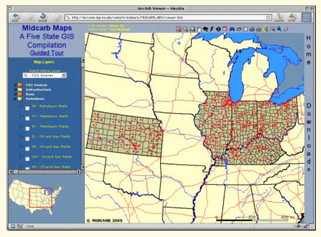
MIDCARB
www.midcarb.org

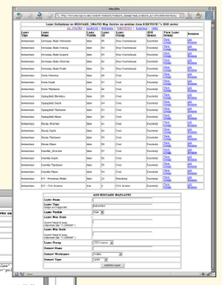
Midcontinent Interactive Digital Carbon Atlas and Relational DataBase

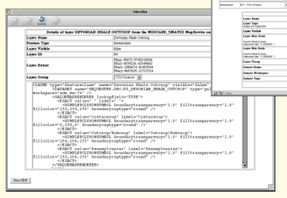


Interactive maps



ESRI's ArcIMS is used to build the mapping system. Management is decentralized and mapped data is kept at each states' server. The base layer data is stored at Indiana.





AXL files are used to define the source for each layer's data and to describe how the data is displayed.

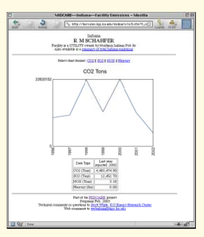
SDE connections to the Oracle or SQLServer at each state deliver the data as requested.

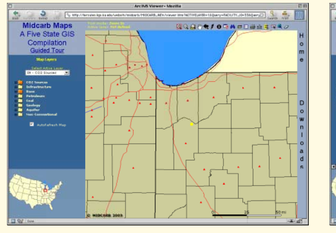
The AXL files also contain info on web links used by each layer. Links are used to leverage each state's exisiting web infrastructure.

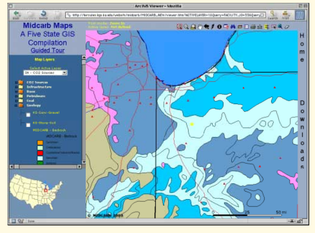
Tabular data

As an alternative to the map interface, the user can select CO2 sources based on their output volumes and source type.

Result table can be sorted by output type. Each facility is linked to the map interface. Map based on extremes of the entire set selected can also be created. Facilities are linked to the standard MIDCARB charts.

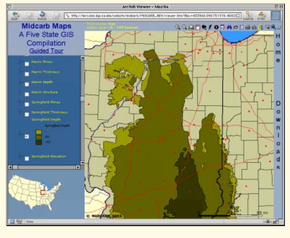


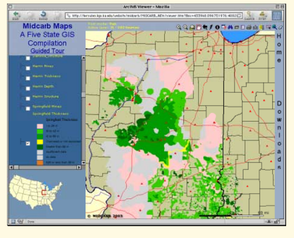




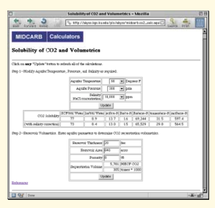
Yellow dot is Indiana facility selected by user. Location can be compared to other facilities; map at left shows facilities underlain by bed-rock geology layer.

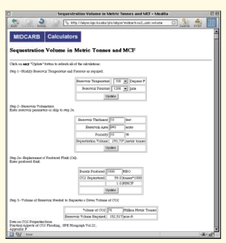
Map is zoomed to a set of facilities in Illinois. First map is depth of overburden on the Springfield Coal, second is thickness. Estimates indicate that the Springfield, Herrin and Danville coal beds alone have the potential for storing 970.5 million metric tons (MMT) of CO2.





Calculators

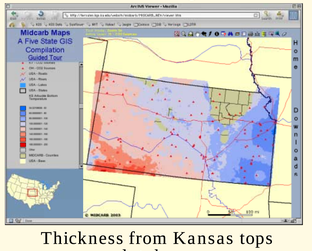




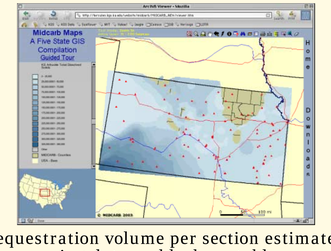
Three calculators have been placed online to aid in deciding how much CO2 can be sequestered in a particular reservoir. The web pages can be used interactively by entering parameters and exploring the effects of reservoir pressures, temperatures, and porosities.

The following maps show the results of this analysis on the Arbuckle of Kansas using an average porosity of 8%.

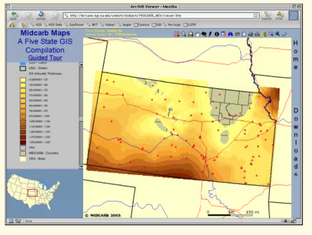
Bottom-hole temperatures from Kansas wireline-log database.



Salinity as total-dissolved solids from Kansas brine database.



Thickness from Kansas tops database.



Sequestration volume per section estimated using data and look-up tables.