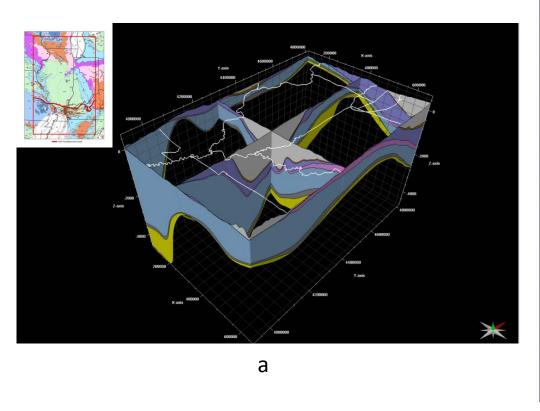
Illinois Basin 3D Geological Model

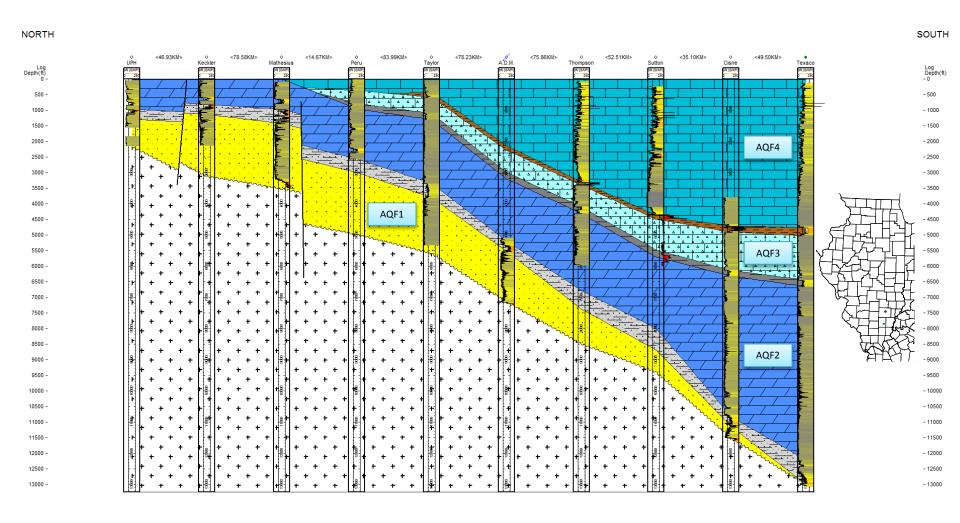


System		Hydrostratigraphic Unit (Model Layer)	Dominant Lithology	Illinois	Indiana	Kentucky
Pleistocene- Holocene			Glacially- derived sediments	Quaternary sediments	Quaternary sediments	Quaternary sediments
Penn sylvania	Uppe	AQF4 (L7)	Predominantly siliciclastics with interbedded coals	Tradewater Fm.	McLeansboro Gr.	Sturgis Fm.
	- Middle				Carbondale Gr.	Tradewater Fm.
	Lowre			Caseyville Fm.	Racoon Creek Gr.	Caseyville Fm.
Mississippian	Upper		Interbedded carbonates and siliciclastics		Stephensport Gr.	Degonia Ss./Buffalo Wallov Fm.
	Middle		Predominantly carbonates	Aux Vases Ss./Ste Genevieve Ls.	Blue River Gr.	Aux Vases Fm./Ste
ž	Upper Lower Middle Upper Lower MiddleUppe	AQT3 (L6)	Shale	New Albany Sh.	New Albany Sh.	New Albany Sh.
Devonian	Middle	AQF3 (L5)	Predominantly carbonates with minor sandstone	Lingle Fm./Grand Tower Ls.	Muscatatuck Gr.	Sellersburgh Ls./Jeffersonville Ls.
	Lower			Clear Creek Chert/Grassy Knob Chert	New Harmony Gr.	Clear Creek Ls./Grassy Knob
Silurian	Upper Lower Upper			Moccasin Springs Fm./St. Claire Ls.	Bainbridge Gr.	Moccasin Springs Fm./St. Claire Ls.
	Lowre			Sexton Creek Ls.	Sexton Creek Ls.	Sexton Creek Ls.
Cambri an Ordovici an	Upper	AQT2 (L4)	Shale	Maquoketa Gr.	Maquoketa Gr.	Maquoketa Gr.
	Middle	AQF2 (L3)	Carbonatesand sandstone	Galena Gr./Platteville Gr./St. Peter Ss.	Black River Gr./Ancell Gr.	Black River Gr./St. Peter Ss.
	owerMiddle Upper Lower Middle		Carbonates	Knox Gr.	Knox Gr.	Knox Gr.
	Middle U	AQT1 (L2)	Predominantly shale	Eau Claire Fm.	Eau Claire Fm.	Eau Claire Fm.
	ower	AQF1 (L1)	Predominantly sandstone	Mount Simon Ss	Mount Simon Ss.	Mount Simon Ss.

b

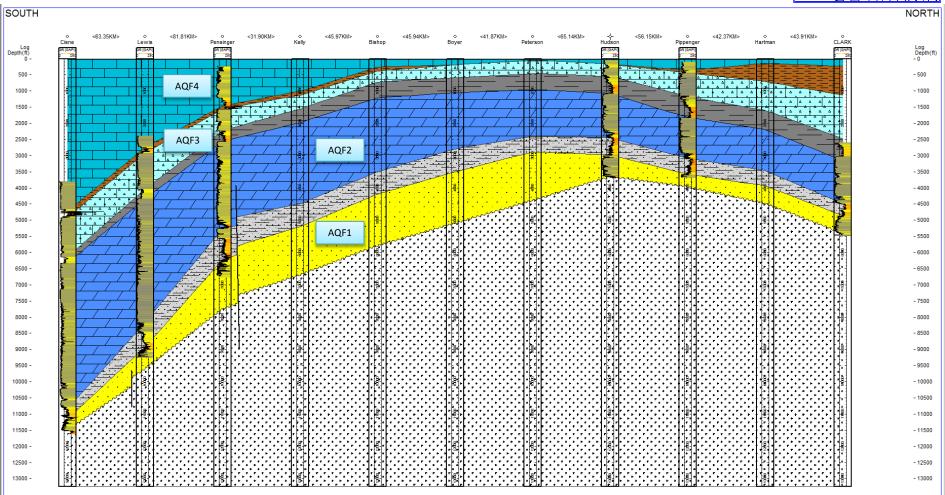
Figure 1. (a) Fence diagram of the 7-layer geological framework model corresponding with the hydrostratigraphic column shown in (b).

Illinois Basin N-S Cross Section

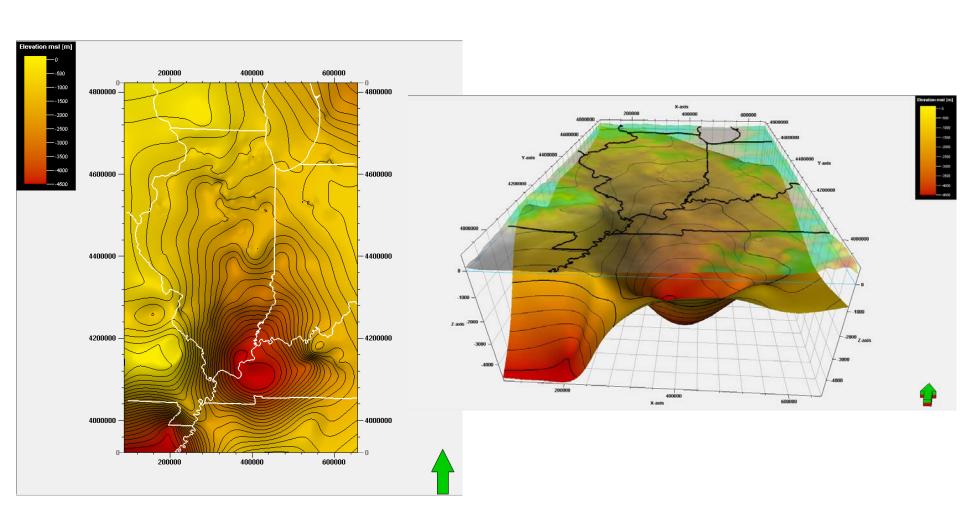


Illinois Basin SW-NE Cross Section

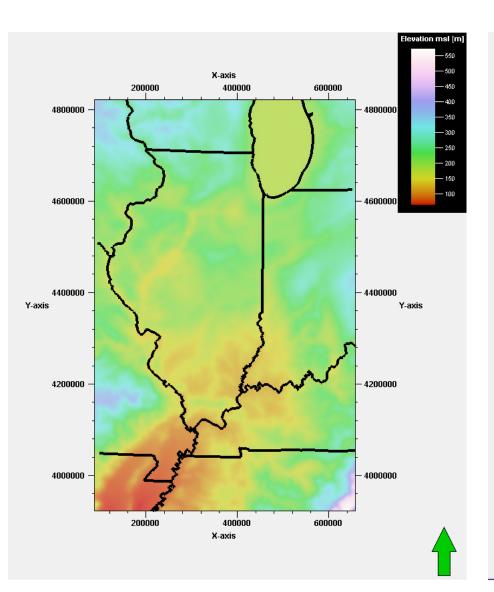


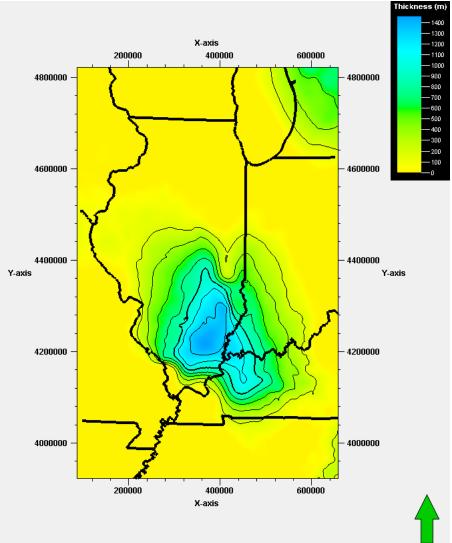


Structure Map of Precambrian Basement (Layer 0) and 3D view with transparent top of AQF4 (Layer 7; Miss-Penn+Quaternary)

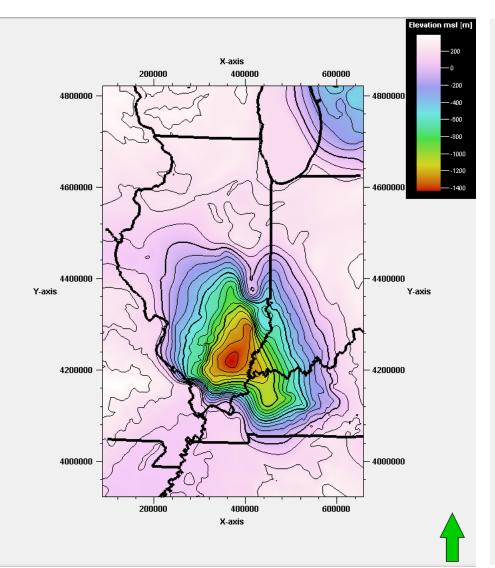


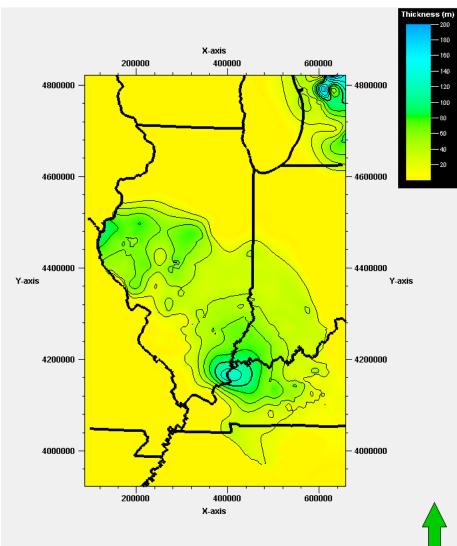
Layer 7 (AQF4: Miss-Penn+Quaternary) structure and thickness



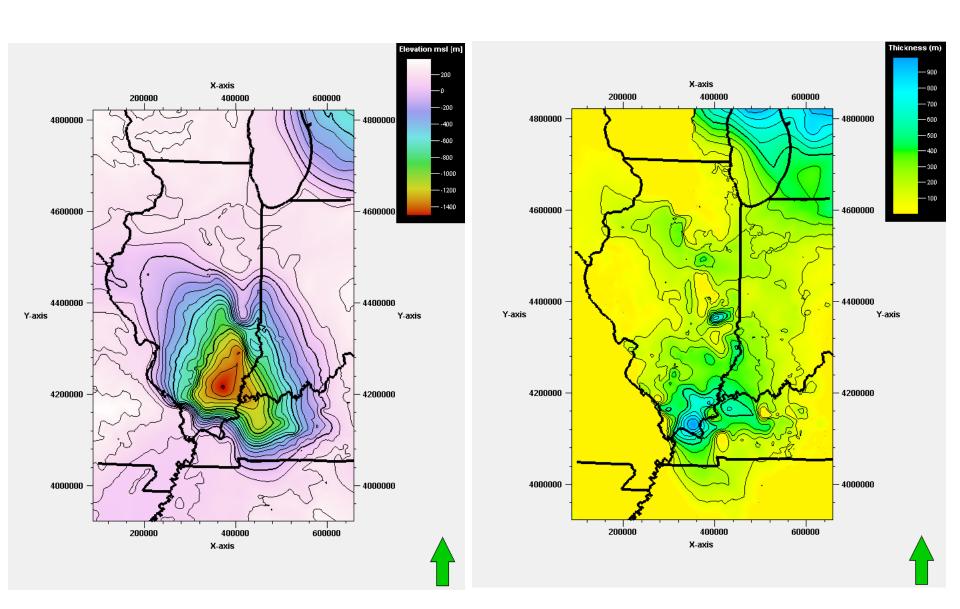


Layer 6 (AQT3: New Albany Shale) structure and thickness

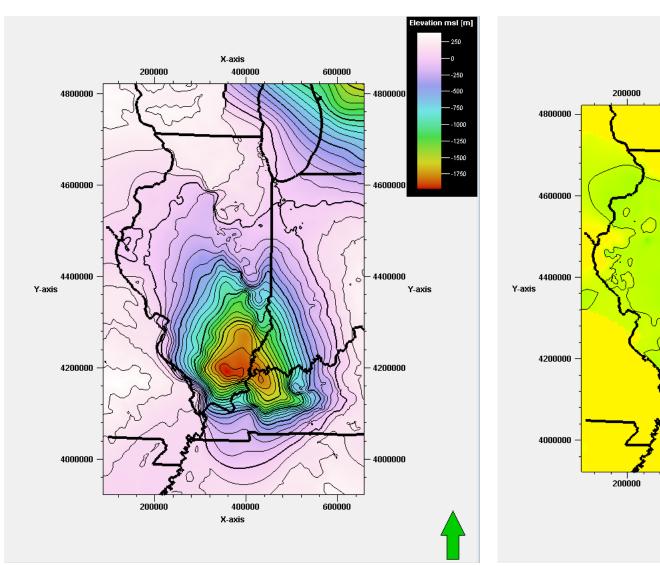


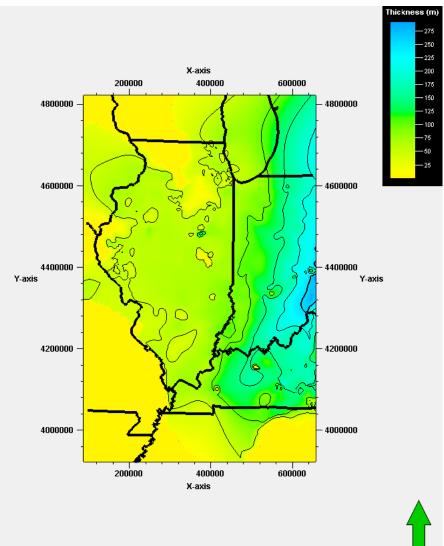


Layer 5 (AQF3: Sil-Dev) structure and thickness

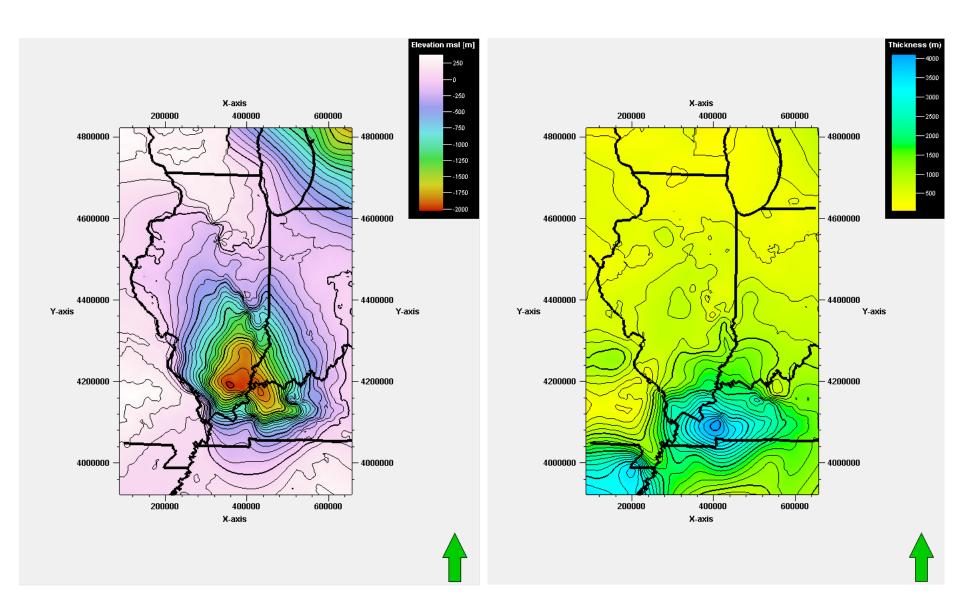


Layer 4 (AQT2: Maquoketa Sh.) structure and thickness

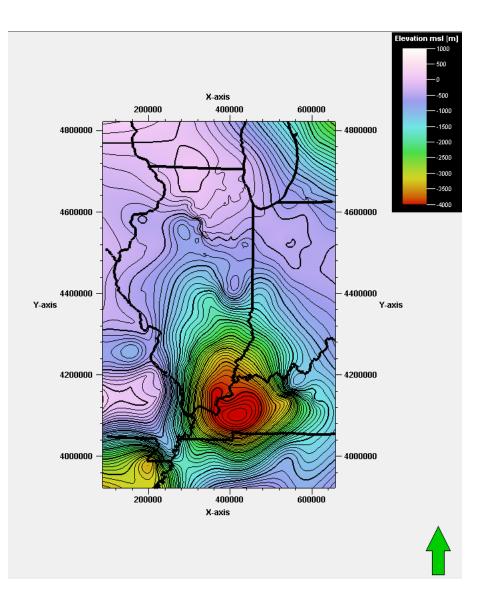


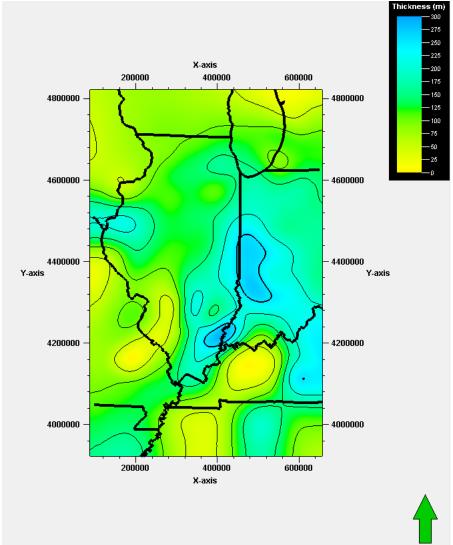


Layer 3 (AQF2: Cambro-Ordo) structure and thickness



Layer 2 (AQT1: Eau Claire Fm.) structure and thickness





Layer 1 (AQF1: Mount Simon Ss.) structure and thickness

