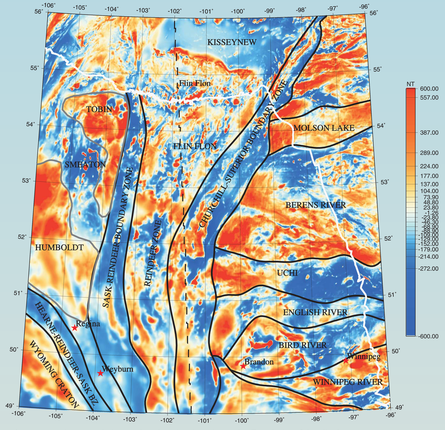
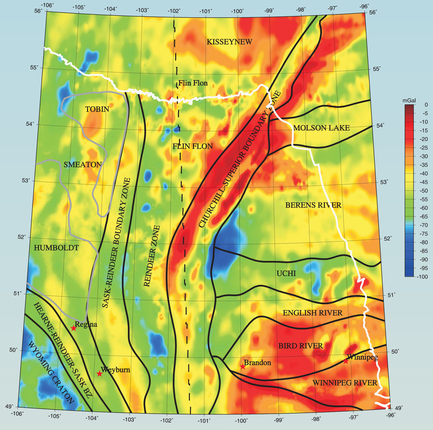
Aeromagnetics and Gravity

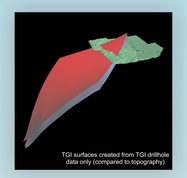


Aeromagnetic anomaly interpolated and reduced to pole. For clarity of the display, a non-uniform, histogram balanced blue-to-orange colour palette is used. With histogram balancing, every colour level occupies approximately the same area of the image. Main structural domains are indicated.

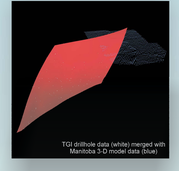


Interpolated Bouguer gravity anomaly map of TGI II area. White contour indicates the edge of the Canadian Shield; dashed black line is the Saskatchewan-Manitoba border. Major structural domains are indicated.

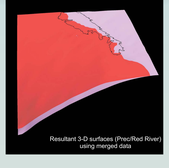
Supplemental bedrock data acquired from digital elevation model (SRTM)



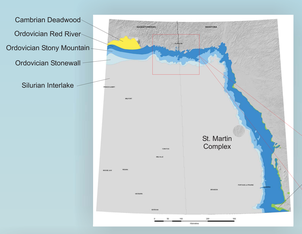
TGI surfaces created from TGI drillhole data only (compared to topography)

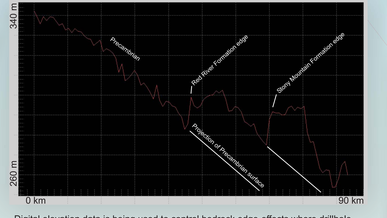


TGI drillhole data (white) merged with Manitoba 3-D model data (blue)

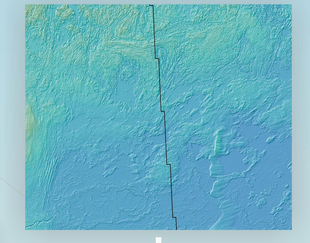


Resultant 3-D surfaces (Precl/Red River) using merged data

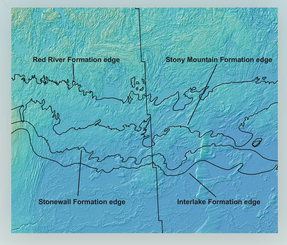




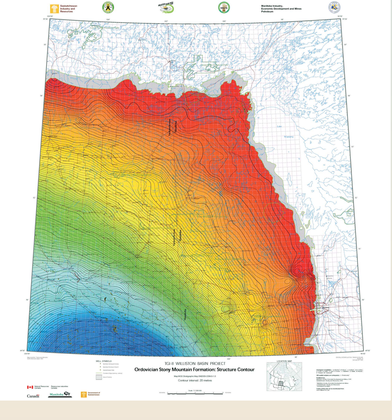
Digital elevation data is being used to control bedrock edge-effects where drillhole data is sparse or non-existant. Where bedrock topography, particularly bedrock escarpments (see cross-section above), can be identified at surface, digital elevation data can be used not only to define bedrock edges (see the two DEM figures to the right, with and without edges defined), but also to control 3-D surfaces portraying bedrock tops (see three figures to the left).

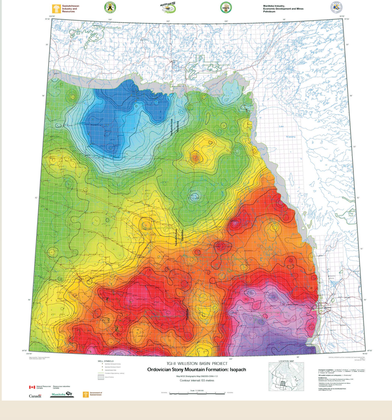


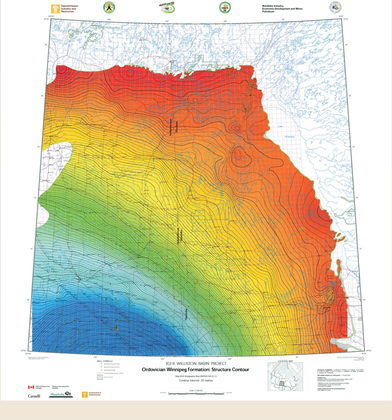
Bedrock edges are defined from the digital elevation model, where possible, in the absence of drillhole data

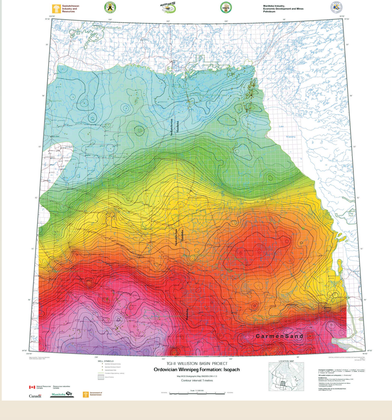


TGI map production - Version 1 examples - Winnipeg Formation and Stony Mountain Formation

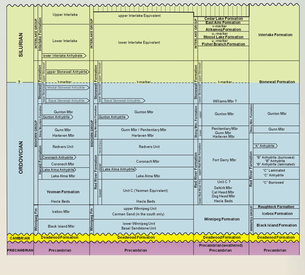




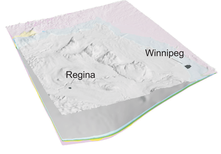




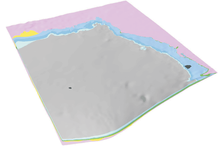
Lower Paleozoic Stratigraphic Column



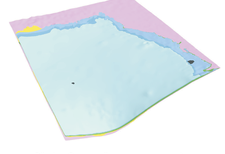
Preliminary 3-D surfaces



Lower Paleozoic with DEM

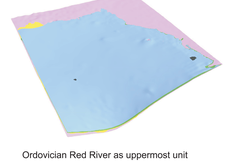


Silurian Interlake as uppermost unit

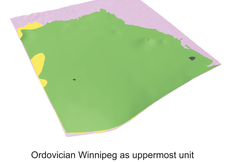


Silurian Stonewall as uppermost unit

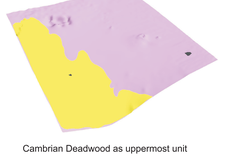
Ordovician Stony Mountain as uppermost unit



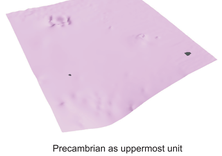
Ordovician Red River as uppermost unit



Ordovician Winnipeg as uppermost unit



Cambrian Deadwood as uppermost unit



Precambrian as uppermost unit