

LiDAR, GIS and Down-plunge Cross Sections: Examples from the Livingstone Thrust Sheet and the Morcles Nappe

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Abstract

LiDAR images, geological mapping and down-plunge cross sections of the Livingstone Thrust Sheet (SW Alberta) and the Morcles Nappe (SW Switzerland) are presented. LiDAR presents a valuable tool to recognize features that would otherwise remain obscured by vegetation. Draping geological maps over detailed LiDAR DEM's resulted in refinements of the geological maps. Down-plunge cross sections, based on these maps combined with information from petroleum wells and seismic surveys, image the subsurface. These techniques result in accurate 3D representations of geology at surface and subsurface