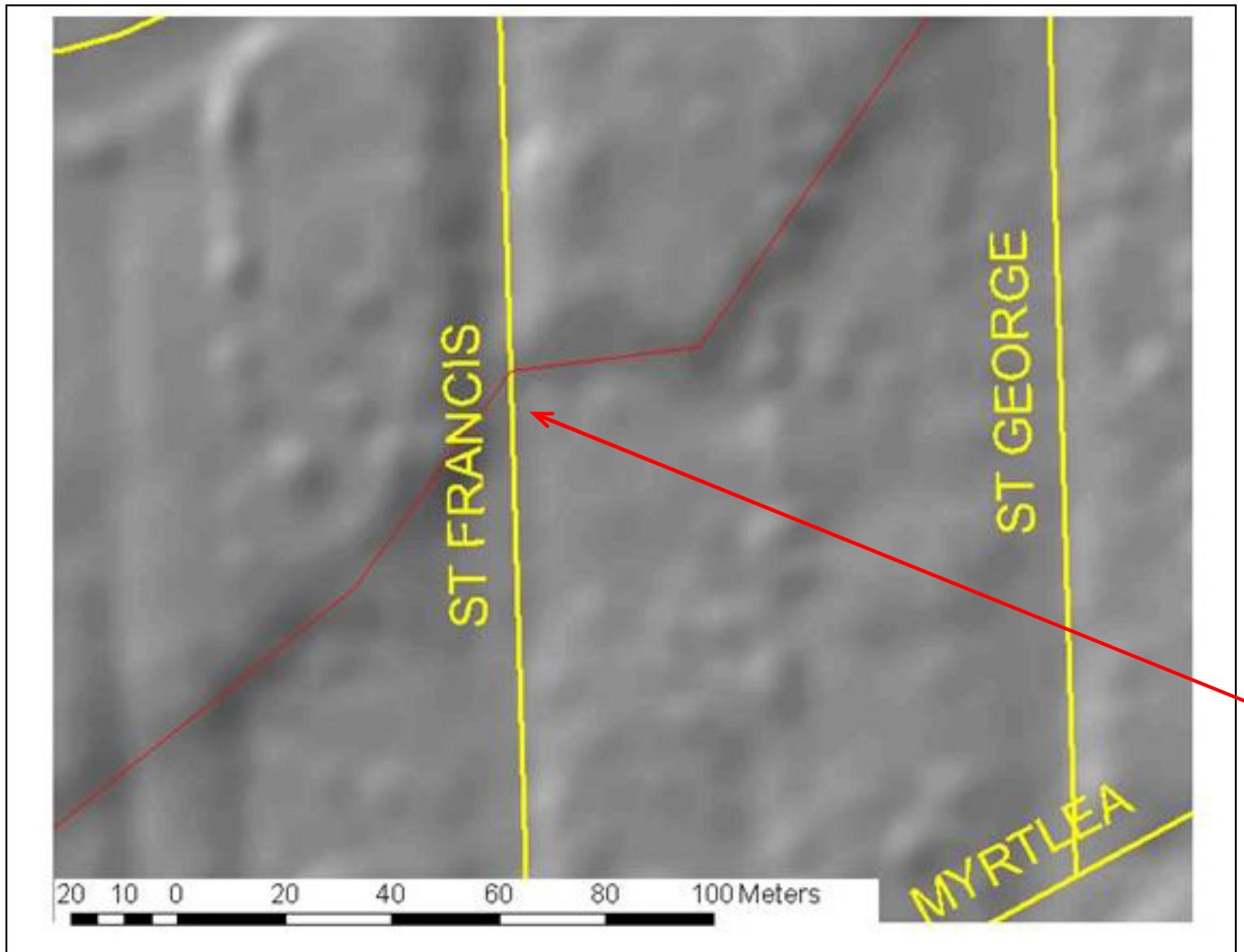


St. Francis Kink



Looking East across St. Francis Street.
Visible relief is minor but LIDAR image clearly shows slope.

Hillshade image showing Long Point Fault where it crosses St. Francis Street. East-West segment of trace on East side of St. Francis runs along property line between 2 houses. The kink in the trace thus appears to be man-made. With ongoing fault movement the house on the south side of the scarp is at risk.

Long Point Splits



LIDAR hillshade image of Long Point fault where it crosses Long Point. Here the scarp splits into several branches.

Looking NW across primary scarp



Looking E across 2nd scarp



Looking S across 2nd scarp, with primary scarp in distance



Future Research

InSAR :

- Attempt to measure fault displacements.
 - See whether salt domes are actively rising
- GPR, seismic:
- Try and image faults in near-surface
 - Test potential fault picks

Abstract

Over 300 active faults intersect the earth's surface in the Houston Metropolitan area. They cause damage to man-made structures such as roads, pipelines and buildings. We used LIDAR DEM images from the 2002 Tropical Storm Allison Recovery Project (TSARP) to examine known faults and to search for others that may have been overlooked in previous studies. We used hill-shading as the primary visualization method for locating the faults. Later we examined them in the field. At some locations fault deformation and associated damage were evident, while in other locations field expression of the fault was subtle and the presence of a fault was difficult to confirm. In some areas we used refined grids, using both raw data and supplied DEM, to better define known faults and to identify previously unknown faults.

Proper documentation of active surface faults is important so that developers can avoid building in the zone of disturbed ground along them. In some cases developers and builders have taken steps to avoid construction on fault traces, often by leaving the land as an open greenbelt or as a storm water detention pond. In other cases structures have been built unknowingly within fault hazard bands.