



WEB OF CRISS-CROSSED EARTHQUAKE FAULTS: Jacobi's map shows a web of deep basement faults that criss-cross NYS. He concluded: "not only are there more faults than previously expected in NYS, but also, many of these faults are seismically active." Further, **"most cultural facilities (e.g., waste disposal sites, bridges, pipelines) are not far from a potentially seismically active fault"** (Jacobi, *Basement Faults and Seismicity in the Appalachian Basin of NY*, p.75, 105).

NY has a history of earthquakes, e.g., **91 earthquakes since 1973 in an area Jacobi denoted as "high risk"- just 30 miles from the NYC Watershed** (USGS *Earthquake DataBase*). There is also a "history" of induced earthquakes and fluid injection into gas wells from the 1960s, e.g., the UK (Bowland Study), OK (OK Geological Survey), TX, AK, Alberta, BC, and CO. (Nikiforuk, <http://www.energybulletin.net/print/59848>) and OH (Fountain, NYT, Jan 1, 2012).

Fluid injection into gas wells is suspected of opening up and unbalancing existing fractures and faults. An EPA study of 2004 found that fracture fluids "leak off" and "often take a stair-step transport path through the natural fracture system" (*Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing Coalbed Methane Reservoirs*, p. 12) "Some contaminants may arrive [in aquifers and water wells] rapidly via fractures, while others may arrive over decades or centuries....Long term chronic exposure to numerous unknown and untested chemicals [in drinking water] presents a great health risk" (Rubin, hydrogeologist, *Hydroquest*).