Geophysical Research Abstracts, Vol. 7, 02812, 2005
SRef-ID: 1607-7962/gra/EGU05-A-02812

The use of GIS in catastrophic risk analysis

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Increased insurance penetration and higher exposed values present new challenges to organisations attempting to quantify probable losses from catastrophic events. The ever-improving IT infrastructure along with the increasing provision of accurate and relevant financial and geographic information has helped analysts investigate the interaction between event and loss with greater scientific and mathematical confidence through the catastrophic analysis process.

At the heart of this process lies the Geographic Information System (GIS), providing a sound platform for building analytical models, as well as introducing complex spatial algorithms that expand the mathematical nature of computer analysis to more accurately represent the real world.

From floods and earthquakes to hurricanes and wildfires, GIS is being used to manage the exposure of both person and property through custom-built applications designed for specific purposes. Bringing its unique environment into the sometimes rigid structure of catastrophe modeling, GIS is helping risk analysts bridge the gap of understanding between catastrophic events and the financial exposure of large organisations. I will present the way in which Guy Carpenter's Instrat department is utilising GIS technology to assess client's exposure to a variety of perils, including European flood, to help give a better picture of where their risk lies.