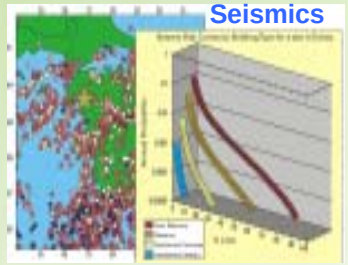
Geohazards Theme

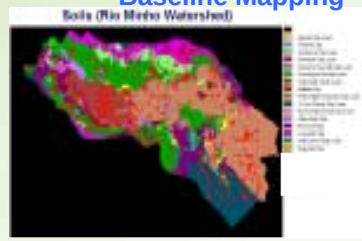
User Needs

- Citizen's questions are:
  - *What will happen?*
  - *How? Where?*
  - *Over what area?*
  - *When? For how long?*
- User's have shared needs:
  - *Baseline hazard inventory*
  - *Ongoing monitoring of a hazard against baseline*
  - *Rapid information supply during a crisis*

Key Observation Systems

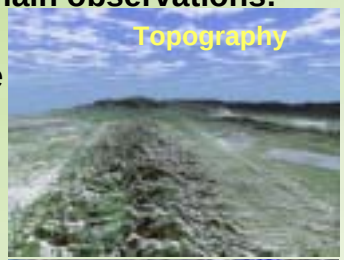
- **Topography**
  - Stereoscopy & radar interferometry
  - Ground-based surveying tools
- **Mapping**
  - Aerial photography and field work
  - Various airborne & spaceborne EO
- **Deformation**
  - Radar Interferometry (INSAR)
  - GPS, and terrestrial LiDAR/INSAR
- **Seismicity**
  - In-situ networks of seismometers
  - Coverage, density, real time data

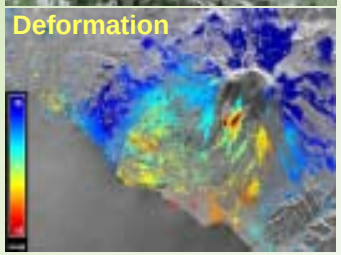




Required Observations

- **To meet users' needs we need four main observations:**
- **Baseline Topography**
  - Against which to measure change
  - For modelling and visualisation
- **Baseline Mapping**
  - Geology, structure, soils
  - Regional to local scale
- **Deformation Monitoring**
  - Sudden change
  - Gradual processes
- **Seismic Monitoring**
  - Hazard magnitude
  - Depth and location
- **Each hazard (e.g. volcanos) needs other observations (thermal)**





Status

- GOS Geohazards Theme Team continues to act, post-approval
- BGS, and now BNSC, support the initiative with the Chair's time
- UNESCO are funding the participation of developing countries
- ESA staff a Secretariat, plan a Bureau and maintain a website:
  http://dup.esrin.esa.it/IGOS-Geohazards
- A Theme Report has been drafted, peer reviewed and approved
- Theme Report published, and implementation starts, in Q1 2004
- A Workshop is planned to launch Geohazard Theme in late 2004