

Breakout C

Role of Remote Sensing in Post-EQ Surveys

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Phase 1 Reconnaissance

- Digital elevation models (SRTM 90 m res., possibly 30 m)
- Pre-event high res. (<1 m) optical satellite images
- Pre-event moderate res. (10-15 m) optical images (SPOT, IRS, LANDSAT)
- Ground based, airborne LIDAR
- Other: digital geologic maps, air photos, slip maps, SHAKE maps

Phase II Reconnaissance

- Post-earthquake satellite images
- Damage maps from satellite images (depending on acquisition)
- Any previous products that may take longer to obtain

The Future

- Airborne SAR
- GeoSAR: airborne SAR, X (short) & P (long) band, ~ 5 m res.
 - Hard to do repeat pass InSAR b/c of aircraft movement
 - High res. pre, post DEM, B&W image
- New SAR satellites – TerraSAR, RADARSAT (1-3 m res.)
- Real-time InSAR probably not feasible

The Future

- Hyperspectral (soil chemistry? 1-5 m)
- More coverage of US by LIDAR
- Fused LIDAR and optical images
- Multi-band digital cameras
- Thermal imaging
- RFID (radio frequency ID) as sensors
- Gravity measurements, magnetometers

Thoughts

- Person in charge of collecting remote sensing data for team- under whose direction??
- Communication between earthquake engineers and remote sensing suppliers, building relationships
- IT specialists, technology team
- Role of simulations? HAZUS?
- Education of students