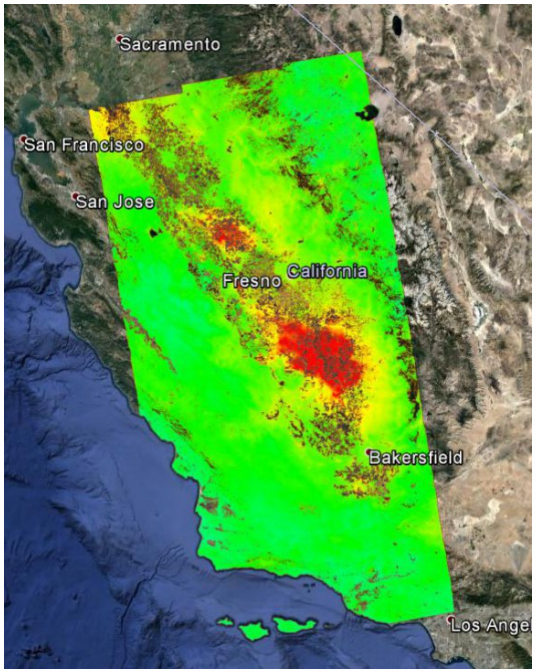
DEPARTMENT OF GEOSCIENCES, GEOLOGICAL AND PETROLEUM ENGINEERING

Environmental Remote Sensing and Geophysics

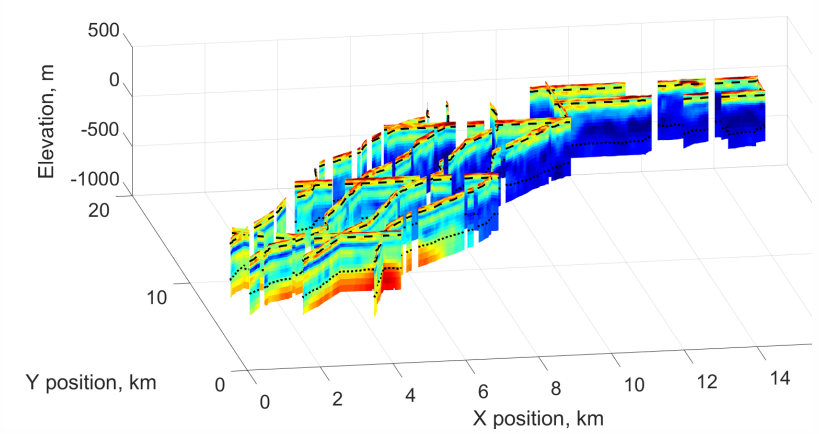
Remote Sensing

- Land subsidence can be mapped with 1 cm accuracy with radar data.
- This can be linked to groundwater depletion.
- It can also be related to the release of hazardous groundwater contaminants, including arsenic.
- Machine learning approaches are used to enhance predictions.



Geophysics

- Electromagnetic geophysical methods can be used to map groundwater, soil and sediment properties and voids in the subsurface at depths ranging from 1 m to 500 m.
- Airborne and towed devices allow large areas (~100 km) to be mapped in one day.
- These data can be integrated with remote sensing data to assess soils, aquifers and hazards.



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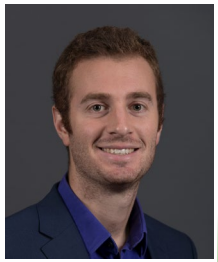

Keywords

- Subsidence, Synthetic Aperture Radar (SAR), Soils, Groundwater, Hydrogeophysics, Machine Learning