

CASE STUDY

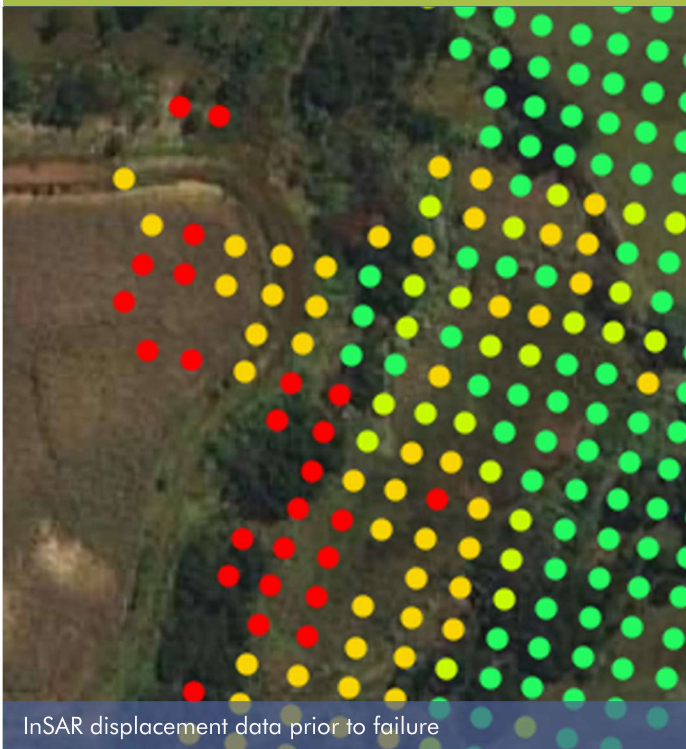


GEOFEM

East Rand, S.Africa



A tailings dam in the East Rand region of South Africa suffered a failure at one location in 2020. Unfortunately, this resulted in the contamination of a minor water course as visible in the bottom right of the image above. This incident provided an opportunity to establish whether the failure could have been foreseen by satellite InSAR analysis.



InSAR displacement data prior to failure

In one of our pilot studies of tailings dam condition surveys by InSAR there were clear signs of distress in this tailings dam in the months leading up to failure. These are denoted by the red and yellow dots in the area of the subsequent breach showing increased displacements imperceptible to the naked eye that would not have been identified by visual surveys alone.

Had regular but inexpensive and non-disruptive InSAR monitoring been undertaken, the location of instability would have been pinpointed and remedial measures undertaken to avoid the failure and pollution of the local watercourse.



Satellite analysis with engineering insight