



## **Governance from space: Satellite InSAR observations to support decision-making and to avoid calamities**

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Satellites are revolving around the earth already for over five decades, nowadays allowing us to have images of every location on our planet, using different techniques. These images are used for many different purposes, but the number of applications is still growing fast.

In this paper, some practical applications of InSAR (Interferometric Synthetic Aperture Radar) data are described. The detection of trends in the movements of the earth surface and those of buildings and infrastructure is one of the applications for this infrastructure.

InSAR data from the North-East Groningen gas field region show how large scale subsidence patterns can be detected and can support spatial planning strategies. Another case, in Diemen, shows how InSAR data support the municipal government in their management strategies. Another case shows how InSAR observations, taken from the entrance to the Vlaketunnel, could have warned in advance for the collapse of one of these entries.

Finally, it will be shown that InSAR data can be helpful to monitor the effects of (underground) civil engineering activities, such as the construction of the North-Southline in Amsterdam.