

26 June 2021

SatSense analysis of movement in Miami from 2015 to 2021 shows no clear precursory movement at the collapsed building

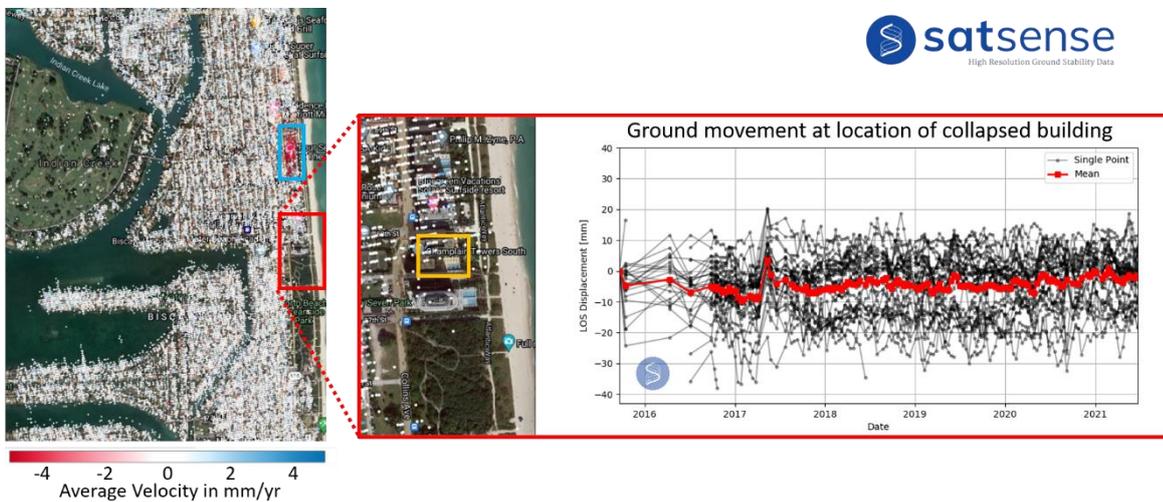
Following the tragic collapse of the 12-storey Champlain Towers South building in Miami, SatSense analysed movement in the vicinity of the structure. **The results show no clear precursory movement either in the short term or the long term.**

Using data from the European Commission’s Sentinel-1 radar satellite and the InSAR technique, SatSense are able to track precise movements of the ground surface and built environment.

The figure below shows a map of the ground movement in the surrounding Miami neighbourhood. The time histories for points on the collapsed building show no significant long-term movement or clear short-term precursory movement between 2016 and the most recent acquisition on 21 June 2021.

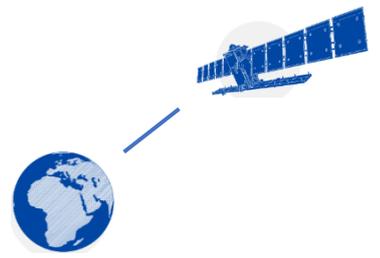
By contrast, the time histories further north (blue box on Figure 1) show a period of subsidence in 2017/18 that is likely associated with settlement following construction work.

The apparent subsidence in the area of the building collapse, seen in data from 1990s (Fiaschi and Wdowinski, 2020), did not continue between 2015 and 2021.



Left: SatSense velocity map for neighbourhood of building collapse. Red is movement away from the satellite (likely subsidence in this setting) and blue is movement towards the satellite. Right: The time history shows movement of all the points within the orange box, with the average movement shown in red. The area of the collapsed building shows no significant movement between 2016 and present day. In contrast, an area to the north (outlined by the blue box) subsided by over 2 cm between 2017 and 2018, but has been stable since then. Figure copyright SatSense 2021. Contains modified Copernicus Sentinel data.

Data is available on request from SatSense Ltd (<http://www.satsense.com>)



Reference

Fiaschi, S. and Wdowinski, S., 2020. Local land subsidence in Miami Beach (FL) and Norfolk (VA) and its contribution to flooding hazard in coastal communities along the US Atlantic coast. *Ocean & Coastal Management*, 187, p.105078.

Notes for editors

SatSense Limited is a UK-based company that provides precise and up-to-date deformation monitoring services using data from satellite radar. Founded by leading academics, Professors Andy Hooper and Tim Wright at the University of Leeds, SatSense offers up-to-date and accurate ground movement data globally.

The Sentinel-1 constellation is part of the European Commission's Copernicus Earth Observation Programme. It consists of two satellites operated by the European Space Agency, launched in 2014 and 2016, which provide regular data globally.