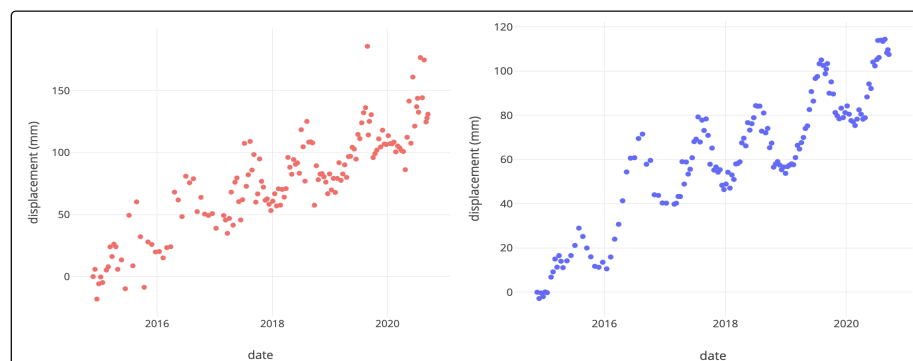
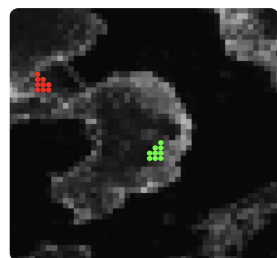


displacement profile

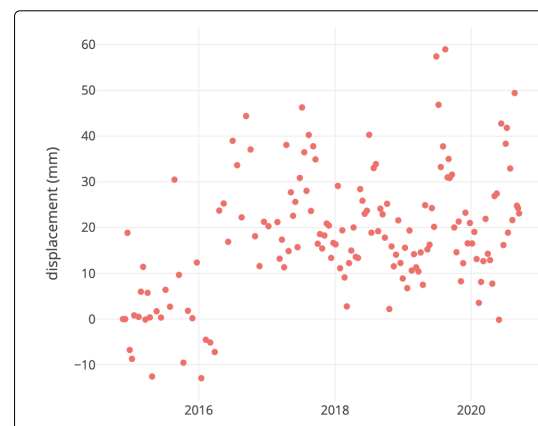
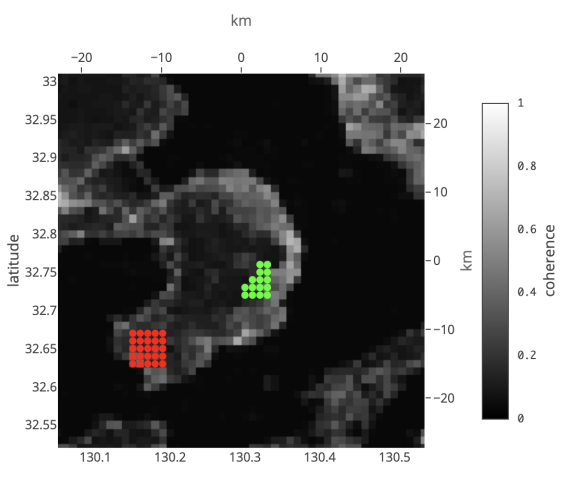


Use the **profile** and **surface plot** tools to compare apparent displacement profiles with underlying topography

unfiltered **filtered**



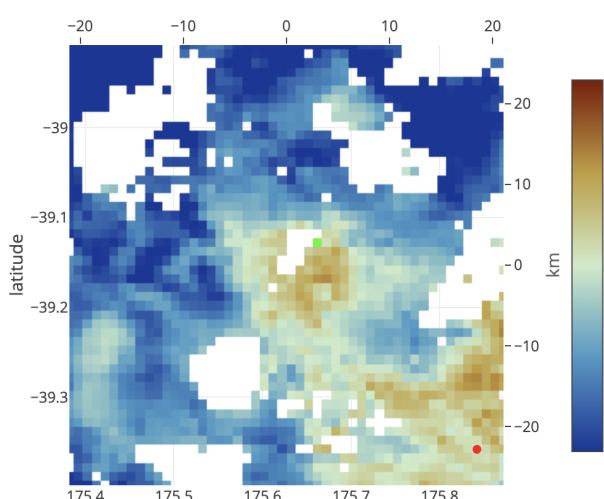
Reduce noise using **spatiotemporal filtering** to identify temporal structure



Test the impact of different **reference pixels or areas** on the patterns of the signal in space and time. Plot **average coherence** and a composite **Sentinel-2 image** to help select a stable reference area.

displacement **coherence**

points to plot **reference area**



displacement coherence



plot **sentinel-2 map**

Compare the **spatial pattern of cumulative displacement** to land cover in the Sentinel-2 imagery and average coherence plots

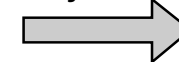
Assessment with portal tools

Question

Interpretation

correlated with topography?

yes

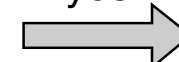


Could indicate **atmospheric** contribution from stratified tropospheric water vapour, especially where there is no obvious signal in the time series. Examine the individual interferograms to identify acquisitions likely to be dominated by water vapour.

no

seasonal trends?

yes

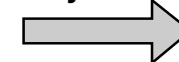


Regular patterns correlated with local seasons are likely to be caused by **atmospheric** phase delays and could be mitigated by atmospheric correction

no

sensitive to reference pixel?

yes

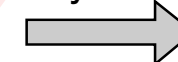


If apparent signals disappear when a more stable reference pixel is selected then they are likely to be affected by **local noise at the reference point** or area

no

signal correlated with land cover?

yes



Time series with apparently steady long term trends may be affected by '**phase bias**', where small contributions to phase in individual, short time-period interferograms (e.g., perhaps from moisture changes or unwrapping errors) create a long term bias in time series. You can check for this by examining the spatial pattern of the apparent signal - we expect phase bias to be correlated with land cover, especially vegetated areas.

no

potential volcanic deformation