Westlake US 2
Received 9/1/2023

TSX/PAZ Satellite Update
InSAR Subsidence
August 25, 2023

Longuist comment:

TREA has not recommended the L Band data in the past. My understanding was that it is lower resolution than the C and X bands due to the longer wavelength. Happy to discuss this with them if you have heard it can be beneficial.

The way that the TSX/PAZ and SNT work together in our eyes are based on the following:

- Their timing is staggered so we can get more frequent information even if they cannot be directly combined for trend analysis
- We have observed anomalous measurements from time to time. If we see that anomaly in both datasets then then it significantly increases the probability that it is real movement

I agree that the TSX data is a higher quality than the SNT data, and is thus a better indication of reality, but the trends still need to be proven with time when observing displacement in the ±0.25 inch range given what we've seen.

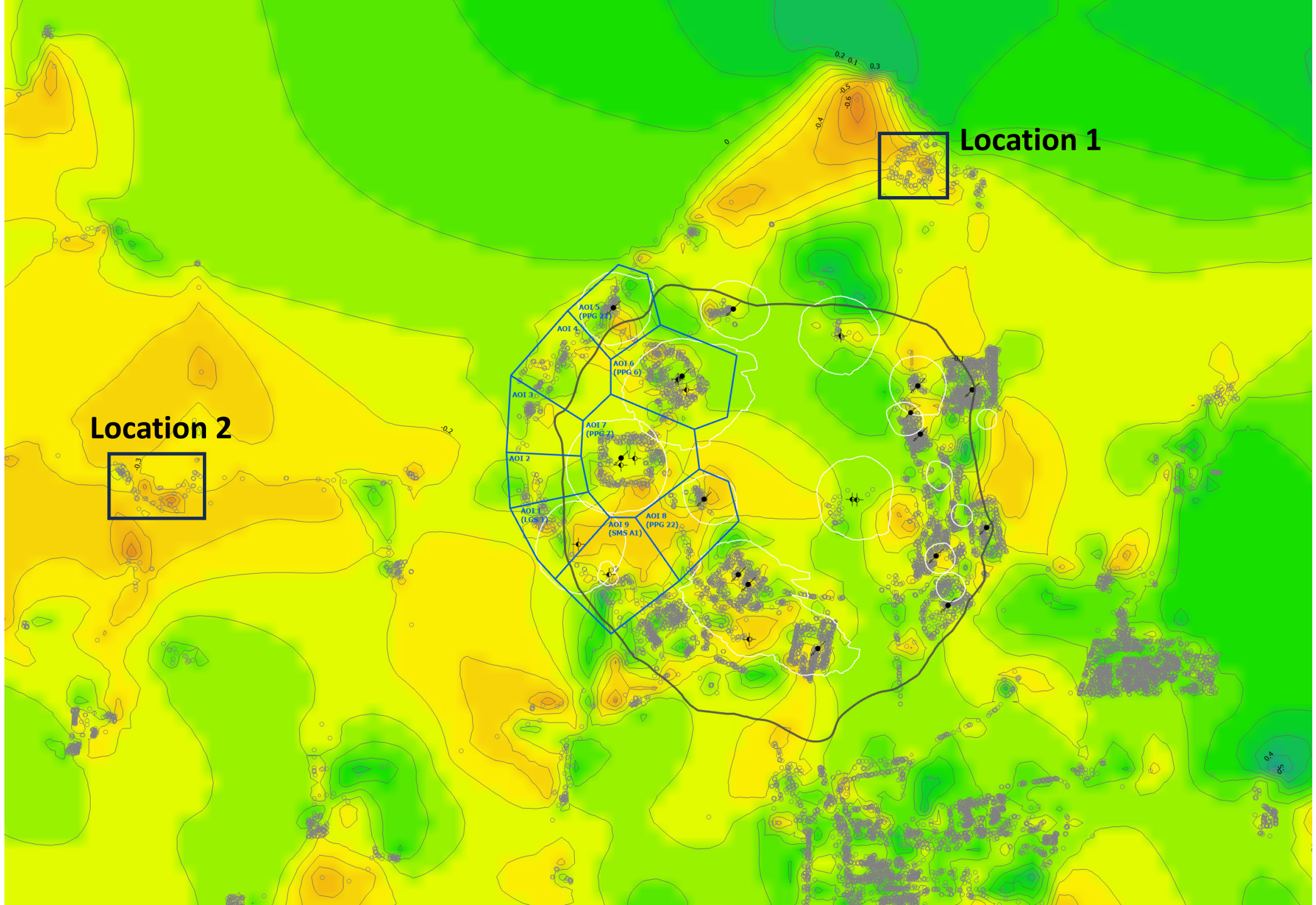
We considered acceleration in our review. When applying non-linear trends to the relatively short (8-month) TSX/PAZ dataset there was no improvement in fit (no curvature is present in the data trend). Therefore, little to no acceleration appears to be occurring. Regarding the recent data points, I wouldn't feel comfortable applying a trend to any less than 3 months of data given the degree of weekly fluctuation we see. The velocity and acceleration values from less data would be dominated by the randomness of the points.

I do feel comfortable considering the average displacement in a selection of recent points and comparing that to the displacement predicted by a prior established trend.

We decided to look at a few other areas further from the western flank to see if there was justification for the theory that this was a broadly occurring phenomenon in the data. We picked two data clusters that appeared to have similar values in the "Difference" map presented in the update yesterday on slide 7. We then plotted the averaged time series for the point groups. These areas had a similar data behavior and magnitude to what was observed in the AOIs of interest. The plots and some maps of these two additional investigation locations are attached for reference. A few areas even further out were investigated as well, with similar results. This supports the theory proposed yesterday that "at least part of what we are seeing in the trend deviation may not be related to a specific cavern location, i.e. something affecting measurement accuracy or seasonal ground movement from dry conditions".

Hope this helps clarify some things. It can be hard to convey everything we are seeing when we have to dive deeper into these datasets.

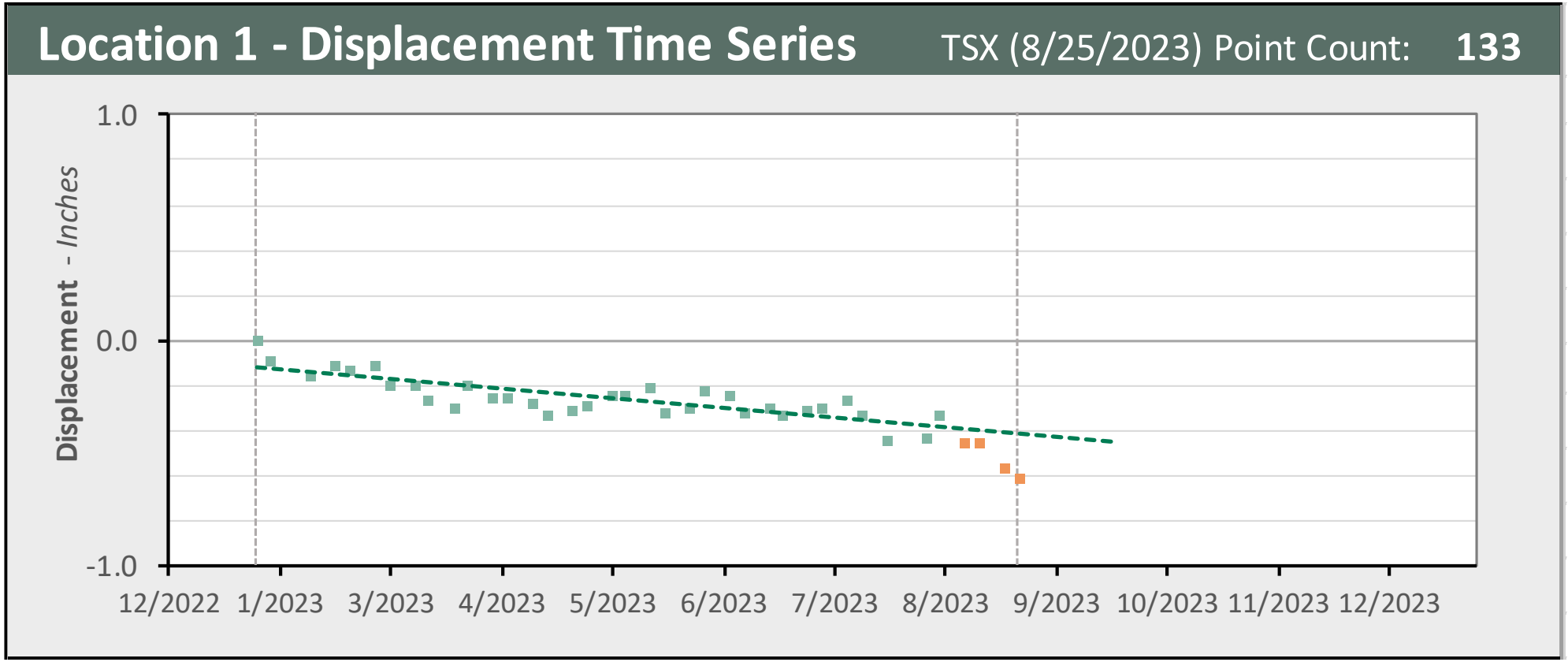
Submitted by: Nathaniel Byars (Lonquist)


Location 1
Location 2
AOI 5 (PPG 21)
AOI 4
AOI 6 (PPG 6)
AOI 3
AOI 7 (PPG 7)
AOI 2
AOI 1 (LGS 1)
AOI 9 (SMS A1)
AOI 8 (PPG 22)


Location 1
Location 2
PPG 7

Location 1

- Averaged data from Additional Locations investigated



Location 2

- Averaged data from Additional Locations investigated