



+ Precision Atmospheric[®]

Precision Atmospheric[®] is a revolutionary atmospheric correction algorithm that distinguishes and significantly reduces the noise from Slope Stability Radar (SSR) data, inherently caused by changing atmospheric conditions.

A step change in the way atmospheric corrections are tested and managed, it is the most advanced correction algorithm in the market today.

Precision Atmospheric[®] provides a decisively clearer picture of real deformation resulting in more refined, higher-value data that is easy to interpret and analyse.

It is currently available on our 2D-Real Aperture Radars: SSR-FX and SSR-OMNI.



Features and Benefits

EASIER TO NAVIGATE DATA AND HEATMAPS

Precision Atmospheric[®] resolves ambiguities in the deformation data from the noise caused by the most turbulent atmospheric conditions. The resultant reduction of steps and spikes sees smoother plots for easier-to-navigate data sets and clean maps that immediately show areas of interest, essential in identifying real movements.

SIGNIFICANT NOISE REDUCTION

Depending on the severity of the atmospheric conditions, atmospheric clutter is typically suppressed to $\pm 1\text{mm}$, which has seen a significant improvement in atmospheric noise on pixel deformation time series charts, with ambiguity artifacts mostly eliminated.

SIMULTANEOUS RAPID AND SLOW TRACKING WITH NO

POST-PROCESSING

Precision Atmospheric[®] simultaneously measures and tracks rapid and slow trends on the same data set. The radar's ability to track very slow-moving deformation is extensively improved for enhanced long-term analysis, perfect for identifying potentially significant geotechnical problems. Notably, post-processing or sub-sampling of the data is not required to detect slow movements.

TIGHTER ALARMING FOR ENHANCED SAFETY MANAGEMENT

Because of the noise reduction, Precision Atmospheric[®] enables tighter alarm thresholds to be configured, resulting in fewer false alarms and the ability to alarm for smaller movements earlier and with more certainty.

LIVE DATA REPROCESSING WITH MULTIPLE CONFIGURATION

CAPABILITY

The software offers the ability to reprocess data, providing users back analysis alternatives to measure and characterise movements from different assumptions. Multiple configurations can be run simultaneously, allowing users to compare different outputs of deformation maps and optimise feedback loops for improved processing.

RIGOROUS R&D AND VALIDATION

Precision Atmospheric[®] is the result of several years of rigorous development, testing and evolution and is one of most significant R&D projects GroundProbe has ever undertaken. GroundProbe partnered in an extensive and confidential development program with a global collection of mines in different climatic regions – including snow, rain, dust, and altitude - as part of our development and validation program.

DATA CONFIDENCE WITH SIDE-BY-SIDE TECHNIQUES

Precision Atmospheric[®] complements GroundProbe's long-standing atmospheric correction algorithm, Stable Reference Areas (SRA). SRA data is still processed and displayed for each pixel for each scan. The Precision Atmospheric algorithm runs alongside the well-trusted technique, providing a point of comparison in real-time for improved data confidence and allowing tighter alarm thresholds to be configured.

AVAILABLE IN MONITORIQ[®] DESKTOP

Precision Atmospheric[®] is available in GroundProbe's existing data analysis and visualisation software, MonitorIQ[®] Desktop (2022), providing great data clarity through its powerful and easy-to-understand data visualisations and high-resolution imagery of the monitoring scene. Slow trend characterisation is included in the MonitorIQ[®] license without additional charges or fees.

SCAN THE QR CODE BELOW TO SEE PRECISION

ATMOSPHERICS[®] IN ACTION

