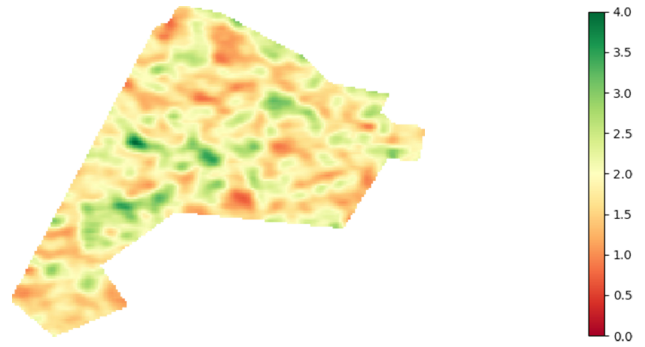


Synthetic Aperture Radar



Background

Over the last few years, satellite imagery has become vitally important in all kinds of industries, including agriculture. Using satellite imagery farmers can check their plant health, water stress, crop performance, and nitrogen requirements – all without time-consuming, expensive field surveys.

However, farmers cannot always rely on satellite images. They are not always available, due to cloud and extreme weather conditions.

Problem

When it is cloudy, optical remote sensing satellites cannot provide data for farmers' fields. Optical satellite sensors cannot penetrate clouds. Hence, when weather conditions are cloudy for a long time, farmers lose important insights into their crop performance at critical junctures.

These clouds are often a problem for farmers using satellite technology in regions of the world that have a monsoon season, or in Northern European coastal areas during the summer months. Cloud cover has been a major stumbling block that limits the use of satellite technology in agriculture across the globe.

Solution

Vultus's patent-pending Synthetic Aperture Radar (SAR) is a cloud-busting technology that typically generates up to x4 more satellite images than the standard optical option.

Since SAR-enabled satellites can take cloud-penetrating images, cloudy days and monsoon season are no longer an issue.

Technology

Our patent-pending Synthetic Aperture Radar technique uses the microwave bands to penetrate the clouds. Vultus uses the motion of the radar antenna over a target region to provide finer spatial resolution than conventional beam-scanning radars. This includes extremely complex signal processing, filtering and analysis to derive useful results. Vultus captures images every 1-2 days in Northern Europe, and every 6 days in other geolocations.

By using SAR, Vultus eliminates the cloud cover issue in satellite applications for agriculture. This ensures that every farmer can be guaranteed data on their crops, independent of the weather.

Practical application

- Field size: 1 ha+, SAR accurate up to 10 m.
- Highly practical for farmers in countries with lots of cloud and/or monsoon season.
- Gives up to x4 more images than standard Vultus services, improved accuracy and decreased noise in Time Series Analysis imagery.

Benefits

- Escape the frustration of cloudy weather – no more waiting for weeks without valuable insights into your crops.
- Up to x4 more images than standard Vultus optical satellite services.



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