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Short webinars for environmental policy-makers and practitioners

Remote Sensing – more than meets the eye webinar series 2023

Challenges in a cloudy NZ for analysis ready satellite imagery

The following questions were asked during our live webinar with James Shepard but due to time restrictions, we were unable to answer these in the session.

Have you guys made comparisons with bottom of the atmosphere products created by Sen2Cor or MAJA atm models with yours? If so, are the differences significant?

No, our atmospheric and brdf correction research was undertaken before Sentinel was available, using both Landsat and SPOT satellites. The Sentinel surface reflectance results compare well with earlier results

Did you do an economic analysis between maintaining your own HPC (high performance computer) server able to process and storage those Tb of data in comparison of migrating the processing to a cloud service based on demand needs, considering all ESA archive is available at Google Cloud, AWS, etc?

We don't maintain HPC, MWLR is a partner agency in NeSI (<https://www.nesi.org.nz/>) and it had been a helpful relationship for our science. I expect our management may have looked at other possibilities, but I am not aware of those results

Cloud masks – why not using Sen2Cor or MAJA atm cloud masks?

When we began this research no cloud detection algorithms met our needs, our pipeline is now working, and we are now more interested in application of the cloud-cleared imagery to help with environmental monitoring.

Are there any risks with relying on S2 views directly from online sources for flood and vegetation analysis? Rather than desktop analysis?

Not exactly sure what you are getting at here, the online sources are good for getting the 'raw' imagery, but we prefer to use our own correction algorithms and cloud clearing as we use NZ atmospheric data and make use of our archive for temporal studies.

For segmentation, have you compared your results with the outputs of SAM (Segment Anything Model), which is a new model from Meta?

No. I haven't tried that tool, it can be difficult to compare segmentations results in a meaningful way. We have a working imagery pipeline, and we are now focussed on application to important environmental issues rather than more development and comparisons.