

Mapping winter forage crops from time series satellite imagery

Supporting decision makers and policy planners

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

How may soil moisture and soil type may affect the classification?

Moisture and soil type will be affecting the spectral signatures. We hope to capture all these variations within our spectral signatures. Differences between veg and bare soil are more influential than variations within soils and moisture levels.

ECan would be interested in winter crop data during the season. We currently to this ourselves and provide the insights for our operational teams now.

Thanks, happy to talk with you about potentialities.

What are the typical questions answered by these data? E.g. are Councils wanting to know who is winter grazing when they shouldn't be, or measuring soil erosion, or freshwater quality, or...?

Good sell. We provide the information layer to clients to use for their own data needs. These are likely to involve areas, locations and proximities.

It would be valuable to have an annual layer to enable repeat assessment over time of extent, intersect of extent/risk factor i.e. are there reductions in the proximity of crops to waterway, Critical Source Area, Ephemeral drainage channel, slope angle, soil class - to inform the risk or effectiveness of actions.

Well, there will be annual layers for 2021 and 2022 so here's hoping the momentum continues. These 2 are funded by RSHL. The issues you raise are all areas of active interest: some would benefit from higher resolution data sources and thus likely to cost more money to acquire/collect. Guess this reinforces the need for us all to cooperate as much as practicable.

Was there any correlation of 2018 data for winter forage cropping in NZ hill country with freshwater quality monitoring in surface water bodies in the areas affected (in order to determine whether runoff was actually entering waterbodies)?

We provided the information layer to MfE - best to ask them what further use they put the information to.

Who are the users who would use the information from the 'fast' analysis?

The people that would use a "fast" wf layer are those that would benefit from more timely information rather than a data layer supplied after the event. Because the layer concentrates on the early months with full canopy coverage and does not usually see the later bare paddocks it may not be quite as accurate. We have only tried this once, for HBRC.

Any ability to estimate brassica yields being done or planned?

We are not currently looking at brassica yields from remote sensing but we did some work on this some years ago using the Cosmo-Skymed radar satellites. Also looked at biomass of pastures with TerraSar-X satellites. Results in both cases were promising.