

BioHeritage Webinar - Guiding biodiversity efforts using a remote sensing and machine learning approach

12pm, Thursday October 2022

Questions

1. What makes your work unique compared to other remote sensing projects?
Answered in webinar
2. For the ecosystem layer - interested in challenges involved in really evaluating the ecosystem using remote sensing - can imagine some challenges, e.g. detailed species diversity, presence of threatened species etc. Are you able to talk to that a bit more?
Answered in webinar
3. How much of the Index content is likely to be remote imagery vs on the ground measures of condition? Do you have a sense of that yet?
Answered in webinar
4. How does your partnership with the proof of concept partners help the project advance?
Answered in webinar
5. Can you get AirNZ to change their flight lines to get better coverage?
Answered in webinar
6. Can any of the remote sensors pick up signatures of individual fauna species -- e.g., predators or desirables?
The detection of predators in some cases could be picked up using our approach in an indirect way. For example if looking for patterns such as gaps in tree canopies due to possum browsing. Although not a direct detection there are signatures which appear at a large enough scale to be able to capture.
7. How will you handle as new data and data sources and they become available moving forward?
Our aim for the Eco-index is for the project to be self sustaining as new data is available. This also becomes very difficult as we are not able to predict what will be available to us as technology continues to develop. Currently we are working with data sources such as the sentinel and planet satellites which will hopefully continue on and use the same standard programming interfaces. This means that we are able to automate new data capture and include it in the model as it becomes available. This is defiantly one of our core principles of the project.
8. To what level of specificity are you classifying vegetation class and which sensor is most important for this?
*Currently we are working with 15 classes to build detectors for. These are based off of the LCDBV5 classes with more detail in the "Indigenous forest" class. These 15 classes are a starting point for us and will very likely change and grow with the projects needs as we work our way through the development stage.
The visible light sensors are the most critical as they are the starting point for our detectors. With the initial input from the visible light sensors we can then add in information from other sensors like Lidar or SAR to aid in more detailed detection of the status of the ecosystems.*

9. Are you planning on doing an annual change detection at a national level?

The reporting from the Eco-index will have the ability to be flexible depending on what the needs are. For example, we are currently planning on reporting the status on a catchment based level, however, we are able to set these catchments as we see fit and the data will filter through. This will also allow us to also conglomerate the summeries of the catchment scale data on a national scale.

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