VECMAP® : The One-stop-shop for Risk Mapping

Professional software for researchers and decision makers
Ensuring quality of your project(s) and data

Recognisable project experiences?

- Re-entering data in predefined digital documents
- Paper forms getting lost
- Paper forms being unreadable
- Painstaking cleaning and centralising of non-standardised data
- Data scattered over organisation
- Team member(s) leaving organisation with data
- Discovering (too late) data were not collected

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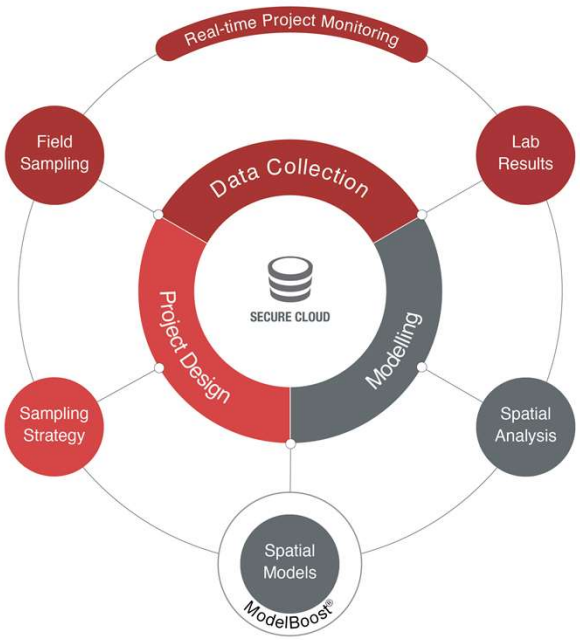
Full integration of all VECMAP® modules



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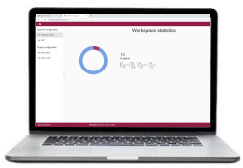
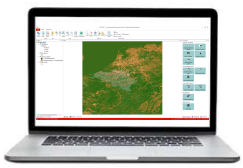
3 components

Web: Project management and entering lab results



Mobile: Fieldwork

Desktop: Spatial analysis



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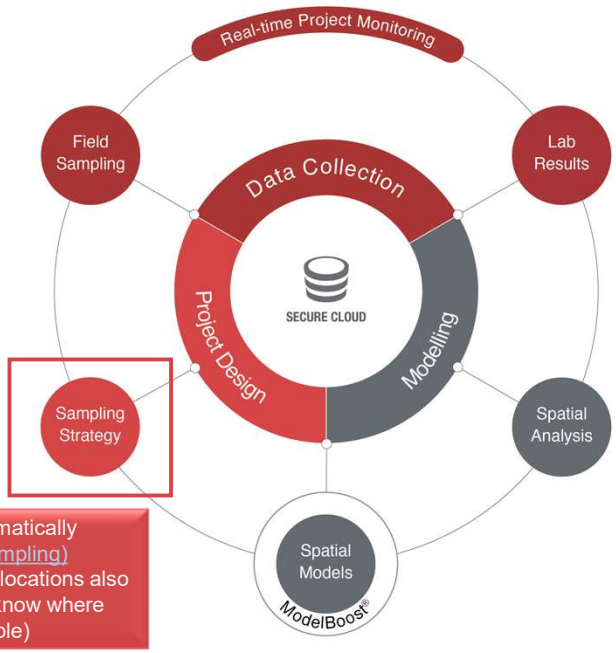

- Sampling locations automatically generated (avoid oversampling)
- Import of fixed sampling locations also possible (if you already know where you want to go and sample)

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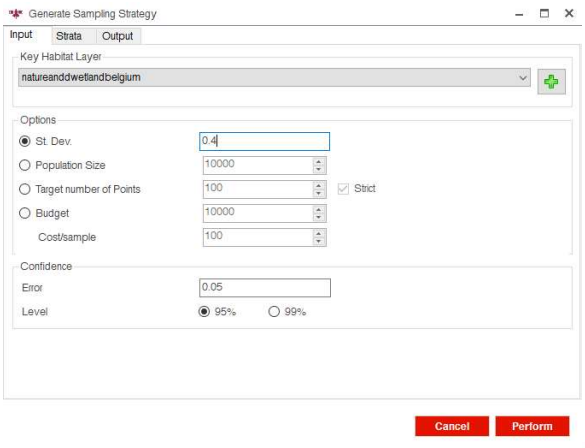
Where will we place traps / take samples?

- Number of sample locations based on
  - Statistical
  - Population size
  - Number
  - Budget
- Sampling locations randomly picked within delineated areas of certain habitat categories (stratified random sampling)
- Based on the total surface of each habitat category, the number of sampling locations are devided over the different categories
- You can still adapt the exact locations on site with the mobile app



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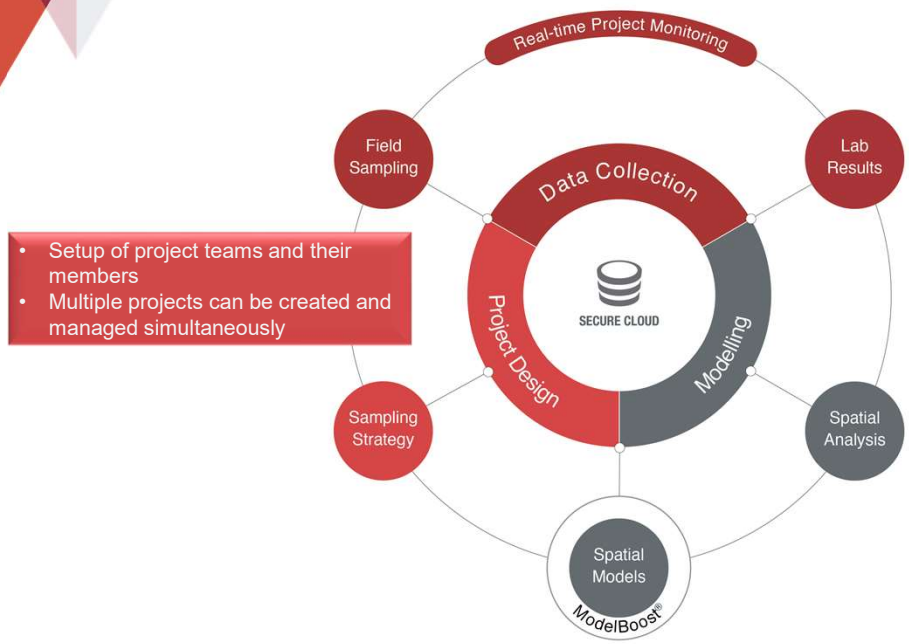

- Setup of project teams and their members
- Multiple projects can be created and managed simultaneously

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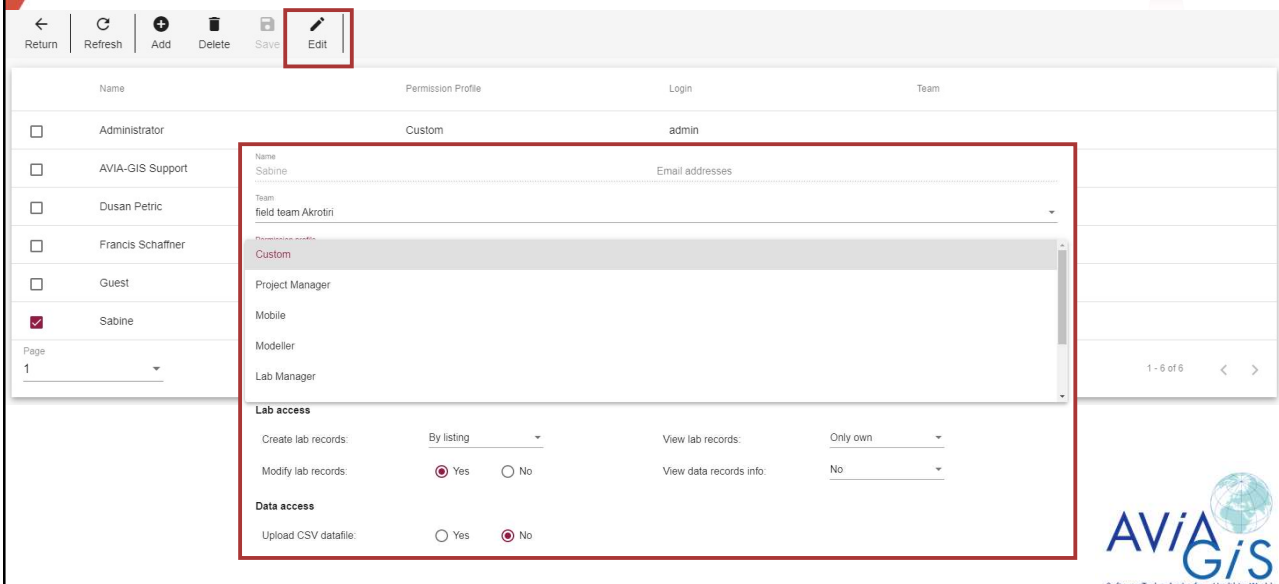
Who is working on the project and what is his/her function?



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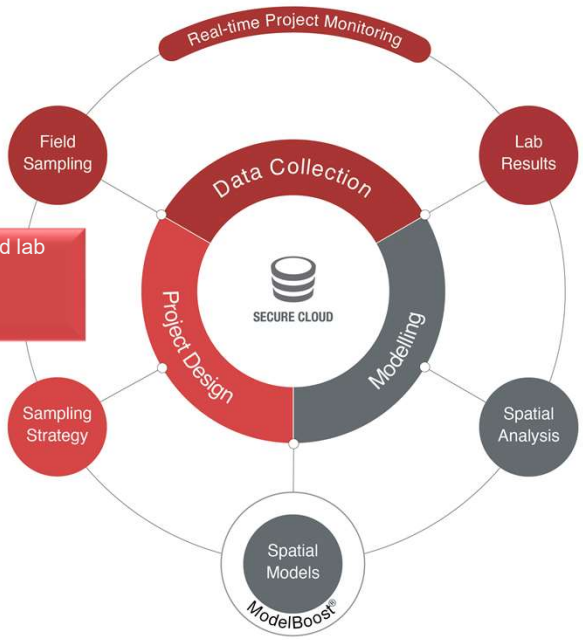
- Easy design of digital field and lab data forms
- Prepare and assign field data collection tasks to the teams



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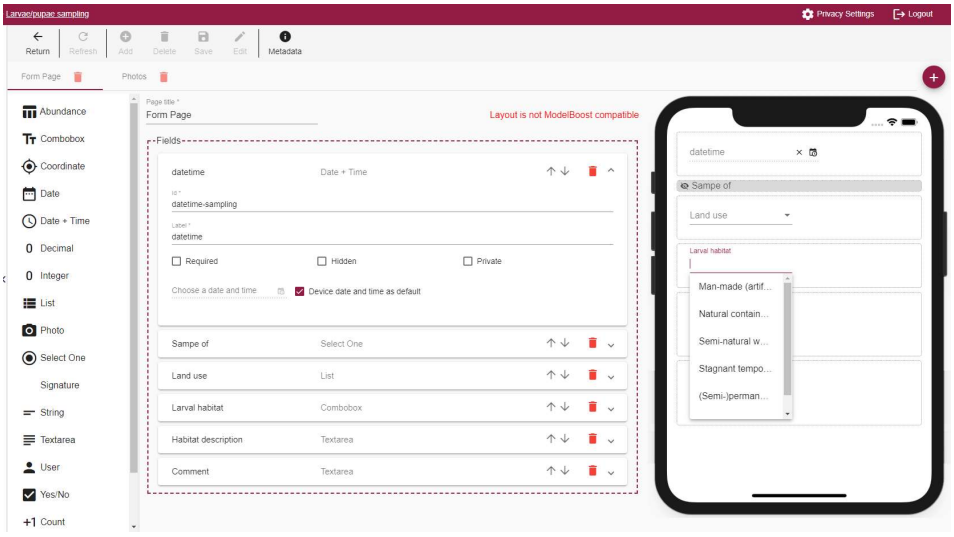
Creation of customizable digital forms – What information do you need?



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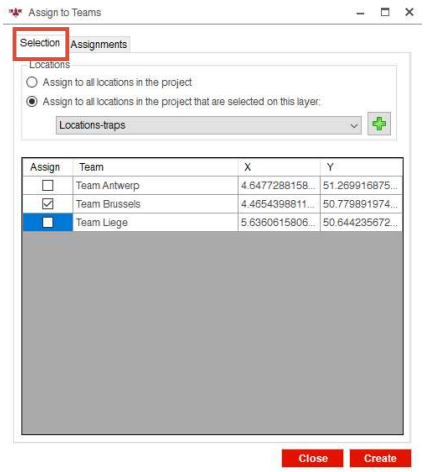
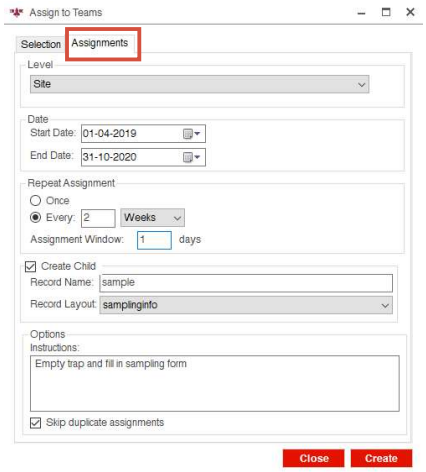
Creation of assignments – Who will collect what when?





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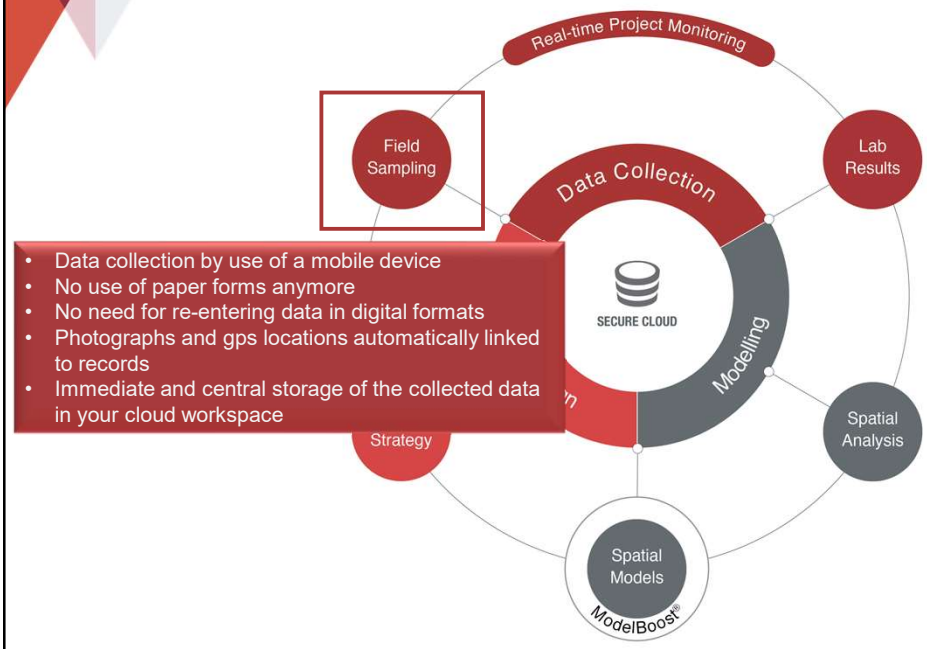

- Data collection by use of a mobile device
- No use of paper forms anymore
- No need for re-entering data in digital formats
- Photographs and gps locations automatically linked to records
- Immediate and central storage of the collected data in your cloud workspace

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Collect field data with the app

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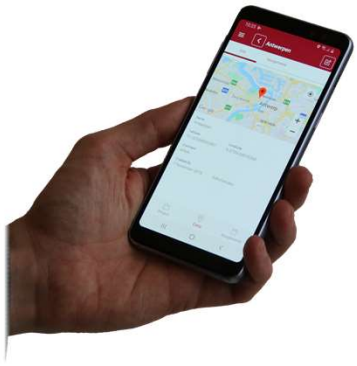

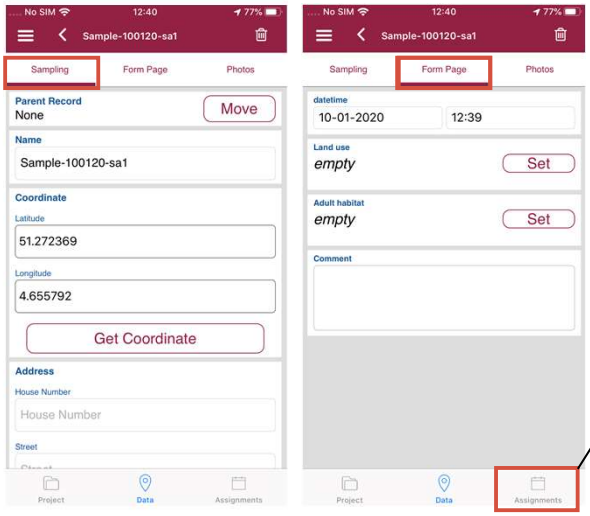

Check the tasks assigned to you

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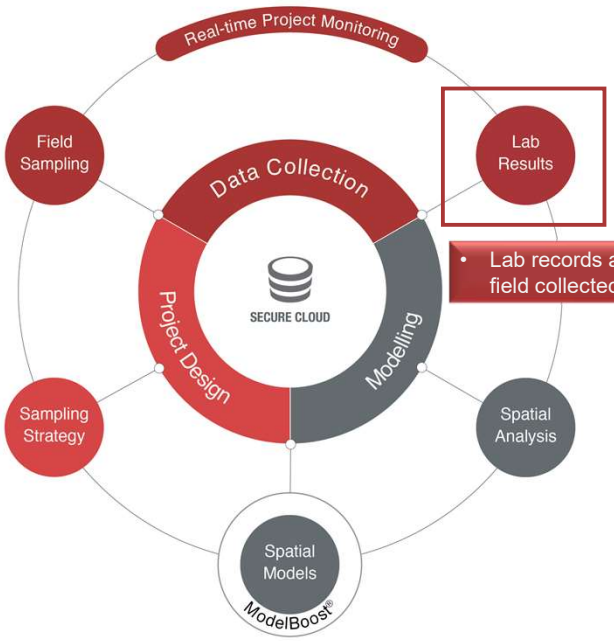

- Lab records automatically linked to the field collected data

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Entering lab results

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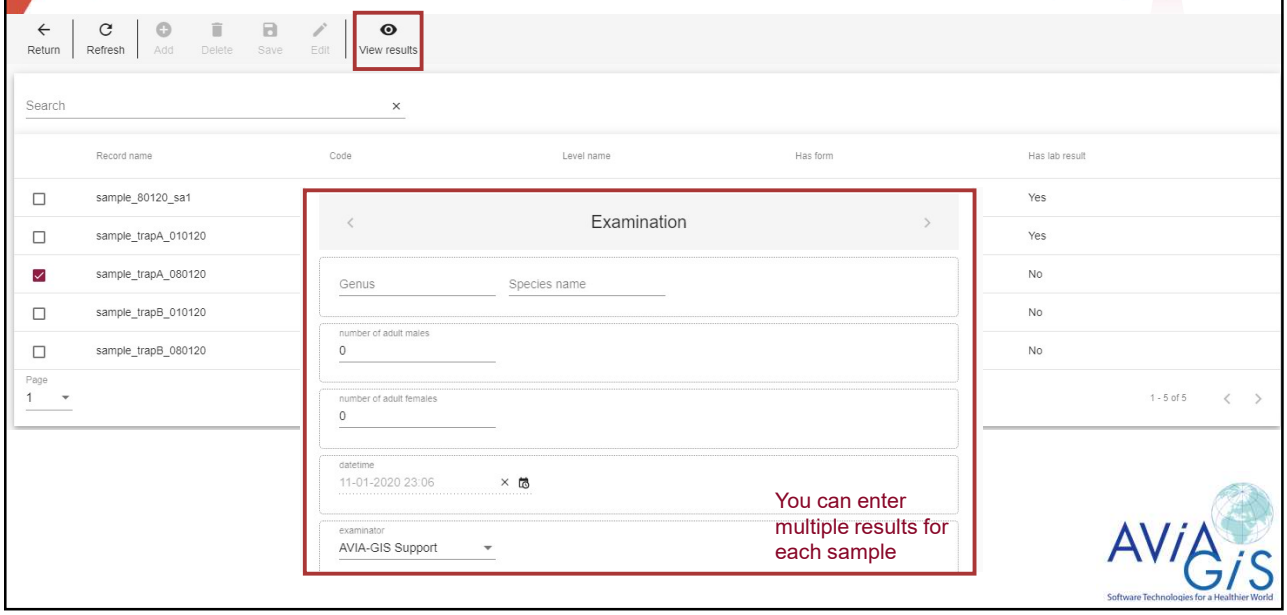

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Real-time Project Monitoring

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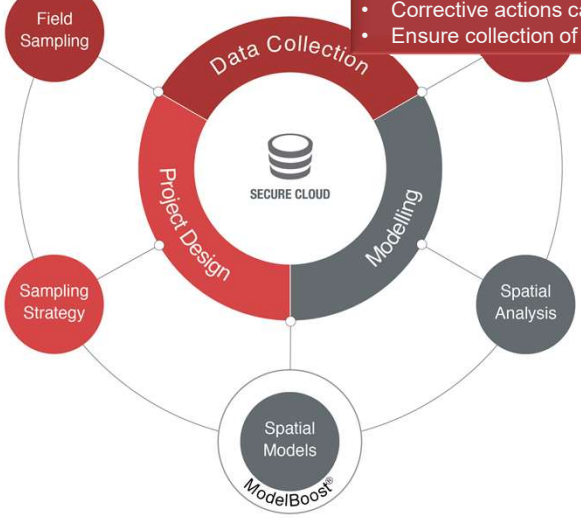
- Easy monitoring interface for all ongoing projects
- Corrective actions can be decided immediately
- Ensure collection of ALL data



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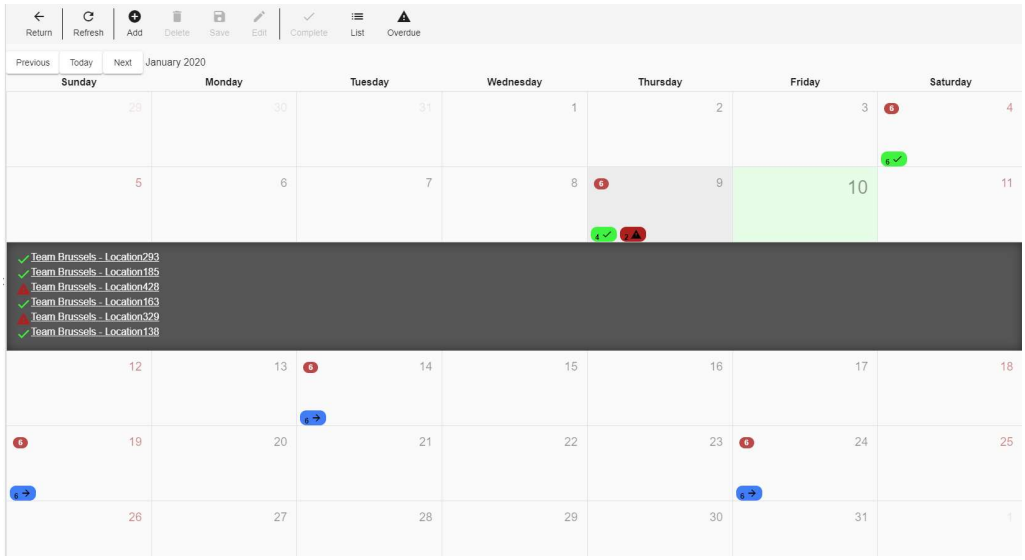
Overview of assignments in kalender



- Done
- Overdue
- Planned
- Canceled

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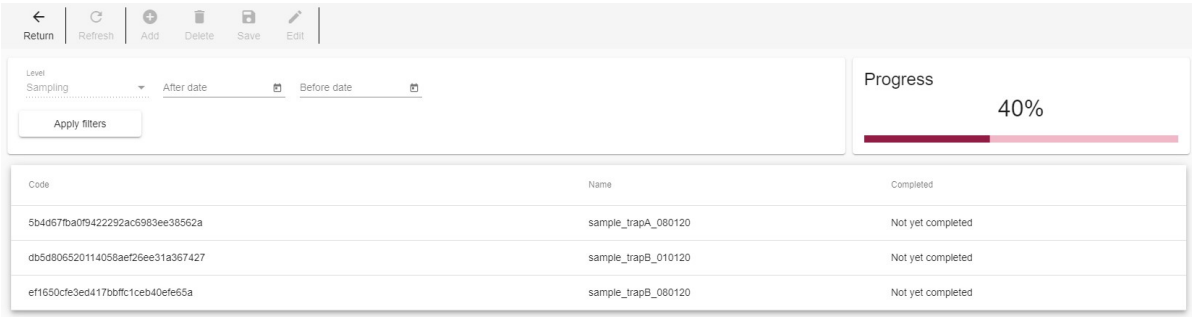
Keep track of the lab examination progress



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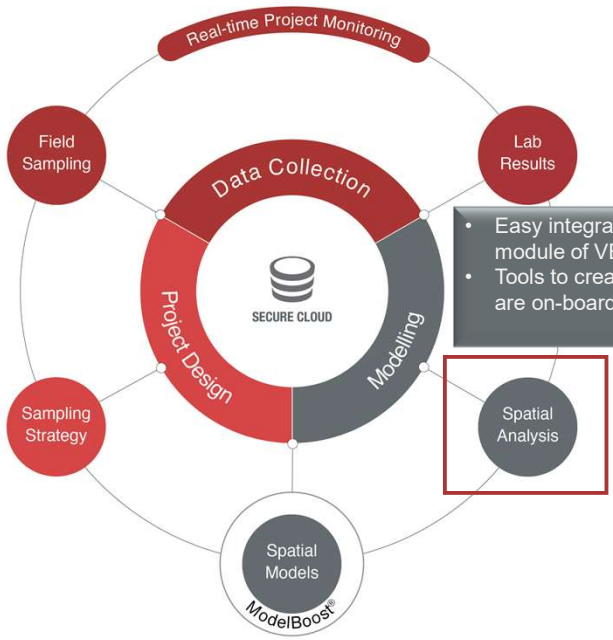

- Easy integration of project data into GIS module of VECMAP
- Tools to create maps and execute modelling are on-board

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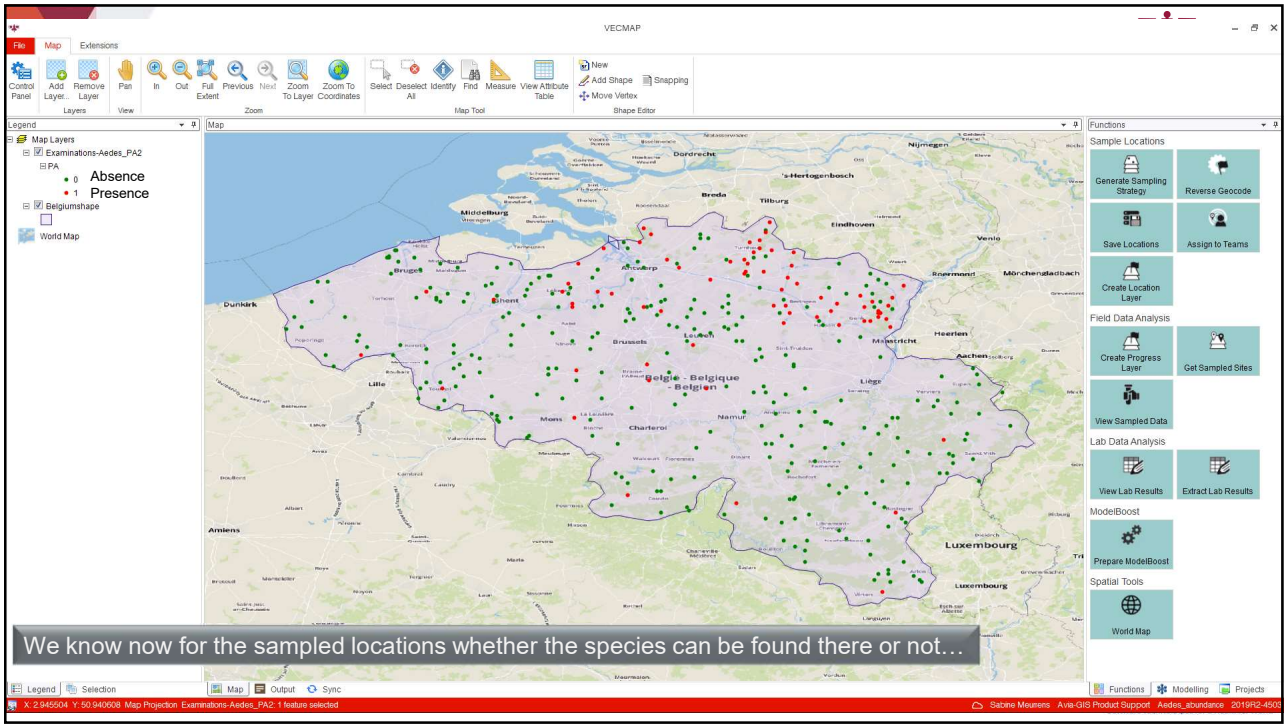
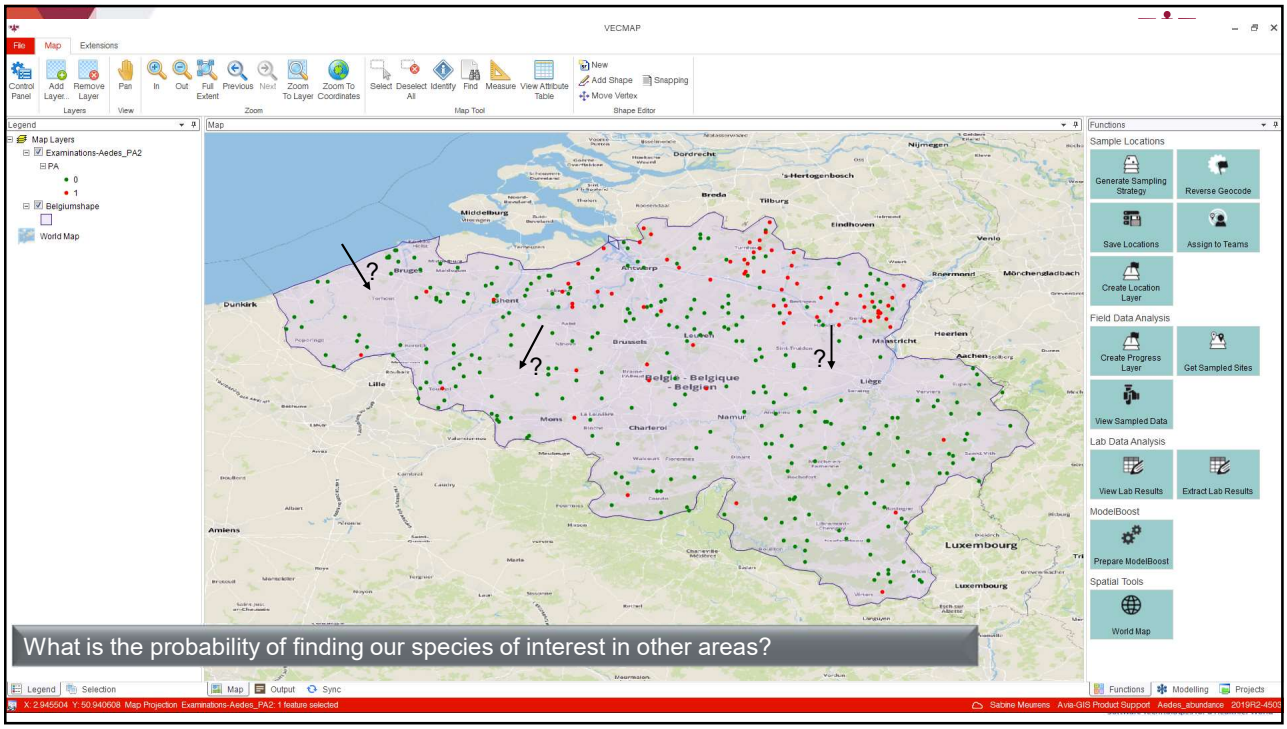


We know now for the sampled locations whether the species can be found there or not…



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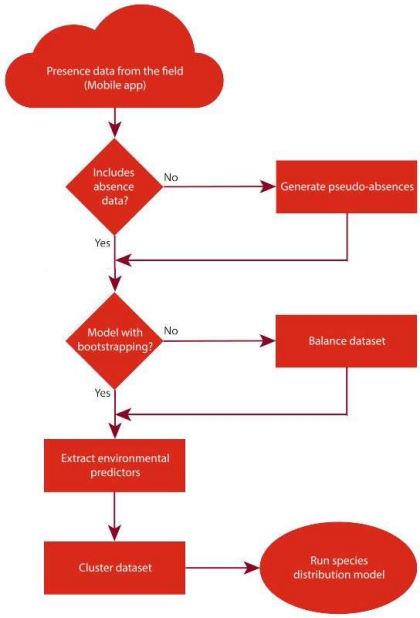
- Flow chart to follow
- Experiment with it
- Run multiple models



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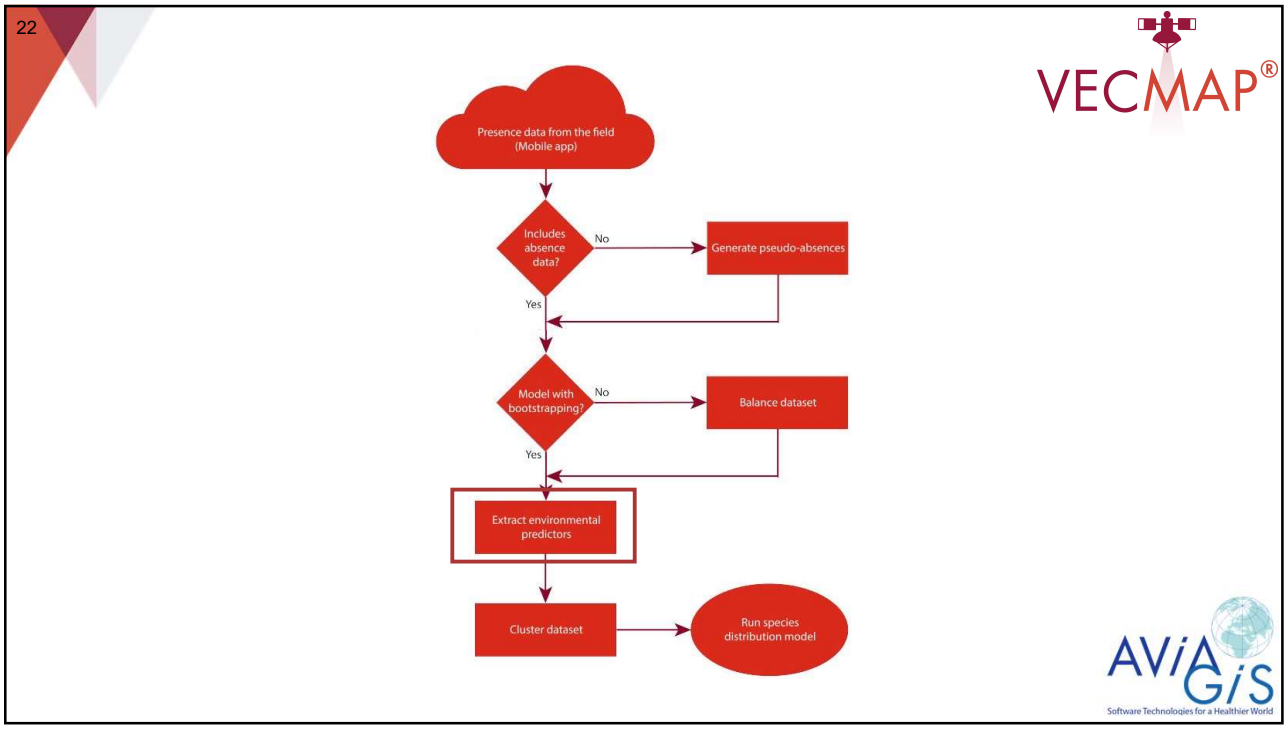
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Presence data from the field (Mobile app)
Includes absence data?
No
Generate pseudo-absences
Yes
Model with bootstrapping?
No
Balance dataset
Yes
Extract environmental predictors
Cluster dataset
Run species distribution model
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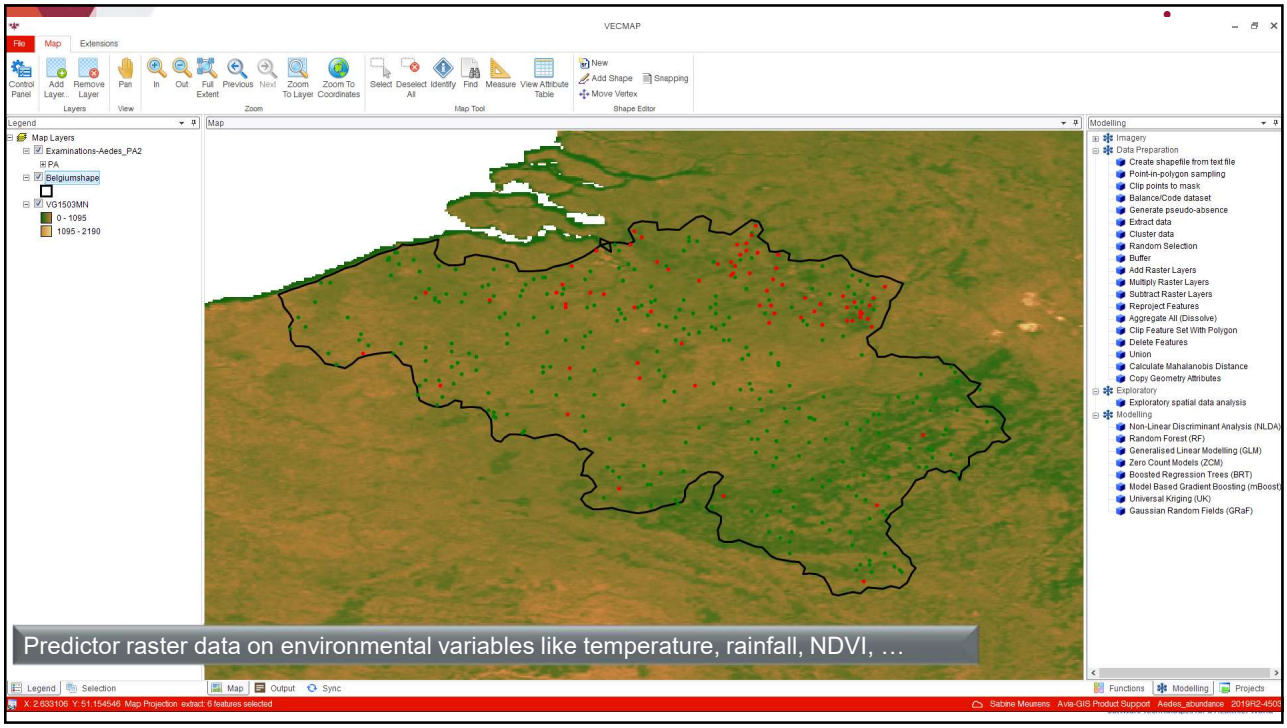
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Predictor raster data on environmental variables like temperature, rainfall, NDVI, …

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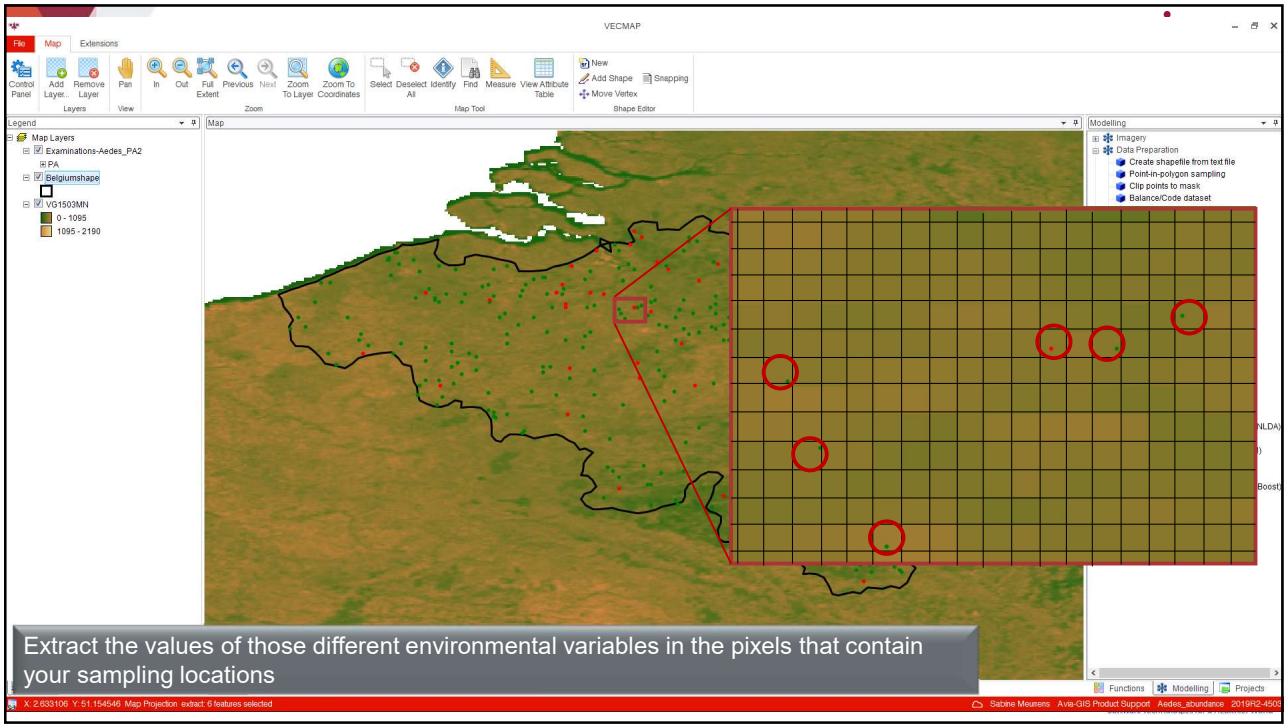
Predictor data providers

- GIS data
  - http://diva-gis.org
  - https://naturalearthdata.com
- Satellite data
  - https://earthexplorer.usgs.gov
  - https://scihub.copernicus.eu
  - https://avl.class.noaa.gov
  - http://vito-eodata.be/
- Other data
  - http://landcover.org
  - https://land.copernicus.eu
  - https://worldclim.org/



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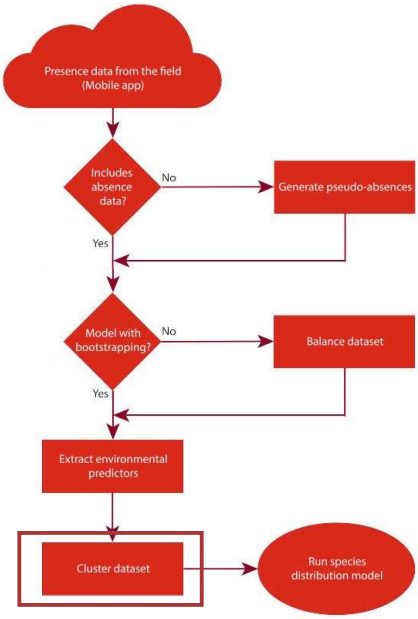

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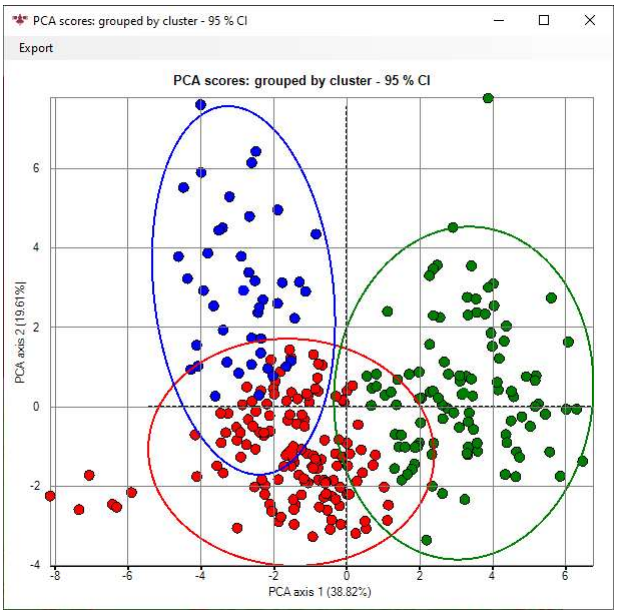

With the clustering you look for groups of sites which are more similar in environmental conditions

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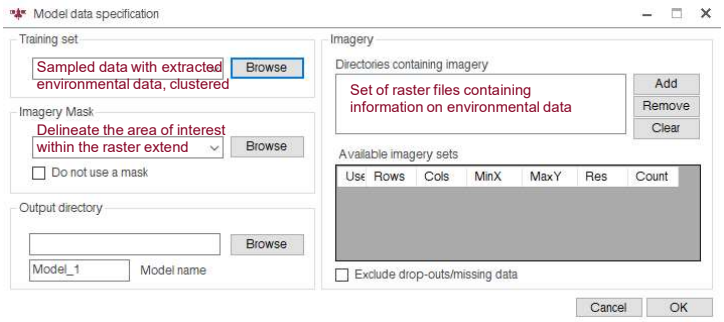
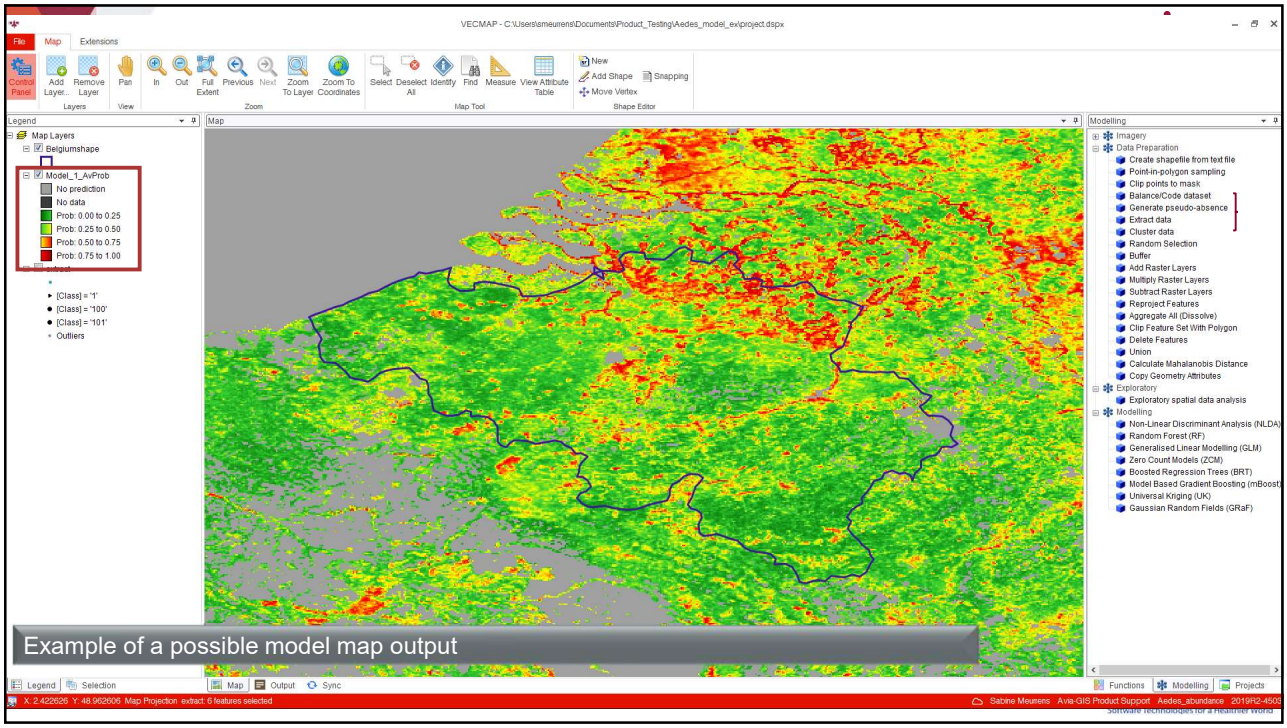
- Looking at the different environmental conditions in each pixel of your area of interest

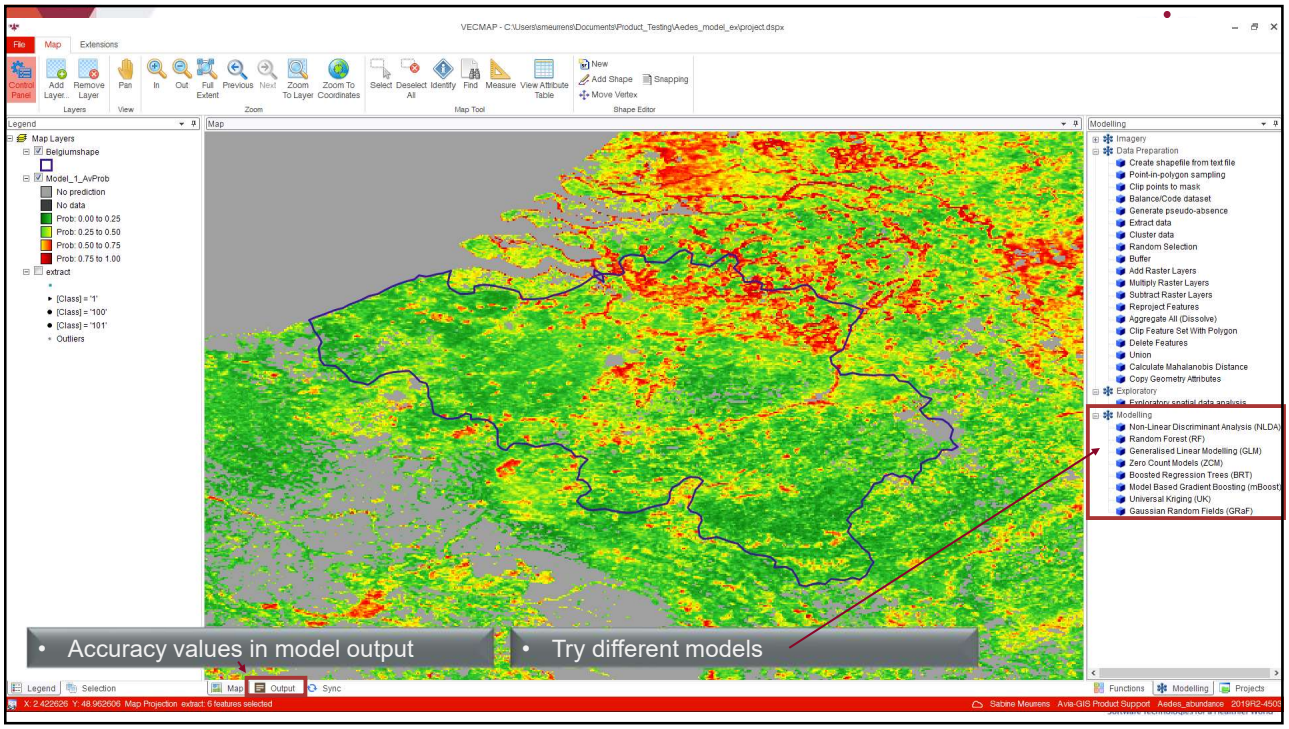
→ To which cluster does the pixel most likely belong?

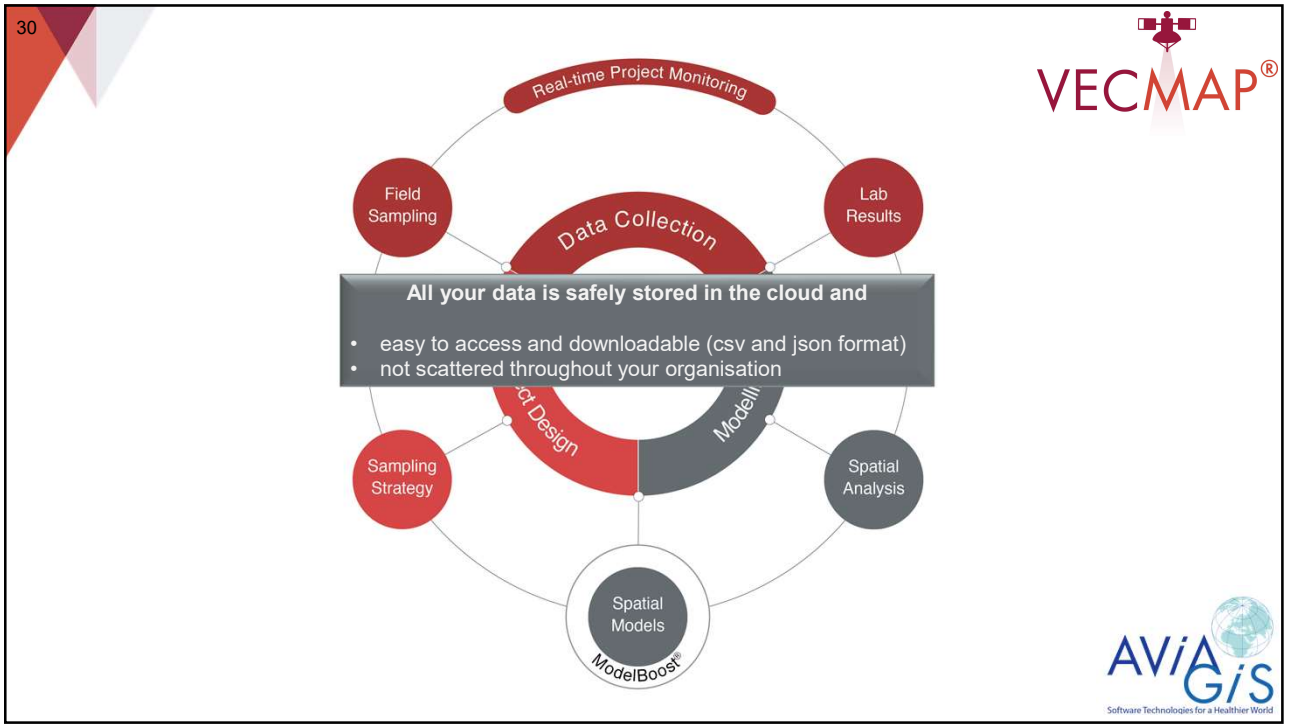
- Will my species of interest then be more likely absent or more likely present at this location?

- Also possible for abundance data






• Accuracy values in model output
• Try different models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Real-time Project Monitoring
Field Sampling
Lab Results
Data Collection
All your data is safely stored in the cloud and
• easy to access and downloadable (csv and json format)
• not scattered throughout your organisation
Sampling Strategy
Spatial Analysis
Spatial Models
ModelBoost®
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VECMAP®

VECMAP® offers your organisation:

- Decreased time expenditure
- Increased organisational capacity
- Increased staff efficiency
- Increased data security

More resources become available for what really matters:

Quality research with quality data!

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THANK YOU

For more info:
support@avia-gis.com

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