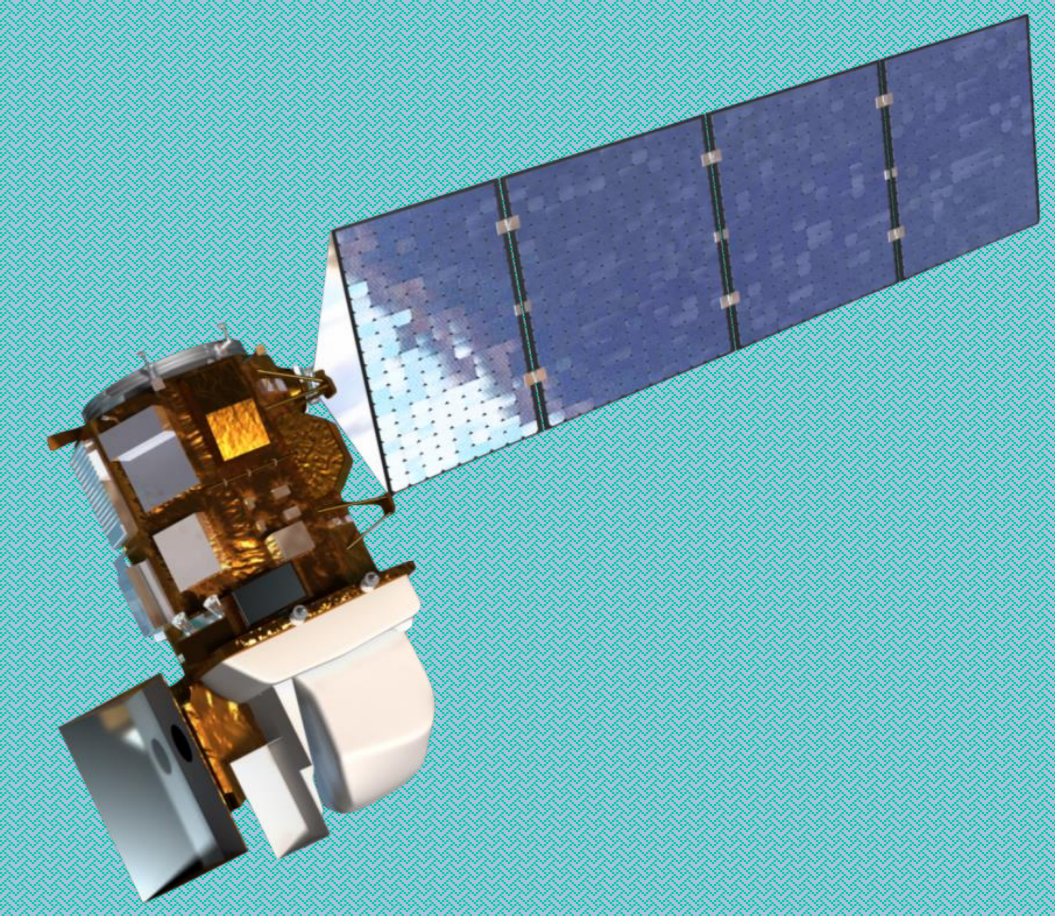


Predictive modeling of bryophyte α -diversity in boreal forests from remote sensing data

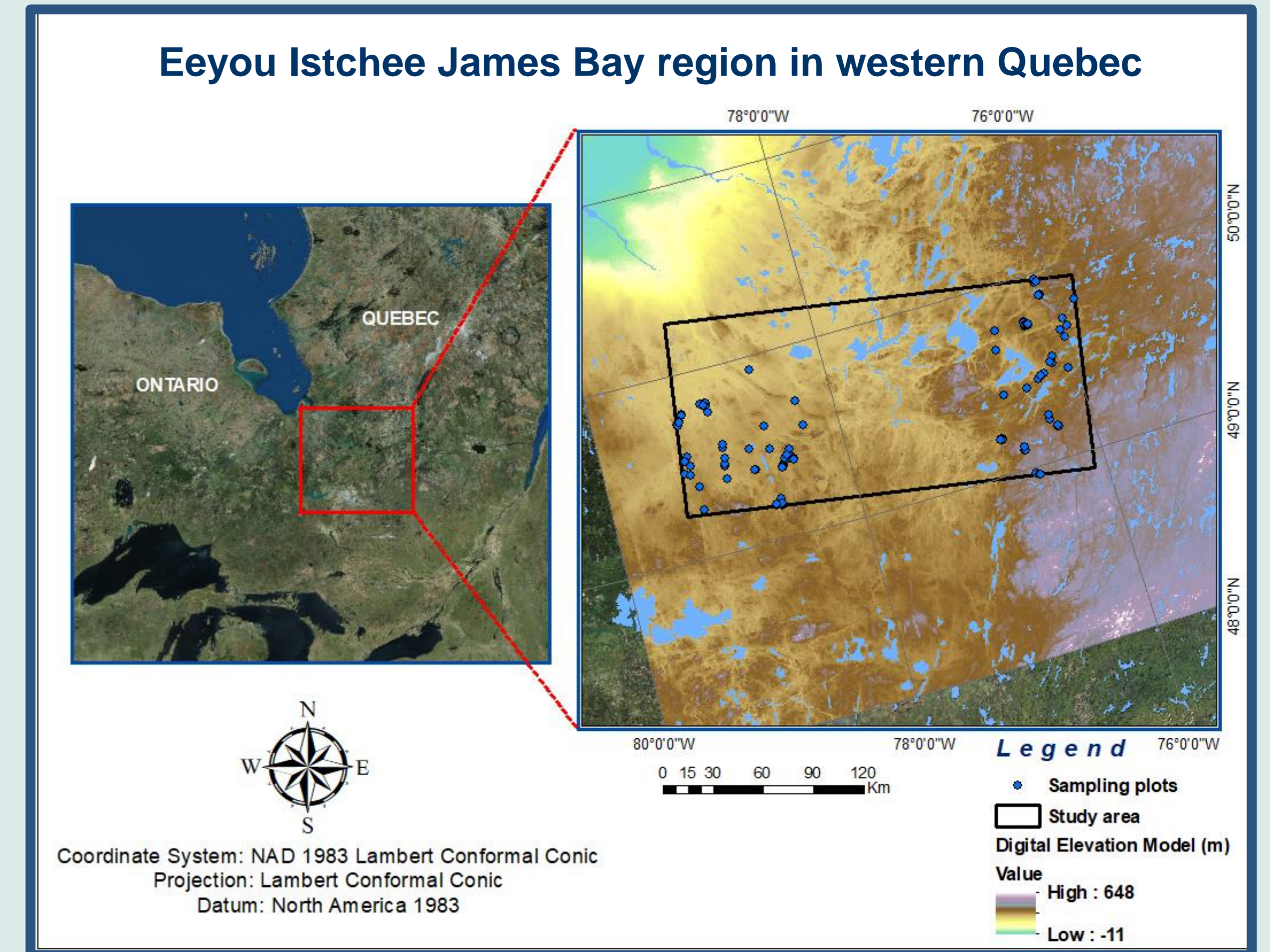
Carlos Cerrejón, Nicole Fenton, Osvaldo Valeria, Marion Barbé, Joëlle Castonguay, Chafi Chaieb and Philippe Marchand

Université du Québec en Abitibi-Témiscamingue
Chaire industrielle CRSNG-UQAT-UQAM en aménagement forestier durable - Institut de recherche sur les forêts
445 boul. de l'Université, Rouyn-Noranda (Québec) J9X 5E4 Canada



Introduction

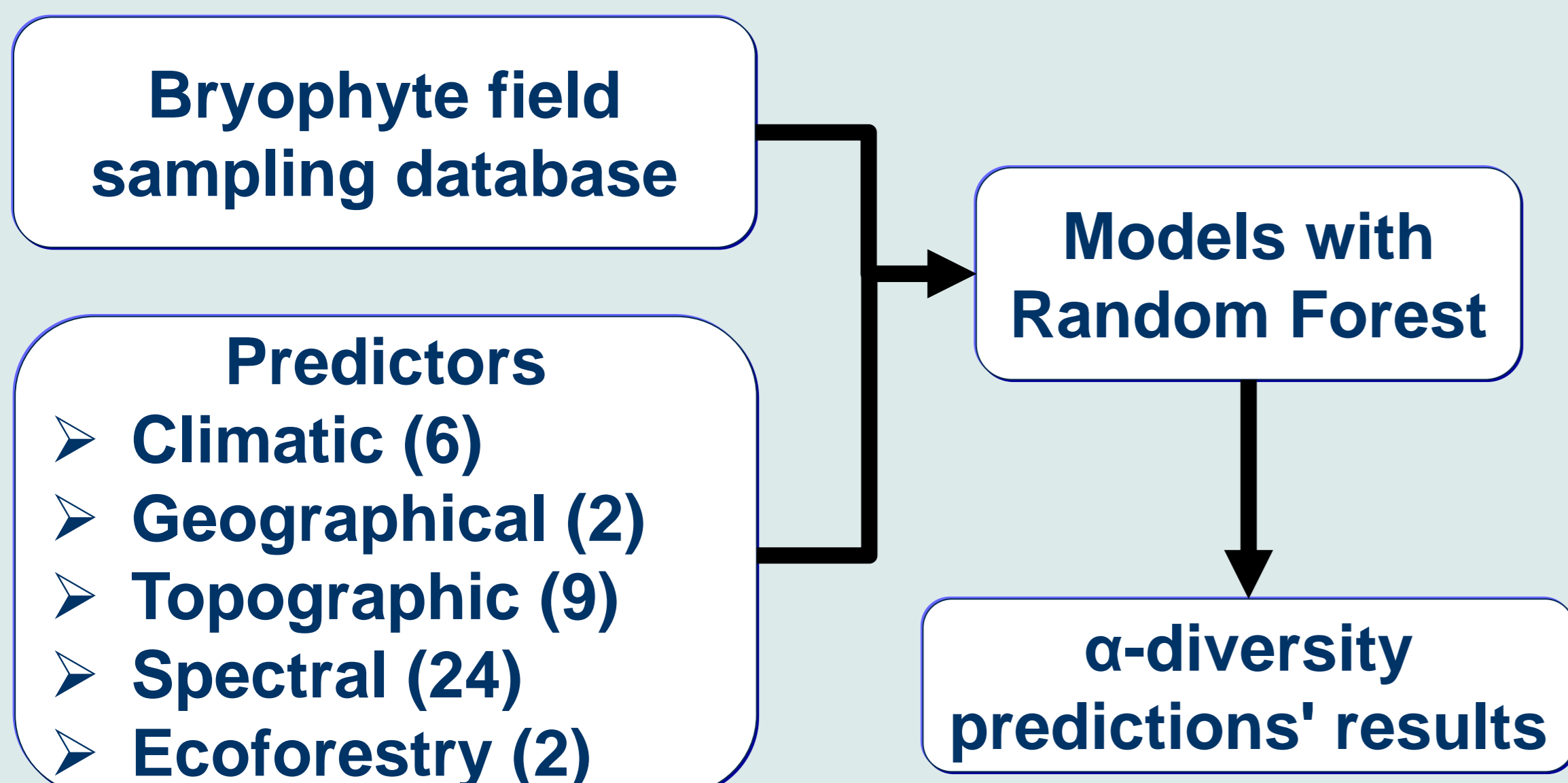
- Bryophytes play a crucial role in boreal forest ecosystem functioning as they are the main ground vegetation layer and account for a significant fraction of biodiversity
- The acquisition and integration of knowledge about bryophyte spatial distribution and diversity hotspot location into ecological planning is required in a context of high exploitation industrial activity
- Remote sensing is a powerful information source to assess biodiversity in vast and often inaccessible boreal forest areas



Objective

Development of predictive models of bryophyte α -diversity (species number) using remote sensing data

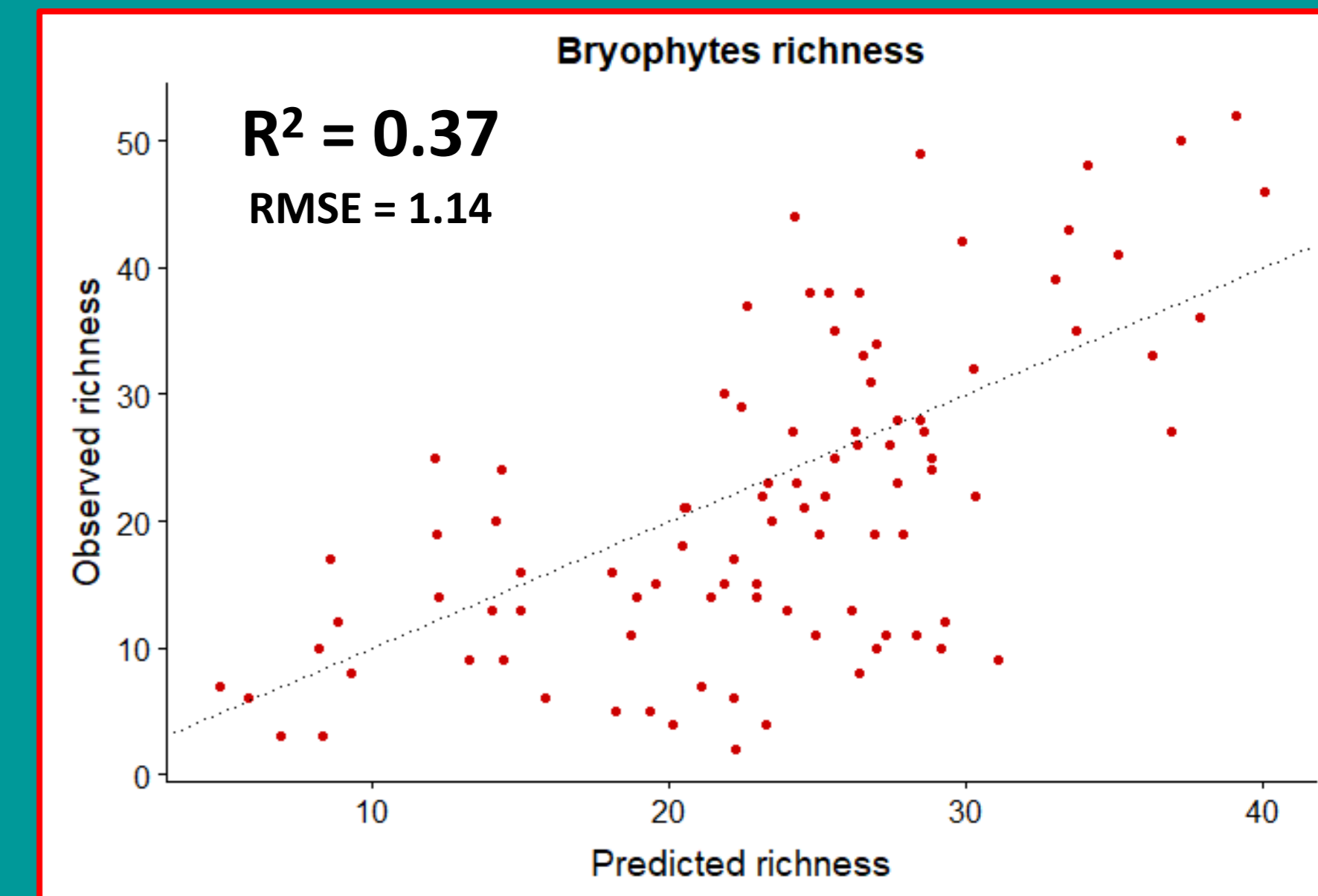
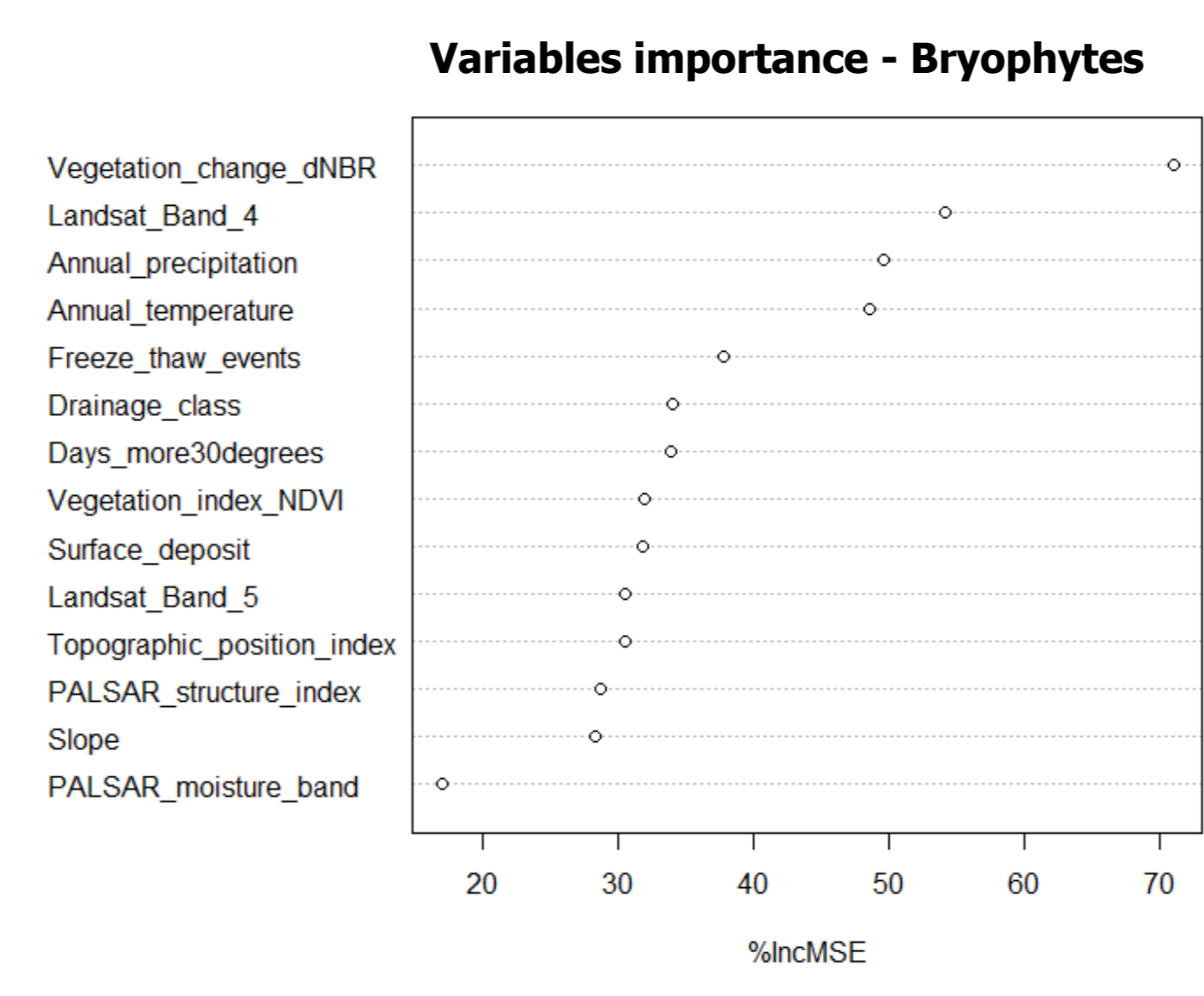
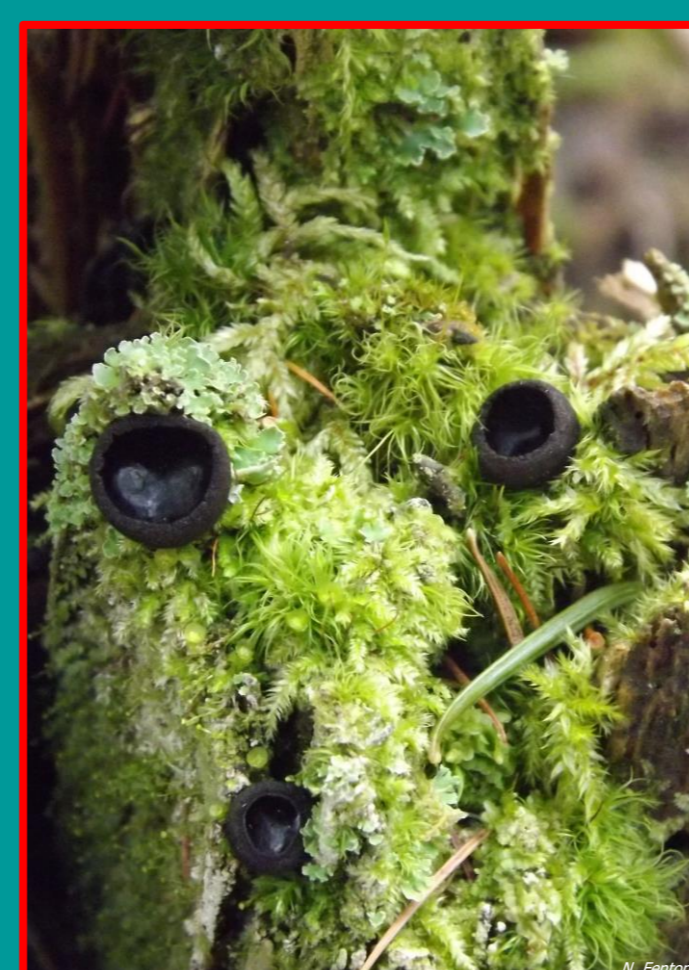
Methodology



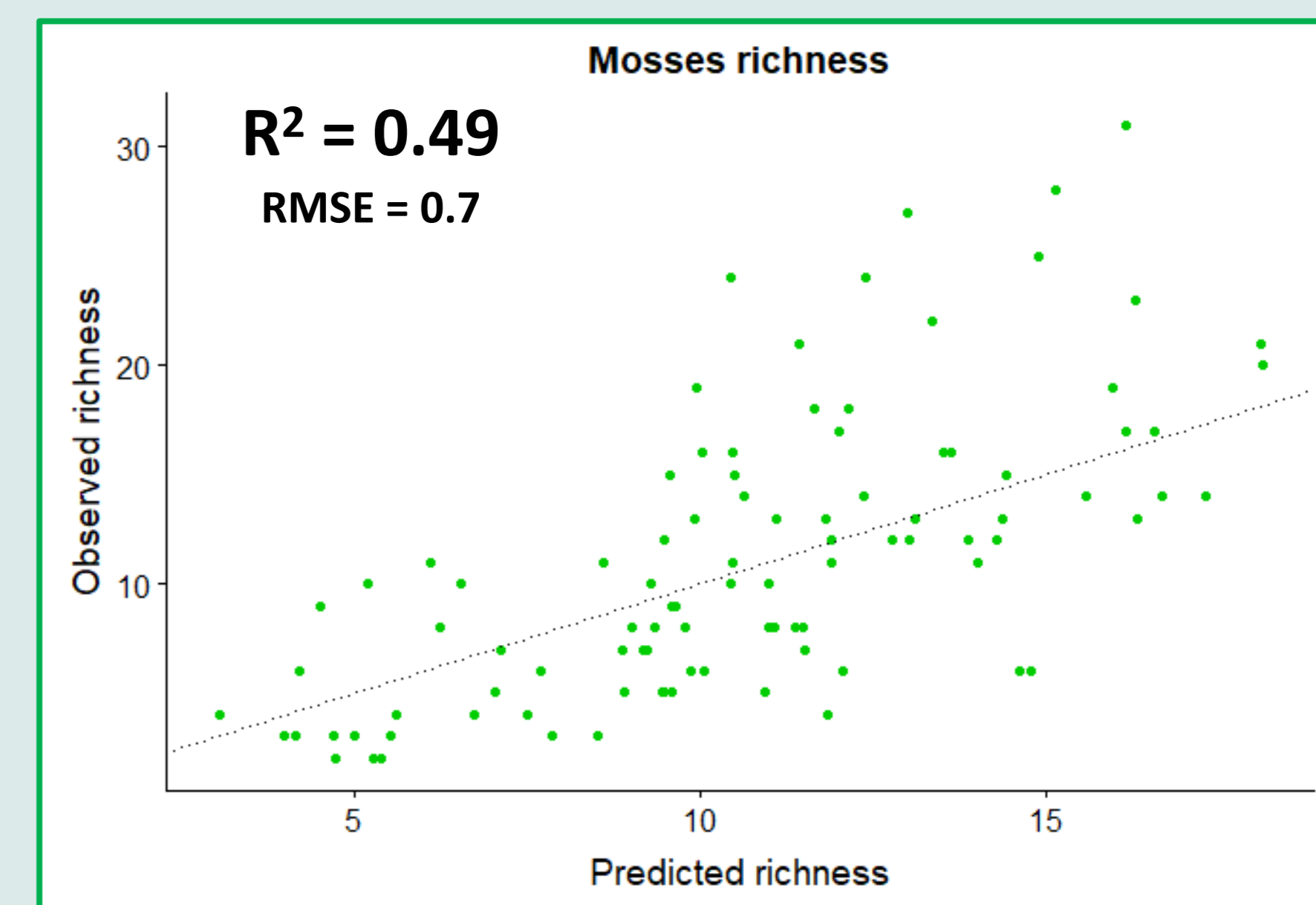
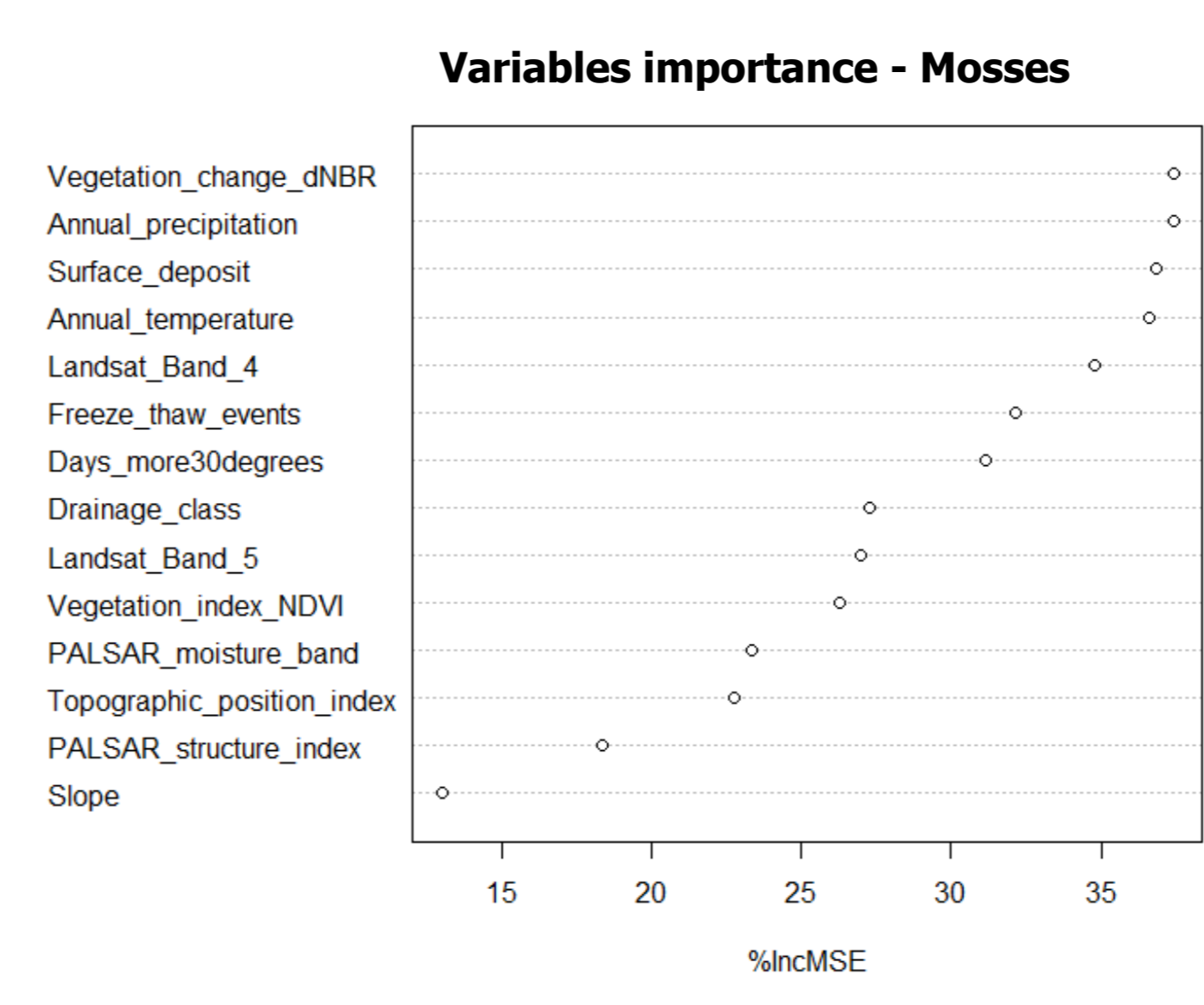
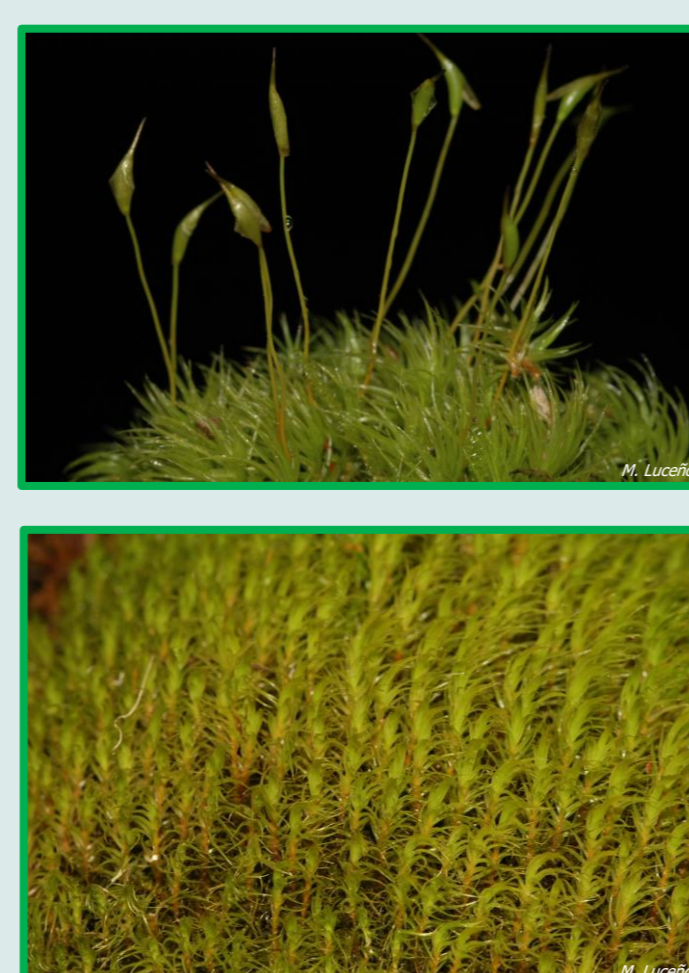
Conclusions

- The climatic, topographic and spectral variables explain an important part of the bryophyte species diversity
- Evidence of the importance and effect of dynamic variables/processes (dNBR) on bryophytes diversity
- The models' predictive performance highlight the potential of remote sensing in bryophyte diversity prediction
- This study points out the importance of working not only with bryophytes as a whole, but also at the guild/group level

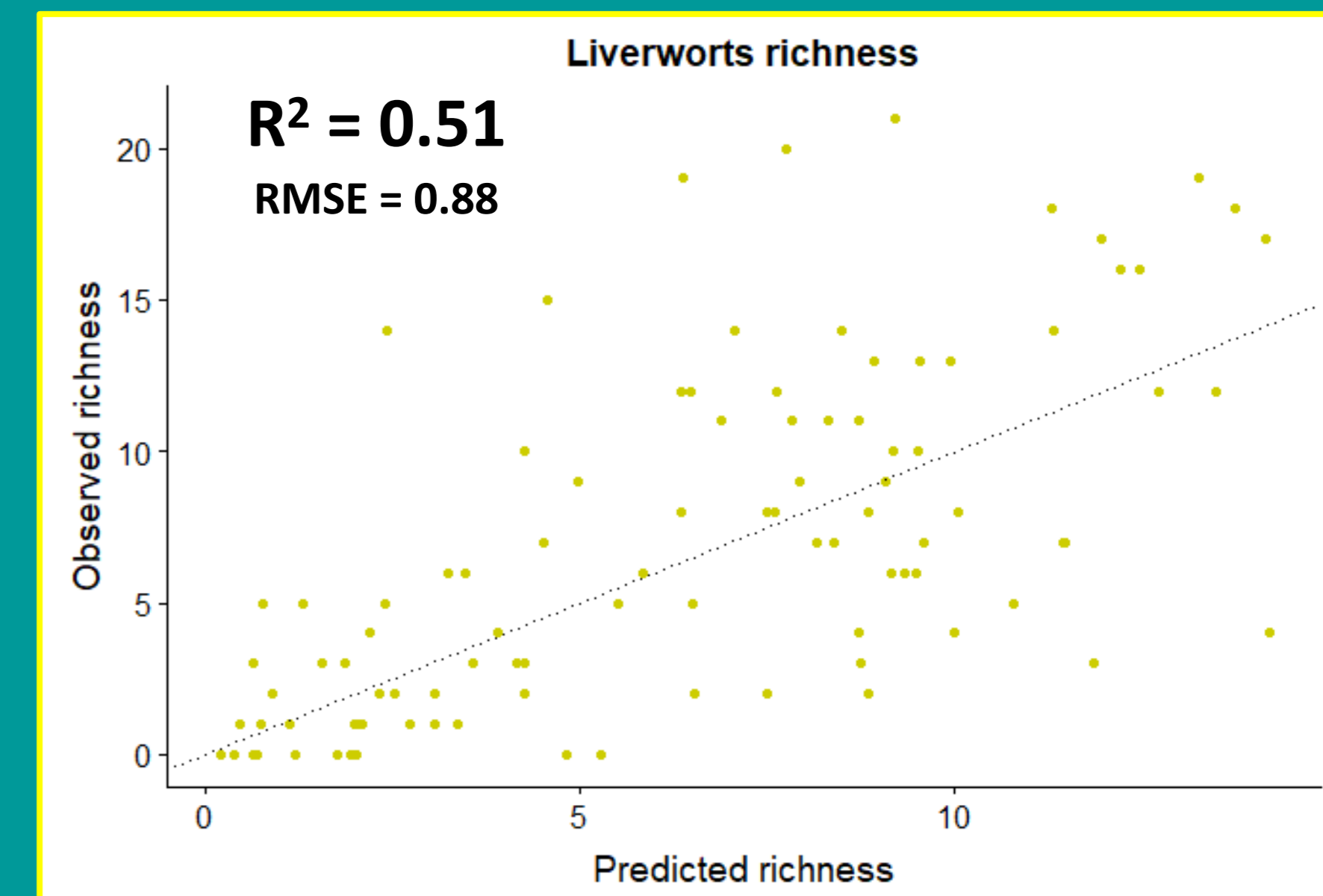
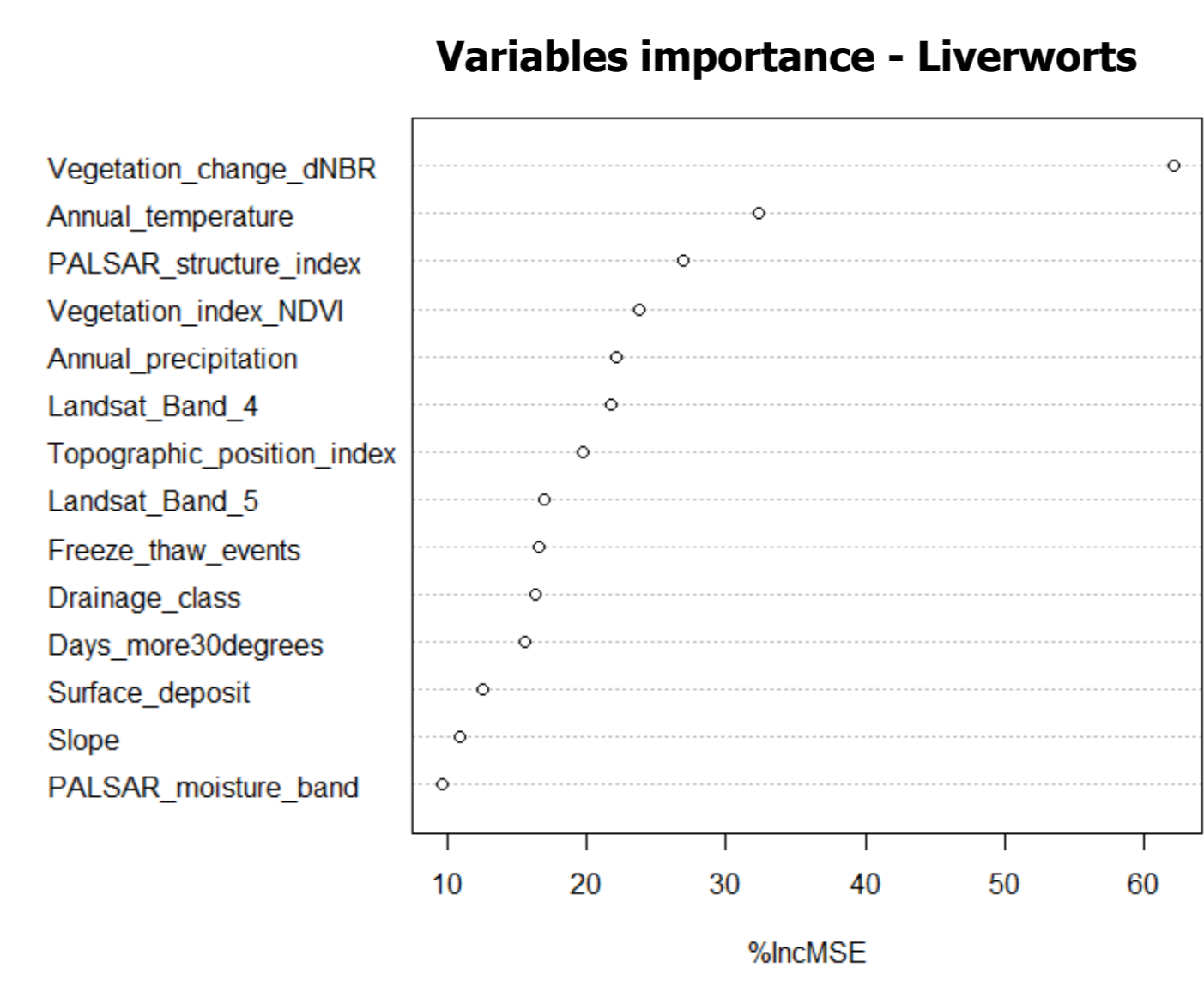
Bryophytes



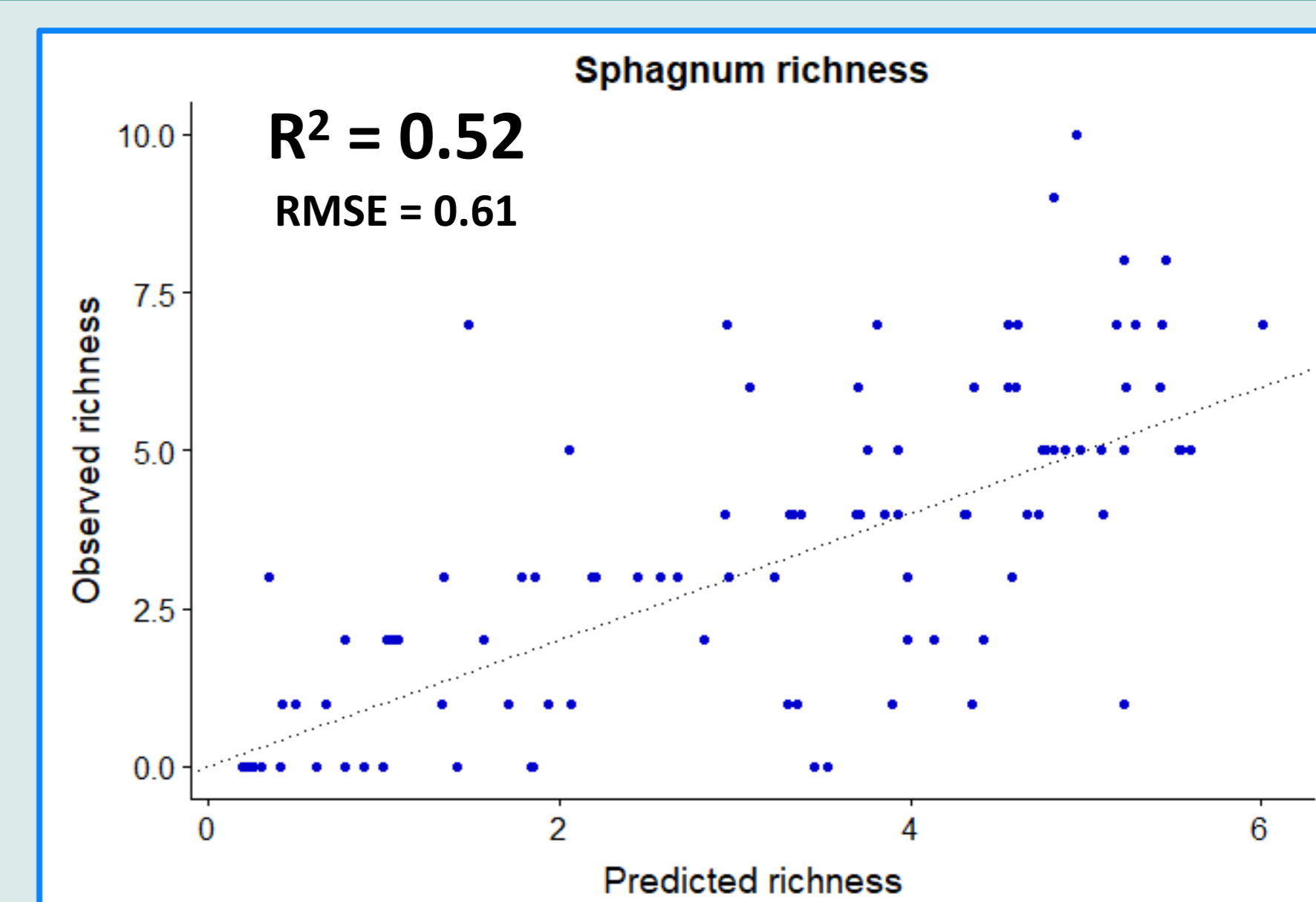
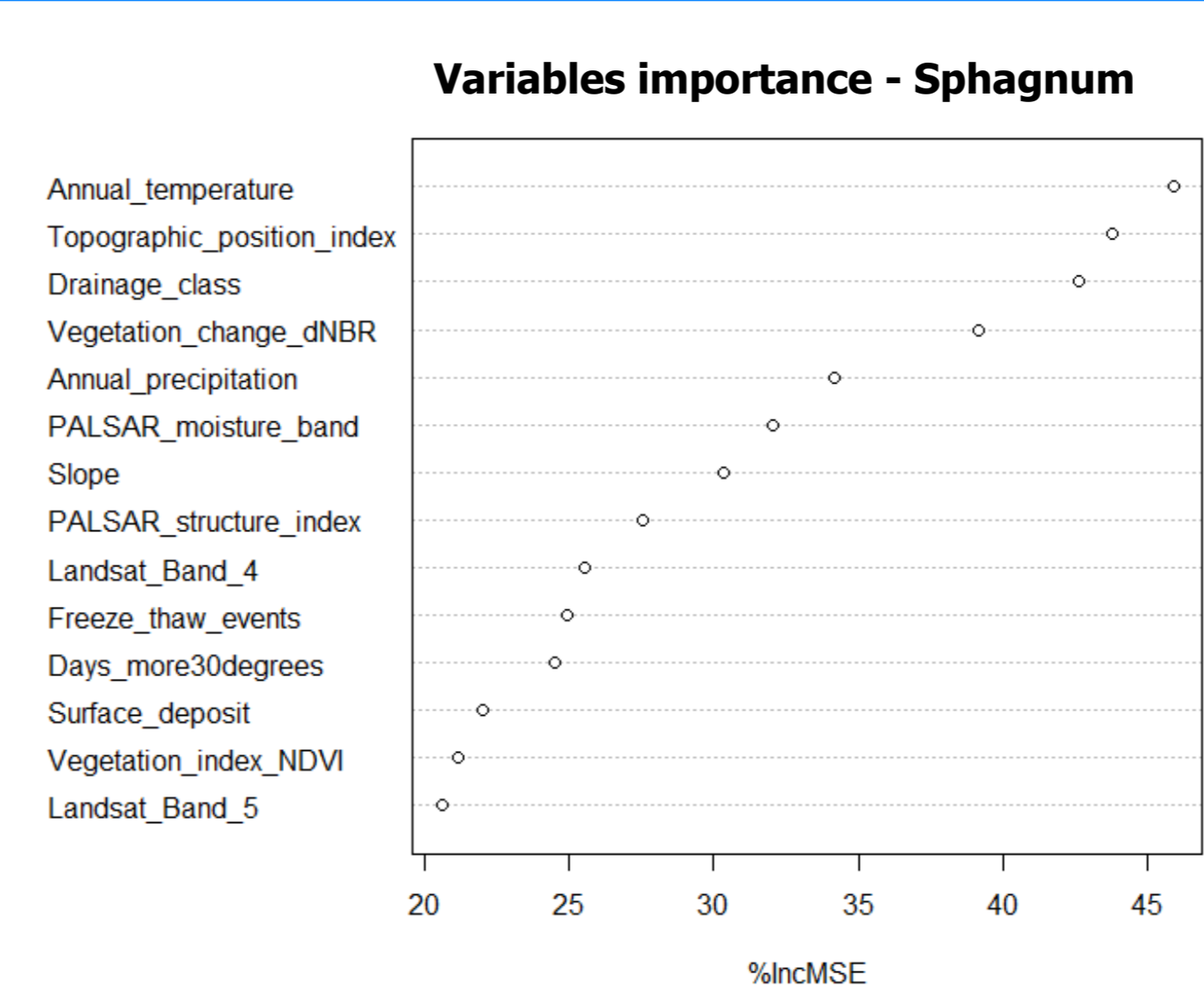
Mosses



Liverworts



Sphagnum



The dNBR index (vegetation change rate), annual temperature and annual precipitation appear as determining variables of the richness of each of the groups