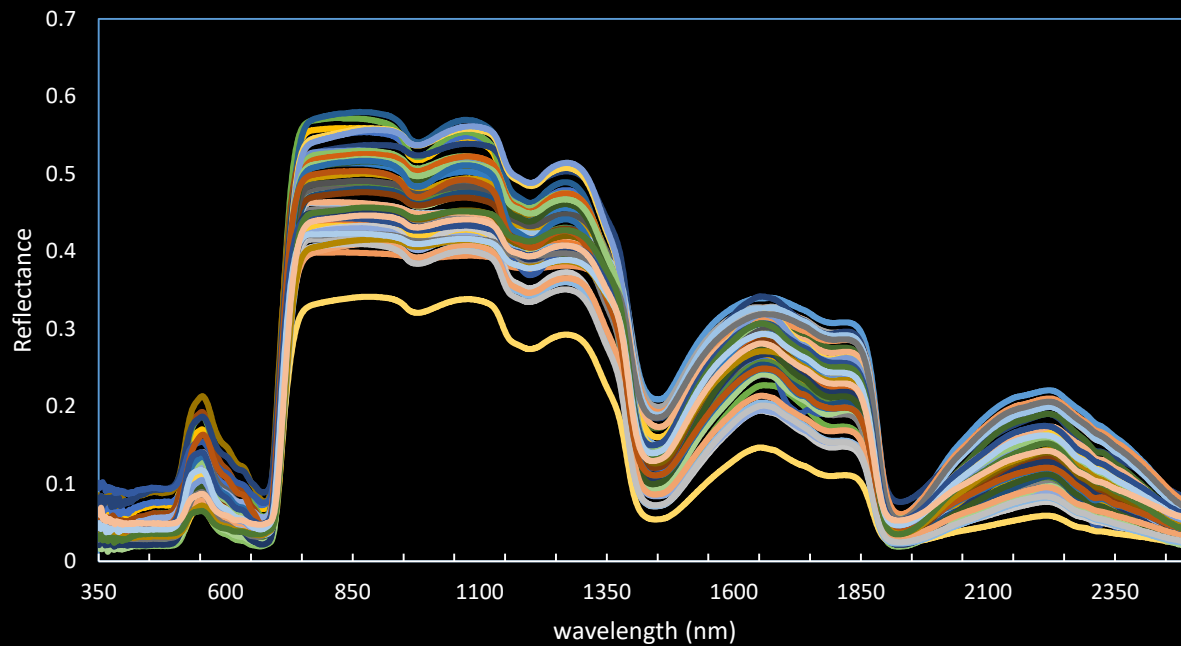


# EcoSIS and EcoSML: Biodiversity Team Meeting 2019

Ting Zheng, Erin Hokanson Wagner, Justin Merz, Phil Townsend

# From leaf reflectance to leaf traits



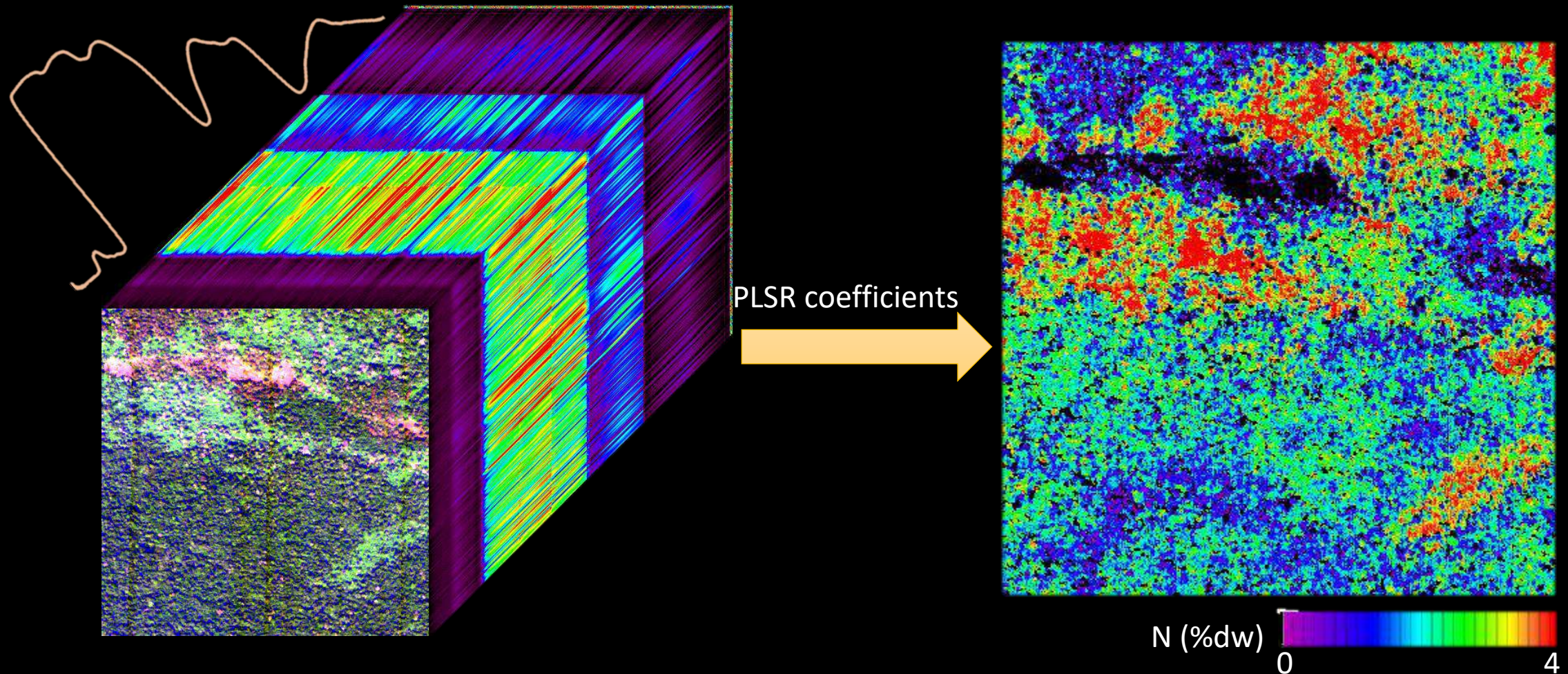
PLSR\* coefficients



N,  
C,  
Leaf Mass Area,  
Fiber,  
Lignin,  
Chlorophyll, etc.

\*: partial least squares regression, a widely adapted method to predict traits based on reflectance.

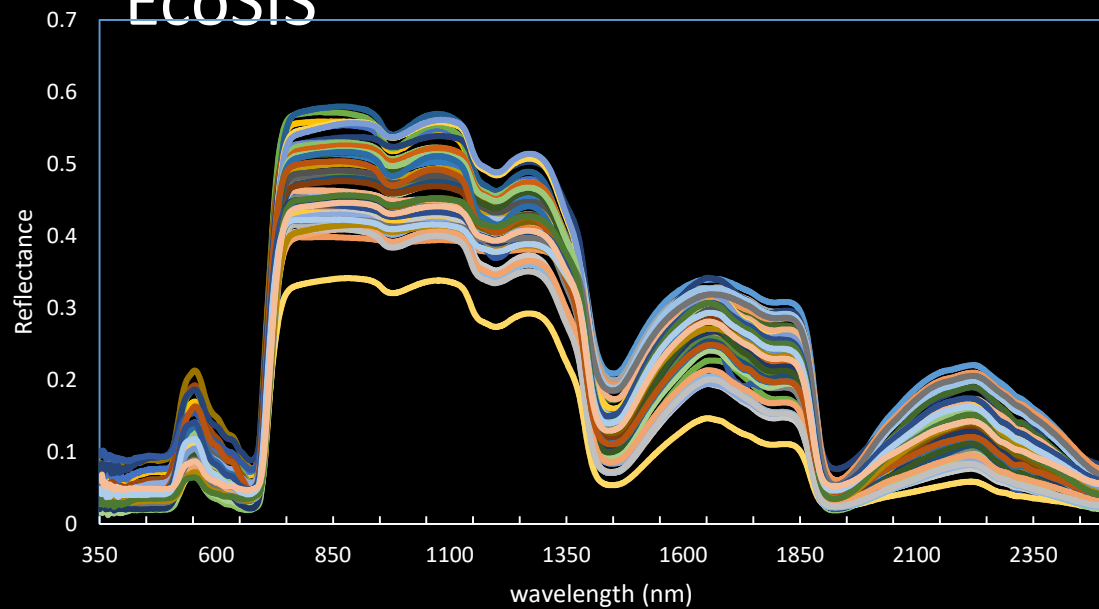
# From hyperspectral images to trait maps



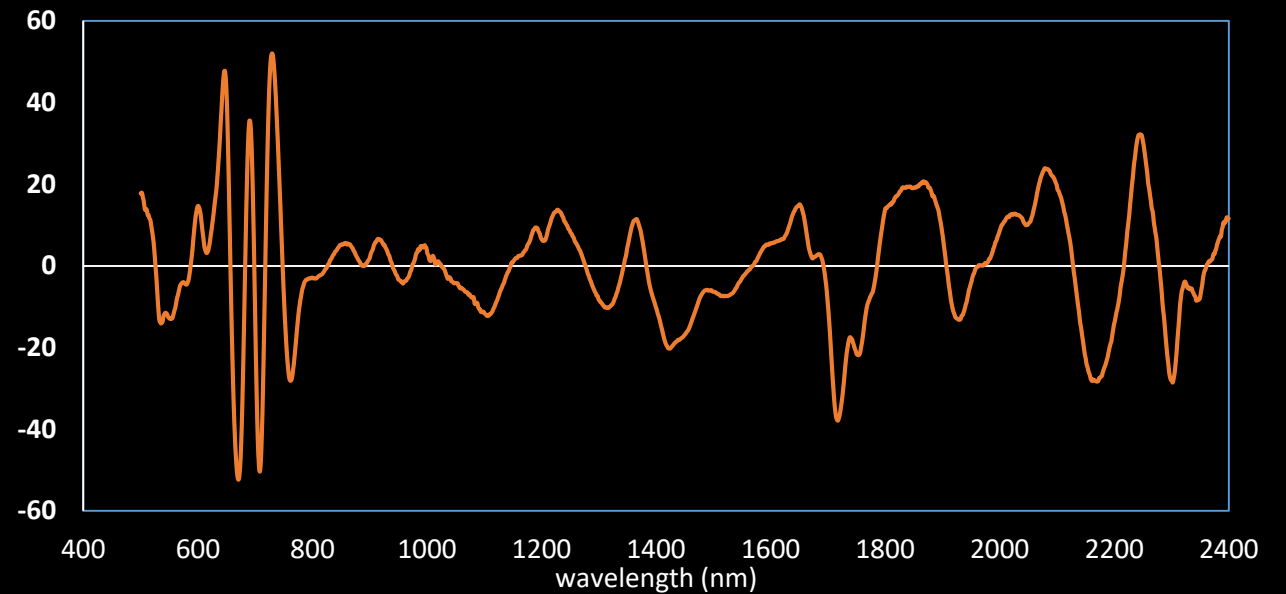
# EcoSIS and EcoSML

- For reflectance and lab measured traits:

## EcoSIS



- For PLS models:  
EcoSML



# You will learn:

## Session 1

- Search and download data from EcoSIS
- Upload your own data to EcoSIS

## Session 2

- Apply models from EcoSML to leaf reflectance to predict traits
- Upload your model to EcoSML

# You will need:

- A laptop
- Python 3 (with numpy, pandas, glob) for applying the model(Session 2)

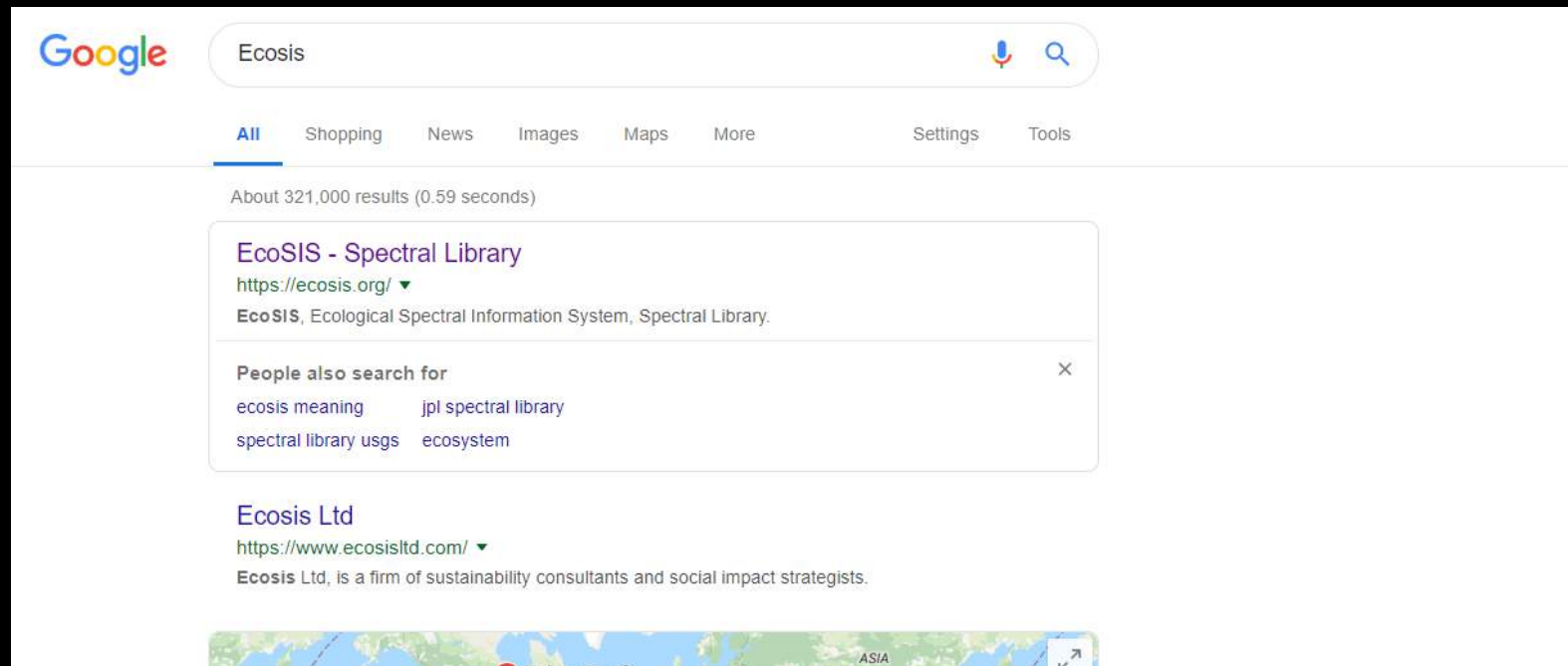


# Where are we starting:

- For EcoSIS:

<https://ecosis.org/>

Or google: EcoSIS



# EcoSIS Tutorial

- <http://tutorial.ecosis.org/>