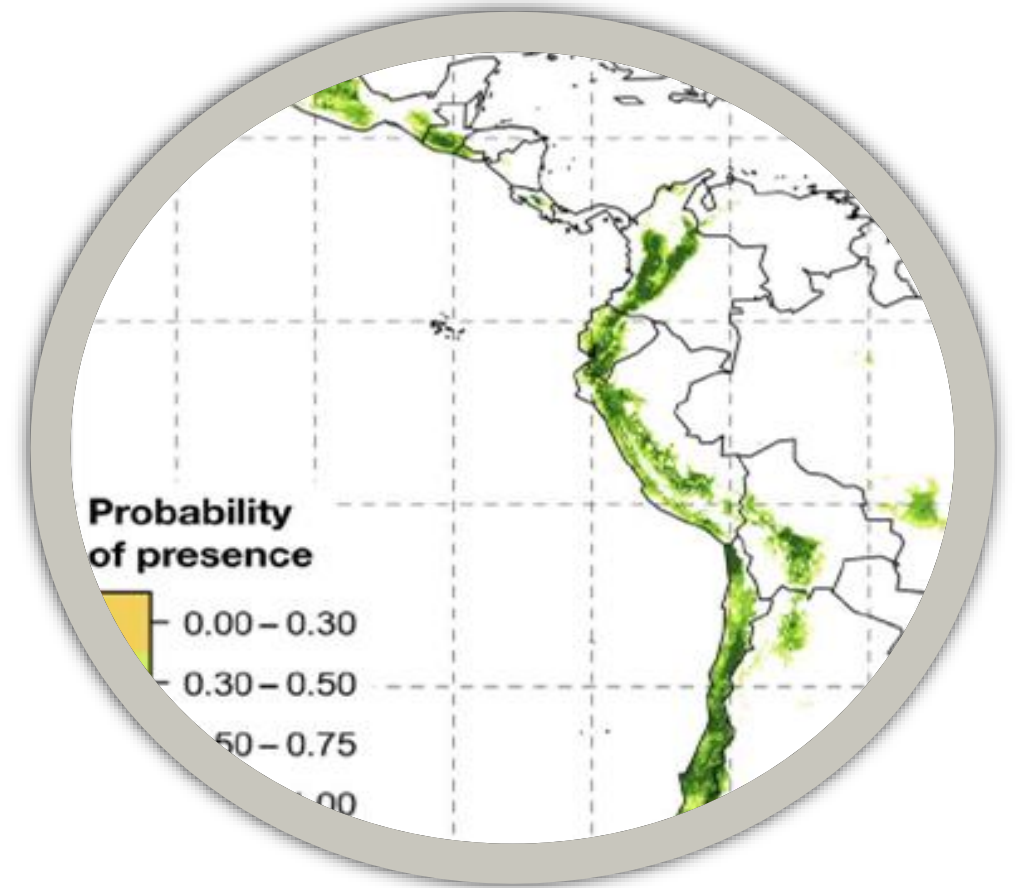


# Landrace Gap Analysis

## General overview



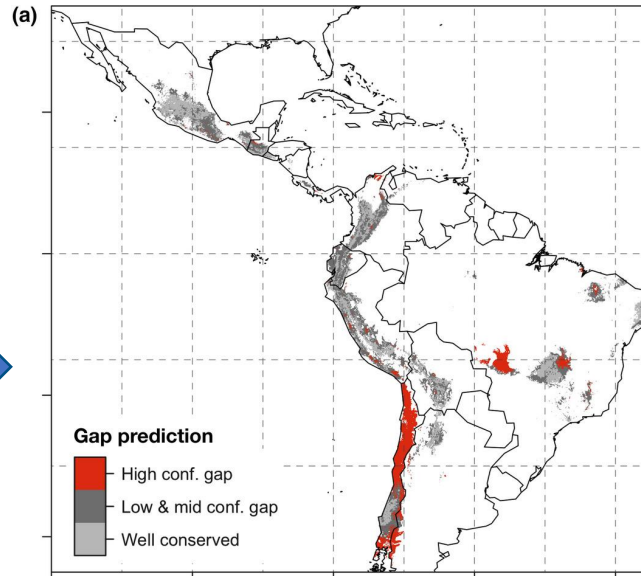
Genebank  
Platform



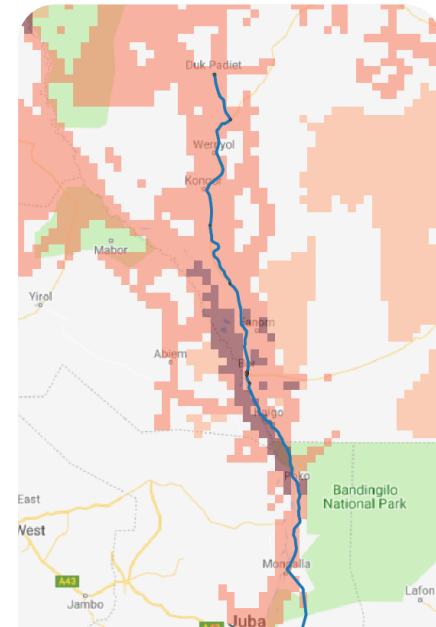
# Goal



Passport data



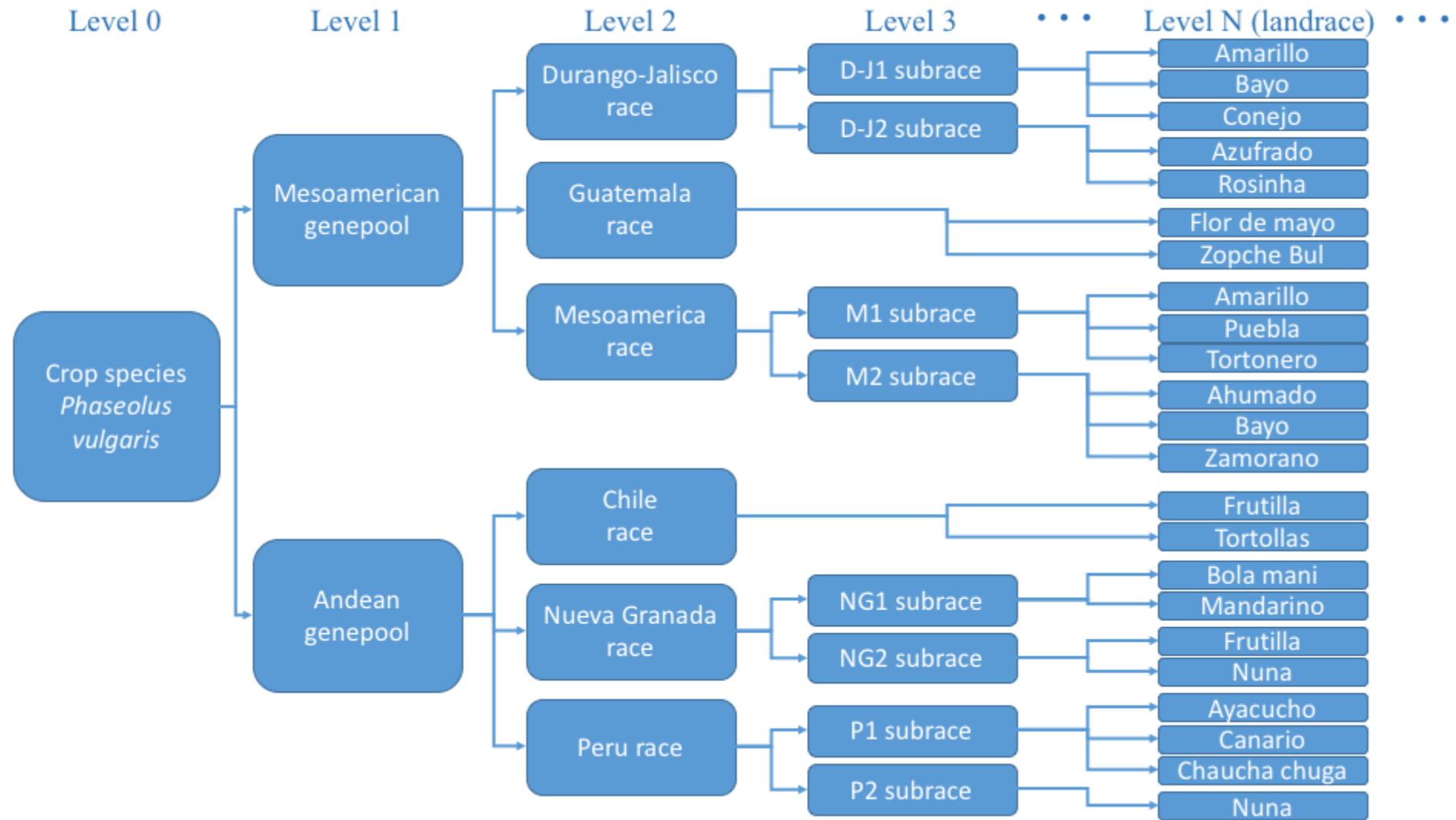
Gap analysis



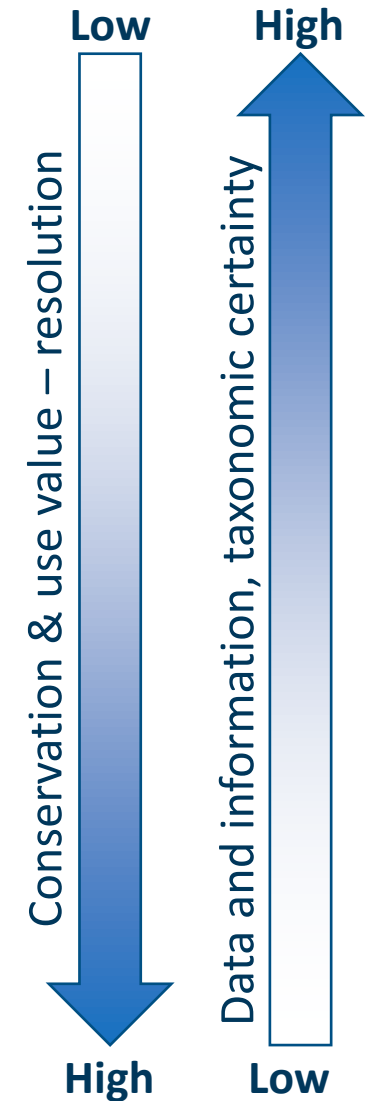
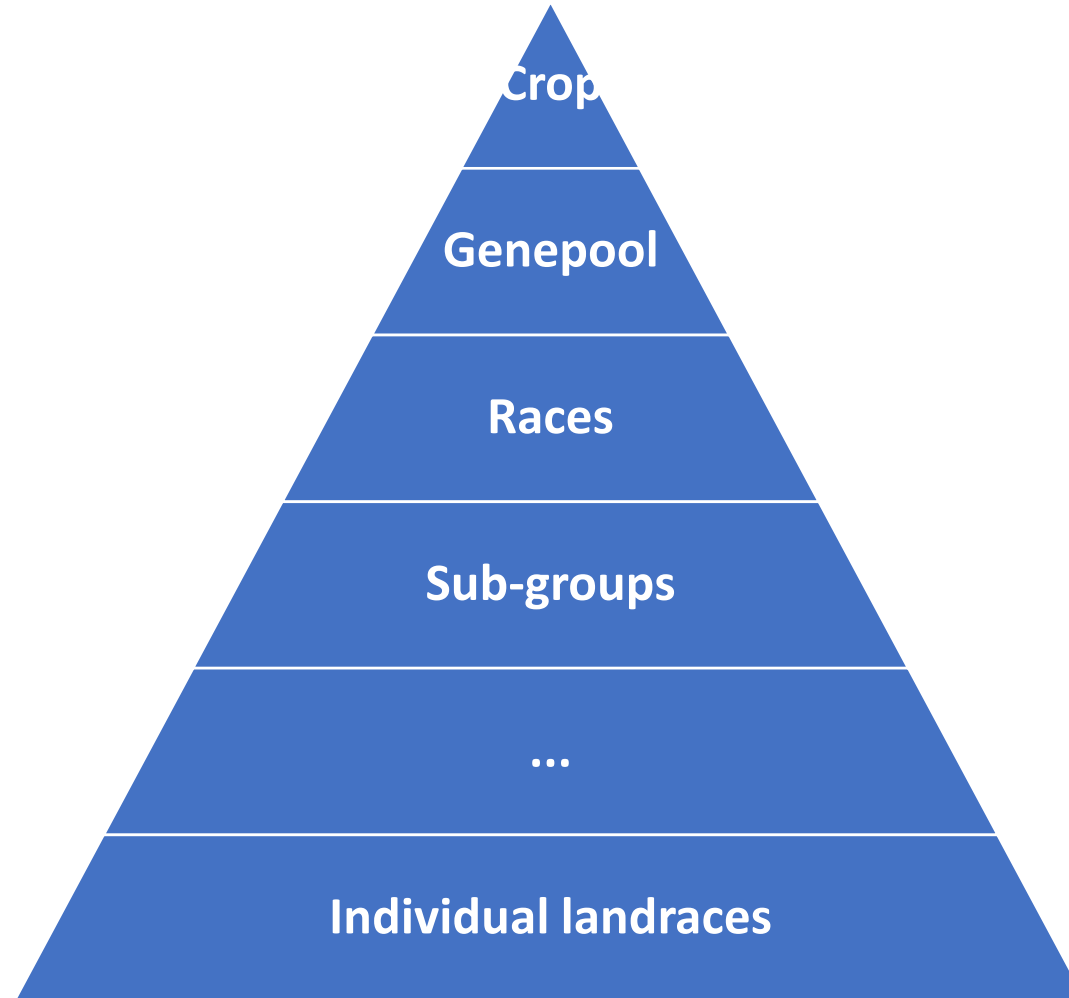
Collecting planning



# Accessions characterization



# Accessions characterization



# Accessions classification



Global

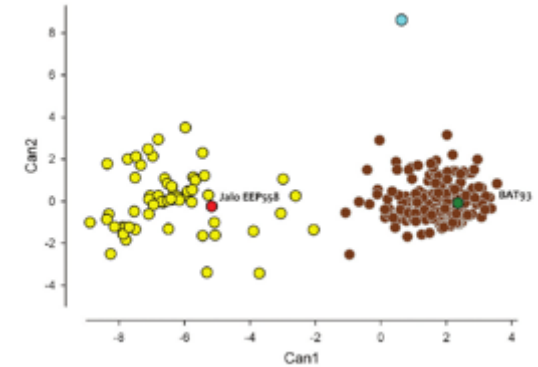
Alliance



AfricaRice



Local



Statistical classification

# The Landrace Gap Analysis method

Gaps identification

Passport data

+ Environment  
+ Socio-economy

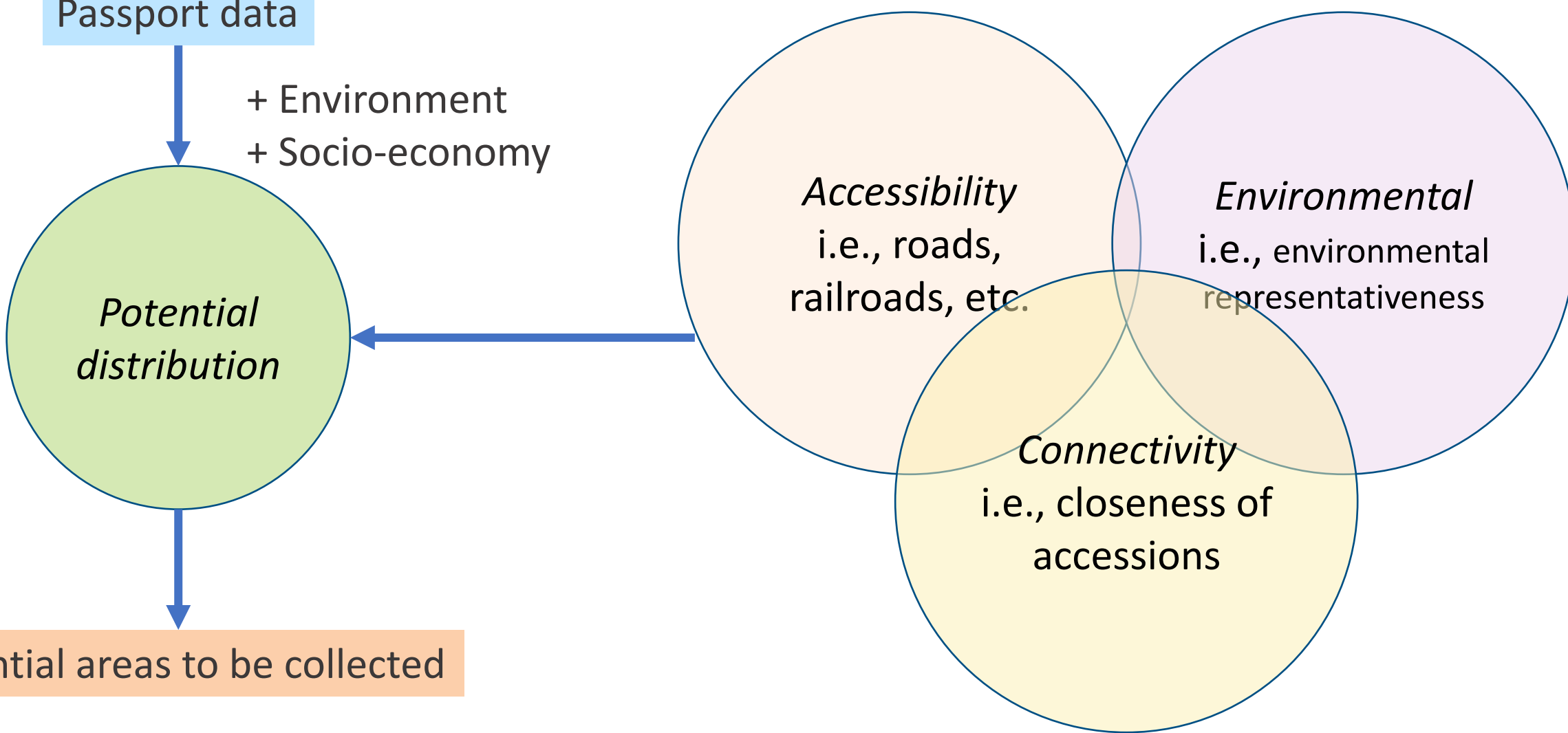
*Potential  
distribution*

*Accessibility*  
i.e., roads,  
railroads, etc.

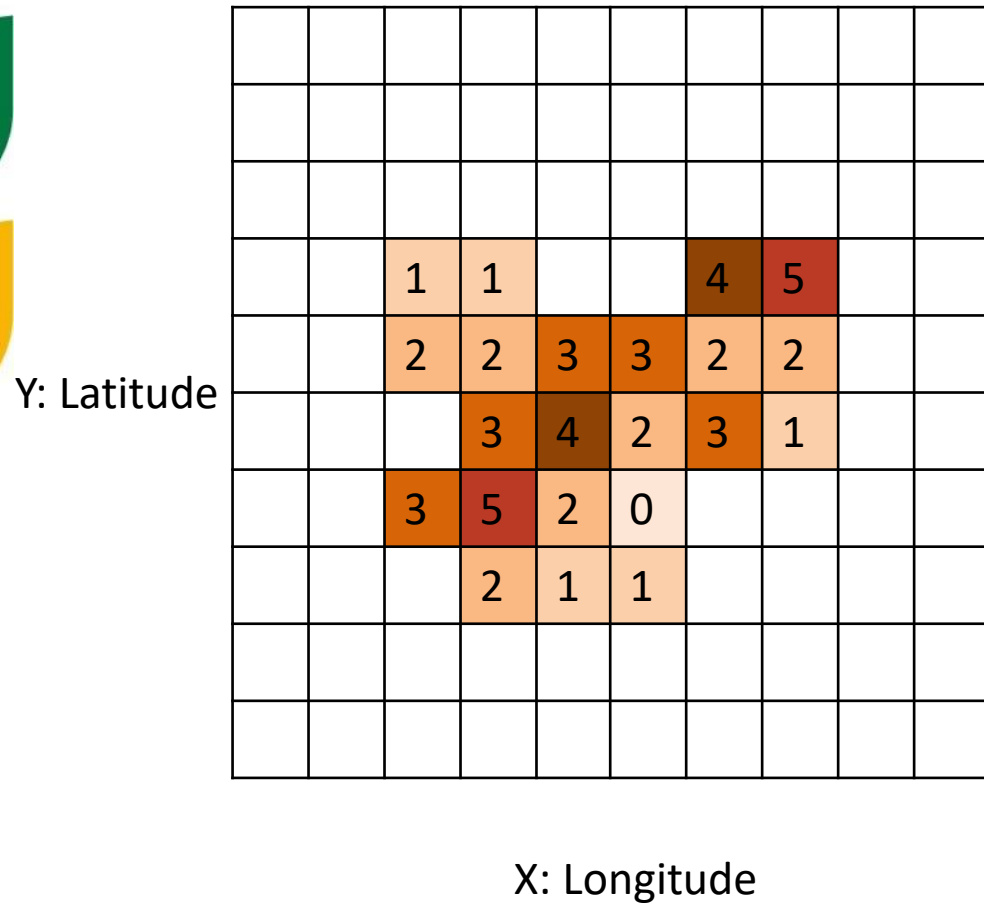
*Environmental*  
i.e., environmental  
representativeness

*Connectivity*  
i.e., closeness of  
accessions

Potential areas to be collected



# Raster format



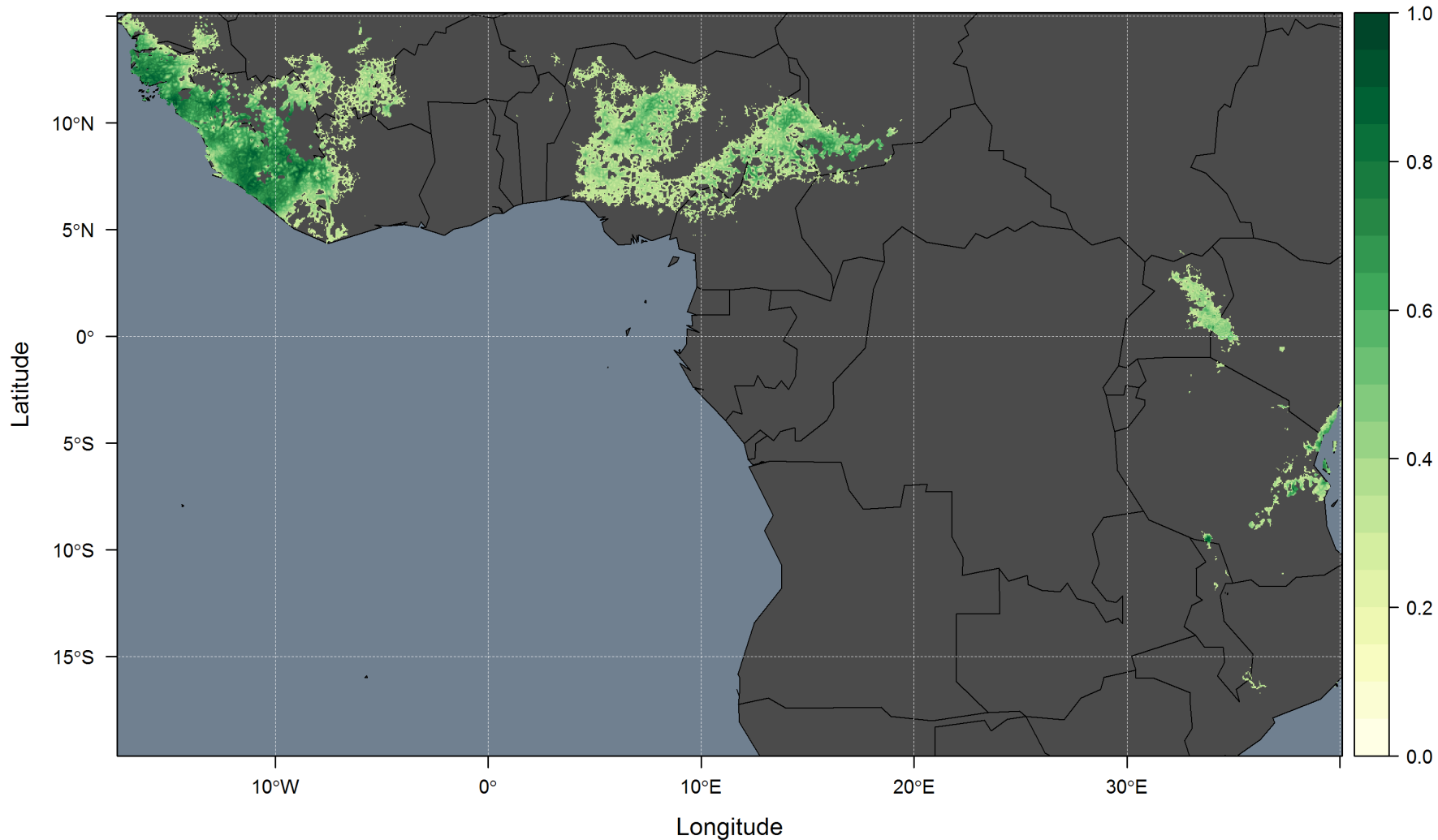
- Matrix of values with geographical coordinates
- Each pixel has a resolution of 5 km



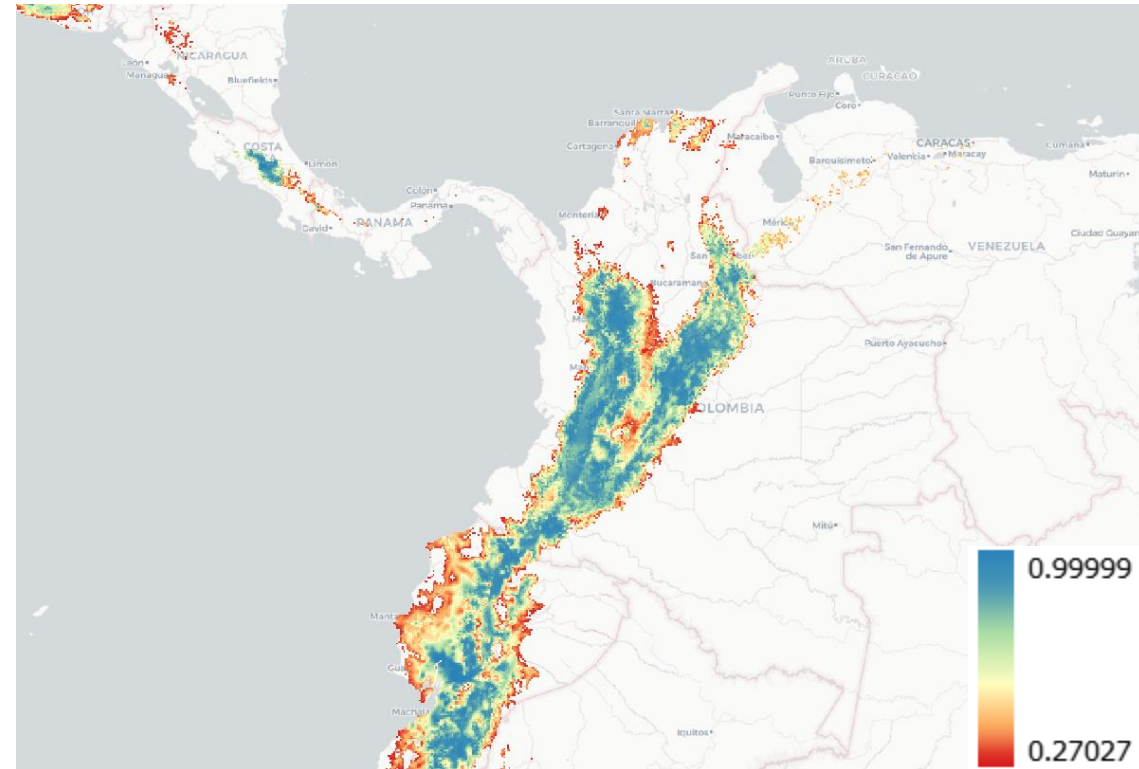
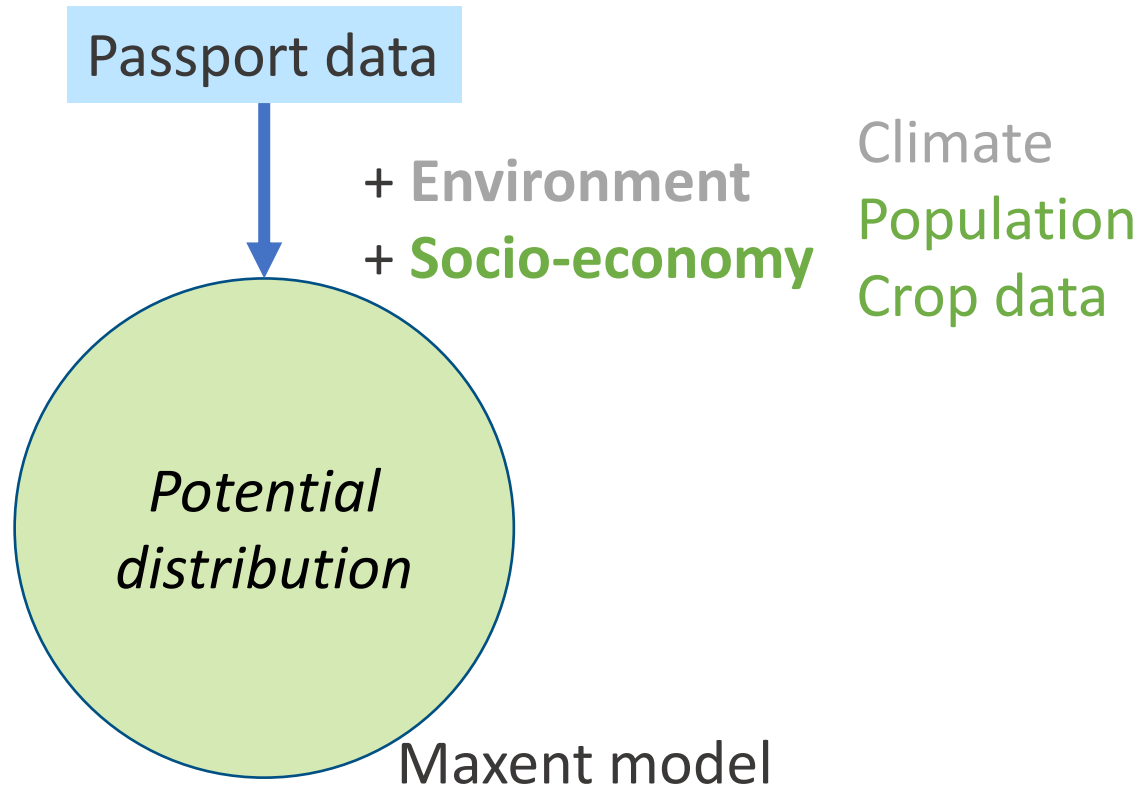
# Data used



# Spatial Distribution Model (SDM)



# Potential distribution

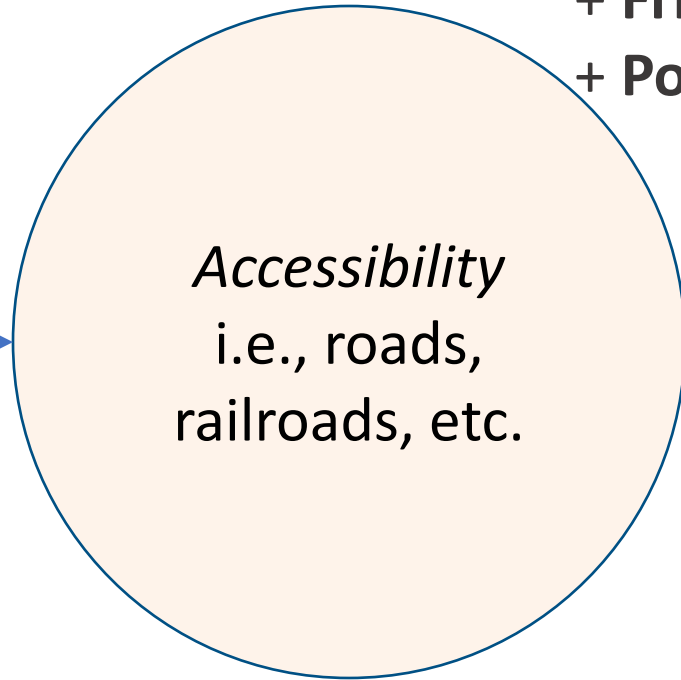


0: Low chance to find a landrace presence  
1: High chance to find a landrace presence

\* [https://biodiversityinformatics.amnh.org/open\\_source/maxent/](https://biodiversityinformatics.amnh.org/open_source/maxent/)

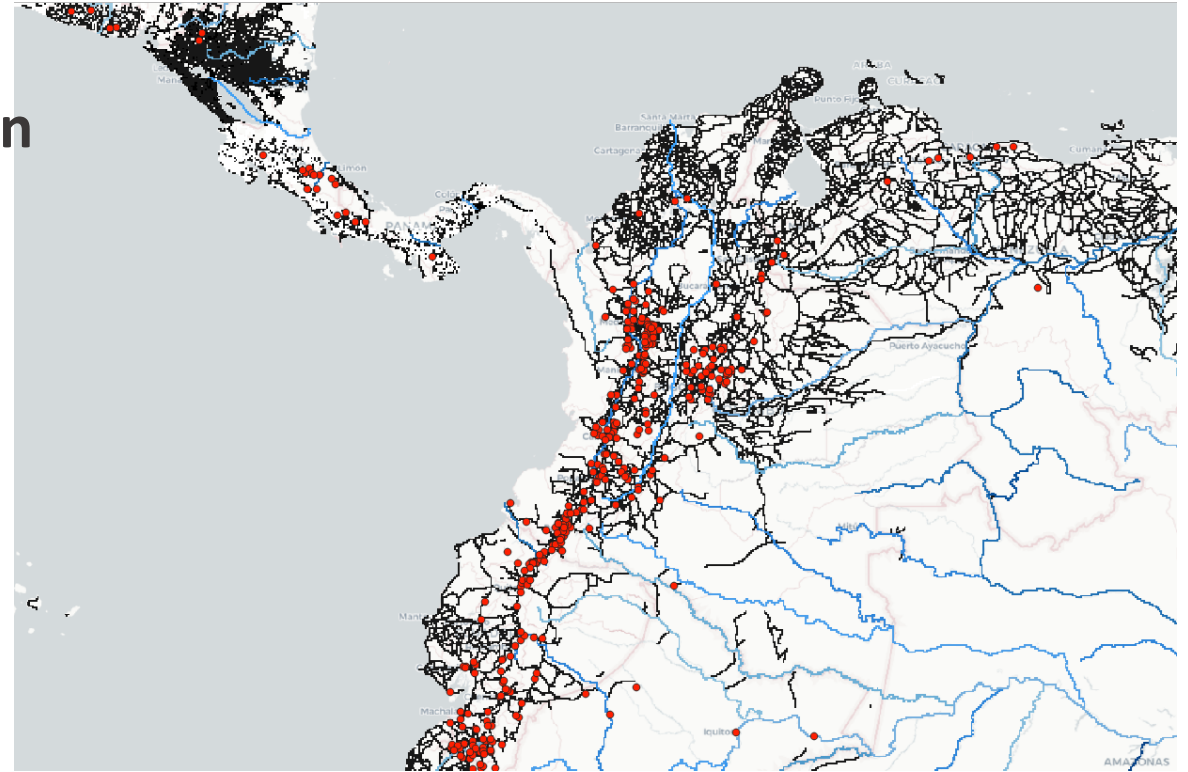
# Accessibility gaps

Passport data



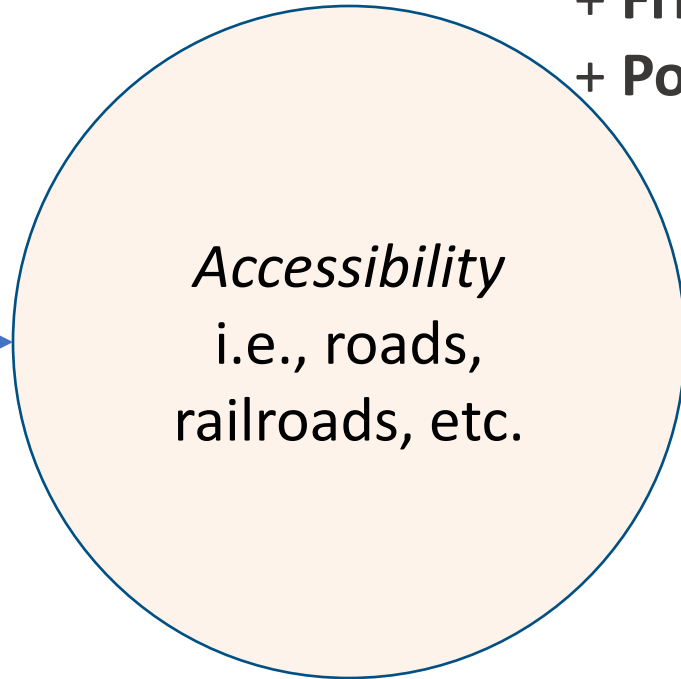
+ Friction surface  
+ Potential distribution

Cost distance function to the  
already collected accessions



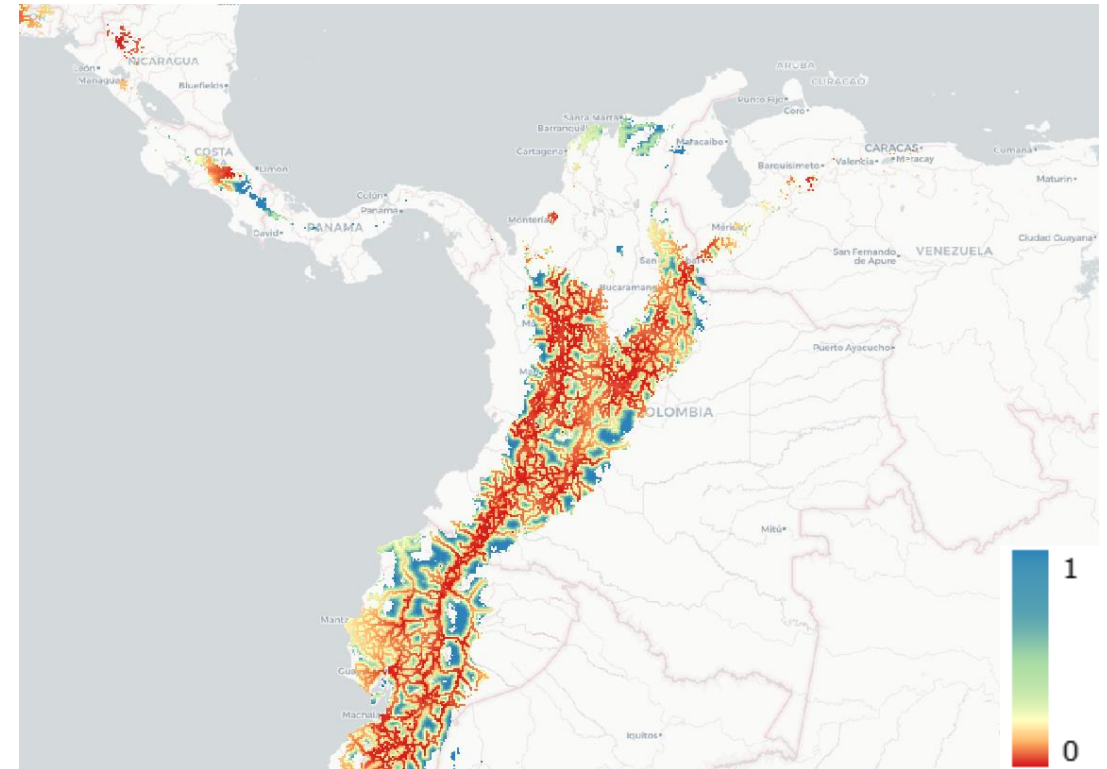
# Accessibility gaps

Passport data



+ Friction surface  
+ Potential distribution

Cost distance function to the  
already collected accessions



0: Low chance to find a landrace gap  
1: High chance to find a landrace gap

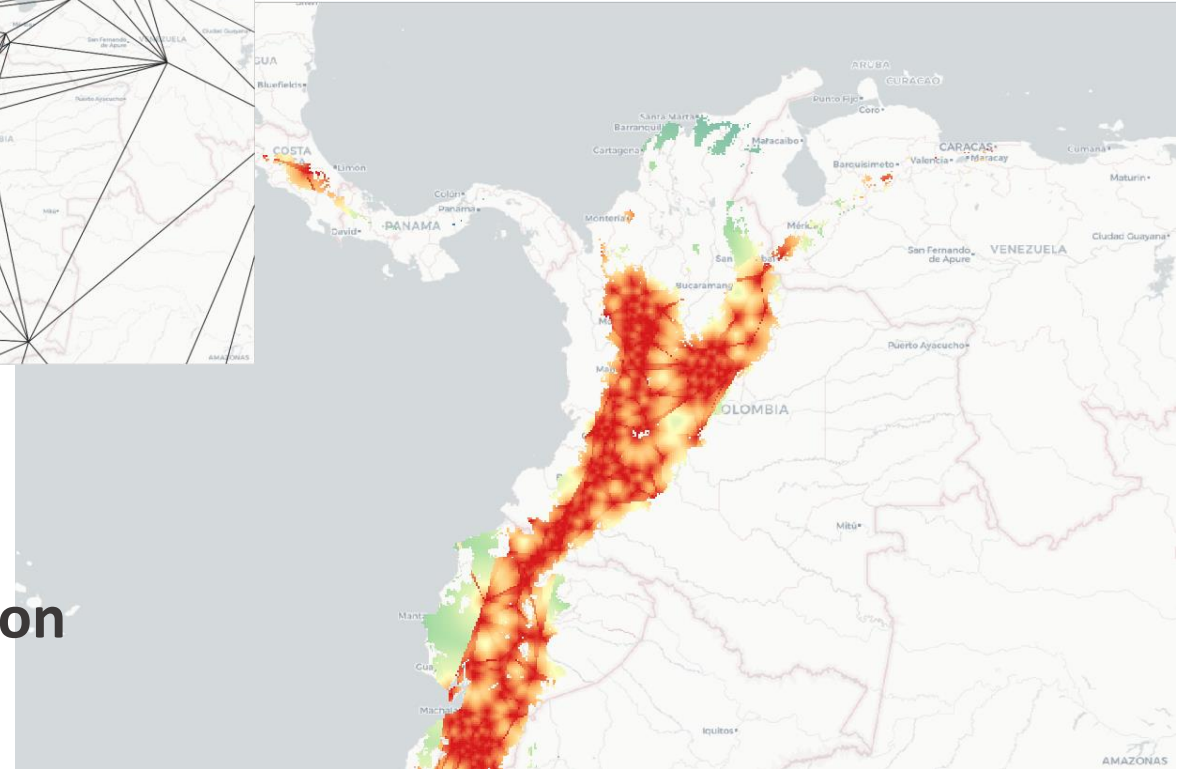
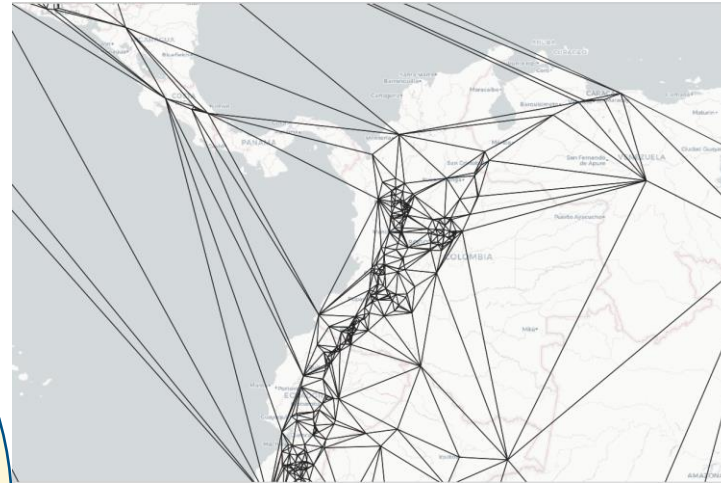
# Connectivity gaps

Passport data

*Connectivity*  
i.e., closeness of  
accessions

+ Potential distribution

Method to identify high density areas  
where accessions are already collected  
(low chance to find anything new)  
Network + occ. proximity



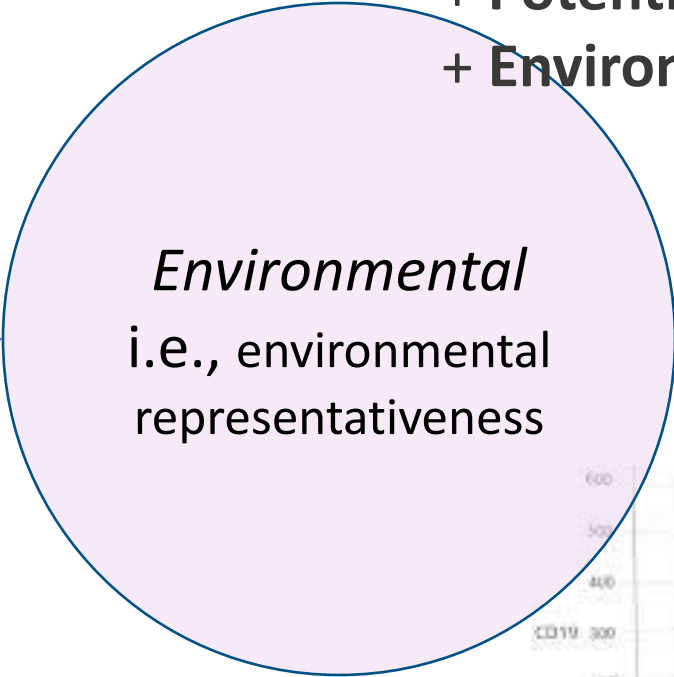
0: Low chance to find a landrace gap  
1: High chance to find a landrace gap



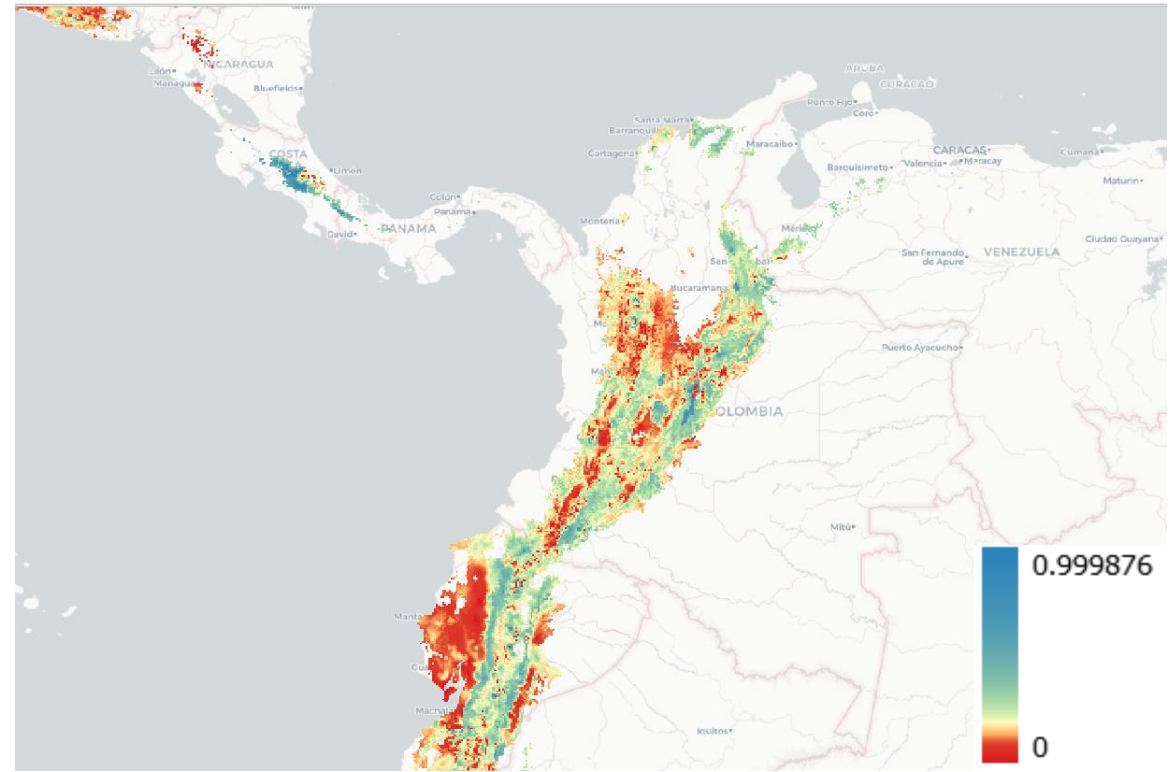
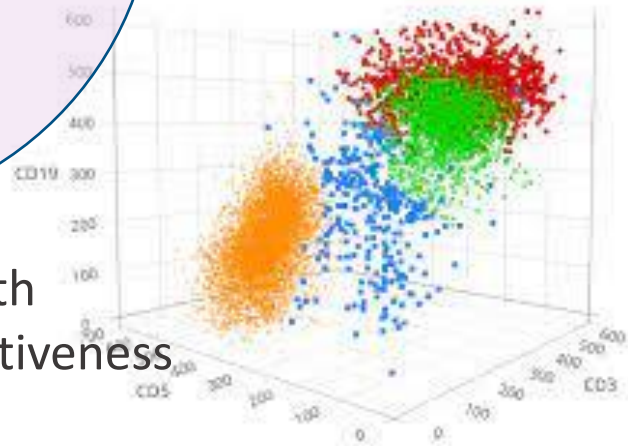
# Environmental gaps

Passport data

+ Potential distribution  
+ Environmental data

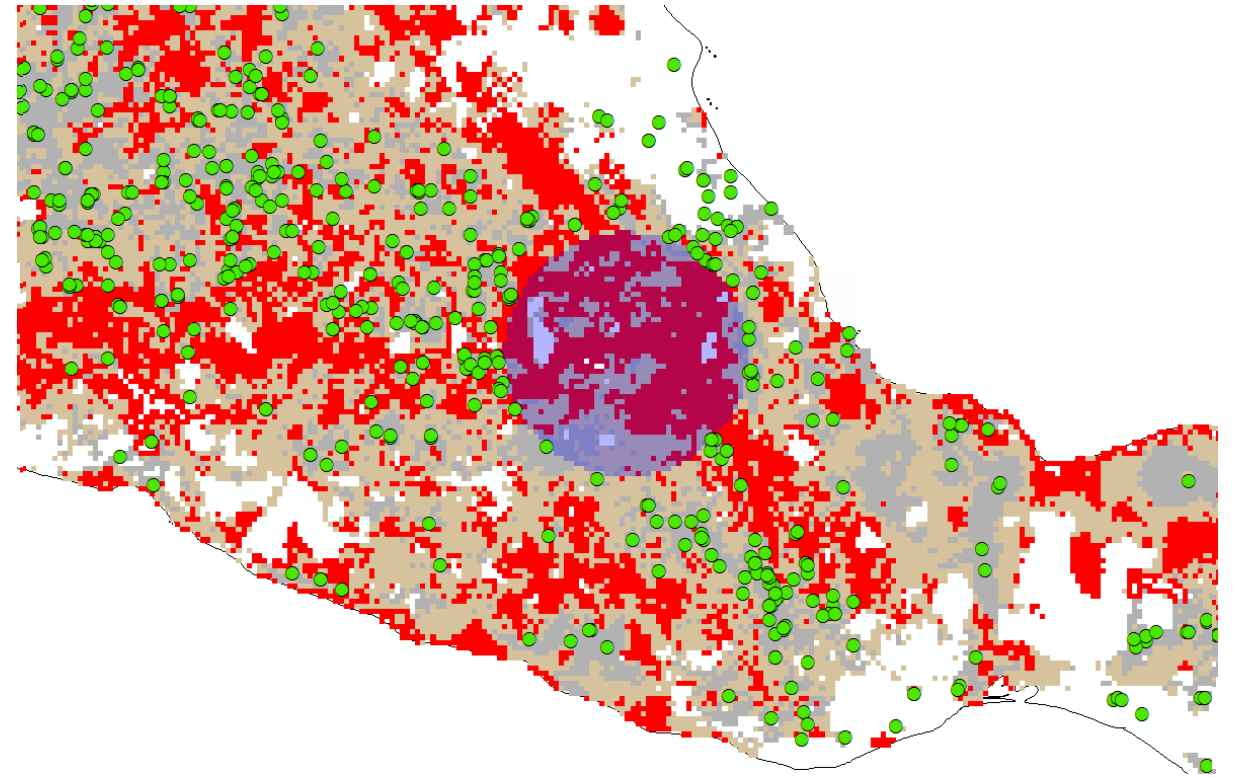
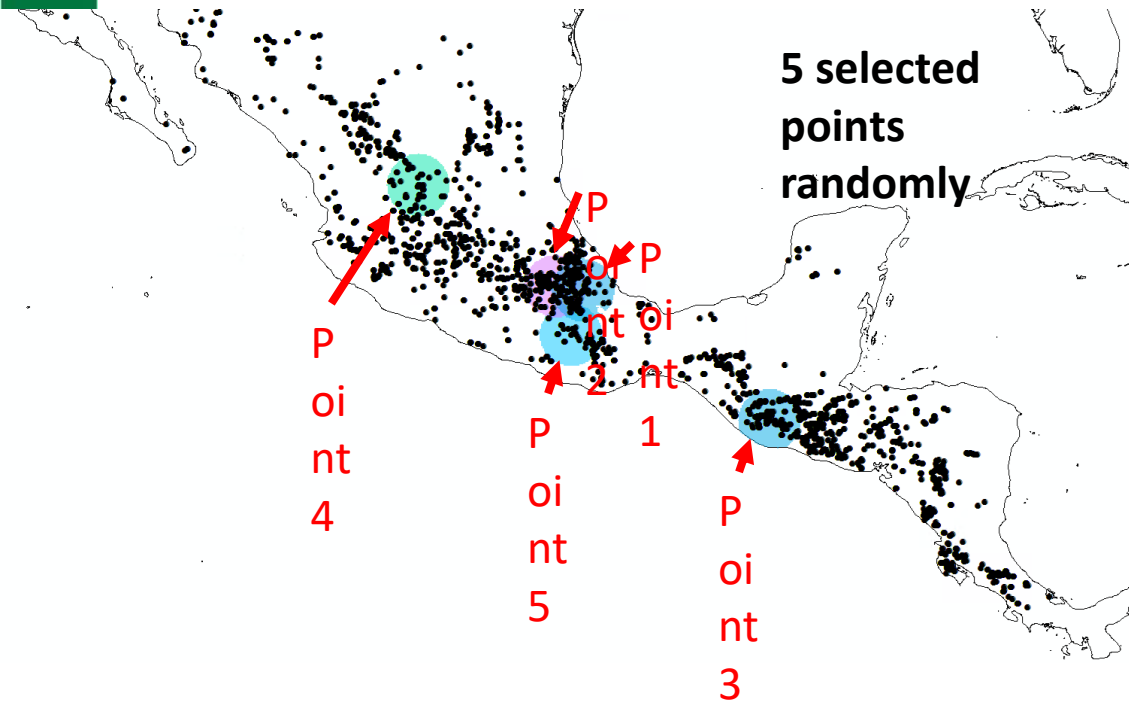


Identify geographical areas with low environmental representativeness in the collection



0: Low chance to find a landrace gap  
1: High chance to find a landrace gap

# Gap validation



# Landrace Gap Analysis result

