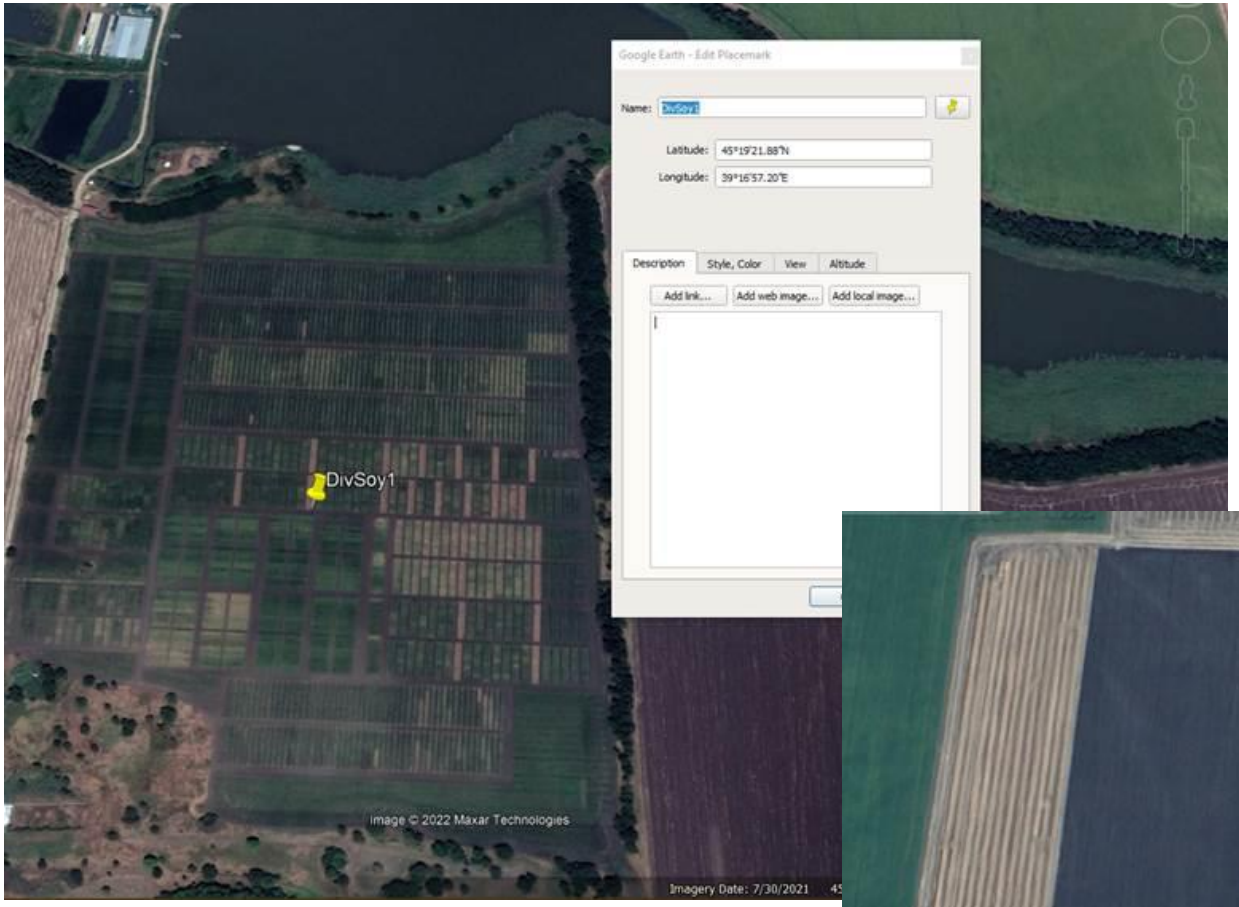
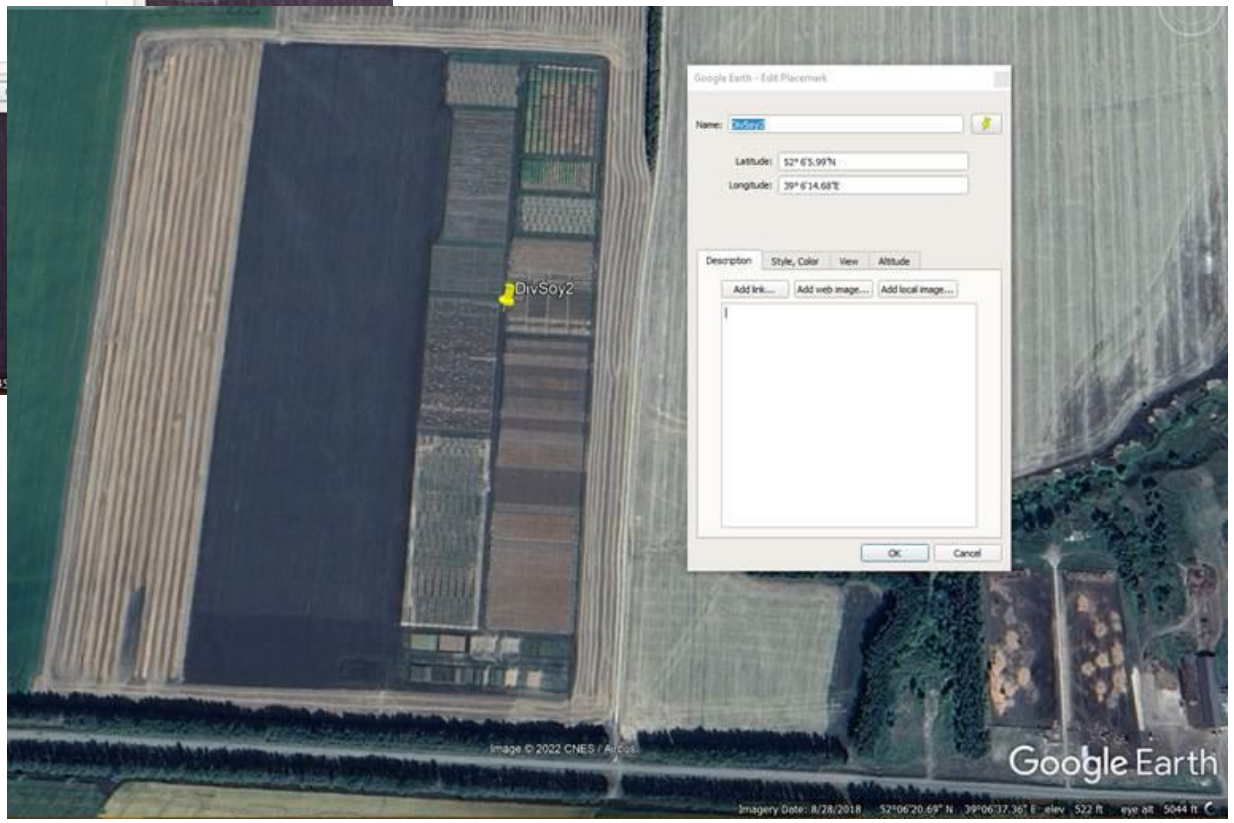
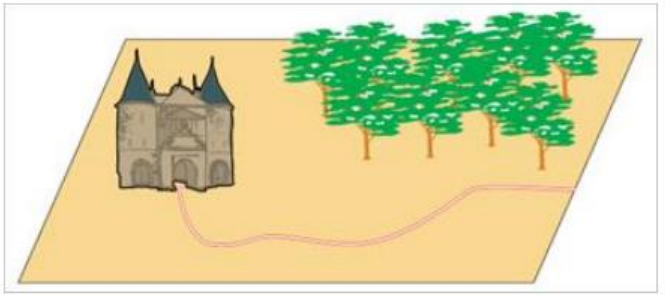
Biogeography informed by genome-wise data

GPS coordinates + satellite: the minimum required

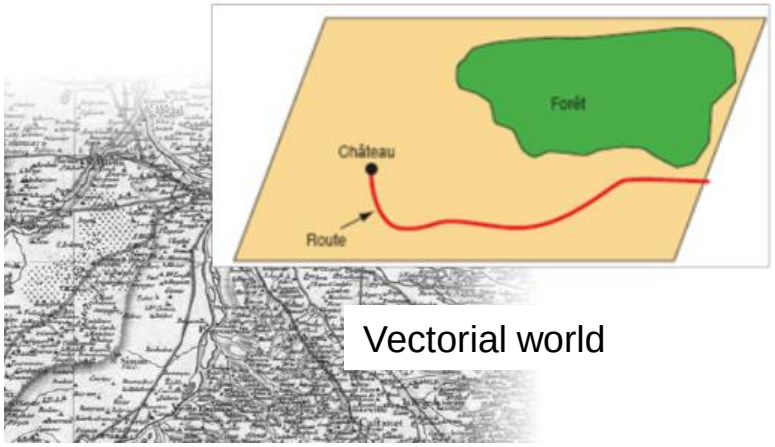




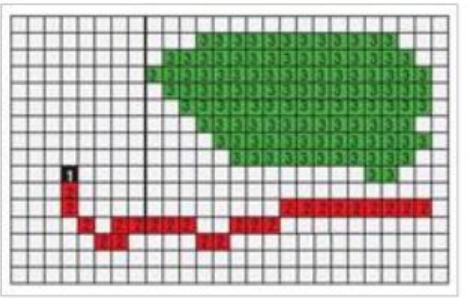
Raster/ vector



Real world



Vectorial world



Matricial world
Raster

The large majority of climate/pedology/geology data are available as raster (with different resolution of course !)

Global climate and weather data

Welcome to the WorldClim data website.

WorldClim is a database of high spatial resolution global weather and climate data. These data can be used for mapping and spatial modeling. The data are provided for use in research and related activities; and some specialized skill and knowledge is needed to use them (here is some help). More easily available data for the general public will soon be available here.

You can download gridded weather and climate data for historical (near current) and future conditions.

- Historical climate data
- Historical monthly weather data
- Future climate data

https://www.worldclim.org/data/index.html

WorldClim

Home

Historical climate data

Historical climate data
Historical monthly weather data
Future climate data

This is WorldClim version 2.1 climate data for 1970-2000. This version was released in January 2020.

There are monthly climate data for minimum, mean, and maximum temperature, precipitation, solar radiation, wind speed, water vapor pressure, and for total precipitation. There are also 19 "bioclimatic" variables.

The data is available at the four spatial resolutions, between 30 seconds (~1 km2) to 10 minutes (~340 km2). Each download is a "zip" file containing 12 GeoTiff (.tif) files, one for each month of the year (January is 1; December is 12).

variable	10 minutes	5 minutes	2.5 minutes	30 seconds
minimum temperature (°C)	tmin 10m	tmin 5m	tmin 2.5m	tmin 30s
maximum temperature (°C)	tmax 10m	tmax 5m	tmax 2.5m	tmax 30s
average temperature (°C)	tavg 10m	tavg 5m	tavg 2.5m	tavg 30s
precipitation (mm)	prec 10m	prec 5m	prec 2.5m	prec 30s
solar radiation (kJ m^{-2} day^{-1})	srad 10m	srad 5m	srad 2.5m	srad 30s
wind speed (m s^{-1})	wind 10m	wind 5m	wind 2.5m	wind 30s
water vapor pressure (kPa)	vapr 10m	vapr 5m	vapr 2.5m	vapr 30s

Past conditions

Past climate data download

Past climate reconstructions, calibrated and statistically downscaled using the WorldClim data for 'current' conditions. All data are in generic binary grid format

Last inter-glacial (LIG; ~120,000 - 140,000 years BP)
source: Otto-Bliesner et al., 2008
30 arc-seconds (~1 km): tmin tmax prec bio

Last glacial maximum (LGM; ~21,000 years BP)

source: Paleoclimate Modelling Intercomparison Project Phase II (PMIP2) use conditions: please register with the PMIP2 project if you want to use these data; or want access to the original variables, we only provided data derived from the PMIP2 database.
2.5 arc-minutes
CCSM: bio
MIROC: bio

Mid-Holocene (~6000 BP)
source: Paleoclimate Modelling Intercomparison Project Phase II (PMIP2) use conditions: please register with the PMIP2 project if you want to use these data; or want access to the original variables, we only provided data derived from the PMIP2 database.
2.5 arc-minutes
CCSM:
MIROC:

WorldClim

Bioclimatic variables

Bioclimatic variables are derived from the monthly temperature and rainfall values in order to generate more biologically meaningful variables. These are often used in species distribution modeling and related ecological modeling techniques. The bioclimatic variables represent annual trends (e.g., mean annual temperature, annual precipitation) seasonality (e.g., annual range in temperature and precipitation) and extreme or limiting environmental factors (e.g., temperature of the coldest and warmest month, and precipitation of the wet and dry quarters). A quarter is a period of three months (1/4 of the year).

They are coded as follows:

> BIO1 = Annual Mean Temperature
>
> BIO2 = Mean Diurnal Range (Mean of monthly (max temp - min temp))
>
> BIO3 = Isothermality (BIO2/BIO7) (×100)
>
> BIO4 = Temperature Seasonality (standard deviation ×100)
>
> BIO5 = Max Temperature of Warmest Month
>
> BIO6 = Min Temperature of Coldest Month
>
> BIO7 = Temperature Annual Range (BIO5-BIO6)
>
> BIO8 = Mean Temperature of Wettest Quarter
>
> BIO9 = Mean Temperature of Driest Quarter
>
> BIO10 = Mean Temperature of Warmest Quarter
>
> BIO11 = Mean Temperature of Coldest Quarter
>
> BIO12 = Annual Precipitation
>
> BIO13 = Precipitation of Wettest Month
>
> BIO14 = Precipitation of Driest Month
>
> BIO15 = Precipitation Seasonality (Coefficient of Variation)