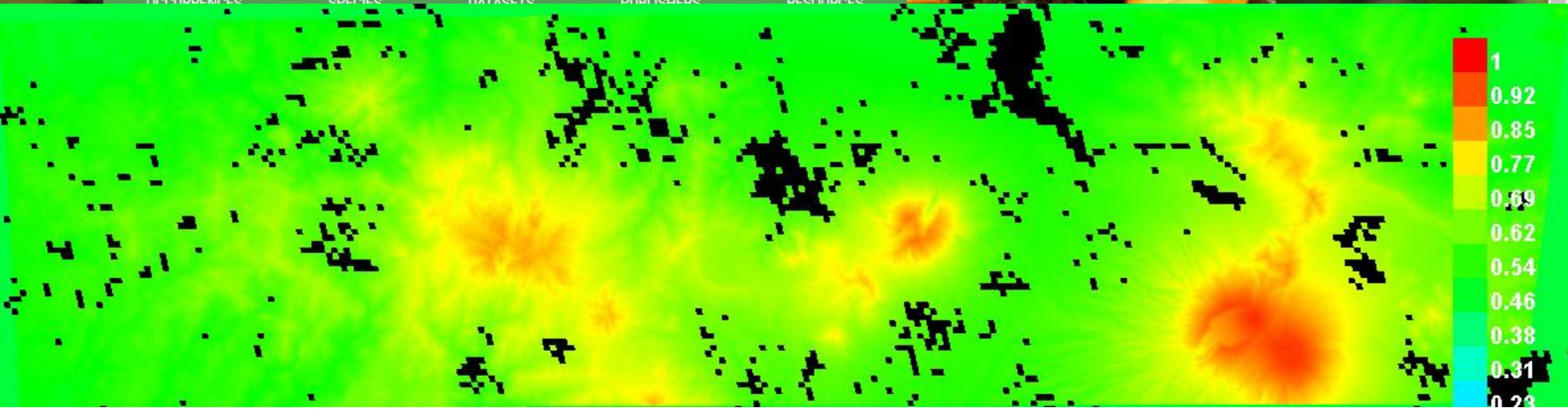


SPECIES DISTRIBUTION MODELLING WITH GBIF, MAXENT, AND GOOGLE EARTH ENGINE

Safran Yusri

WORKSHOP CONTENT

Accessing occurrence datasets from GBIF

Preparation of species data in Spreadsheets

Understanding and assembling environmental data for model input for analysis

Pre-processing of environmental data layers in a Google Earth Engine

Running models on MaxEnt and manipulating settings

Interpreting results

ACCESSING OCCURRENCE DATASETS FROM GBIF

Go to https://gbif.org

Enter species name

Select occurrence records

Choose records with tolerable GBIF issues

Download dataset as CSV

Get data Share Tools Inside GBIF

Login

TERANGI

GBIF | Global Biodiversity Information Facility

Free and open access to biodiversity data

OCCURRENCES SPECIES DATASETS PUBLISHERS RESOURCES

Dendrobium spectabile

WHAT IS GBIF? ABOUT GBIF INDONESIA

Junonia hierta subsp. *cebrene* observed near Mumbwa, Zambia by nicovr. Photo—via iNaturalist—licensed under CC BY-NC 4.0.

Occurrence records
1,090,679,138

Datasets
42,882

Publishing institutions
1,369

Peer-reviewed papers using data
3,564

Funding awarded to four mobilization projects in European Russia
11 March 2019

Global survey shows genetic structure predicted by range size and latitude
18 March 2019

Dr Joe Miller named new GBIF Executive Secretary
4 February 2019

Call for nominations to the 2019 GBIF Young Researchers Award
GBIF Secretariat deadline: 15 May 2019

TERANGI

Dendrobium spectabile

EVERYTHING OCCURRENCES SPECIES DATASETS PUBLISHERS RESOURCES

Dendrobium spectabile Miq.

Species

Classification : Plantae › Tracheophyta › Liliopsida › Asparagales › Orchidaceae › Dendrobium

Accepted Species 81 occurrences

SPECIES 2 RESULTS

Dendrobium spectabile f. *aurea* Christenson

Form

Synonym of: Dendrobium spectabile Miq.
Classification : Plantae › Tracheophyta › Liliopsida › Asparagales › Orchidaceae › Dendrobium › Dendrobium spectabile

Synonym Form 0 occurrences

Cannot find what you are looking for?

Try specifying a type

OCCURRENCES SPECIES DATASETS PUBLISHERS RESOURCES

TERANGI

Classification

Select a species

Kingdom	Plantae
Phylum	Tracheophyta
Class	Liliopsida
Order	Asparagales
Family	Orchidaceae
Genus	*Dendrobium* Sw.
Species	*Dendrobium spectabile* Miq.

= *Callista spectabilis* (Blume) Kuntze
= *Dendrobium spectabile* f. *aurea* Christenson
≡ *Dendrobium tigrinum* Rolfe
= *Dendrobium tigrinum* Rolfe ex Hemsl.
= *Latourea spectabilis* Blume
= *Latouria spectabilis* Blume
= *Latourorchis spectabilis* (Blume) Brieger
= *Saveria spectabilis* (Blume)

SPECIES | ACCEPTED

Dendrobium spectabile Miq.

Published in: Fl. Ned. Ind. 3:645. 1859 source: Catalogue of Life

OVERVIEW METRICS REFERENCE TAXON

81 OCCURRENCES

26 OCCURRENCES WITH IMAGES




SEE GALLERY

17 GEOREFERENCED RECORDS

Search all fields

Simple Advanced

License

Scientific name

Dendrobium spectabile Miq.

Basis of record

Location

Year

Month

Dataset

Country or area

Issues and flags

Media type

Publisher

Institution code

Collection code

Catalog number

SEARCH OCCURRENCES | 81 RESULTS

TERANGI

TABLE GALLERY MAP TAXONOMY METRICS DOWNLOAD

Scientific name	Country or area	Coordinates	Month & year	Basis of record	Da
Dendrobium spectabile Miq.	Solomon Islands	8.0S, 157.1E	2017 June	Human observation	iNa
Dendrobium spectabile Miq.	Indonesia	4.1S, 138.7E	2013 June	Human observation	iNa
Dendrobium spectabile Miq.	United States of Ameri...	39.7N, 105.0W	2007 November	Preserved specimen	DB
Dendrobium spectabile Miq.	United States of Ameri...	39.7N, 105.0W	2007 November	Preserved specimen	DB
Dendrobium spectabile Miq.	Papua New Guinea	6.4S, 143.3E	2000 July	Unknown	Pla
Dendrobium spectabile Miq.	Papua New Guinea	7.3S, 147.2E	2000 July	Preserved specimen	Na
Dendrobium spectabile Miq.	Papua New Guinea		1993 August	Preserved specimen	Ro
Dendrobium spectabile Miq.	Papua New Guinea		1993 August	Preserved specimen	Na
Dendrobium spectabile Miq.	Papua New Guinea		1993 August	Preserved specimen	NM
Dendrobium spectabile Miq.	Papua New Guinea		1993 August	Preserved specimen	Be
Dendrobium spectabile Miq.	Papua New Guinea		1993 August	Preserved specimen	Na
Dendrobium spectabile Miq.	Papua New Guinea		1993 August	Preserved specimen	Be
Dendrobium spectabile Miq.	Papua New Guinea	0.0N, 0.0E	1990 April	Unknown	Pla
Saveria spectabilis (Blume) Rauschert	Papua New Guinea	0.0N, 0.0E	1990 April	Unknown	Pla

Occurrences 7

SEARCH OCCURRENCES | 11 RESULTS

TABLE GALLERY MAP TAXONOMY METRICS DOWNLOAD

Issues and flags

- [ ] Zero coordinate 5
- [ ] Coordinate out of range 0
- [ ] Coordinate invalid 0
- [x] Coordinate rounded 8
- [ ] Geodetic datum invalid 0
- [x] Geodetic datum assumed WGS84 10
- [ ] Coordinate reprojected 0
- [ ] Coordinate reprojection failed 0
- [ ] Coordinate reprojection suspicious 0
- [ ] Coordinate accuracy invalid 0
- [ ] Coordinate precision invalid 0
- [ ] Coordinate uncertainty meters invalid 0
- [ ] Coordinate precision uncertainty mismatch 0
- [x] Country coordinate mismatch 5
- [ ] Country mismatch 0
- [ ] Country invalid 0
- [ ] Country derived from coordinates 0
- [ ] Continent country mismatch 0
- [ ] Continent invalid 0
- [ ] Continent derived from coordinates 0
- [ ] Presumed swapped coordinate 0
- [ ] Presumed negated longitude 1
- [ ] Presumed negated latitude 0
- [ ] Recorded date mismatch 0
- [x] Recorded date invalid 2
- [ ] Recorded date unlikely 0

Scientific name	Country or area	Coordinates	Month & year	Basis of record	Da
Dendrobium spectabile Miq.	Indonesia	4.1S, 138.7E	2013 June	Human observation	iNa
Dendrobium spectabile Miq.	Papua New Guinea	6.4S, 143.3E	2000 July	Unknown	Pla
Dendrobium spectabile Miq.	Papua New Guinea	0.0N, 0.0E	1990 April	Unknown	Pla
Sayeria spectabilis (Blume) Rauschert	Papua New Guinea	0.0N, 0.0E	1990 April	Unknown	Pla
Dendrobium spectabile Miq.	Papua New Guinea	4.6S, 142.6E	1990 September	Preserved specimen	Be
Dendrobium spectabile Miq.	Papua New Guinea	4.6S, 142.6E	1990 September	Preserved specimen	Tro
Dendrobium spectabile Miq.	Papua New Guinea	0.0N, 0.0E	1982 November	Unknown	Pla
Dendrobium spectabile Miq.	Papua New Guinea	6.2S, 141.3E	1971 August	Unknown	Pla
Dendrobium spectabile Miq.	Papua New Guinea	0.0N, 0.0E	1907 April	Unknown	Pla
Dendrobium spectabile Miq.	Papua New Guinea	0.0N, 0.0E		Unknown	Pla
Dendrobium spectabile Miq.	Papua New Guinea			Preserved specimen	Na

TERANGI

DOWNLOAD | 19 MARCH 2019

Under processing

DOI 10.15468/dl.lrltit

Preparing CANCEL

FILTER APPLIED 19 MARCH 2019 RERUN QUERY

The download has been started and is currently being processed.

Please expect up to 3 hours for the download to complete. Most downloads will complete within 15 minutes.

A notification email with a link to download the results will be sent to the following address once ready:

Citation: GBIF.org (19 March 2019) GBIF Occurrence Download https://doi.org/10.15468/dl.lrltit

License: Unspecified

Make sure to read the data user agreement and citation guidelines.

API

And

- Country or area: Indonesia • Papua New Guinea
- Issues and flags: Geodetic datum assumed WGS84 • Coordinate rounded • Country coordinate mismatch • Recorded date invalid
- Scientific name: Dendrobium spectabile Miq.

https://www.gbif.org/species/5219565

Bookmarks | untuk tesis | Proposal | web projects resour... | cloud | Personal Dev | Game Development | database and resou... | Gadget | Komodo | Marine Science | Organizatio...

Get data | Share | Tools | Inside GBIF | safran

Classification

Select a species

Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Primates
Family	Cercopithecidae
Genus	*Presbytis* Eschscholtz, 1821
Species	*Presbytis comata* (Desmarest, 1822)

Immediate children

SPECIES | ACCEPTED

Presbytis comata (Desmarest, 1822)

Published in: Mammalogie, in Encycl. Meth. vol.2(Suppl.) p.533 source: Catalogue of Life

Javan Langur In English

OVERVIEW | METRICS | REFERENCE TAXON

102 OCCURRENCES | 2 INFRASPECIES

6 OCCURRENCES WITH IMAGES

20 GEOREFERENCED RECORDS

https://www.gbif.org/occurrence/1914365625

Dokumen_IBSAP_2....pdf | 0005745-19030717....zip | Show all

6:41 AM
3/20/2019

PREPARATION OF SPECIES DATA IN SPREADSHEETS

Extract archive

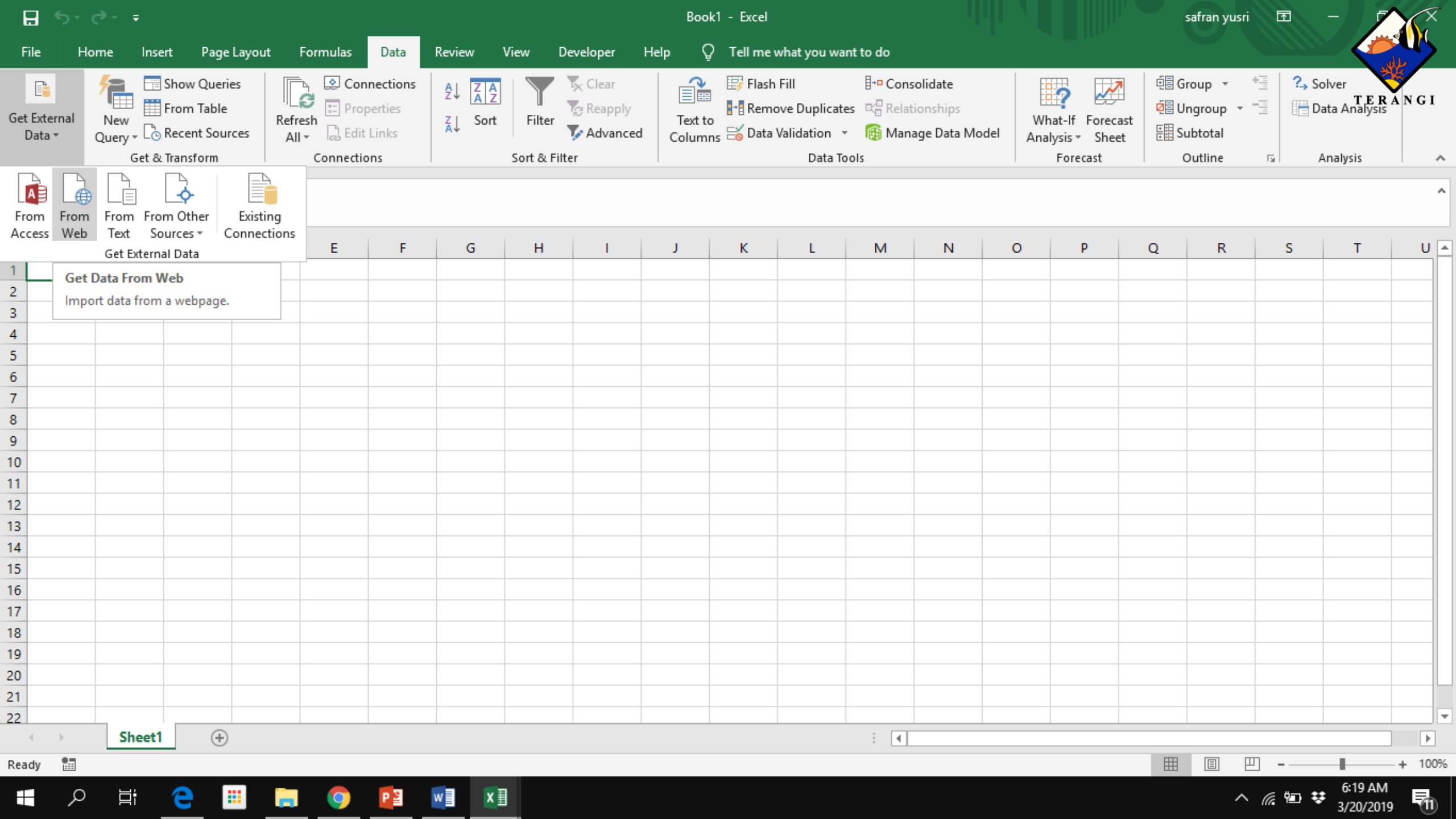
Open with spreadsheet application (Excel, OpenOffice Calc, etc.)

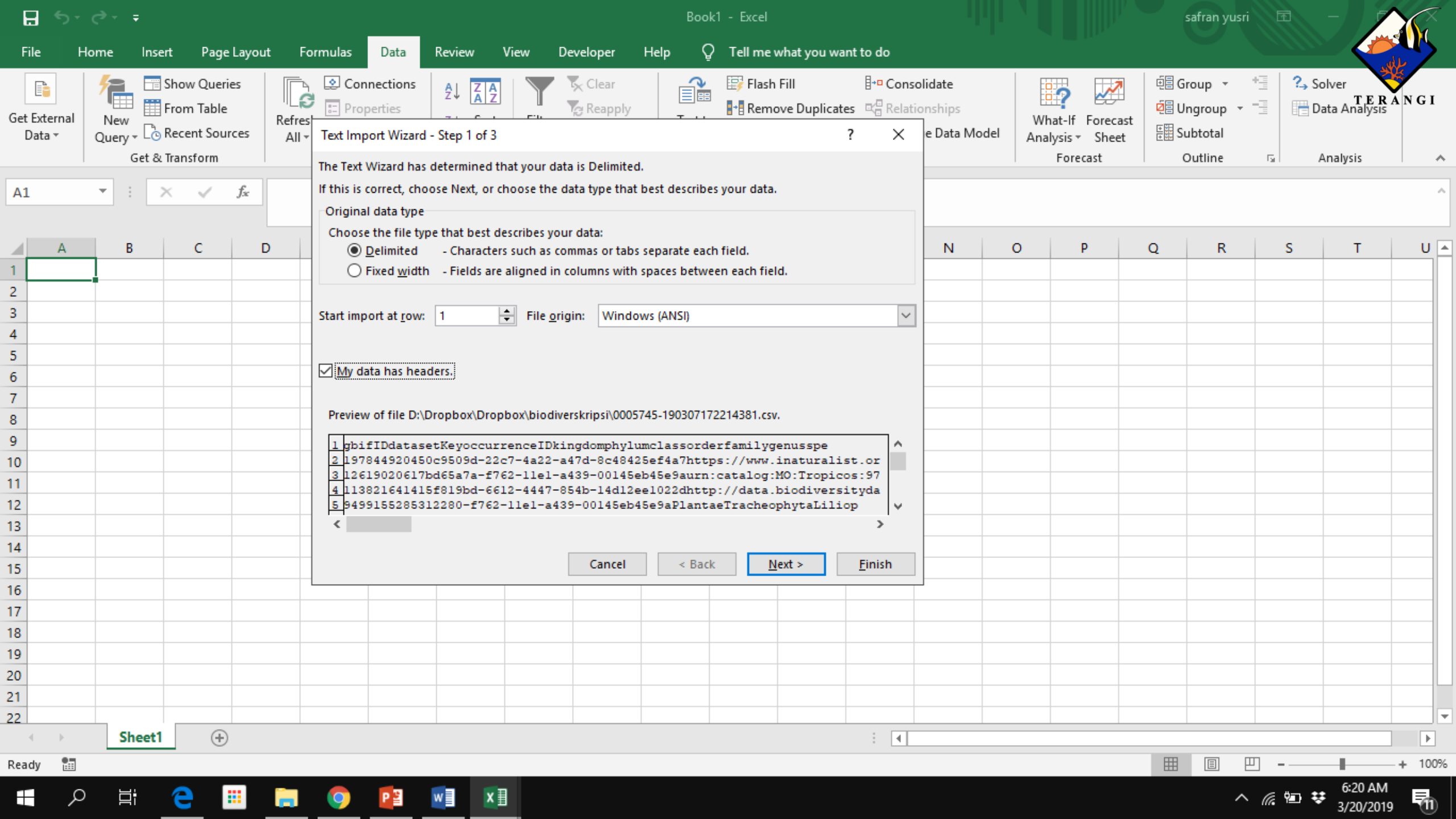
Data > Import from text (Excel)

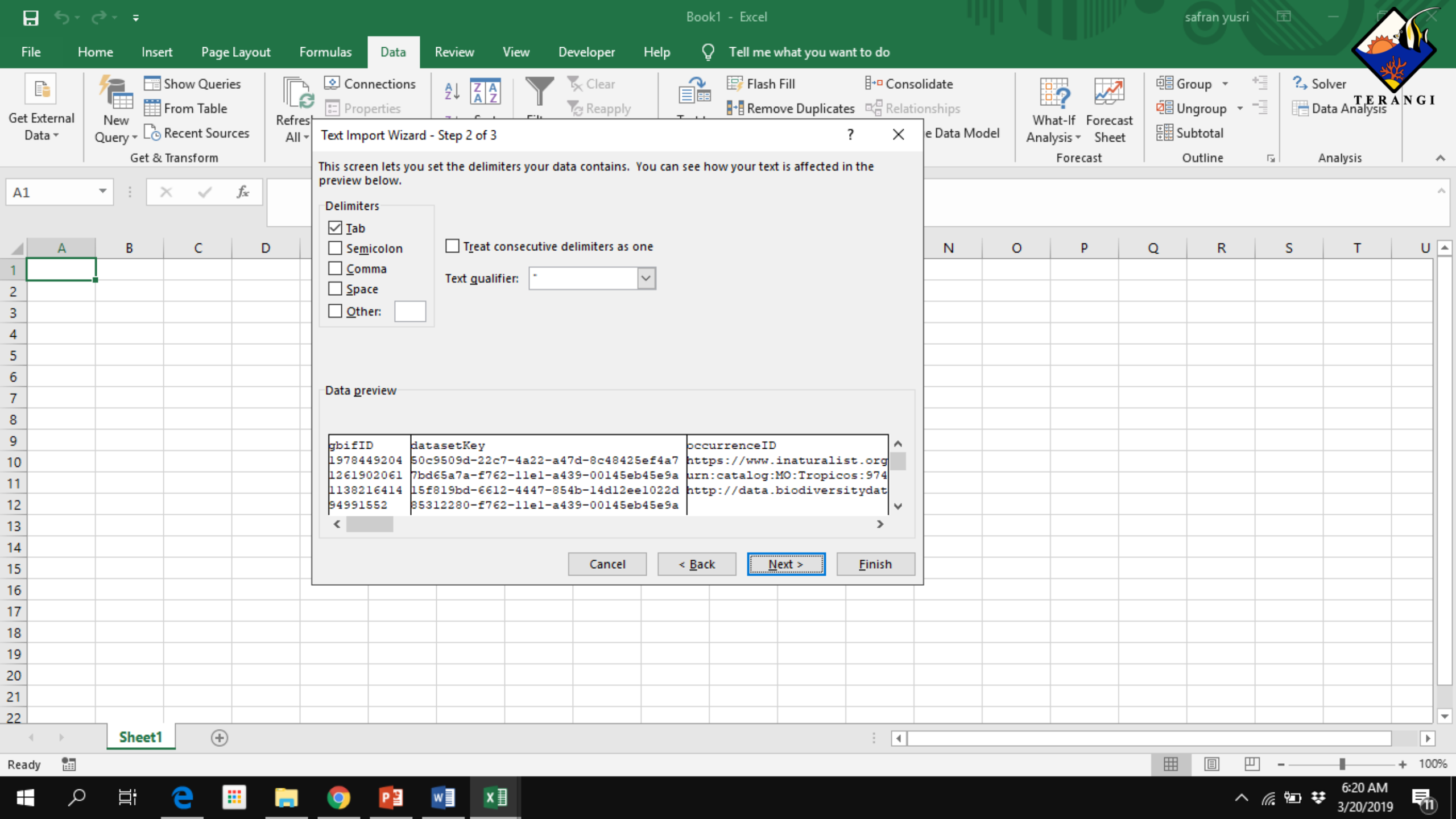
Check the data for possible errors

Delete all columns except decimallat, decimallon, and species

Save as new .CSV


Book1 - Excel
safran yusri
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Help
Tell me what you want to do
Get External Data
New Query
Show Queries
From Table
Recent Sources
Get & Transform
Refresh All
Connections
Properties
Edit Links
Connections
Sort
Filter
Clear
Reapply
Advanced
Sort & Filter
Text to Columns
Flash Fill
Remove Duplicates
Data Validation
Consolidate
Relationships
Manage Data Model
Data Tools
What-If Analysis
Forecast Sheet
Forecast
Group
Ungroup
Subtotal
Outline
Solver
Data Analysis
Analysis
From Access
From Web
From Text
From Other Sources
Existing Connections
Get External Data
Get Data From Web
Import data from a webpage.
Sheet1
Ready
100%
6:19 AM
3/20/2019


Book1 - Excel
safran yusri
File Home Insert Page Layout Formulas Data Review View Developer Help Tell me what you want to do
Get External Data
New Query
Show Queries
From Table
Recent Sources
Get & Transform
Refresh All
Connections
Properties
Clear
Reapply
Flash Fill
Remove Duplicates
Consolidate
Relationships
Data Model
What-If Analysis
Forecast Sheet
Forecast
Group
Ungroup
Subtotal
Outline
Solver
Data Analysis
Analysis
TERANGI
Text Import Wizard - Step 1 of 3
The Text Wizard has determined that your data is Delimited.
If this is correct, choose Next, or choose the data type that best describes your data.
Original data type
Choose the file type that best describes your data:
Delimited - Characters such as commas or tabs separate each field.
Fixed width - Fields are aligned in columns with spaces between each field.
Start import at row: 1
File origin: Windows (ANSI)
My data has headers.
Preview of file D:\Dropbox\Dropbox\biodiverskripsi\0005745-190307172214381.csv.
1 gbifIDdatasetKeyoccurrenceIDkingdomphylumclassorderfamilygenusspe
2 197844920450c9509d-22c7-4a22-a47d-8c48425ef4a7https://www.inaturalist.or
3 12619020617bd65a7a-f762-11e1-a439-00145eb45e9aurn:catalog:MO:Tropicos:97
4 113821641415f819bd-6612-4447-854b-14d12ee1022dhttp://data.biodiversityda
5 9499155285312280-f762-11e1-a439-00145eb45e9aPlantaeTracheophytaLiliop
Cancel
< Back
Next >
Finish
A1
Sheet1
Ready
100%
6:20 AM
3/20/2019


Book1 - Excel
safran yusri
File
Home
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Page Layout
Formulas
Data
Review
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Developer
Help
Tell me what you want to do
Get External Data
New Query
Show Queries
From Table
Recent Sources
Get & Transform
Refresh All
Connections
Properties
Clear
Reapply
Flash Fill
Remove Duplicates
Consolidate
Relationships
Data Model
What-If Analysis
Forecast Sheet
Forecast
Group
Ungroup
Subtotal
Outline
Solver
Data Analysis
Analysis
TERANGI
Text Import Wizard - Step 2 of 3
This screen lets you set the delimiters your data contains. You can see how your text is affected in the preview below.
Delimiters
Tab
Semicolon
Comma
Space
Other:
Treat consecutive delimiters as one
Text qualifier:
Data preview
gbifID datasetKey occurrenceID
1978449204 50c9509d-22c7-4a22-a47d-8c48425ef4a7 https://www.inaturalist.org
1261902061 7bd65a7a-f762-11e1-a439-00145eb45e9a urn:catalog:MO:Tropicos:974
1138216414 15f819bd-6612-4447-854b-14d12ee1022d http://data.biodiversitydat
94991552 85312280-f762-11e1-a439-00145eb45e9a
Cancel
< Back
Next >
Finish
A1
Sheet1
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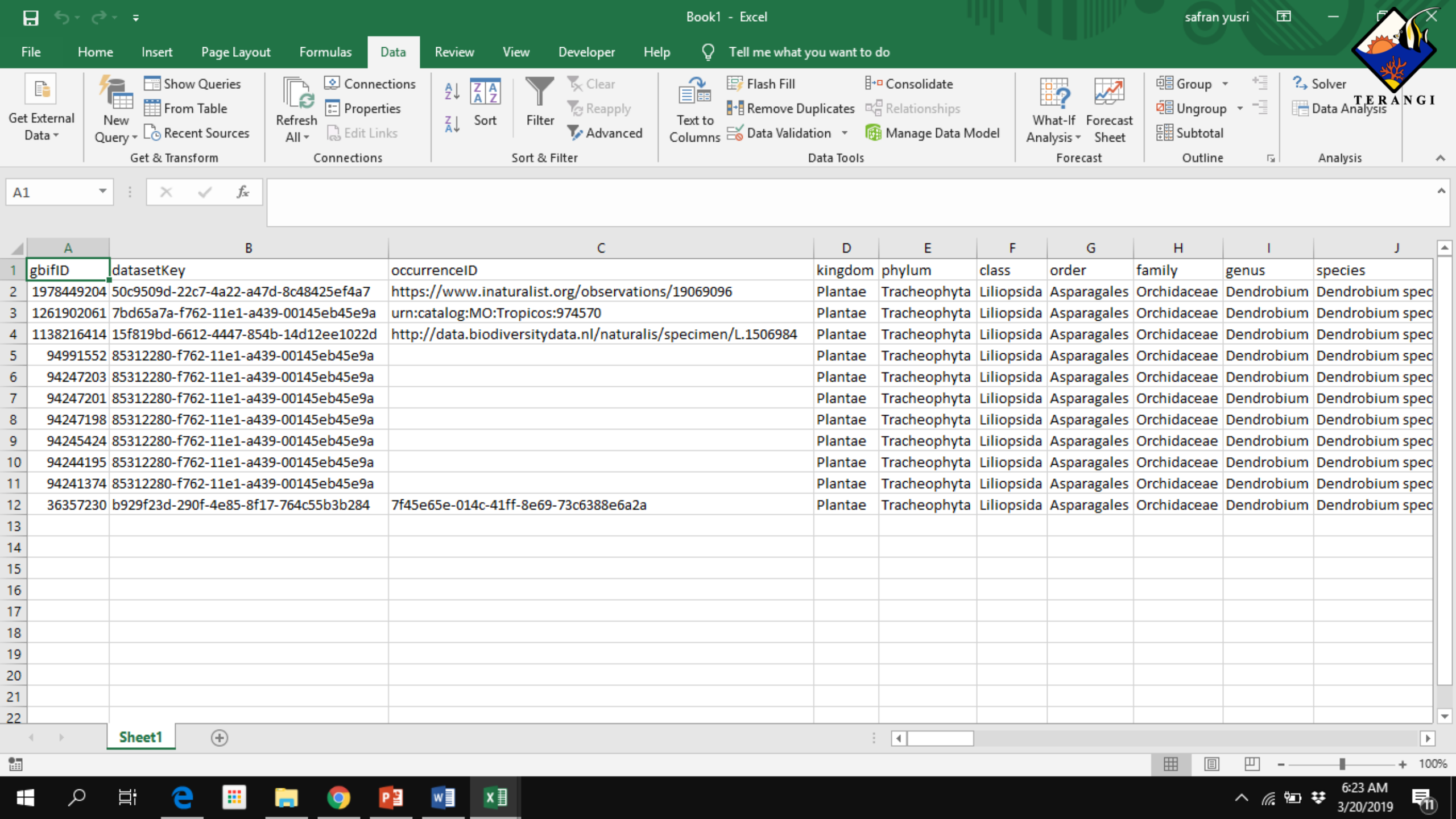
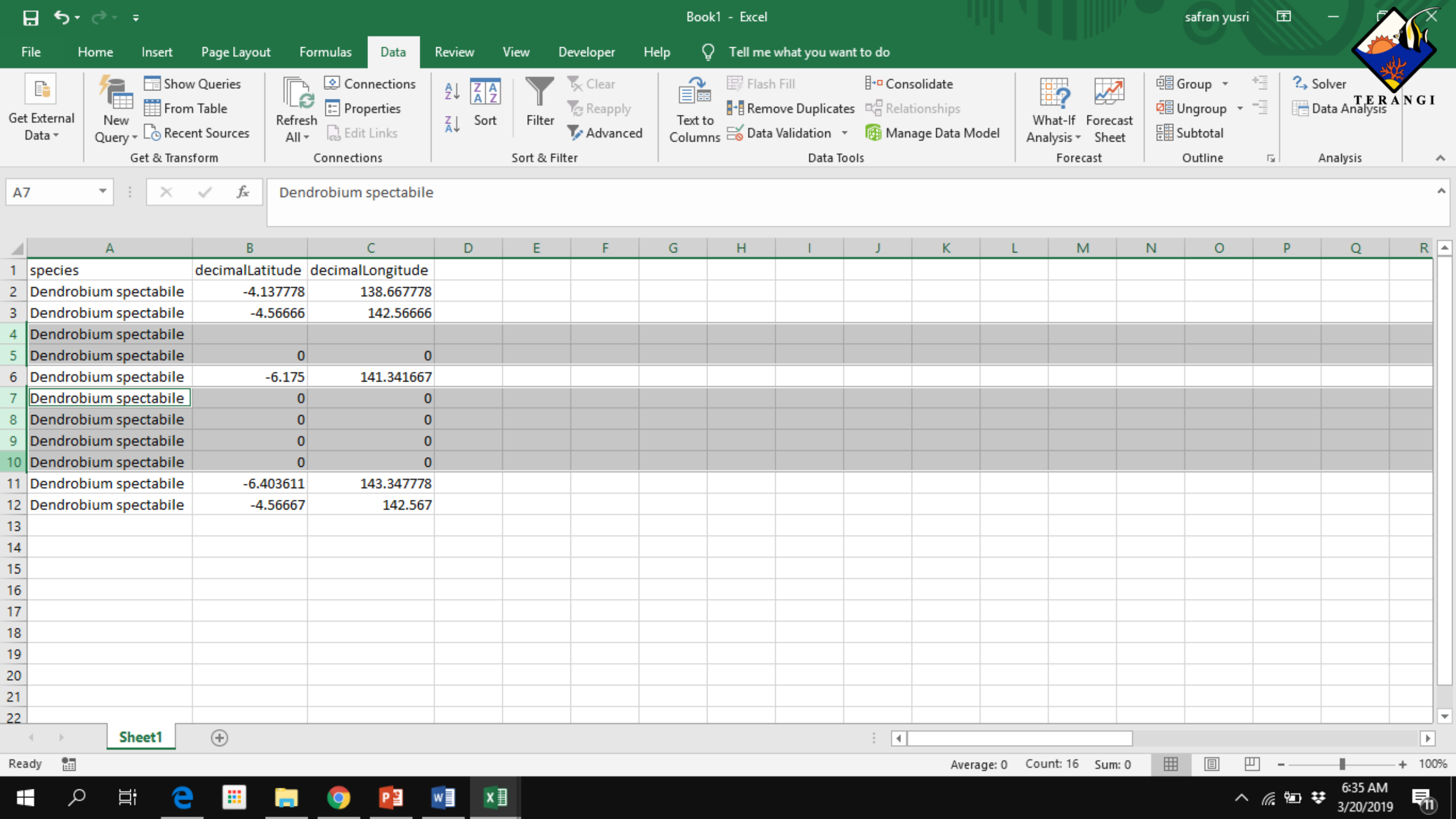
100%
6:20 AM
3/20/2019



Book1 - Excel
safran yusri
File Home Insert Page Layout Formulas Data Review View Developer Help Tell me what you want to do
Get External Data
New Query
Show Queries
From Table
Recent Sources
Get & Transform
Refresh All
Connections
Properties
Edit Links
Connections
Sort
Filter
Clear
Reapply
Advanced
Sort & Filter
Text to Columns
Flash Fill
Remove Duplicates
Data Validation
Consolidate
Relationships
Manage Data Model
Data Tools
What-If Analysis
Forecast Sheet
Forecast
Group
Ungroup
Subtotal
Outline
Solver
Data Analysis
Analysis
TERANGI
A1
Sheet1
100%
6:23 AM
3/20/2019


Book1 - Excel
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File
Home
Insert
Page Layout
Formulas
Data
Review
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Developer
Help
Tell me what you want to do
Get External Data
New Query
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Get & Transform
Refresh All
Connections
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Edit Links
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Reapply
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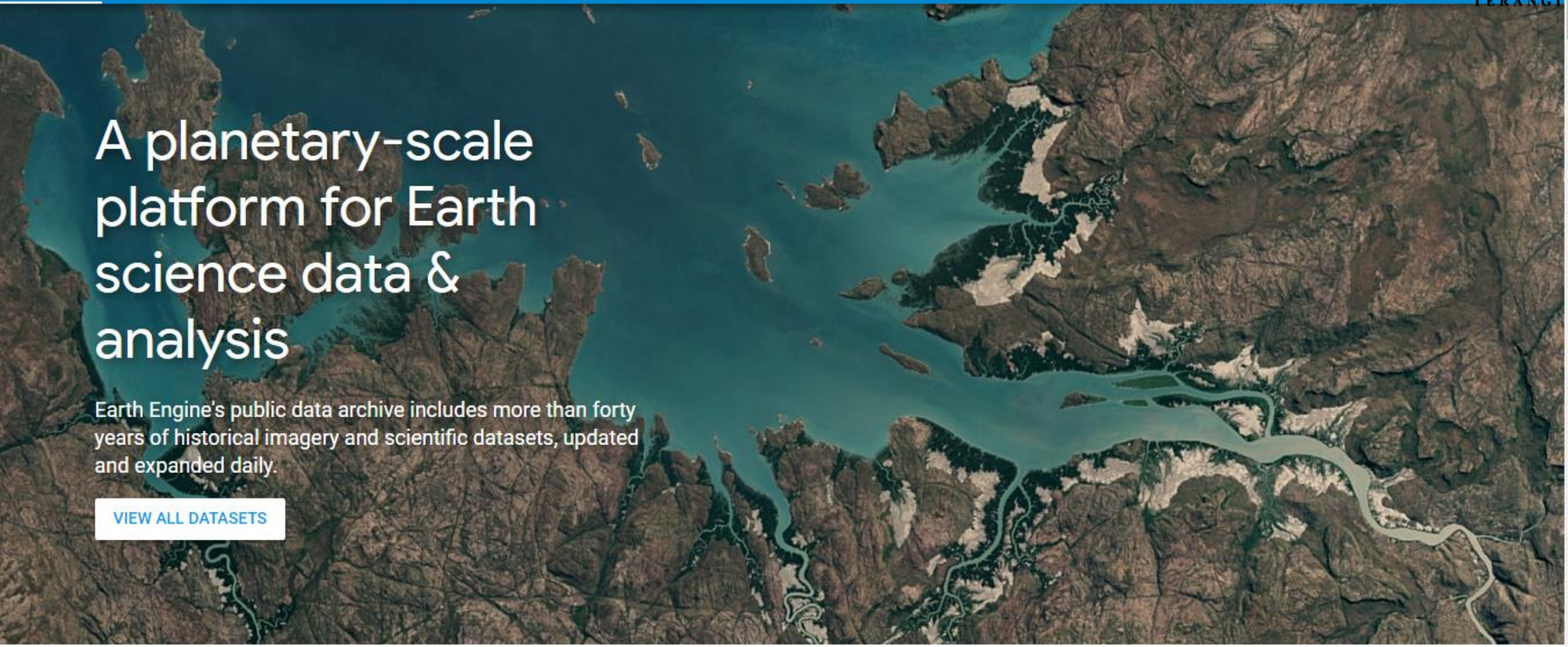
Flash Fill
Remove Duplicates
Data Validation
Consolidate
Relationships
Manage Data Model
Data Tools
What-If Analysis
Forecast Sheet
Forecast
Group
Ungroup
Subtotal
Outline
Solver
Data Analysis
Analysis
TERANGI
A7
Dendrobium spectabile
A B C D E F G H I J K L M N O P Q R
1 species decimalLatitude decimalLongitude
2 Dendrobium spectabile -4.137778 138.667778
3 Dendrobium spectabile -4.56666 142.56666
4 Dendrobium spectabile
5 Dendrobium spectabile 0 0
6 Dendrobium spectabile -6.175 141.341667
7 Dendrobium spectabile 0 0
8 Dendrobium spectabile 0 0
9 Dendrobium spectabile 0 0
10 Dendrobium spectabile 0 0
11 Dendrobium spectabile -6.403611 143.347778
12 Dendrobium spectabile -4.56667 142.567
13
14
15
16
17
18
19
20
21
22
Sheet1
Ready
Average: 0
Count: 16
Sum: 0
100%
6:35 AM
3/20/2019

UNDERSTANDING AND ASSEMBLING ENVIRONMENTAL DATA FOR MODEL INPUT FOR ANALYSIS

Open https://code.earthengine.google.com/

Sign up and login

Review environmental variables that correlate with species presencein https://developers.google.com/earth-engine/datasets/



Climate and Weather

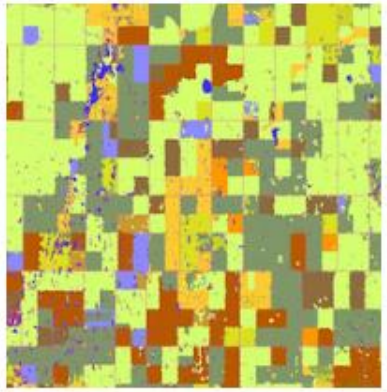
Earth Engine Data Catalog

Earth Engine's public data catalog includes a variety of standard Earth science raster datasets. You can import these datasets into your script environment with a single click. You can also upload your own raster data or vector data for private use or sharing in your scripts.

Looking for another dataset not in Earth Engine yet? Let us know by suggesting a dataset.

Filter list of datasets

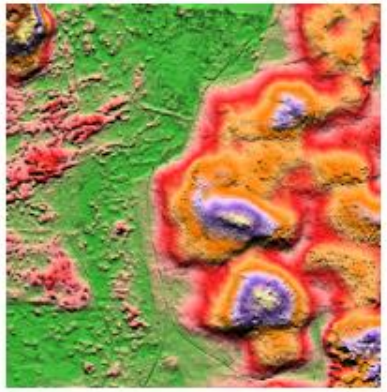
Canada AAFC Annual Crop Inventory



Starting in 2009, the Earth Observation Team of the Science and Technology Branch (STB) at Agriculture and Agri-Food Canada (AAFC) began the process of generating annual crop type digital maps. Focusing on the Prairie Provinces in 2009 and 2010, a Decision Tree (DT) based methodology ...

crop landcover canada

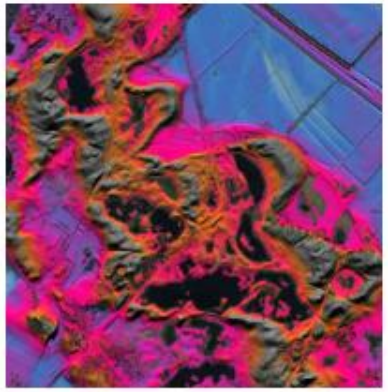
AHN Netherlands 0.5m DEM, Interpolated



The AHN DEM is a 0.5m DEM covering the Netherlands. It was generated from LIDAR data taken in the spring between 2007 and 2012. It contains ground level samples with all other items above ground (such as buildings, bridges, trees etc.) removed. This version is ...

lidar elevation netherlands dem geophysical ahn

AHN Netherlands 0.5m DEM, Non-Interpolated



The AHN DEM is a 0.5m DEM covering the Netherlands. It was generated from LIDAR data taken in the spring between 2007 and 2012. It contains ground level samples with all other items above ground (such as buildings, bridges, trees etc.) removed. This version is ...

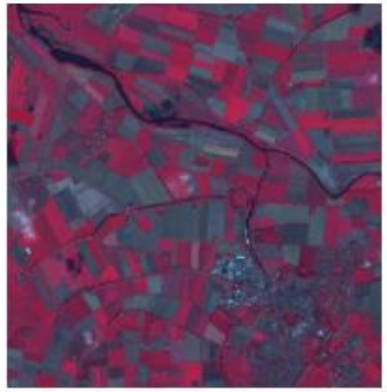
lidar elevation netherlands dem geophysical ahn

AHN Netherlands 0.5m DEM, Raw Samples

The AHN DEM is a 0.5m DEM covering the Netherlands. It was generated from LIDAR data taken in the spring between 2007 and 2012. This version contains both ground level samples and items above ground level (such as buildings, bridges, trees etc). The point cloud ...

lidar elevation netherlands dem geophysical ahn

ASTER L1T Radiance



The Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) is a multispectral imager that was launched on board NASA's Terra spacecraft in December, 1999. ASTER can collect data in 14 spectral bands from the visible to the thermal infrared. Each scene covers an area of ...

vnir tir swir nir

PRE-PROCESSING OF ENVIRONMENTAL DATA LAYERS IN A GOOGLE EARTH ENGINE

Sample script for extracting environmental variables :

Safran Yusri. (2019, March 16). safranyusri/sdm_predictors: SDM Predictors With GEE (Version V.01-pre-alpha). Zenodo. http://doi.org/10.5281/zenodo.2595966

Copy and paste selected snippet

Open GEE

Deliniate area of interest (aoi)

Export, download, and convert to .ASC

March 16, 2019

Software Open Access

safranyusri/sdm_predictors: SDM Predictors With GEE

Safran Yusri

SDM Predictors With GEE

Preview

sdm_predictors-V.01-pre-alpha.zip

safranyusri-sdm_predictors-e66ffde
- README.md 129 Bytes
- land_predictors.js 6.7 kB

Files (2.8 kB)

Name	Size

https://github.com/safranyusri/sdm_predictors/tree/V.01-pre-alpha

Edit

New version

6 views

5 downloads

See more details...

Available in

GitHub

Publication date:
March 16, 2019

DOI:
DOI 10.5281/zenodo.2595966

Related identifiers:
Supplement to:
https://github.com/safranyusri/sdm_predictors/tree/V.01-pre-alpha

License (for files):
Other (Open)

Google Earth Engine

Search places and datasets...

Help | safran_yusri@apps

TERANGI

Scripts | Docs | Assets

Filter scripts... | NEW

- Owner (3)
  - users/safran_yusri/id2017
    - bimindo
      - bimindo_landsat
      - environmental
    - coral sdm
      - bathymetry
      - hycom_sal_filled
      - hycom_sse_filled
      - hycom_swv_filled
      - lyzenga landsat 8 ready
      - modis_filled
      - noaa_filled
      - noaa_filled (copy)
      - rote
    - coral sdm all
    - coral sdm focused

New Script | Get Link | Save | Run | Reset

```
1
```

Inspector | Console | Tasks

```
Use print(...) to write to this
console.
```

Google Earth Engine

Search places and datasets...

Help | safran_yusri@apps

TERANGI

Scripts | Docs | Assets

Filter scripts... | NEW

- Owner (3)
  - users/safran_yusri/id2017
  - users/safran_yusri/id2018
  - users/safran_yusri/id2019
    - land_enviro
- Writer
- Reader (2)
- Examples
  - Image
    - From Name
    - Normalized Difference
    - Expression
    - Hillshade
    - Landcover Cleanup
    - Reduce Region
    - Canny Edge Detector
    - Center Pivot Irrigation Detector

land_enviro * | Get Link | Save | Run | Reset

```
99              .float();
100 var chirps_min = chirps.select('precipitation')
101             .reduce('min')
102             .rename('min_precipitation')
103             .float();
104
105 var precip_mean = chirps_mean.clip(aoi);
106 var precip_max = chirps_max.clip(aoi);
107 var precip_min = chirps_min.clip(aoi);
108
109 //Map.addLayer(precip_mean, {}, 'precip_mean');
110 //Map.addLayer(precip_max, {}, 'precip_mean');
111 //Map.addLayer(precip_min, {}, 'precip_mean');
112
113 // Predictor 5 Landsat 8 Annual NDVI
114 var ndvi = ee.ImageCollection('LANDSAT/LC08/C01/T1_ANNUAL_NDVI')
115             .filterBounds(bound)
116             .filterDate(start, finish)
117             .reduce('mean')
118             .clip(bound);
119
120 //Map.addLayer(ndvi, {}, 'ndvi');
121
```

Inspector | Console | Tasks

Use print(...) to write to this console.

EXPORT REGION

Edit and replicate this line to export necessary environmental variables

```
// Step 3. Export the images, specifying scale and region.
Export.image.toDrive({
  image: npp,
  description: 'npp',
  maxPixels: 1e11,
  scale: 100,
  region: bound,
  folder: 'bio_enviro'
});
```

CONVERT .TIF TO .ASC IN QGIS

Open the file you wish to convert by selecting Layer >> Add Raster Layer.

Open the raster translator by selecting Raster >> Conversions >>Translate.

Set the input layer and in the Output file press the Select Button.

In the save dialogue, drop the file type down and select Arc/Info ASCII Grid (*.asc *.ASC).

*Untitled Project - QGIS

Project Edit View Layer Settings Plugins Vector Raster Processing Help

Raster Calculator...
Align Rasters...
Analysis
Projections
Miscellaneous
Extraction
Conversion

PCT to RGB...
Polygonize (Raster to Vector)...
Rasterize (Vector to Raster)...
RGB to PCT...
Translate (Convert Format)...

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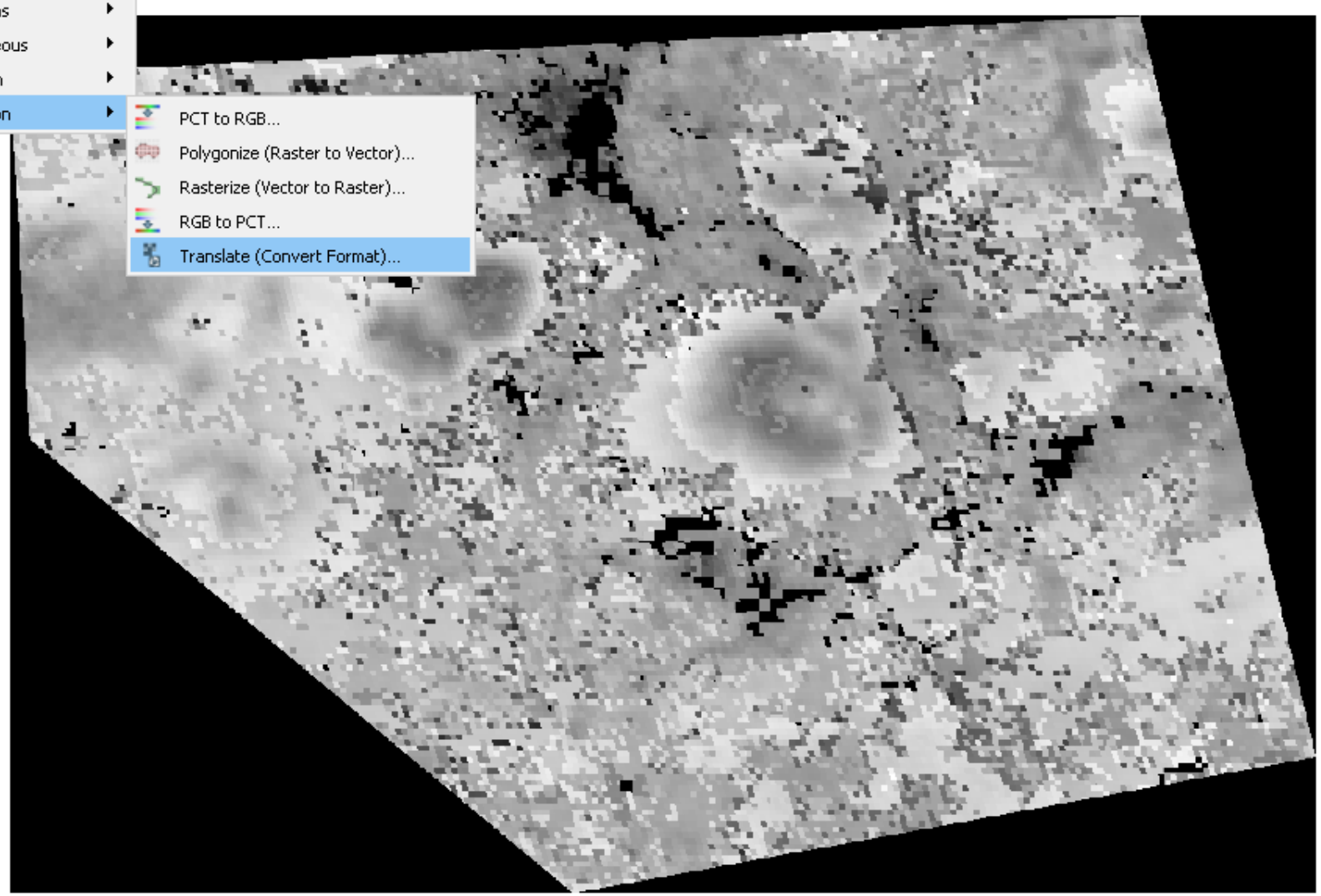
Layers

npp
3432.73
14324.1
forestCanopyHeight
0
39
elevation
0
1918



Browser Processing Toolbox Layers

convert

Ready

Coordinate 106.334,-6.492 Scale 1:435564 Magnifier 100% Rotation 0.0 ° Render EPSG:4326

8:28 AM
3/21/2019

CONVERT .TIF TO .ASC IN R

```
setwd("D:\\Dropbox\\Dropbox\\biodiverskripsi\\bio_enviro_new")
library(raster)
#read your file
r1 <- raster("npp.tif")
r2 <- raster("canopy.tif")
r3 <- raster("elevation.tif")

#export it to asc (ESRI ASCII)
writeRaster(r1, filename="npp.asc", format = "ascii", datatype='FLT4S', overwrite=TRUE)
writeRaster(r2, filename="canopy.asc", format = "ascii", datatype='FLT4S', overwrite=TRUE)
writeRaster(r3, filename="elevation.asc", format = "ascii", datatype='FLT4S', overwrite=TRUE)
```

RUNNING MODELS ON MAXENT AND MANIPULATING SETTINGS

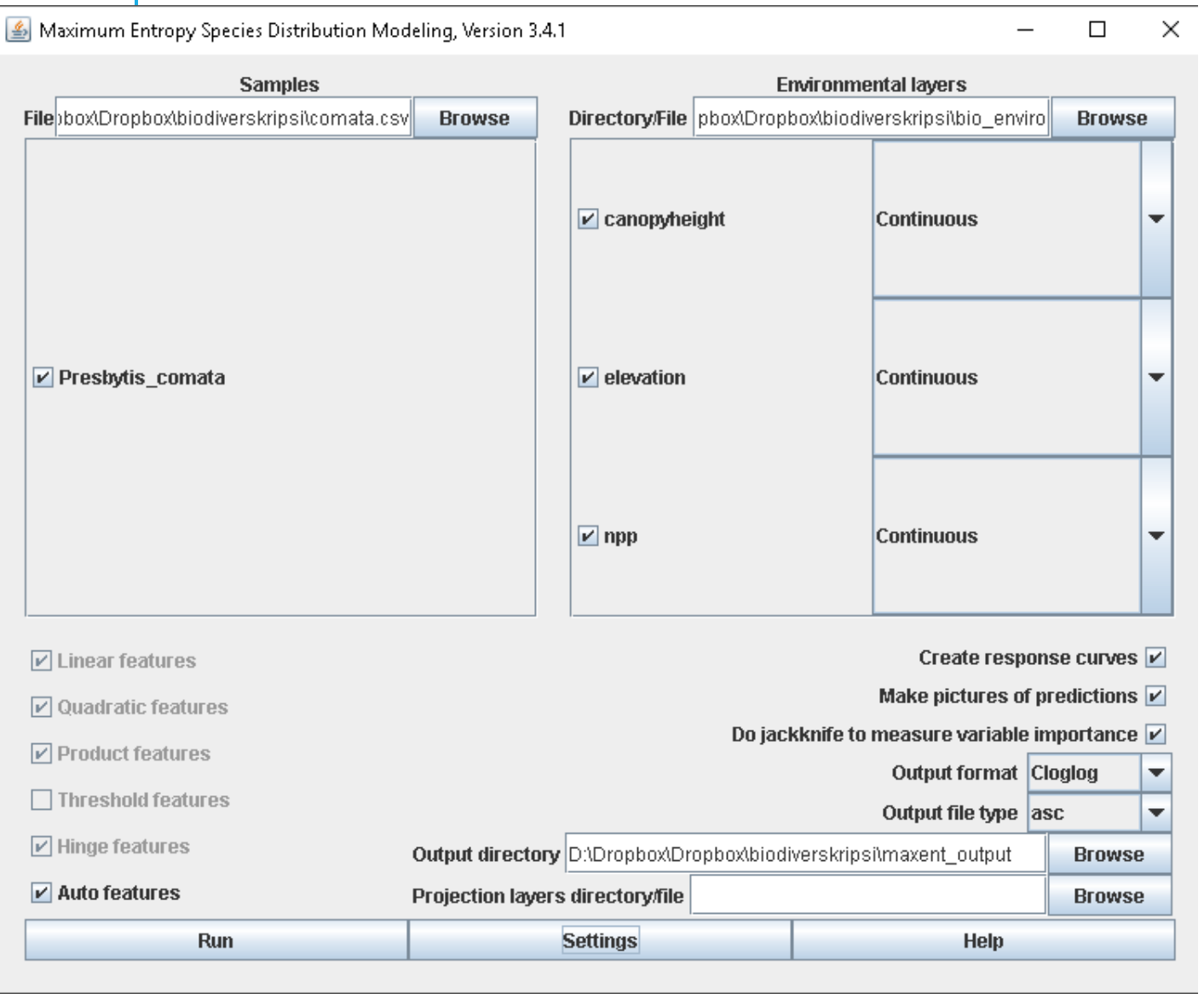
Download Maxent at https://biodiversityinformatics.amnh.org/open_source/maxent/

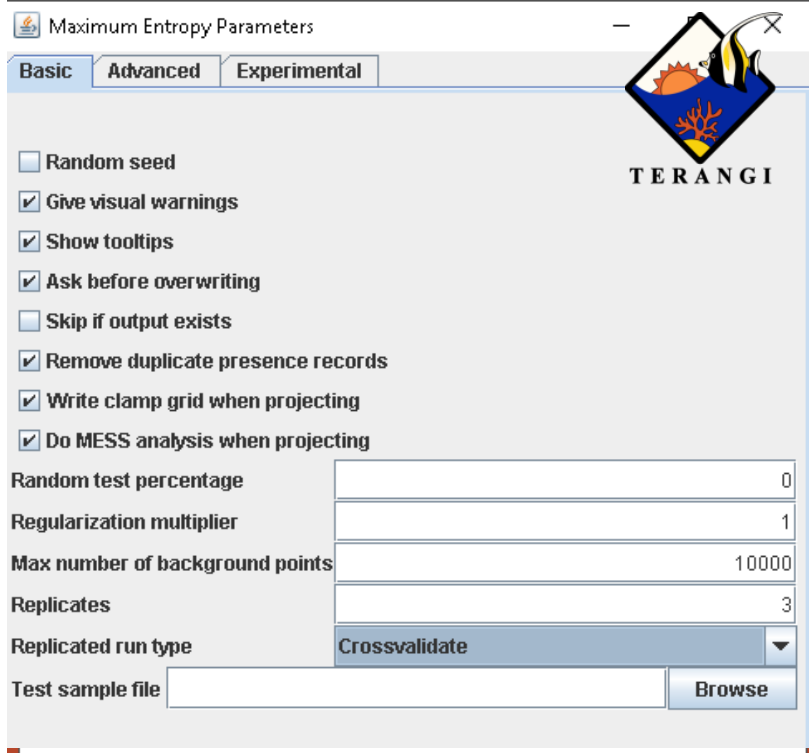
Input occurrence and environmental variables

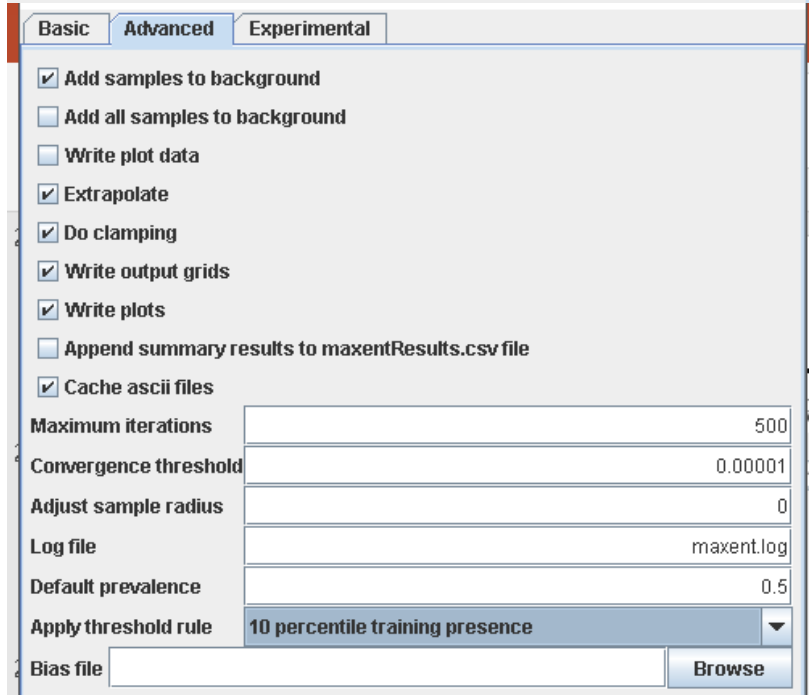
Settings: Default model parameters were used as they have performed well in other studies and validated on a wide range of datasets (a convergent threshold of 10-5, maximum iteration value of 500 and a regularization multiplier of 1) (Phillips and Dudik 2008).

Threshold feature used was 10 percentile training presence. Models were ran with three fold cross validation, where presence locations were split into training data for model fitting and test data for model evaluation, and then averaged (Merow *et al.* 2013).

Run model


Maximum Entropy Species Distribution Modeling, Version 3.4.1
Samples
File
box\Dropbox\biodiverskripsi\comata.csv
Browse
Presbytis_comata
Environmental layers
Directory/File
pbox\Dropbox\biodiverskripsi\bio_enviro
Browse
canopyheight
Continuous
elevation
Continuous
npp
Continuous
Linear features
Quadratic features
Product features
Threshold features
Hinge features
Auto features
Create response curves
Make pictures of predictions
Do jackknife to measure variable importance
Output format
Cloglog
Output file type
asc
Output directory
D:\Dropbox\Dropbox\biodiverskripsi\maxent_output
Browse
Projection layers directory/file
Browse
Run
Settings
Help


Maximum Entropy Parameters
Basic
Advanced
Experimental
TERANGI
Random seed
Give visual warnings
Show tooltips
Ask before overwriting
Skip if output exists
Remove duplicate presence records
Write clamp grid when projecting
Do MESS analysis when projecting
Random test percentage
0
Regularization multiplier
1
Max number of background points
10000
Replicates
3
Replicated run type
Crossvalidate
Test sample file
Browse


Basic
Advanced
Experimental
Add samples to background
Add all samples to background
Write plot data
Extrapolate
Do clamping
Write output grids
Write plots
Append summary results to maxentResults.csv file
Cache ascii files
Maximum iterations
500
Convergence threshold
0.00001
Adjust sample radius
0
Log file
maxent.log
Default prevalence
0.5
Apply threshold rule
10 percentile training presence
Bias file
Browse

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INTERPRETING RESULTS

In folder maxent output, find the corresponding .html file

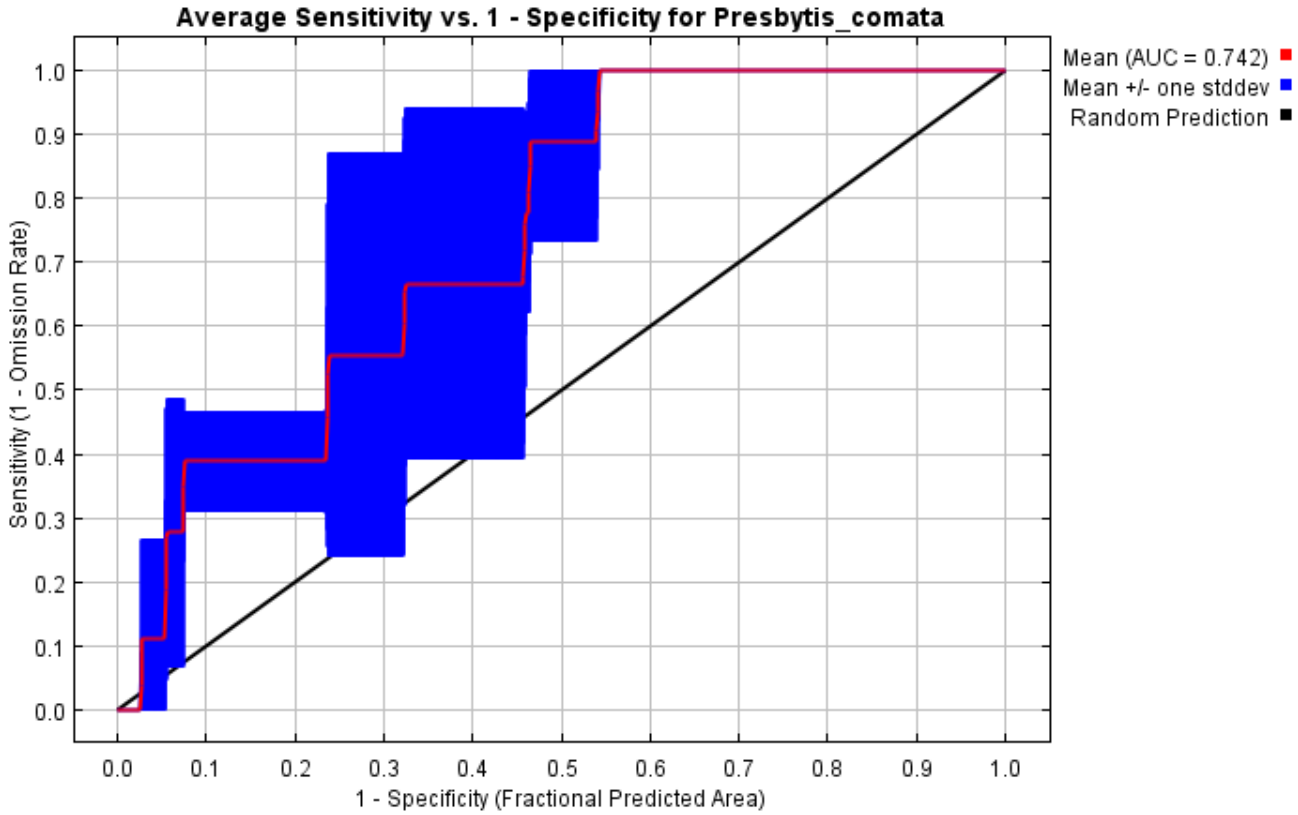
Check the value of Area Under the Curve for model evaluation

Find the map of predicted distribution (.asc)

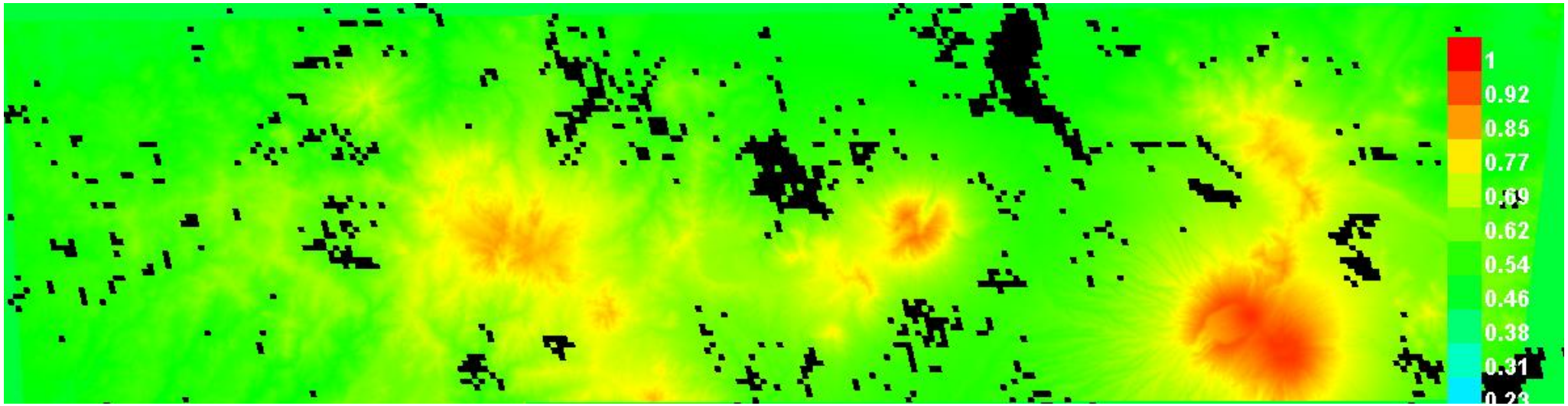
Interpreting Jackknife analysis

Interpreting Response curves

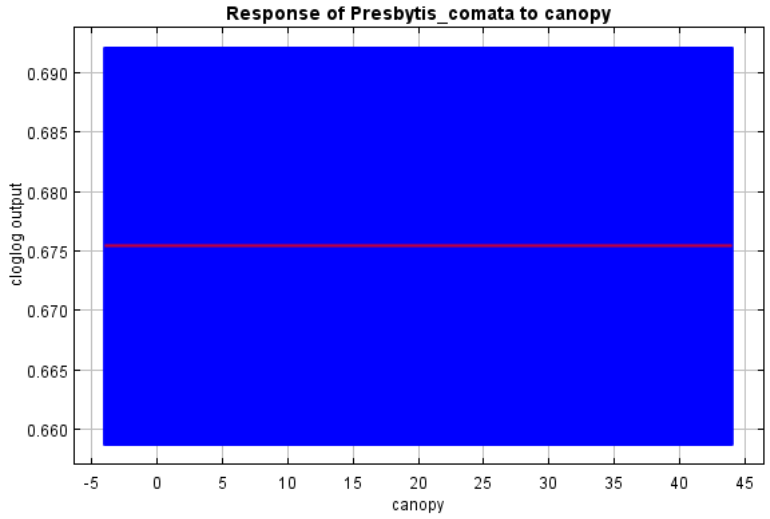
MODEL EVALUATION

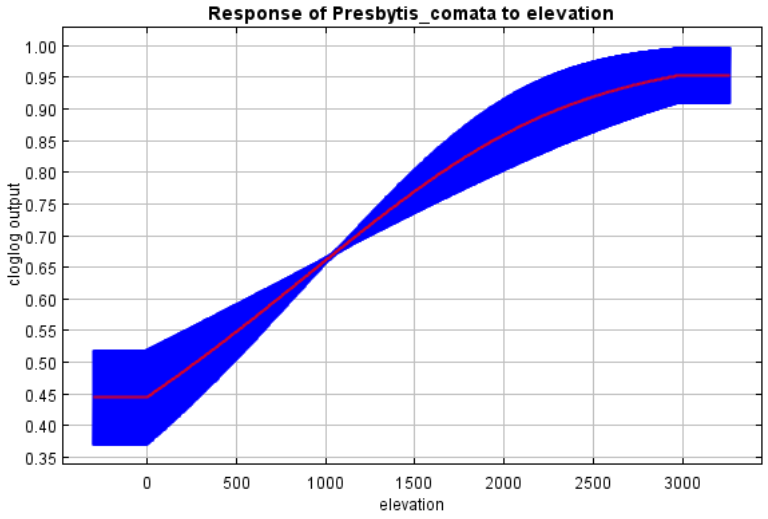


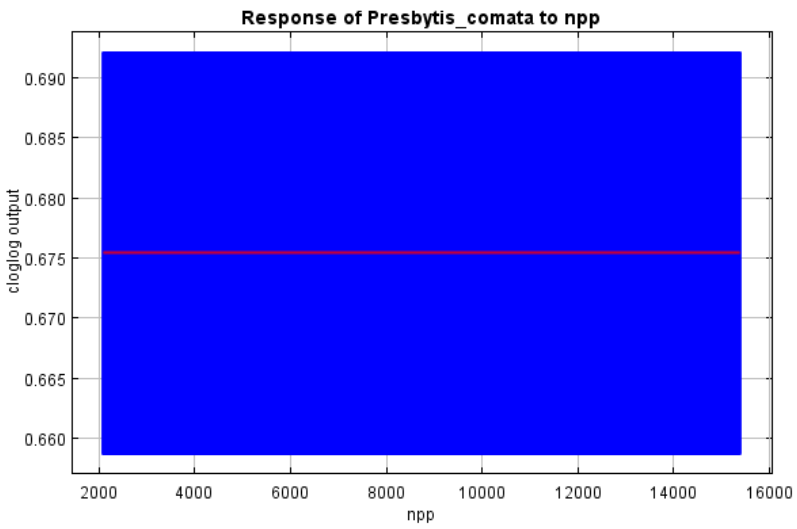
PREDICTED DISTRIBUTION

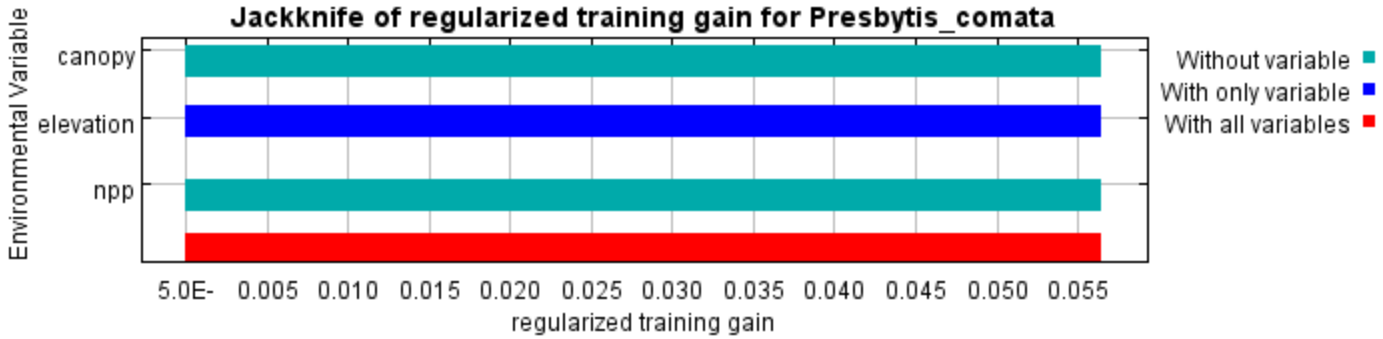


JACKNIFE AND RESPONSE CURVE









FURTHER READING

Yusri, S. V.P. Siregar, and Suharsono. In press. Using Publicly Available Remote Sensing Imageries, Oceanographic Models, and Species Occurrence to Predict the Distribution of Hard Coral (Scleractinia) Genera in Indonesia. Frontiers in Mar. Sci.

Yusri, S. E. Retnowati, M.P.S. Widodo, Idris, and Fakhrurrozi. In press. Combining Participatory Mapping, Cloud Computing and Machine Learning for Mapping Climate Induced Landslide Susceptibility in Lembeh Island, North Sulawesi. IOP Conf. Ser.

Yusri, S. V.P. Siregar, and Suharsono. 2019. Generating Biologically Relevant Environmental Data From Remote Sensing Imageries And Oceanographic Models To Support Spatial Prioritization Of Marine Biodiversity Conservation And Management In Indonesia. Prosiding Semnas Geomatika 2018.

Yusri, S. V.P. Siregar, and Suharsono. In press. Distribution Modelling of the Porites (Poritidae), in Indonesia. IOP Conf. Ser.