



Grupo de investigación Ecología de Zonas Áridas

**CENTRO ANDALUZ PARA LA EVALUACIÓN Y
SEGUIMIENTO DEL CAMBIO GLOBAL**



Modelling
Workshops



Prácticas (III)

- GARP

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Recordemos en qué formato necesitamos los datos:

1) Datos presencia:

formato Excel, csv o cobertura de puntos de ArcView

2) Coberturas ambientales:

Todas en la misma carpeta, en formato **ASCII Raster Grid.**

NO OLVIDAR MASK

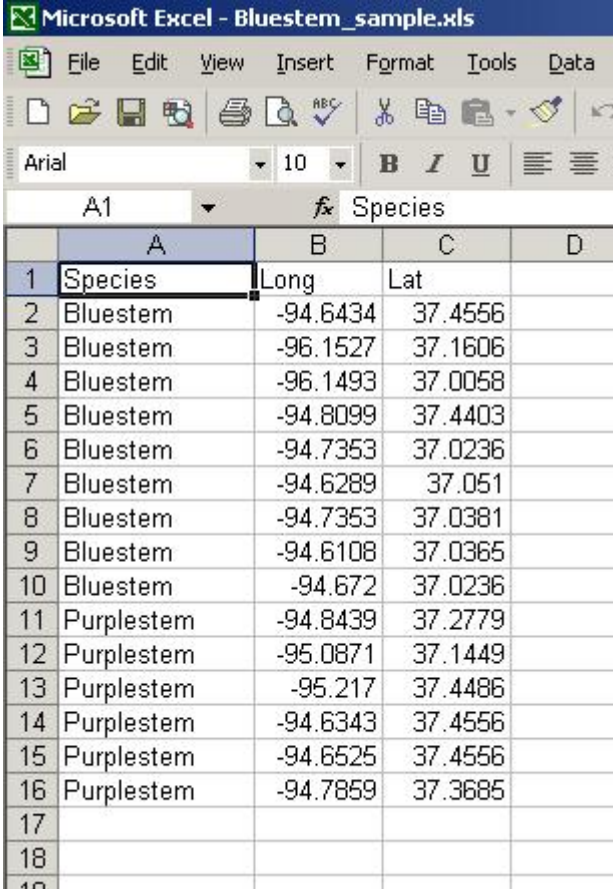
3) Datos de salida:

Obtenemos muchos mapas binarios.

Podemos elegir los mejores modelos.

12. Prácticas (III): GARP

Datos de entrada... por experiencia el formato que menos problemas da es Excel



The screenshot shows a Microsoft Excel spreadsheet titled "Bluestem_sample.xls". The spreadsheet has a header row with columns labeled "Species", "Long", and "Lat". The data rows contain 16 entries, alternating between "Bluestem" and "Purplestem" species, with their corresponding longitude and latitude values.

	A	B	C	D
1	Species	Long	Lat	
2	Bluestem	-94.6434	37.4556	
3	Bluestem	-96.1527	37.1606	
4	Bluestem	-96.1493	37.0058	
5	Bluestem	-94.8099	37.4403	
6	Bluestem	-94.7353	37.0236	
7	Bluestem	-94.6289	37.051	
8	Bluestem	-94.7353	37.0381	
9	Bluestem	-94.6108	37.0365	
10	Bluestem	-94.672	37.0236	
11	Purplestem	-94.8439	37.2779	
12	Purplestem	-95.0871	37.1449	
13	Purplestem	-95.217	37.4486	
14	Purplestem	-94.6343	37.4556	
15	Purplestem	-94.6525	37.4556	
16	Purplestem	-94.7859	37.3685	
17				
18				
19				

12. Prácticas (III): GARP

Desktop Garp - Bluestem.gxd

File Datasets Model Results Help

Species Data Points

Species List: **[1 selected]** Upload Data Points

- Bluestem (15)

Options:

Use % for training

At least training points

Environmental Layers

Dataset: NorthAmerica

Layers to be used:

- dtr6190_ann
- dtr6190_I1
- dtr6190_I7
- frs6190_ann
- frs6190_I1
- frs6190_I7
- h_aspect
- h_dem
- h_slope
- h_topoind
- pre6190_ann

How layer will be used:

- All selected layers
- All combinations of the selected layers
- All combinations of size **(1 comb.)**

Optimization Parameters

Parameters:

Runs per experiment

Convergence limit

Max iterations

Comission error factor:

From To Step

(1 factor value) **(1 rule comb.)** **(1 total runs)**

Rule types:

- Atomic Rules
- Range rules
- Negated range rules
- Logistic regression (Logit)

All combinations of the above selected rules

Projection Layers

Available datasets: Europe Add

Current datasets for projection: (besides the training dataset)

- Asia
- CentralAmerica
- SouthAmerica
- Europe

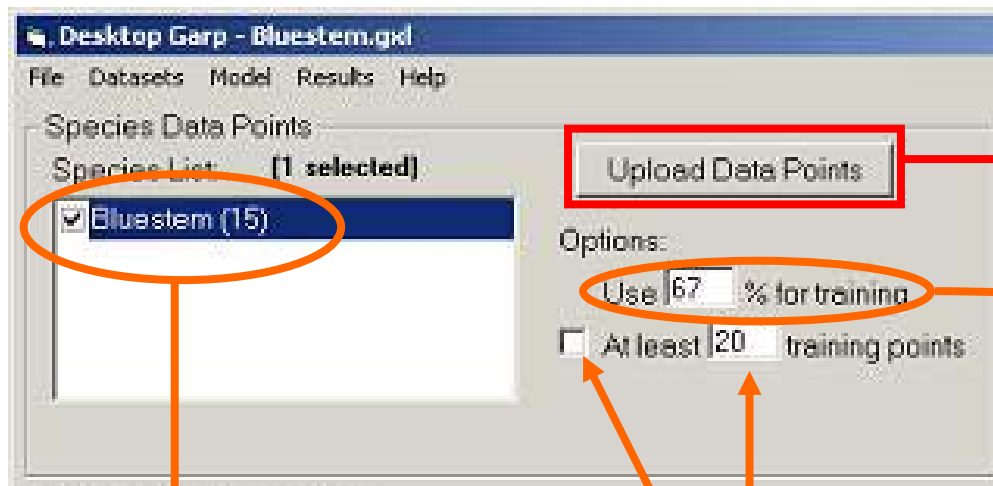
Remove

Output

- Maps as Bitmaps
- Maps as Ascii Raster Grids
- Maps as ARC/INFO Grids

Output directory: C:\Users\Proj\BSW\Desktop\Experiment

12. Prácticas (III): GARP



Entrada de los datos de presencia (muestreados)

Puntos a utilizar para “entrenar” el modelo

Información de los datos introducidos (y número de puntos para cada especie)

Número mínimo de puntos a utilizar en el test de significancia (si está seleccionada, prevalece sobre el %, que sería 33 en este caso)

12. Prácticas (III): GARP

Desktop Garp - Bluestem.gxl

File Datasets Model Results Help

Species Data Points

Species List: (1 selected)

Bluestem (15)

Upload Data Points

Options:

Use 67 % for training

At least 20 training points

Optimization Parameters

Parameters:

1 Runs per experiment

.001 Convergence limit

100 Max iterations

Commission error factor:

From 1 To 1 Step 0

(1 factor value)

Rule types:

Atomic Rules

Range rules

Negated range rules

Logistic regression (Logit)

All combinations of the above selected rules

(1 rule comb.) (1 total runs)

Projection Layers

Available datasets: Europe

Add

Current datasets for projection: (besides the training dataset)

Asia

CentralAmerica

SouthAmerica

Europe

Remove

Environmental Layers

Dataset: NorthAmerica

Layers to be used:

dtr6190_ann

dtr6190_I1

dtr6190_I7

frs6190_ann

frs6190_I1

frs6190_I7

h_aspect

h_dem

h_slope

h_topoind

pre6190_ann

How layer will be used:

All selected layers

All combinations of the selected layers

All combinations of size 1 (1 comb.)

Output

Maps as Bitmaps

Maps as Ascii Raster Grids

Maps as ARC/INFO Grids

Output directory:

C:\Users\Proj\BSW\Desktop\Experiment

12. Prácticas (III): GARP

Menú: "Datasets->Scan directory...".

Dataset: nombre de la carpeta

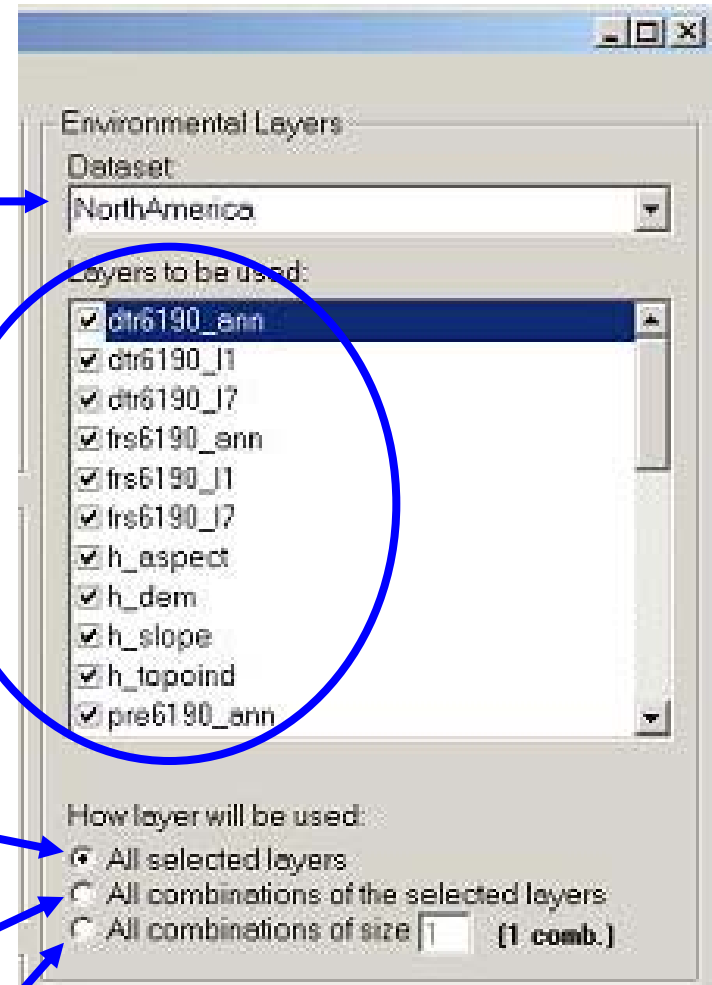
IMP: tiene que haber una cobertura que se llame "MASK"

Lista de coberturas ambientales

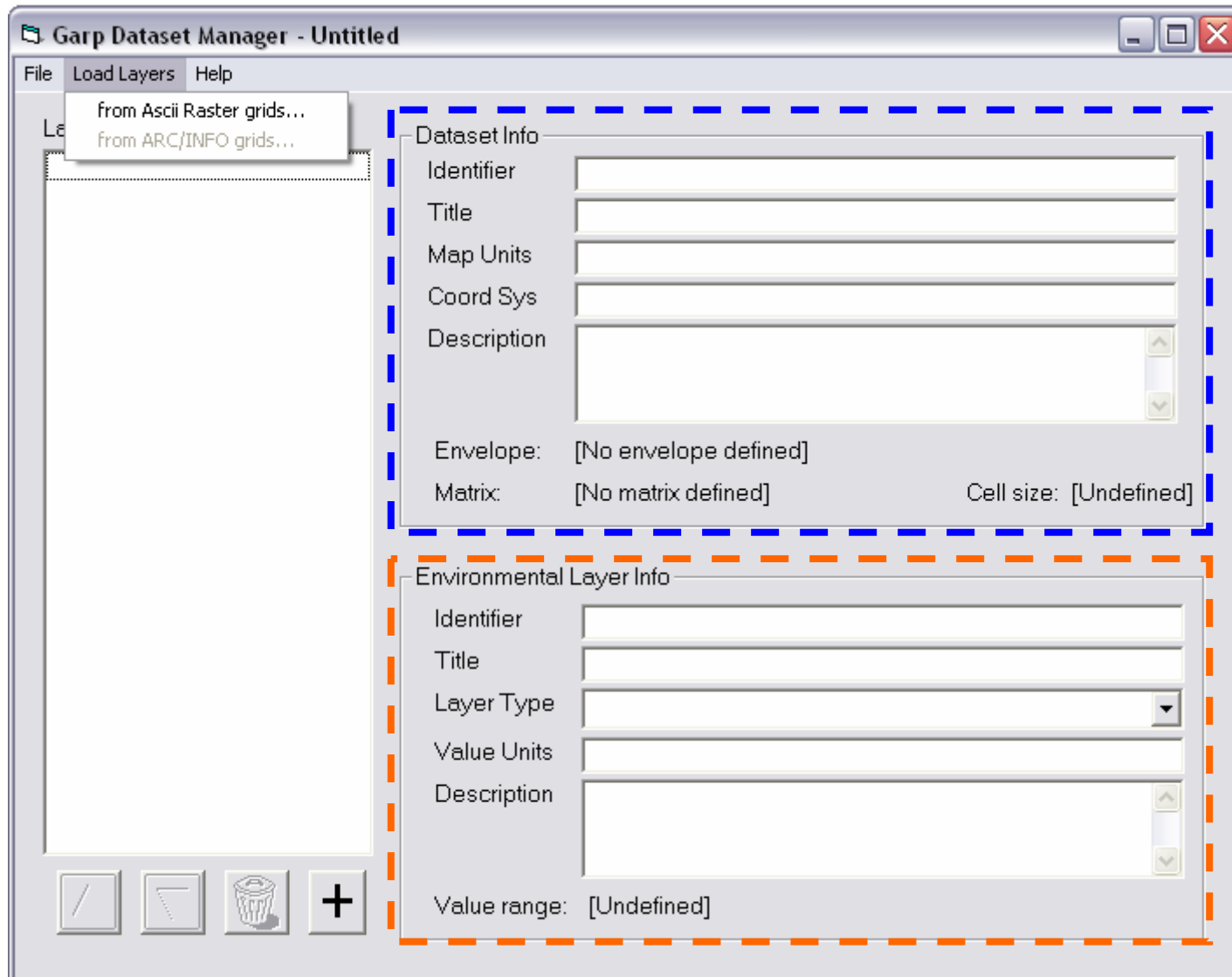
fuerza a DesktopGarp a utilizar todas la coberturas en la optimización

forzará al experimento a ejecutar el modelo una vez por cada una de las combinaciones de coberturas posibles.

limitará el experimento a las combinaciones que contengan exactamente N coberturas.



Garp Dataset Manager:



**Metadatos
conjunto
coberturas**

**Metadatos para
cada cobertura**

12. Prácticas (III): GARP

Desktop Garp - Bluestem.gxd

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Species Data Points

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- Bluestem (15)

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Environmental Layers

Dataset: NorthAmerica

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Optimization Parameters

Parameters:

Runs per experiment

Convergence limit

Max iterations

Comission error factor:

From To Step

(1 factor value) **(1 rule comb.)** **(1 total runs)**

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All combinations of the above selected rules

Projection Layers

Available datasets: Europe Add

Current datasets for projection: (besides the training dataset)

- Asia
- CentralAmerica
- SouthAmerica
- Europe

Remove

Output

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- Maps as ARC/INFO Grids

Output directory: C:\Users\Proj\BSW\Desktop\Experiment

12. Prácticas (III): GARP

Todos los resultados se almacenan con un nombre numérico secuencial (cada mapa es el resultado de una de las iteraciones del modelo).

Bitmaps: no permiten hacer postproceso

ARC/INFO Grids: El directorio grid00100, contiene el resultado de las áreas que van de la 100 a la 199. Esto es debido a una limitación de ESRI con las grids permitidas en un directorio.

Tiene que ser una carpeta vacía



Muchas gracias