CIAT

Centro Internacional de Agricultura Tropical
International Center for Tropical Agriculture

Whitefly GIS interface (beta)
User's manual and technical documentaion

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Integrated Pest Management and GIS:

Spatial Analysis of the Whitefly problem in Central America, Mexico and the Caribbean

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Introduction

As part of the on-going project "Sustainable Integrated Management of Whiteflies as Pests and Vectors of Plant Viruses in the Tropics", one of the main outputs for Phase 1 included the building of a spatial database using a geographical information system (GIS).

The study area includes Central America, Mexico and the Caribbean.

The purpose of this was to develop a digital database that integrates all the information collected by the whitefly project and to enable end-users to view the information available. Some of the spatial information available, include:

- Areas affected by whitefly-transmitted viruses for different years (1970's, 1990's, 1994, 1998)
- Base information, such as, rivers, roads, towns, land-use cover, Digital Elevation Model(DEM), Holdridge life zones
- Climate: rainfall, mean minimum temperature, mean maximum temperature, evaporation and the number of dry months at 3-km pixel size
- Economic loss
- Crop production by municipality (where information is available). Crops include tomato, tobacco, cotton, peppers, beans, cucumber, squash, brocoli
- Whitefly occurrences based upon climatic factors required for the whitefly to exist.

The whitefly v1.0 package contains a variety of tools that allows for the generation of analysis information. Some of the analysis capabilities include:

- Site characterization under the cursor
- Site characterization of an area unit (ie a polygon)
- Location of similar climatic areas, within a percent range, for the site characterization returned for a point.
- Location of similar climatic areas, as is found occurring in an area unit.
- Dynamic link of Excel tab-delimited text files containing information at any administrative level to an existing administrative boundary coverage to enable real time visualization of external tabular data. Edition of the file is done through Excel.
- Generation of point coverages from an Excel file.
- Creation of whitefly occurrence information based upon the physical factors required for a whitefly to exist.

The information can be viewed using Arcview3.0a+ and layouts can be created and printed with the results to queries made.

One of the main objectives of this interface has been to enable the end-user the flexibility to generate additional themes, from new information as it is gathered from the field. This can be accomplished by generating point, line or polygon themes from data collected by a GPS or to create themes based upon the varying administrative levels available for each country.

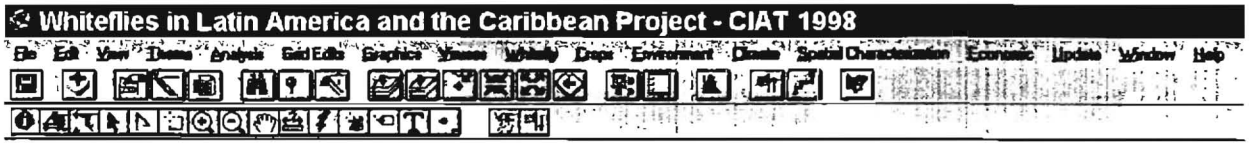
Building the Datasets

The information used for this project was obtained from various sources. Some of these include the GIS lab at CIAT, the internet and other centers in Central America and the Caribbean.

All the data sets were processed using Arc/INFO 7.1 on a UNIX workstation.

Developing the Interface

The interface was developed using Arcview3.0b on a UNIX platform but also adapted for use on a PC environment. In order to run this application successfully the user requires at least ArcView3.0b with the spatial analysis and dialog designer extensions. All the functionalities were developed using Avenue.



Features included from the standard ArcView3.0a

FILE: General file opening and managing grids
EDIT: Editing the themes
VIEW: Adding themes to views
ANALYSIS: Analysis features included with spatial analysis
GRAPHICS: Graphic adding capabilities
HELP: On-line Arcview help

Extensions required:

Spatial Analysis
Network Analysis
Database Themes
Dialog Designer

Summary of the features included in the interface

The interface contains the following additional options:

GRID EDITS: This enables the user to combine, merge, mosaic, aggregate or clip grids.

VIRUS: This contains the virus information for a limited number of crops. (Beans mid1990's, Tomatoes mid1970's and mid1990's, Hotspots 1998, BGMV 1994[1])

WHITEFLY: Areas where whiteflies are likely to occur based on critical and optimum climate and environmental factors. Whitefly biotype and species information is not available at the present time.

[1] BGMV – bean golden mosaic virus

CROPS: Includes the production information for the following crops: beans, tomatoes, melon, watermelon, peppers, cotton, squash, chiles, soya, tobacco and cucumber. This is not complete for all countries.

ENVIRONMENT: Includes the base information such as, the different administrative level boundaries (country, department and municipio), roads, towns, holdridge lifezones, digital elevation model, slope, aspect)

CLIMATE: Rainfall, minimum temperature, maximum temperature, evaporation and number of dry months. (monthly and annual)

SPATIAL CHARACTERIZATION: Query point and area of interest, perform site characterization as well as obtain areas with a similar climate as that queried.

ECONOMIC: Enables the user to view the economic information pertaining to a region. This includes yield losses and/or economic losses.

UPDATE: Enables users to update existing tab-delimited files and create view the new information. This can only be applied to administrative boundary level information (municipio, department or country). In addition, users can import point information provided the file contains latitude and longitude information.

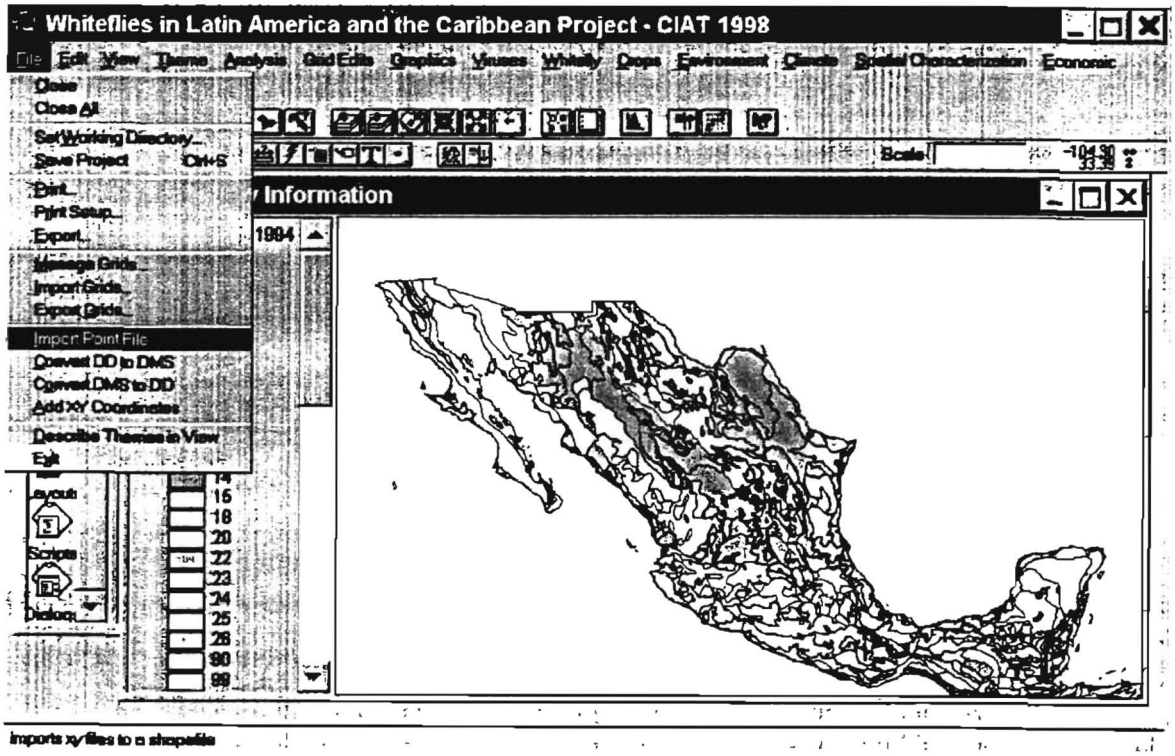
HELP: Online html help that is easliy displayed using an internet browser.

NOTE: The new information that can be created is dependent upon the administrative level information available for each country and on the GPS points provided. If new regions or information that cannot be created by the features provided the user will need to have the data digitized.

User's Guide

Additional features included in the project

- **FILE**



Import Point File
Convert DD to DMS
Convert DMS to DD
Add XY Coordinates (only works on point and polygon themes)

Describe Themes in View

Import Point File

Enables the user to import a *xy-coordinate* file containing information on point, polygons or lines. This can be collected by a GPS and imported directly into the present project.

NOTE: The xy-coordinate file must be in comma delimited format in the following order

Stn_id, x_coordinate, y_coordinate

Example of file containing coordinates:

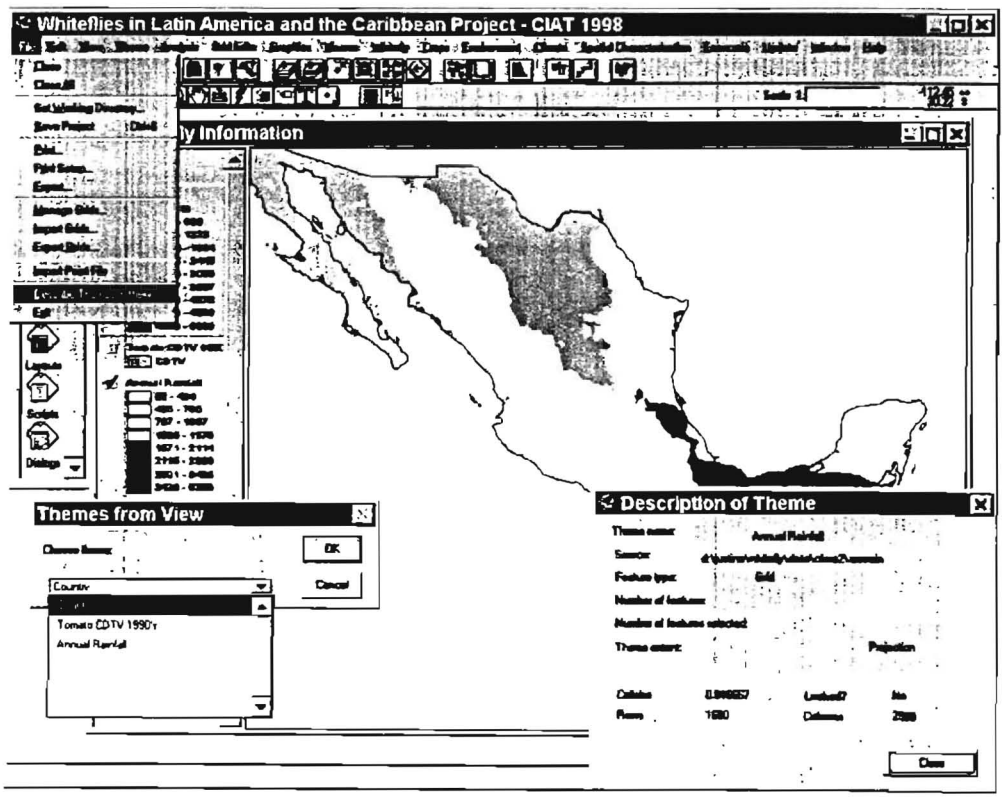
ID,x,y
3,-72.1,10.2
4,-73.2,11.2
5,-75.6,11.2
6,-78.35,12.1

To link additional information to the new shapefile (point, polygon or line), the user will need to import the attribute table and join this to the table associated with the new shapefile.

Convert DD to DMS
Enables the user to convert coordinates from decimal degrees to degrees-minutes-seconds. The results will be added to a table within the project.

Convert DMS to DD
Enables the user to convert coordinates from degrees-minutes-seconds to decimal degrees. The results will be added to a table within the project.

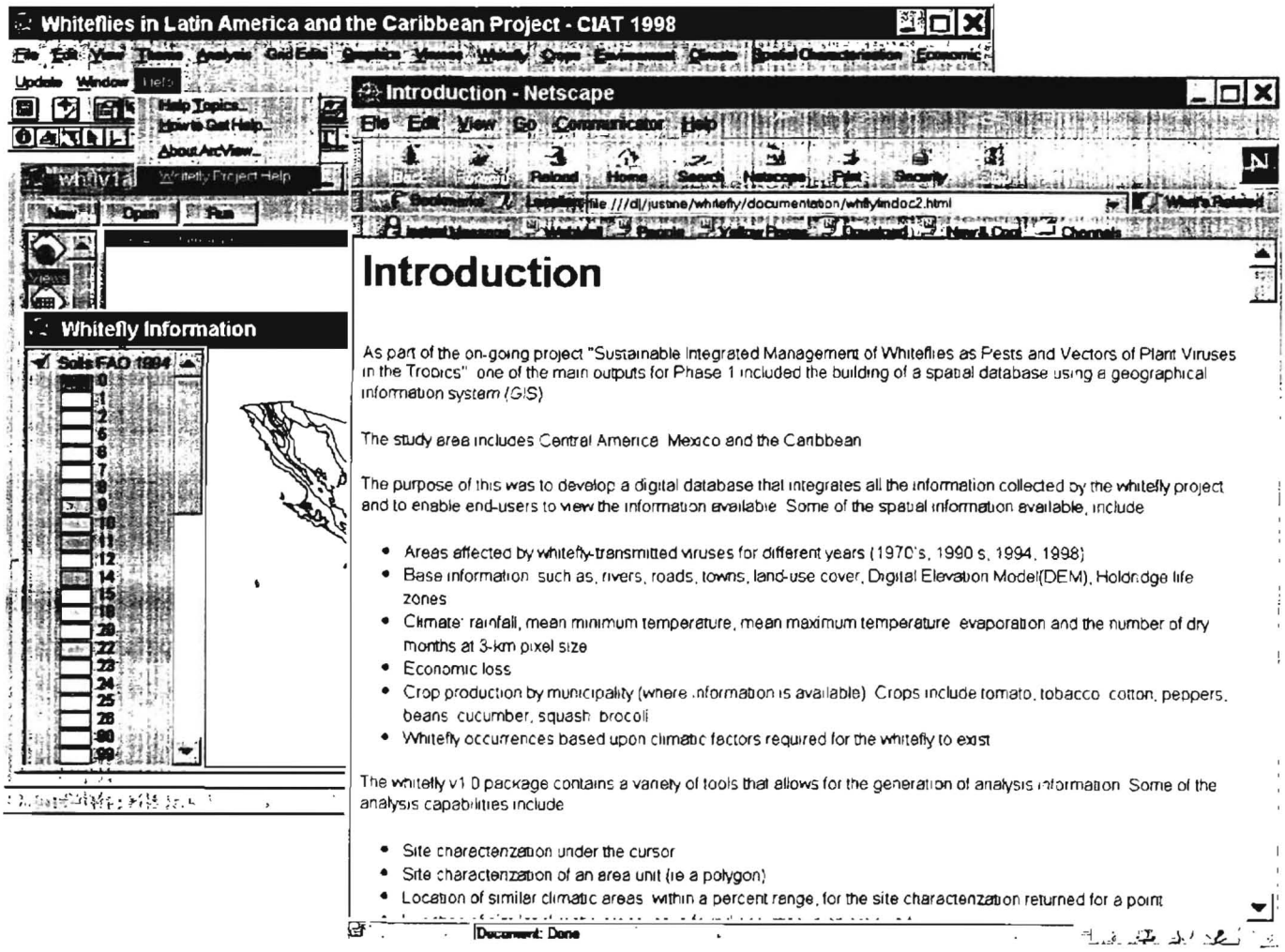
Describe Themes in View
This option enables the viewer to obtain information about an active theme (cover or shapefile) or a grid that is in the view.



- **HELP**

Whitefly On-line Html Help

On-line help is available through the Netscape Browser.



New features included in the project

- **GRID EDITS**

Grid Clip
Merge Grids
Combine Grids
Aggregate
Mosaic

Grid Clip

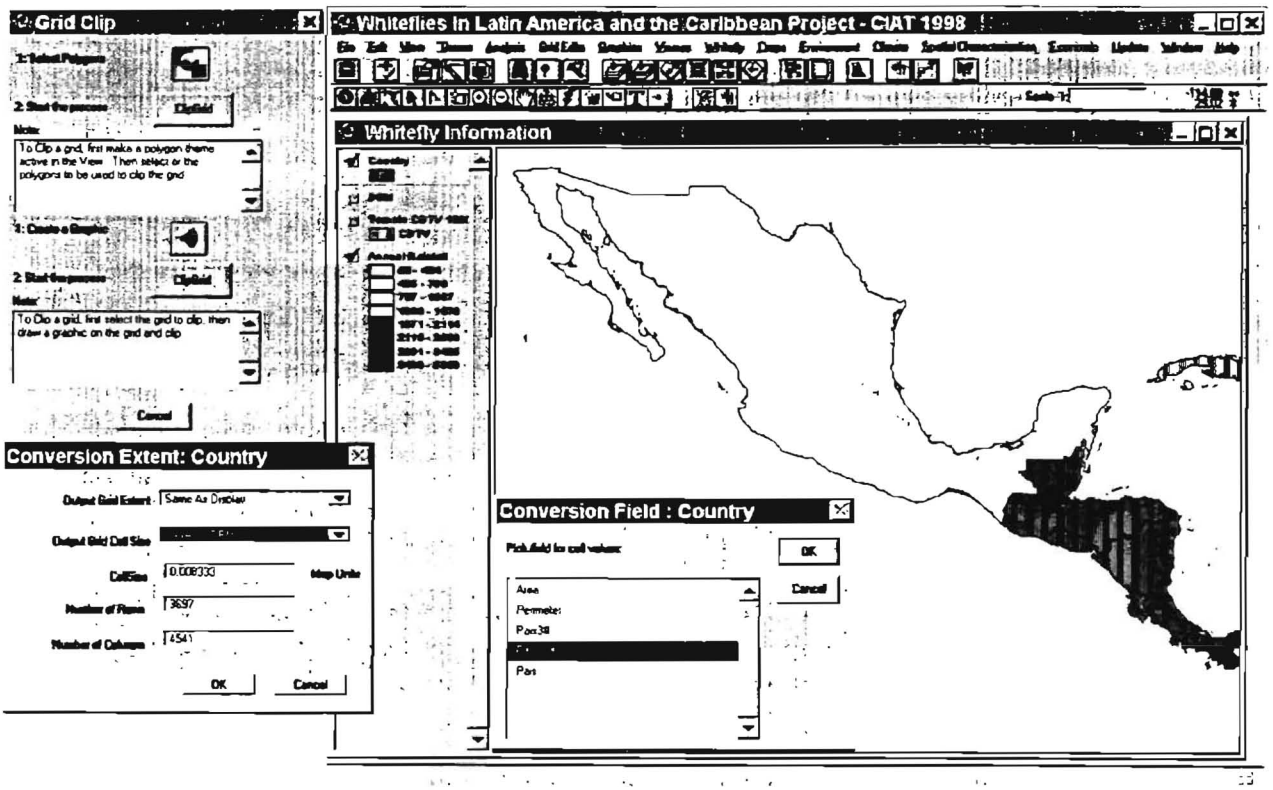
Enables the user to clip a grid. The user has two options: a) to clip an area using a polygon or b) to clip an area based upon a box.

a) to clip an area using a polygon

This enables the user to perform a country by country analysis without incorporating the entire region.

1- Select a polygon (as illustrated in yellow)
2- Click the button ***ClipGrid***.

The user will be prompted for additional information, this includes the extent and cell size for the new grid, the field to use for the conversion, the grid to clip and a new filename.



Once the process is finished the new grid will be added to the display, as illustrated below.

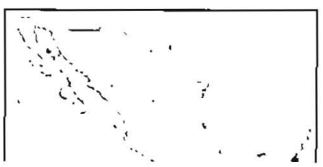


Tabla 1. Leyenda geomorfológica del municipio de Puerto López

UNIDAD CLIMATICA	GRAN PAISAJE (UNIDAD GENETICA DE RELIEVE)	PAISAJE - LITOLOGIA	PRINCIPALES CARACTERISTICAS DEL PAISAJE Y PROCESOS GEOMORFOLOGICOS DOMINANTES	SIMBOLO
CALIDO HUMEDO	LOMERIO FLUVIO-GRAVITACIONAL	**LOMAS Y COLINAS En sedimentitas y sedimentos clásticos aluviales mixtos.**	Relieve quebrado, muy fuertemente disectado, colinas de cimas agudas, laderas rectilíneas, largas, con pendiente dominante entre 12 - 25%. En algunos sectores de presenta erosión moderada con formación de cárcavas.	**Lde1-2**
	ALTIPLANICIE ESTRUCTURAL EROSIONAL	**LOMAS En sedimentitas y sedimentos clásticos aluviales arcillosos.**	Relieve quebrado a ondulado, fuerte a moderadamente disectado, lomas con cimas subredondeadas, laderas rectilíneas, medias, pendiente de 7-12 y 12-25%, erosión ligera a moderada.	**Lcd**
		LOMAS ASOCIADAS CON MESAS Y GLACIS MIXTOS En sedimentos clásticos aluviales Arcillosos y conglomerados plio – pleistocénicos	Relieve moderadamente ondulado, moderadamente disectado, lomas de cimas redondeadas, con laderas cortas y medias, pendiente entre 3-7 y 7-12%. Glacís con relieve plano – inclinado, pendiente entre 3-7. Las mesas son de cimas planas, amplias, con taludes cortos y casi verticales. Se observa erosión en las laderas y taludes.	**LCbc**
		TERRAZA ESTRUCTURAL - EROSIONAL. Sobre depósitos aluviales Arcillosos y conglomerados plio – pleistocénicos	Superficies muy amplias con relieve ligeramente plano, pendientes 1-3%, microrelieve cóncavo-convexo. En las áreas bajas y esteros se presentan Inundaciones y/o encharcamientos periódicos.	**PTb**

UNIDAD CLIMATICA	GRAN PAISAJE (UNIDAD GENETICA DE RELIEVE)	PAISAJE – LITOLOGIA	PRINCIPALES CARACTERISTICAS DEL PAISAJE Y PROCESOS GEOMORFOLOGICOS DOMINANTES	SIMBOLO

CALIDO HUMEDO	VALLECITOS ALUVIAL – COLUVIALES	**VALLES ESTRECHOS COLUVIO –ALUVIALES Depósitos mixtos aluvialea y coluviones heterométricos**	Superficies con relieve ligeramente plano, a plano cóncavo, pendientes 1-3%. Inundaciones y encharcamientos periódlcos	**Vca**
	PLANICIE ALUVIAL	**PLANO DE INUNDACION ALUVIAL Cantos, gravas y arenas aluviales actuales.**	Superficies con relieve ligeramente plano, pendiente 1-3%. Microrelieve plano-convexo. Inundaciones y encharcamientos periódicos.	**Paa**
		TERRAZA AGRADACIONAL NIVEL 1 INFERIOR Sedimentos aluviales arcillosos	Superficies con relieve plano, pendiente 1-3%. Microrelieve plano - cóncavo. Planadas extensas interrumpidas por cauces antiguos, sufren inundaciones raras, encharcamientos sectorizados.	**PTAa**
		TERRAZA AGRADACIONAL NIVEL 2 Sedimentos aluviales, con mantos eólicas localizados y capas de gravas a Diferentes profundidades	Superficies con relieve ligeramente plano a ligeramente ondulado, pendientes 1-7%, microrelieve concavo-convexo, zurales, encharcamientos periódicos.	**PTBa**
	VALLE ALUVIAL DE LOS RIOS YUCAO Y MANACACÍAS	**PLANO DE INUNDACION ACTIVO DE RIO MEANDRICO Depósitos clásticos hidrogénicos.**	Superficies con relieve ligeramente plano, pendientes 1-3%, Microrelieve cóncavo-convexo. Existen lagunas, meandros y cauces abandonados. Inundaciones y encharcamientos periódicos.	**MA**

New features included in the project

- **GRID EDITS**

Grid Clip
Merge Grids
Combine Grids
Aggregate
Mosaic

Grid Clip

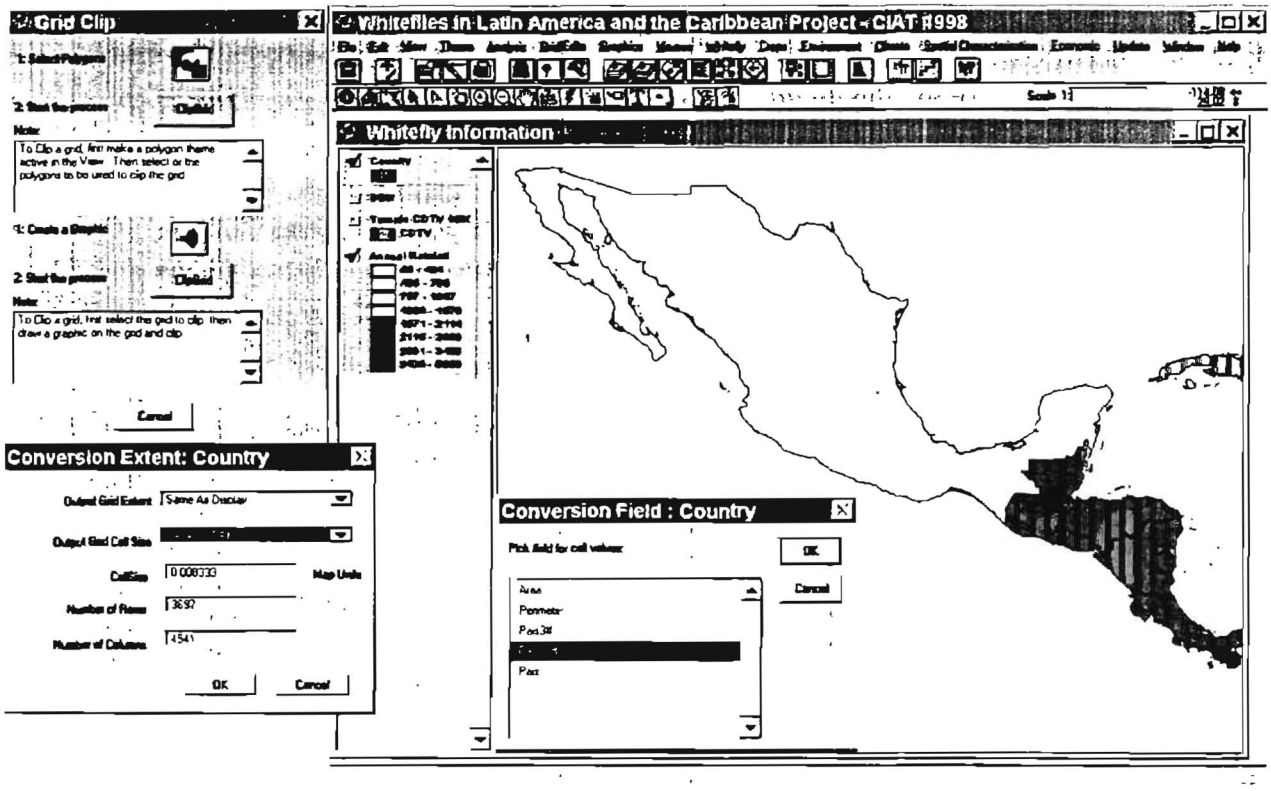
Enables the user to clip a grid. The user has two options: a) to clip an area using a polygon or b) to clip an area based upon a box.

a) to clip an area using a polygon

This enables the user to perform a country by country analysis without incorporating the entire region.

1- Select a polygon (as illustrated in yellow)
2- Click the button ***ClipGrid***.

The user will be prompted for additional information, this includes the extent and cell size for the new grid, the field to use for the conversion, the grid to clip and a new filename.

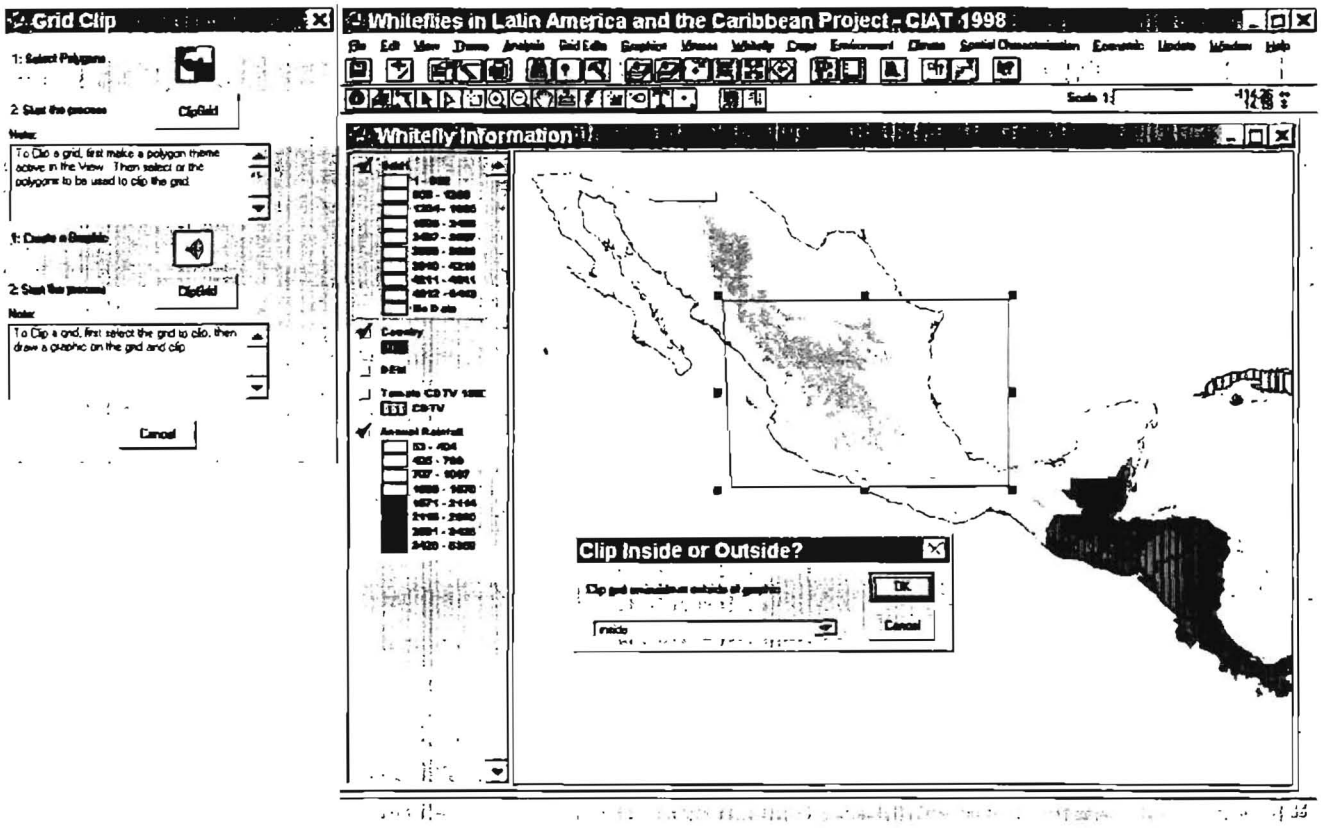


Once the process is finished the new grid will be added to the display, as illustrated below.

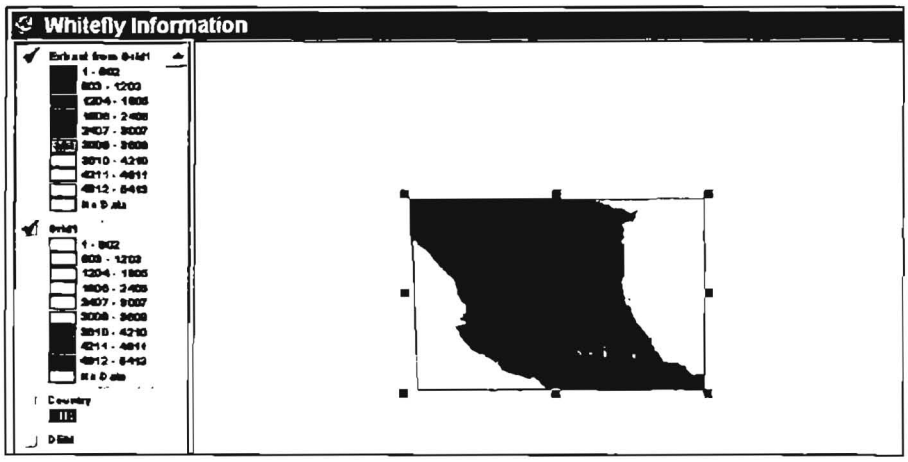
b) to clip an area based upon a box

1- Create a graphic in the view
2- Activate the grid theme to be clipped. (In this example Grid1 is active)
3- Click ***ClipGrid*** button

The user will be prompted whether to include the area inside or outside the graphic area.



Once the process is finished the new grid will be added to the display, as illustrated below. The area in blue is the newly clipped grid.



Merge Grids
Enables the user to merge a list of Grids together.

Combine Grids
Enables the user to combine a list of Grids together. This will compute the numerous combinations available with the combined grids.

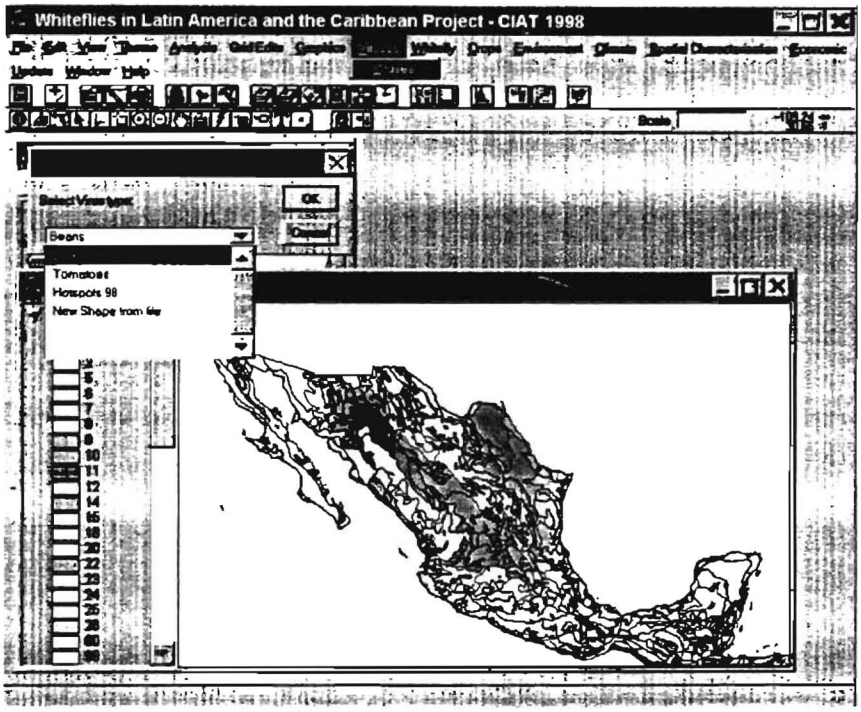
Aggregate
Enables the user to aggregate a grid.

Mosaic
Enables the user to mosaic grids together.

VIRUSES

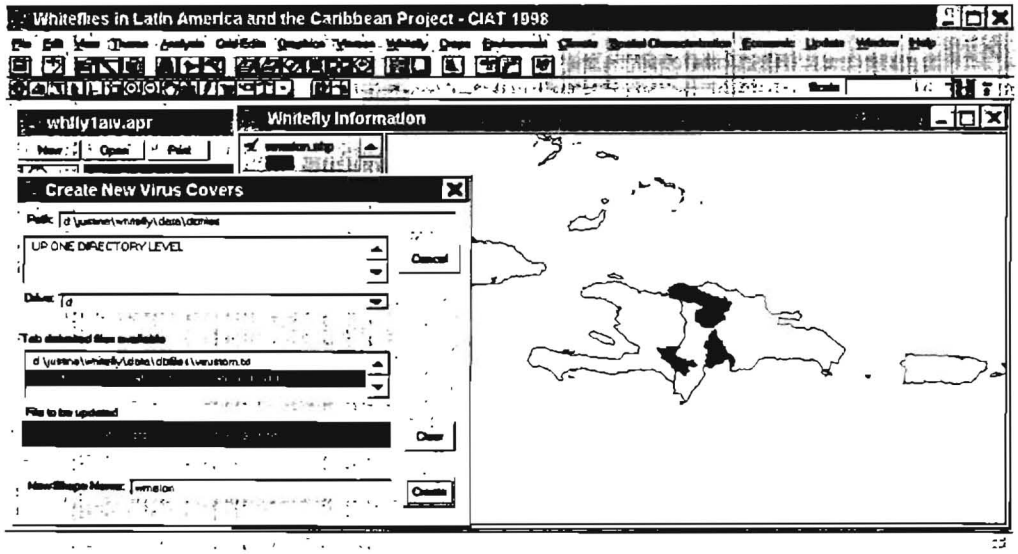
Viruses transmitted by the whitefly

The user can select the existing data (ie beans, tomatoes or identified hotspots for 1998) or create new shapefiles using tab delimited files.



Create New Shape from file

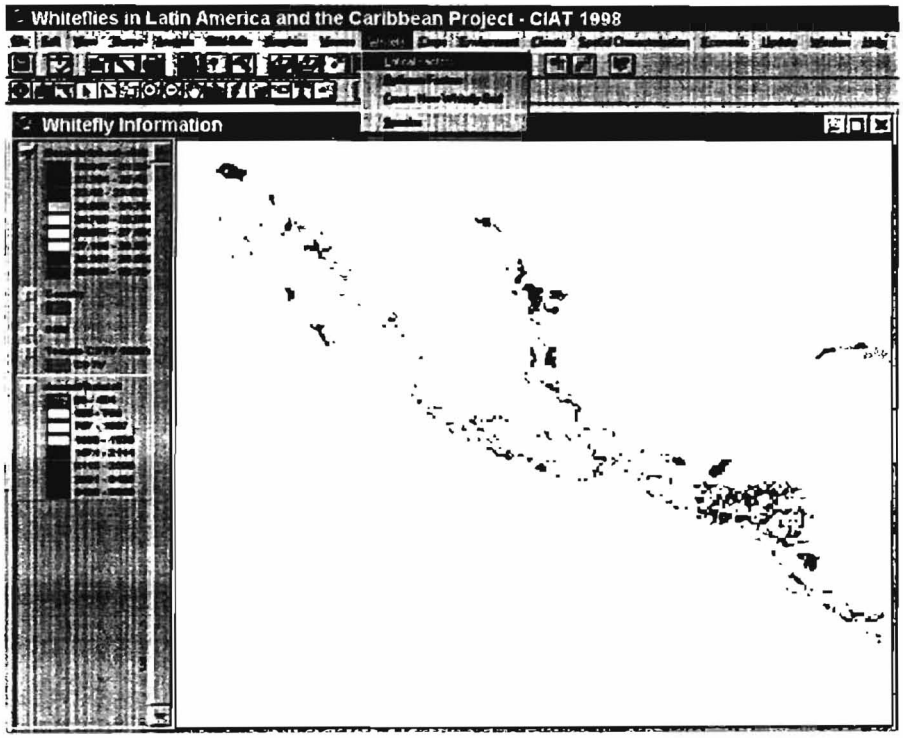
Select the tab delimited file that contains the administrative level information to be mapped.



WHITEFLY

Whitefly Information

a) Critical Factors
b) Optimum Factors
c) Create New Whitefly Grid
d) Species (not available at this time)



a) + b) Critical Factors and Optimum Factors

The critical and optimum factor information for the existance of whiteflies was based on information provided within CIAT (F Morales, P Anderson).

Description	Geog Locn	Cover name	Feature	Projection	Source	Scale
Bemisia tabaci optimum factors (elev: 0-1250, Temp: 20-30)[2]	LAC	Btopt	grid	DD(wgs84)	Climate: P Jones (CIAT) Factors: F Morales, P Anderson	.167
Bemisia tabaci critical factors (elev: 0-1250,Temp: 15-32)[1]	LAC	Btcrit	grid	DD(wgs84)	Climate: P Jones (CIAT) Factors: F Morales, P Anderson	.167

[2] Mean temperature was calculated as follows: $(\Sigma tmin_i + \Sigma tmax_i) / 2$
Where tmin is the mean annual minimum temperature and tmax is the mean annual maximum temperature and $i_1 \ldots i_{12}$ represent the month (Jan to Dec)

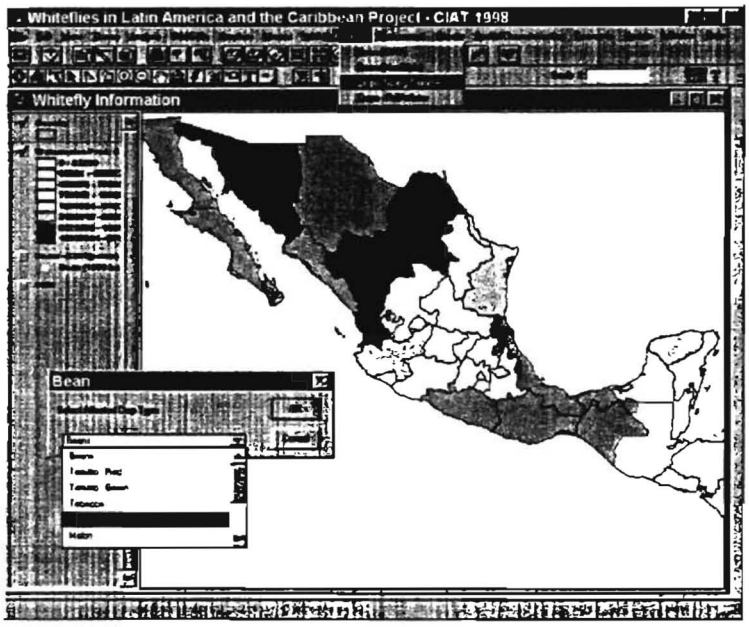
c) Create New Whitefly Grid

This enables the user to create a new grid based upon elevation and temperature ranges.

• CROP

Crop Information

This includes the location of specific crops at administrative level 2, as points and by season at administrative level 2.



The crop information, at the present time is quite limited due to its availability. The information available includes:

- beans (points, where 1 dot = 1000 ha)
- bean production by municipio
- crops for Mexico, by season
- Guatemala (location of growing areas with specific crops)
- El Salvador (cotton)

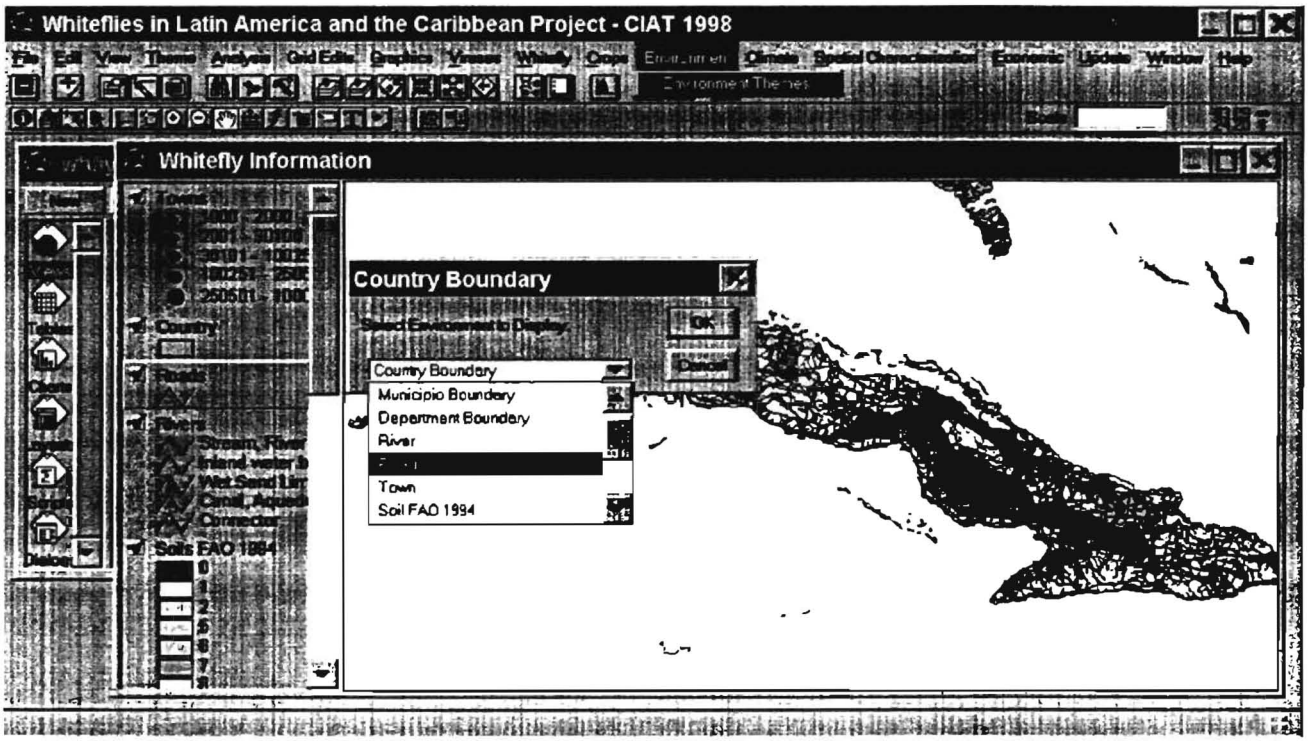
Mexico is the most complete at the present time.

For additional information regarding the crop information, please refer to Appendix 1 (data source information)

• ENVIRONMENT

Environmental Information

The environmental information contains the base information for the study area.



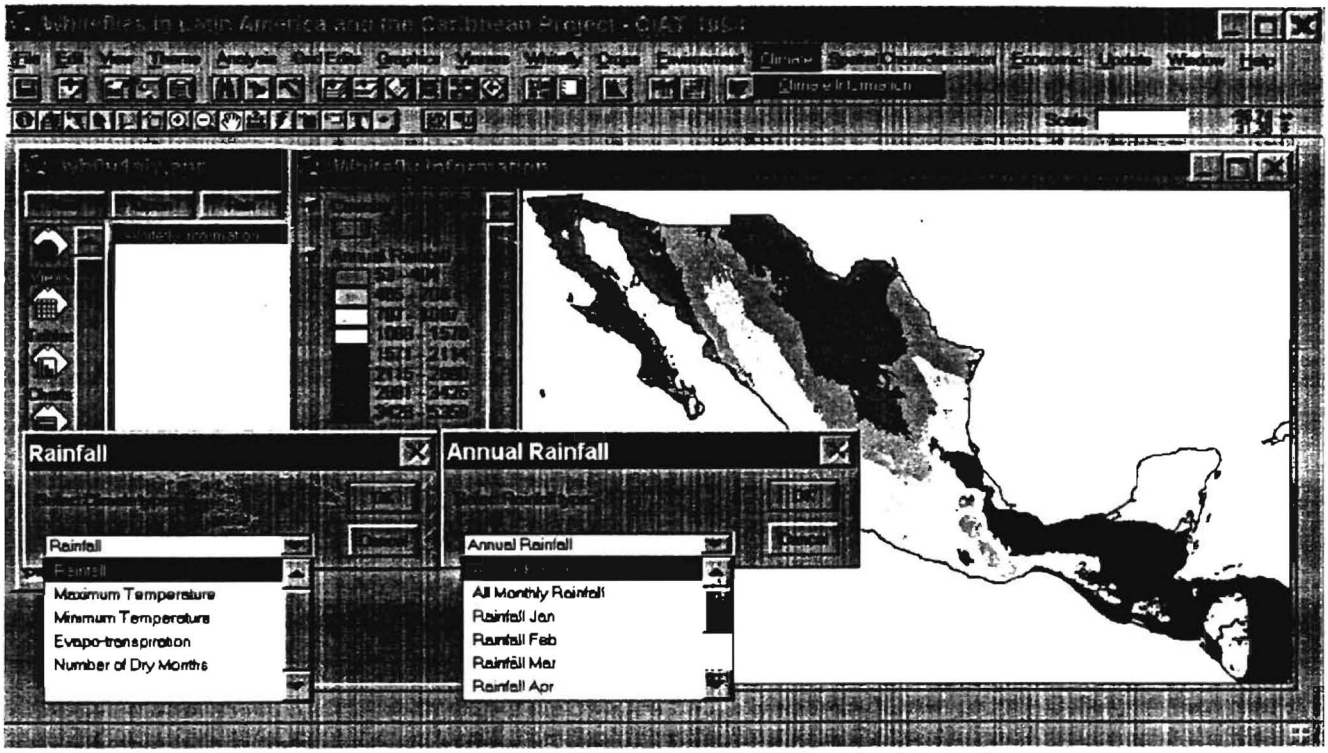
All of the environmental information included in the project was obtained from the GIS and Landuse department at CIAT. The information includes:

- Country, administrative level 2, level 3 and level 4 boundaries
- Roads, Rivers, Soils
- Towns, Population
- Landuse
- Slope, Aspect, Digital Elevation Model(DEM)

- **CLIMATE**

Climate Information

The user can display various climate surfaces. These include the annual climate surfaces as well as the monthly mean surfaces. First the user will be prompted for the climate type and then the surface to be displayed.



The climate information includes: rainfall, minimum temperature, maximum temperature, evapotranspiration and the number of dry months.

Two sources of climate information have been included. One includes the Caribbean and the second only covers Central America. The climate information provided are from two different data sources and are at two different scales. For more information on the climate surfaces refer to appendix 1

• SPATIAL CHARACTERIZATION

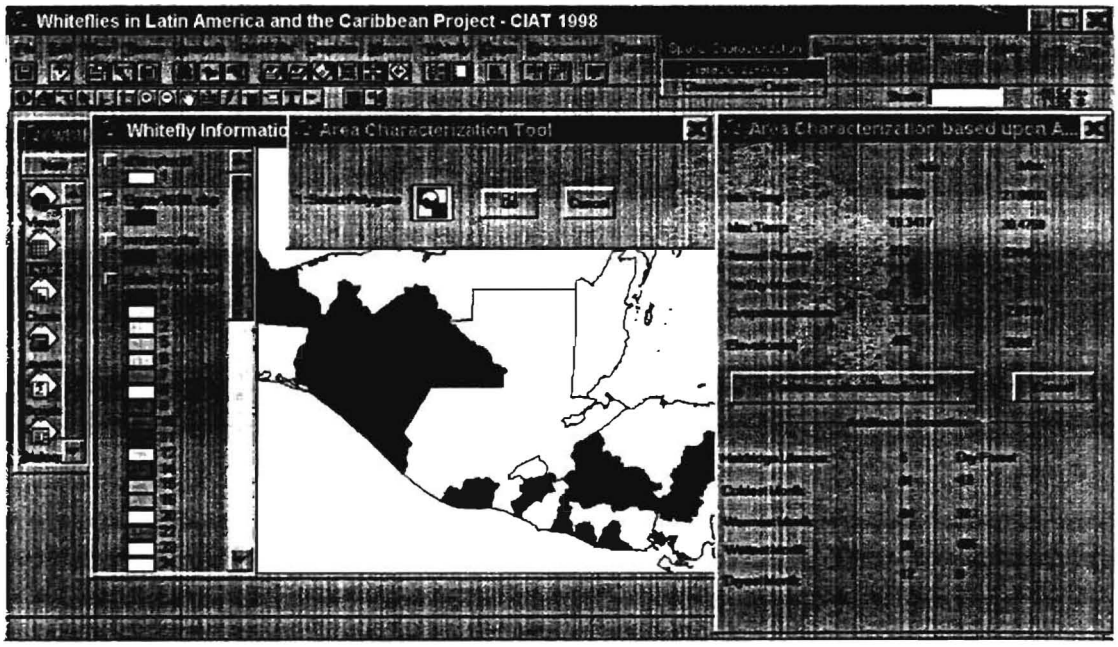
Spatial Characterization Information

a) Characterize – Area
b) Characterize – Cursor

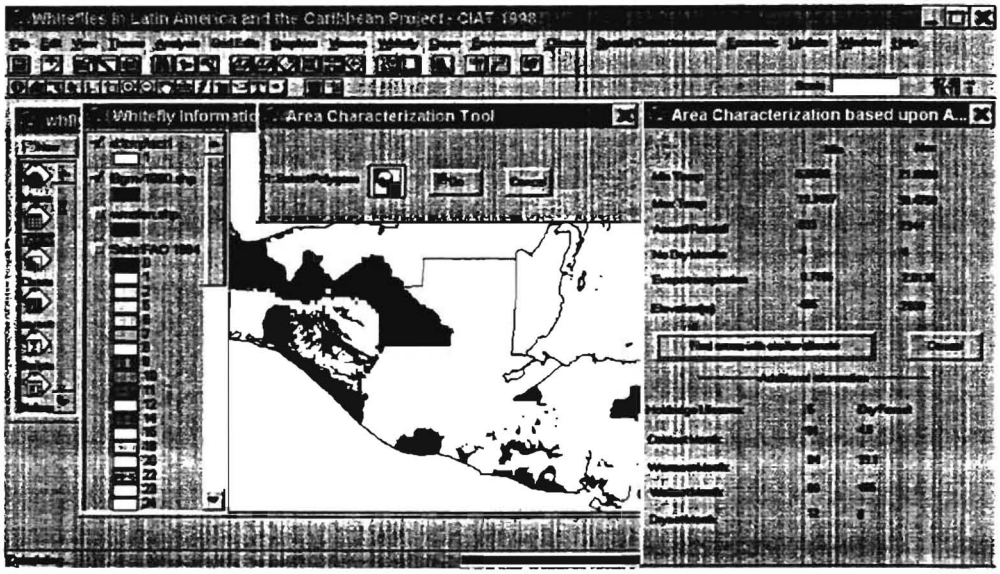
The user is able to characterize the area within a polygon or under a point. Once this is accomplished the user can locate other areas with similar climate.

a) Characterize – Area

Select a polygon(highlighted in yellow) and then press go. The coverage to be characterised must be active. Once a polygon is selected, press **GO,** and the climate characteristics will be summarized as illustrated below.

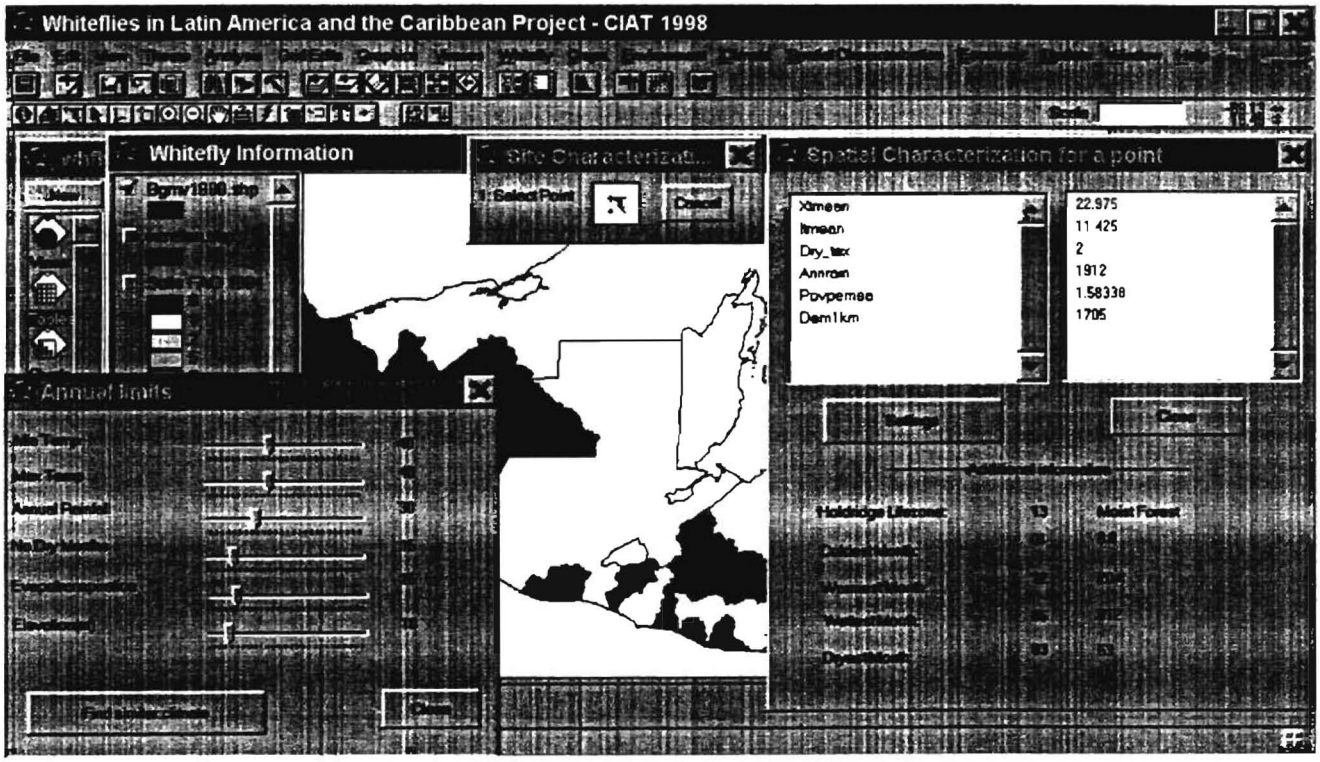


Once the polygon has been characterised the user can find other areas with the same climate characteristics, as illustrated below (in yellow).



b) Characterize – Cursor

The user can obtain climate information for a point. This is summerized in the menu illustrated. Additionally, the user can locate other sites with similar climate within a percent range.

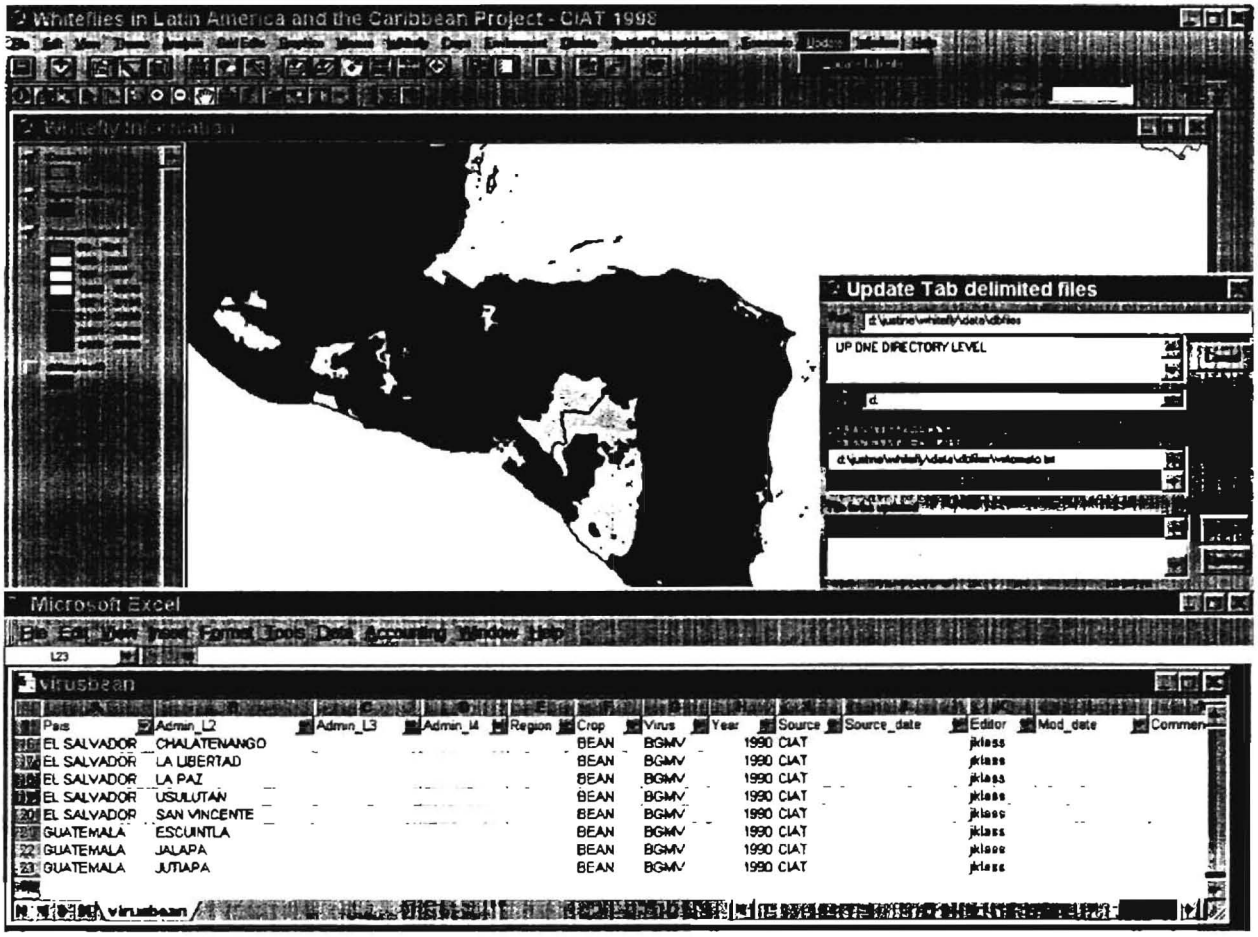


- **UPDATE**

Update Tab Dlimited Text File Information

The user can update a tab delimited text file in Excel and create a new coverage based upon the updated information. This can only be done for information at the following administrative boundary levels: country, administrative level 2 and administrative level 3.

NOTE: When adding country or administrative level 2 information ensure it is in capital letters or else the link will not be made between the coverage and the file.



- **Known Problems**

During development the network extension was included and when this is switched off problems occur, therefore it is necessary to include the network extension.

- **Requirements**

Version of ArcView:	ArcView 3.0a Due to the links with Microsoft office, this project can only work on an environment that has access to microsoft office.
Extensions Required:	Spatial Analysis Network Analysis Database Themes Dialog Designer

- **Appendix**

This includes the data source information.

Environmental Data:

Dem (elevation)	LAC	Dem1km	grid	DD(wgs84)	UNEP/GRID	1km
Hillshade (from dem1km)	LAC	Hillshade	grid	DD(wgs84)	UNEP/GRID	1km
Rivers	LAC	rios	line	DD(wgs84)	DCW	1:1000000
Roads	LAC	roads	line	DD(wgs84)	DCW	1:1000000
Towns with popn	LAC	Town_all	point	DD(wgs84)	DCW	1:1000000
Municipio Boundary	LAC	Lacmun_r	poly	DD(wgs84)	DCW / CIAT	1:1000000
Access	LAC	Access_g	grid	DD(wgs84)	CIAT	0.019
Lancover (USGS)	LAC	Lacusgs	grid	DD(wgs84)	USGS	0.016
Landcover (IGBP)	LAC	lacigbp	grid	DD(wgs84)	USGS	0.016
Cultivated Areas (USGS)	LAC	Usgscrop	grid	DD(wgs84)	USGS	0.016
Cultivated Areas (IGBP)	LAC	Igbpcrop	grid	DD(wgs84)	USGS	0.016
Slope	LAC	Slope	grid	DD(wgs84)	USGS	0.016
Aspect	LAC	Aspect	grid	DD(wgs84)	USGS	0.016

Virus Data:

Bean Viruses	LAC,S America	BGMV94	poly	DD(wgs84)	P Anderson and F Morales (CIAT)	Muncipio + pais
Tomato Viruses	LAC, S + N America	lacsaall	poly	DD(wgs84)	P Anderson and F Morales (CIAT)	Municipio + pais
BGMV	Cen Am	BGMV94_g	grid	DD(wgs84)	Bean Golden Mosaic, Research Advances 1994, CIAT	Regions
Chinese Vegetables	LAC	virchveg.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais
Algodon (cotton)	LAC	vircotton.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais
Eggplant	LAC	vireggplant.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais
Beans	LAC	virfrijol.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais
Hot Peppers	LAC	virhpepper.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais
Melon	LAC	virmelon.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais
Sweet Peppers	LAC	virspepper.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais
Squash	LAC	virsquash.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais
Tobacco	LAC	virtobacco.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais

Cover Name:	**access_g: Accesibility**		
Source:	CIAT	**Source Date:**	1998
		Comments:	
Cell Size	0.019		
Data Type:	Integer		
Number of Rows	4823	**Number of Values**	12
Number of Columns	6524	**Attribute Data (bytes)**	12
BOUNDARY STATISTICS			
Xmin	-133.715	**Minimum Value**	0.000
Xmax	-11.512	**Maximum Value**	11.000
Ymin	-55.269	**Mean**	5.423
Ymax	35.072	**Standard Deviation**	2.299
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters:			

ACCESS_G.VAT							
COLUMN	**ITEM NAME**	**WIDTH**	**OUT PUT**	**TYPE**	**N.DEC ALTERNATE NAME**	**INDEXED?**	**Description**
1	VALUE	4	10	B	-	Indexed	
5	COUNT	4	10	B	-	-	
9	INVERTED	4	10	B	-	-	Travel values in hours

Cover Name:	**Admlacsa: boundaries by country, admin_l2, admin_l3 and admin_l4**		
Source:	CIAT fitted to DCW boundary	**Source Date:**	1998
		Comments:	
Feature Class	Spatial Subclass	**Features**	Topology?
ARCS			
POLYGONS	17308	**406**	Yes
NODES			
Polygon Labels	17307		
Fuzzy	0.000	**Dangle**	0.000
BOUNDARY STATISTICS			
Xmin	-117.300	**Precision**	Double
Xmax	-55.759		
Ymin	-34.787		
Ymax	32.717		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters:			

ADMLACSA.PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N.DEC ALTERNATE NAME	INDEXED?	Description
1	AREA	8	18	F	5	-	
9	PERIMETER	8	18	F	5	-	
17	ADMLACSA#	4	5	B	-	-	
21	ADMLACSA-ID	4	5	B	-	-	
25	FEATURE	25	25	C	-	-	
50	FEATURE-ID	10	10	I	-	-	
60	FEATURE_TYP	13	13	C	-	-	

Tomato	LAC	virtomato.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais
Beans	LAC	virusbean.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais
Watermelon	LAC	virwatermelon.txt	Txt file (tab delimited)		CIAT 1998	Municipio, regions, pais

Critical Parameters Data:

Bemisia tabaci optimum factors (elev: 0-1250, Temp: 20-30)[1]	LAC	Btopt	grid	DD(wgs84)	Pjones (CIAT) Climate	.167
Bemisia tabaci critical factors (elev: 0-1250,Temp: 15-32)[1]	LAC	Btcrit	grid	DD(wgs84)	Pjones (CIAT) Climate	.167
Bemisia tabaci elevation (0-1250 m)	LAC	Bemt_elev	grid	DD(wgs84)	USGS	.0083333 (1km)
No of Dry months (< 60 mm of rainfall)	LAC	Dry_tex	grid	DD(wgs84)	CIAT	.167

Crop Data:

Bean points	LAC + Colombia	Bea_ciat	point	DD(wgs84)	CIAT	
Beans poly	LAC	Bea_mun	poly	DD(wgs84)	CIAT	Municipio
Algodon (cotton)	Mexico	prodalgodon.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Brocoli	Mexico	prodbrocoli.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Calabaza (squash)	Mexico	prodcalab.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Calabacita	Mexico	prodcalabz.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Calabaza para semilla	Mexico	prodcalems.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Chile verde (green chiles)	Mexico	Prodchilev.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Chile seco (dry chiles)	Mexico	Prodchiles.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Frijol (beans)	Mexico	prodfrijol.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Melon (melon)	Mexico	prodmelon.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Pepino (cucumber)	Mexico	prodpepino.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Sandia (watermelon)	Mexico	prodsandia.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Soya (soya)	Mexico	prodsoya.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Tabaco (tobacco)	Mexico	prodtobaco.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Tomate rojo (red tomato)	Mexico	prodtom-r.txt	Txt file (tab delimited)		INEGI, 1991	Municipio
Tomate verde (green tomato)	Mexico	prodtom-v.txt	Txt file (tab delimited)		INEGI, 1991	Municipio

	E						
73	PAIS	25	25	C	-		Country boundary
98	ADMIN_L2	25	25	C	-		Admin level 2 boundary
123	ADMIN_L3	25	25	C	-	-	Admin level 3 boundary
148	ADMIN_L4	25	25	C	-		Admin level 4 boundary
173	ISO	4	4	C	-	-	ISO code
177	ISO_N	4	4	I	-	-	ISO number
181	DEP	14	14	I	-	-	Admin_l2 code
195	MUN	14	14	I	-	-	Admin_l3 code
209	ISODEPMUN	16	16	I	-	-	ISO admin_l2 admin_l3 unique code
225	SOURCE	60	60	C	-	-	Data source
285	SOURCE_DATE	6	6	I	-	-	Data source date
291	EDITOR	20	20	C	-	-	Data editor
311	MOD_DATE	6	6	I	-	-	Modification date
317	COMMENTS	40	40	C	-	-	Comments
357	BIB_REF	50	50	C	-	-	Bibliographic Reference

Cover Name	**Aspect Aspect created from dem**		
Source	CIAT	**Source Date**	1998
		Comments	
Cell Size	0 010		
Data Type	Floating Point		
Number of Rows	4347		
Number of Columns	6912		
BOUNDARY STATISTICS			
Xmin	124 118	**Minimum Value**	-1 000
Xmax	54 998	**Maximum Value**	359 999
Ymin	3 468	**Mean**	48 259
Ymax	40 002	**Standard Deviation**	95 450
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	**Bea_ciat bean points**		
Source	CIAT	**Source Date**	1998
		Comments	One point = 1000 ha
Feature Class	**Features**	**Bytes**	**Topology?**
Points	2314	50	
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	111 683	**Precision**	Single
Xmax	-68 716		
Ymin	0 831		
Ymax	29 667		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	CLARKE1866
Datum		**Units**	DD
Parameters			

BEA_CIAT PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED?	Description
1	AREA	4	12	F	3	-	

5	PERIMETER	4	12	F	3		
9	BEA_CIAT#	4	5	B		-	
13	BEA_CIAT-ID	4	5	B	-		
17	BEANDD_COV#	4	5	B	-		
21	BEANDD_COV-ID	4	5	B	-	-	
25	PAIS_BND#	4	5	B	-	-	
29	PAIS_BND-ID	4	5	B	-	-	
33	PAIS	18	18	C	-		

Cover Name	**bea_muni bean production by municipality**		
Source	CIAT	**Source Date**	1997
		Comments	
Feature Class	**Spatial Subclass**	**Features**	**Topology?**
ARCS		28	
POLYGONS	4784	142	Yes
NODES			
Polygon Labels	4783		
Fuzzy	0 000	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-117 299	**Precision**	Single
Xmax	-77 174		
Ymin	7 198		
Ymax	32 717		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

BEA_MUNI_PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	Description
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	BEA_MUNI#	4	5	B		-	
13	BEA_MUNI-ID	4	5	B		-	
17	ATLAS_S	25	25	C	-		Admin_l2 name
42	ATLAS_P	25	25	C		-	Admin_l3 name
67	ATLAS_T	25	25	C			Admin_l4 name
92	PAIS	18	18	C	-		Country Name
110	FAO	4	4	C	-		
114	DEP	6	6	C	-		Department
120	HAFRIJOL	8	11	I	-	-	Beans produced (hectares)
128	TNFRIJOL	8	11	I	-	-	Beans produced (tonnes)
136	MUN	7	7	I	-	-	Municipio number

Cover Name	**BGMV94 Bean golden mosaic virus 1994**		
Source	Mosaico Dorado del Frijol Avances de Investigacion 1994 CIAT	**Source Date**	1994
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Polygons	29	70	Yes
ARCS			
NODES			
Polygon Labels	28		
Fuzzy	0 000	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	112 183	**Precision**	Double
Xmax	-70 585		
Ymin	9 902		
Ymax	27 041		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

BGMV94 PAT

COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED?	Description
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3		
9	BGMV94#	4	5	B	-		
13	BGMV94-ID	4	5	B	-	-	
17	COMMENTS	40	40	C	-	-	Comments
57	DATE	4	4	I	-	-	Date created
61	SOURCE	4	4	C	-	-	Source of information
65	CROPINFO	3	3	I	-	-	1 Affected Beans 2 Affected horticultural crops 3 Affected Beans and horticultural crops 4 Critically affected Beans 5 Critically affected horticultural crops 6 Critically affected Beans
68	BGMV-ID	3	3	I	-		

Cover Name	**bt_crit Bemisia tabaci locations based upon critical temperature range and elevation**		
Source	CIAT (factors by P Anderson and F Morales)	**Source Date**	1998
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	173		
Number of Columns	322		
BOUNDARY STATISTICS			
Xmin	-117 708	**Minimum Value**	20 047
Xmax	-64 041	**Maximum Value**	30 724
Ymin	4 317	**Mean**	24 799
Ymax	33 151	**Standard Deviation**	1 520
COORDINATE SYSTEM DESCRIPTION			

Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	**bt_opt Bemisia tabaci locations based upon optimum temperature range and elevation**		
Source	CIAT (factors by P Anderson and F Morales)	**Source Date**	1998
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	173		
Number of Columns	322		
BOUNDARY STATISTICS			
Xmin	-117 708	**Minimum Value**	22 260
Xmax	-64 041	**Maximum Value**	27 303
Ymin	4 317	**Mean**	25 281
Ymax	33 151	**Standard Deviation**	0 766
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	**Cen_bnd central america country boundary**		
Source	DCW 1 1000000	**Source Date**	1984
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
ARCS		28	
POLYGONS	1008	38	Yes
NODES			
Polygon Labels	1007		
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-92 242	**Precision**	Single
Xmax	-77 174		
Ymin	7 199		
Ymax	18 497		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

CEN_BND PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	Description
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	CEN_BND#	4	5	B	-	-	
13	CEN_BND-ID	4	5	B		-	
17	PAIS	18	18	C		-	
35	SYMBOL	3	3	I	-		

Cover Name	**Cen_lbl Central American Pais labels**		
Source	CIAT	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Points	12	34	
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-103 338	**Precision**	Single
Xmax	-66 870		
Ymin	-4 248		
Ymax	24 584		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

CEN_LBL.PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	Description
1	AREA	4	12	F	3		
5	PERIMETER	4	12	F	3		
9	CEN_LBL#	4	5	B	-		
13	CEN_LBL-ID	4	5	B	-		
17	PAIS	18	18	C			Country name

Cover Name	**dem1km Digital elevation model (meters)**		
Source	USGS http //edcwww cr usgs gov/landdaac/gtopo30/gtopo30 html	**Source Date**	1998
		Comments	
Cell Size	0 008		
Data Type	Integer		
Number of Rows	3461	**Number of Values**	4682
Number of Columns	6434	**Attribute Data (bytes)**	8
BOUNDARY STATISTICS			
Xmin	-117 708	**Minimum Value**	1 000
Xmax	-64 092	**Maximum Value**	5500 000
Ymin	4 317	**Mean**	679 627
Ymax	33 158	**Standard Deviation**	760 626
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters		**Zunits**	METERS

Cover Name	**Hillshade Shaded relief**		
Source	CIAT Created in Arc/Info v7 1 1 using dem1km	**Source Date**	1998
		Comments	
Cell Size	0 010		
Data Type	Integer	**Number of Values**	203
Number of Rows	4169	**Attribute Data (bytes)**	8
Number of Columns	6630		
BOUNDARY STATISTICS			
Xmin	-124 116	**Minimum Value**	0 000
Xmax	-54 992	**Maximum Value**	253 000

Ymin	-3 470	**Mean**	179 419
Ymax	39 996	**Standard Deviation**	8 737
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	**hold_g holdridge life zones**		
Source	CIAT Peter Jones	**Source Date**	1998
		Comments	
Cell Size	0 167		
Data Type	Integer	**Number of Values**	38
Number of Rows	540	**Attribute Data (bytes)**	8
Number of Columns	510		
BOUNDARY STATISTICS			
Xmin	-119 000	**Minimum Value**	0 000
Xmax	-34 000	**Maximum Value**	38 000
Ymin	56 000	**Mean**	2 991
Ymax	34 000	**Standard Deviation**	6 599
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	CLARKE1866
Datum		**Units**	DD
Parameters			

HOLD_G VAT

COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED?	Description
1	VALUE	4	10	B		Indexed	1 T-d Tropical Desert 2 T-ds Tropical Desert scrub 3 T-tw Tropical Thorn woodland 4 T-vdf Tropical Very dry forest 5 T-df Tropical Dry forest 6 T-mf Tropical Moist forest 7 T-wf Tropical Wet forest 8 T-rf Tropical Rain forest 9 S-d Premontane Desert 10 S-ds Premontane Desert scrub 11 S-tw Premontane Thorn woodland 12 S-df Premontane Dry forest 13 S-mf Premontane Moist forest 14 S-wf Premontane Wet forest 15 S-rf Premontane Rain forest 16 W-d Lower montane Desert 17 W-ds Lower montane Desert scrub 18 W-tw Lower montane Thorn woodland 19 W-df Lower montane Dry forest 20 W-mf Lower montane Moist forest 21 W-wf Lower montane Wet forest 22 W-rf Lower montane Rain forest 23 C-d Montane Desert 24 C-ds Montane Desert scrub 25 C-s Montane Steppe 26 C-mf Montane Moist forest 27 C-wf Montane Wet forest 28 C-rf Montane Rain forest 29 B-d Subalpine Desert

							30 B-ds Subalpine Desert scrub 31 B-mf Subalpine Moist forest 32 B-wf Subalpine Wet forest 33 B-rf Subalpine Rain forest 34 SP-dt Alpine Dry tundra 35 SP-mt Alpine Moist tundra 36 SP-wt Alpine Wet tundra 37 SP-rt Alpine Rain tundra 38 P Nival forms

Cover Name	**hspcc_g Hotspots for caribbean**		
Source	CIAT Data provided by F Morales	**Source Date**	1998
		Comments	
Cell Size	0 120		
Data Type	Integer	**Number of Values**	6
Number of Rows	128	**Attribute Data (bytes)**	8
Number of Columns	172		
BOUNDARY STATISTICS			
Xmin	-90 832	**Minimum Value**	0 000
Xmax	-70 192	**Maximum Value**	6 000
Ymin	7 725	**Mean**	2 468
Ymax	23 085	**Standard Deviation**	2 378
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

HSPCC_G VAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	Description
1	VALUE	4	10	B	-		0 Not affected 1 Affected Beans 2 Affected horticultural crops 3 Affected Beans and horticultural crops 4 Critically affected Beans 5 Critically affected horticultural crops 6 Critically affected Beans
5	COUNT	4	10	B			

Cover Name	**Hsp_car hotspot areas for Caribbean**		
Source	CIAT Data provided by F Morales	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Points	20	84	
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	120 002	**Precision**	Single
Xmax	-70 259		
Ymin	18 236		
Ymax	35 000		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD

Parameters							
HSP_CAR PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED?	Description
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	HSP_CAR#	4	5	B	-	-	
13	HSP_CAR-ID	4	5	B	-	-	
17	PPPTTYPE	2	2	I	-	-	1 Populated Place 2 populated place(within urbanized areas) 3 Places associated with a special symbol 4 kampong 5 Circular village
19	PPPTNAME	40	40	C	-		Name of place
59	PPPTFLAG	2	2	I	-	-	
61	DATE	4	4	I	-	-	Date of data
65	POP	8	8	I	-	-	Population
73	SOURCE	4	4	C	-		Source of information
77	POPEST	5	5	I	-	-	Population estimate
82	CROPINFO	3	3	I	-	-	1 Affected Beans 2 Affected horticultural crops 3 Affected Beans and horticultural crops 4 Critically affected Beans 5 Critically affected horticultural crops 6 Critically affected Beans

Cover Name	**Hsp_cen hotspot areas for Central America**		
Source	CIAT Data provided by F Morales	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Points	28	84	
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-120 002	**Precision**	Single
Xmax	-80 276		
Ymin	7 785		
Ymax	35 000		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

HSP_CEN PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED?	Description
1	AREA	4	12	F	3		
5	PERIMETER	4	12	F	3		
9	HSP_CEN#	4	5	B		-	
13	HSP_CEN-ID	4	5	B	-	-	
17	PPPTTYPE	2	2	I	-	-	1 Populated Place 2 populated place(within

							urbanized areas) 3 Places associated with a special symbol 4 kampong 5 Circular village
19	PPPTNAME	40	40	C	-	-	Name of place
59	PPPTFLAG	2	2	I	-	-	
61	DATE	4	4	I	-	-	Date of data
65	POP	8	8	I	-	-	Population
73	SOURCE	4	4	C	-	-	Source of information
77	POPEST	5	5	I	-	-	Population estimate
82	CROPINFO	3	3	I	-	-	1 Affected Beans 2 Affected horticultural crops 3 Affected Beans and horticultural crops 4 Critically affected Beans 5 Critically affected horticultural crops 6 Critically affected Beans

Cover Name	**Hspa_lbl hotspot labels**		
Source	CIAT	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Points	62	84	
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-120 002	**Precision**	Single
Xmax	-67 691		
Ymin	7 701		
Ymax	35 000		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

HSPA_LBL PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	Description
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	HSPA_LBL#	4	5	B	-	-	
13	HSPA_LBL-ID	4	5	B	-	-	
17	PPPTTYPE	2	2	I	-		1 Populated Place 2 populated place(within urbanized areas) 3 Places associated with a special symbol 4 kampong 5 Circular village
19	PPPTNAME	40	40	C	-	-	Name of place
59	PPPTFLAG	2	2	I	-	-	
61	DATE	4	4	I		-	Date of data
65	POP	8	8	I	-	-	Population
73	SOURCE	4	4	C	-	-	Source of information
77	POPEST	5	5	I	-	-	Population estimate
82	CROPINFO	3	3	I		-	1 Affected Beans

							2 Affected horticultural crops 3 Affected Beans and horticultural crops 4 Critically affected Beans 5 Critically affected horticultural crops 6 Critically affected Beans

Cover Name	**Hspa_pnt hotspot points**		
Source	CIAT Data provided by F Morales	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Points	48	84	
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-90 772	**Precision**	Single
Xmax	-70 259		
Ymin	7 785		
Ymax	23 051		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

HSPA_PNT PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	HSPA_PNT#	4	5	B	-	-	
13	HSPA_PNT-ID	4	5	B	-	-	
17	PPPTTYPE	2	2	I	-		1 Populated Place 2 populated place(within urbanized areas) 3 Places associated with a special symbol 4 kampong 5 Circular village
19	PPPTNAME	40	40	C		-	Name of place
59	PPPTFLAG	2	2	I		-	
61	DATE	4	4	I	-	-	Date of data
65	POP	8	8	I	-		Population
73	SOURCE	4	4	C	-		Source of information
77	POPEST	5	5	I	-	-	Population estimate
82	CROPINFO	3	3	I	-	-	1 Affected Beans 2 Affected horticultural crops 3 Affected Beans and horticultural crops 4 Critically affected Beans 5 Critically affected horticultural crops 6 Critically affected Beans

Cover Name	**Hspcalbl hotspot labels**		
Source	CIAT	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Points	20	84	
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-120 002	**Precision**	Single
Xmax	-67 691		
Ymin	18 182		
Ymax	35 000		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

HSPCALBL PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	HSPCALBL#	4	5	B	-		
13	HSPCALBL - ID	4	5	B	-	-	
17	PPPTTYPE	2	2	I	-		1 Populated Place 2 populated place(within urbanized areas) 3 Places associated with a special symbol 4 kampong 5 Circular village
19	PPPTNAME	40	40	C		-	Name of place
59	PPPTFLAG	2	2	I		-	
61	DATE	4	4	I	-	-	Date of data
65	POP	8	8	I	-	-	Population
73	SOURCE	4	4	C	-	-	Source of information
77	POPEST	5	5	I	-	-	Population estimate
82	CROPINFO	3	3	I	-	-	1 Affected Beans 2 Affected horticultural crops 3 Affected Beans and horticultural crops 4 Critically affected Beans 5 Critically affected horticultural crops 6 Critically affected Beans

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Cover Name	**Hspcelbl hotspot labels**		
Source	CIAT	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Points	28	84	
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-120 002	**Precision**	Single
Xmax	-80 087		

Ymin	7 701						
Ymax	35 000						
COORDINATE SYSTEM DESCRIPTION							
Projection	GEOGRAPHIC					**Spheroid**	WGS84
Datum	WGS84					**Units**	DD
Parameters							

HSPCELBL PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	HSPCELBLT#	4	5	B	-	-	
13	HSPCELBL-ID	4	5	B	-	-	
17	PPPTTYPE	2	2	I	-	-	1 Populated Place 2 populated place(within urbanized areas) 3 Places associated with a special symbol 4 kampong 5 Circular village
19	PPPTNAME	40	40	C	-	-	Name of place
59	PPPTFLAG	2	2	I	-		
61	DATE	4	4	I	-	-	Date of data
65	POP	8	8	I	-	-	Population
73	SOURCE	4	4	C	-		Source of information
77	POPEST	5	5	I	-		Population estimate
82	CROPINFO	3	3	I	-	-	1 Affected Beans 2 Affected horticultural crops 3 Affected Beans and horticultural crops 4 Critically affected Beans 5 Critically affected horticultural crops 6 Critically affected Beans

Cover Name	**Hspmelbl hotspot labels**						
Source	CIAT					**Source Date**	1998
						Comments	
Feature Class	**Features**					**Bytes**	**Topology?**
Points	14					68	
Fuzzy	0 002					**Dangle**	0 000
BOUNDARY STATISTICS							
Xmin	120 002					**Precision**	Single
Xmax	-88 648						
Ymin	16 500						
Ymax	35 000						
COORDINATE SYSTEM DESCRIPTION							
Projection	GEOGRAPHIC					**Spheroid**	WGS84
Datum	WGS84					**Units**	DD
Parameters							

HSPMELBL PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	

1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	HSPMELBL #	4	5	B	-	-	
13	HSPMELBL ID	4	5	B	-	-	
17	PPPTTYPE	2	2	I	-	-	1 Populated Place 2 populated place(within urbanized areas) 3 Places associated with a special symbol 4 kampong 5 Circular village
57	DATE	4	4	I	-		Name of place
61	SOURCE	4	4	C	-	-	Source of Data
65	CROPINFO	3	3	I	-	-	1 Affected Beans 2 Affected horticultural crops 3 Affected Beans and horticultural crops 4 Critically affected Beans 5 Critically affected horticultural crops 6 Critically affected Beans

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Cover Name	**Hspmepol Hotspots in Mexico**		
Source	CIAT Data provided by F Morales	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Polygons	15	68	Yes
ARCS			
NODES			
Polygon Labels	14		
Fuzzy	0 000	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	116 977	**Precision**	single
Xmax	-87 037		
Ymin	14 565		
Ymax	32 711		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

HSPMEPOL PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	
1	AREA	4	12	F	3		
5	PERIMETER	4	12	F	3	-	
9	HSPMEPOL#	4	5	B	-	-	
13	HSPMEPOL-ID	4	5	B	-	-	
17	PPPTNAME	40	40	C	-	-	Place name
57	DATE	4	4	I			Date created
61	SOURCE	4	4	C	-		Source of Information
65	CROPINFO	3	3	I	-	-	1 Affected Beans 2 Affected horticultural crops 3 Affected Beans and horticultural crops

							4 Critically affected Beans 5 Critically affected horticultural crops 6 Critically affected Beans

Cover Name		**Igbpcrop Cultivated landuse information from IGBP(Land Cover International Geosphere Biosphere Program)**					
Source		USGS http //edcwww cr usgs gov/landdaac/glcc/glcc_sa html				**Source Date**	1998
						Comments	
Cell Size		0 016					
Data Type		Integer					
Number of Rows		2309				**Number of Values**	1
Number of Columns		3617				**Attribute Data (bytes)**	8
BOUNDARY STATISTICS							
Xmin		-117 299				**Minimum Value**	12 000
Xmax		-59 427				**Maximum Value**	12 000
Ymin		-4 230				**Mean**	12 000
Ymax		32 714				**Standard Deviation**	0 000
COORDINATE SYSTEM DESCRIPTION							
Projection		GEOGRAPHIC				**Spheroid**	CLARKE1866
Datum						**Units**	DD
Parameters							
IGBPCROP VAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED?	Description
1	VALUE	4	10	B	-	Indexed	12 Croplands

Cover Name		**Igbplac from IGBP(Land Cover International Geosphere Biosphere Program) Central America**					
Source		USGS http //edcwww cr usgs gov/landdaac/glcc/glcc_sa html				**Source Date**	1998
						Comments	
Cell Size		0 016					
Data Type		Integer					
Number of Rows		1805				Number of Values	16
Number of Columns		3355				Attribute Data (bytes)	8
BOUNDARY STATISTICS							
Xmin		-117 713				Minimum Value	1 000
Xmax		-64 102				Maximum Value	17 000
Ymin		4 317				Mean	14 533
Ymax		33 160				Standard Deviation	4 825
COORDINATE SYSTEM DESCRIPTION							
Projection		GEOGRAPHIC				**Spheroid**	CLARKE1866
Datum						**Units**	DD
Parameters							
IGBPLAC VAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	Description

1	VALUE	4	10	B	-	Indexed	1 Evergreen Needleleaf Forest 2 Evergreen Broadleaf Forest 3 Deciduous Needleleaf Forest 4 Deciduous Broadleaf Forest 5 Mixed Forest 6 Closed Shrublands 7 Open shrublands 8 woody Savannas 9 Savannas 10 Grasslands 11 Permanent Wetlands 12 Croplands 13 Urban and Built-up 14 Cropland/Natural Vegetation Mosaic 15 Snow and Ice 16 Barren or Sparsely Vegetated 17 Waterbodies

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Cover Name	**Lacmun_r municipio regions**		
Source	Admin_l3 boundaries created in CIAT linked to DCW	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Polygons	3516	42	Yes
ARCS			
NODES			
REGIONS (MUN3)	388	42	Yes
Polygon Labels	3516		
Fuzzy	0 000	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-117 299	**Precision**	single
Xmax	-34 788		
Ymin	-55 761		
Ymax	32 717		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

LACMUN_R PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	
1	AREA	4	12	F	3		
5	PERIMETER	4	12	F	3	-	
9	LACMUN_R#	4	5	B		-	
13	LACMUN_R ID	4	5	B	-	-	
17	ADMIN_L2	25	25	C	-		Admin_l2 name

Cover Name	**Lacpais_r country regions**		
Source	country boundanes created in CIAT linked to DCW	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Polygons	3331	34	Yes
ARCS			
NODES			
REGIONS (PAIS3)	79	34	Yes
Polygon Labels	3331		
Fuzzy	0 000	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-117 299	**Precision**	single
Xmax	-34 788		
Ymin	-55 761		
Ymax	32 717		
COORDINATE SYSTEM DESCRIPTION			
Projection		**Spheroid**	
Datum		**Units**	
Parameters			

LACPAIS_R PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	LACPAIS_R#	4	5	B	-	-	
13	LACPAIS_R-ID	4	5	B	-	-	
17	PAIS	18	18	C	-	-	

Cover Name	**Lacsaall tomato virus information**		
Source	CIAT Tomato virus data provided by P Anderson	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Polygons	14179	224	Yes
ARCS			
NODES			
Polygon Labels	14178		
Fuzzy	0 000	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-117 299	**Precision**	single
Xmax	-34 788		
Ymin	-55 761		
Ymax	32 717		
COORDINATE SYSTEM DESCRIPTION			
Projection		**Spheroid**	
Datum		**Units**	
Parameters			

LACSAALL PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	LACSAALL#	4	5	B	-		
13	LACSAALL-ID	4	5	B	-		
17	PAIS	18	18	C	-	-	Country Name
35	ADMIN_L2	25	25	C	-	-	ADMIN_L2 name
60	ADMIN_L3	25	25	C		-	ADMIN_L3 name
85	ADMIN_L4	25	25	C		-	ADMIN_L4 name
110	BGMV	2	2	C	-	-	*Bean golden mosaic virus*
112	BGMVNUM	2	2	I	-	-	
114	CDTV	2	2	C	-	-	Chino del tomato virus
116	PHV	2	2	C	-	-	Pepper Huasteco Virus
118	TPV	2	2	C	-	-	Texas pepper Virus
120	SGMV	2	2	C	-	-	Serrano Golden mosaic virus
122	STLCV	2	2	C	-	-	Sinaloa tomato leaf curl virus
124	TOMOV	2	2	C		-	Tomato mottle virus
126	TTOMOV	2	2	C		-	Taino tomato mottle virus
128	TYLCV	2	2	C	-		Tomato yellow leaf curl virus
130	PYMV	2	2	C	-		Potato yellow mosaic virus
132	TYMV	2	2	C	-	-	Tomato yelllow mosaic virus
134	TOYMOV	8	8	C	-	-	Tomato yellow mottle virus
142	TOYVSV	8	8	C	-	-	Tomato yellow vein streak virus
150	CDTV70	2	2	C	-	-	Chino del tomato virus (1970)
152	TYMV70	2	2	C		-	Tomato yellow mosaic virus (1970)
154	TGMV70	2	2	C	-	-	Tomato golden mosaic virus(1970)
156	TOMGV1	2	2	C		-	Tomato GV1
158	TOMGV2	2	2	C	-	-	Tomato GV2
160	BZ-IG	2	2	C	-	-	Tomato geminivirus BZ-Ig
162	BZ-UB	2	2	C	-	-	Tomato geminivirus BZ-Ub
164	VIRUS	10	10	C	-	-	Virus type
174	VIRUSTYPE2	50	50	C	-	-	Virus information within the cell

Cover Name	**Pais_lbl country labels**		
Source	CIAT	**Source Date**	1998
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Points	12	34	
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-103 338	**Precision**	Single
Xmax	-66 870		
Ymin	-4 248		
Ymax	24 584		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

PAIS_LBL PAT

COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	
1	AREA	4	12	F	3		
5	PERIMETER	4	12	F	3	-	
9	PAIS_LBL#	4	5	B	-	-	
13	PAIS_LBL-ID	4	5	B	-	-	
17	PAIS	18	18	C	-	-	Country Name

Cover Name	**Rios Rivers**		
Source	DCW	**Source Date**	1984
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
ARCS		32	
NODES			
ANNOTATIONS		624	
Fuzzy	0 000	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-120 002	**Precision**	Single
Xmax	-60 607		
Ymin	7 238		
Ymax	35 000		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

RIOS AAT

COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	Description
1	FNODE#	4	5	B	-	-	
5	TNODE#	4	5	B	-	-	
9	LPOLY#	4	5	B	-	-	
13	RPOLY#	4	5	B	-	-	
17	LENGTH	4	12	F	3	-	
21	RIOS#	4	5	B		-	
25	RIOS-ID	4	5	B	-	-	
29	DNLNTYPE	2	2	I		-	1 Stream river channelized river

							2 Inland water body shoreline 3 Wet sand limit 4 Canal aqueduct flume penstock etc 5 Glacial limit 6 Snowfield glacier or ice limit 7 Ice free limit 8 Connector 9 Tile boundary or null arc 10 Underground 11 Above ground 88 Tile boundary 99 None
31	DNLNSTAT	2	2	I	-	-	1 Perennial 2 Nonperennial 3 Definite 4 Indefinite 5 Unsurveyed perennial 6 Unsurveyed nonperennial 7 Abandoned 8 Under construction 9 Suspended or elevated 10 Underground 11 Above ground 88 Tile boundary 99 None

Cover Name		**Roads roads**					
Source		DCW				**Source Date**	1984
						Comments	
Feature Class		**Features**				**Bytes**	**Topology?**
ARCS						40	Yes
NODES							
ANNOTATIONS						87	
Fuzzy		0 000				**Dangle**	0 000
BOUNDARY STATISTICS							
Xmin		-120 002				**Precision**	Single
Xmax		-59 432					
Ymin		7 338					
Ymax		35 000					
COORDINATE SYSTEM DESCRIPTION							
Projection		GEOGRAPHIC				**Spheroid**	WGS84
Datum		WGS84				**Units**	DD
Parameters							
ROADS AAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED?	
1	FNODE#	4	5	B	-	-	
5	TNODE#	4	5	B	-	-	
9	LPOLY#	4	5	B	-	-	
13	RPOLY#	4	5	B	-	-	
17	LENGTH	4	12	F	3	-	
21	ROADS#	4	5	B	-	-	
25	ROADS-ID	4	5	B	-	-	
29	RDLNTYPE	2	2	I	-	-	1 Dual lane (divided) highway 2 Primary and secondary road

							3 Track, trail or footpath 8 Connector within urbanized area
31	RDLNSTAT	2	2	I		-	1 Functioning 2 Under construction 3 Existence doubtful 4 Compiled road connector 5 Compiled from adjacent sheet 6 Compiled under construction 9 Schematic road (urbanized areas only)
33	TIME	7	7	I	-	-	Travel time in hours

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Cover Name	**Soil_94**		
Source	FAO UNEP/ISSS/ISRIC/FAO 1993 Global and national soils and terrain database (SOTER) Procedures manual World Soil Resources Report 74	**Source Date**	1994
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Polygons	2100	90	Yes
ARCS			
NODES			
ANNOTATIONS			
Polygon Labels	2100		
Fuzzy	0 036	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-117 114	**Precision**	double
Xmax	-59 426		
Ymin	7 199		
Ymax	32 717		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

SOIL_94 PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	
1	AREA	8	18	F	5		
9	PERIMETER	8	18	F	5		
17	SOIL_94#	4	5	B	-	-	
21	SOIL_94-ID	4	5	B	-	-	
25	SNUM	4	4	I	-	-	is a sequential code unique for each soil Mapping Unit which links the first level of soil information to the World expansion data file (WORLDEXP DAT) This number ranges from 1 to 6999 some numbers in the sequence have not been used (Columns 17-20)
29	FAOSOIL	17	18	C	-		is the Soil Unit map symbol or independent miscellaneous land unit symbol defines either (Columns 21-37) Soil Mapping Unit the

							structure of this starting with the main soil is explained in Table 4 (list of soils in Annex I) or Independent miscellaneous land units D/SS = Dunes or Shifting Sand SALT = Salt flats ROCK = Rock debris or desert detritus or Soil-covering natural features GL = Glaciers or WAT = Inland water (lakes or double lined rivers)
46	PHASE1	2	3	C	-	-	comprise codes defining the phases by type first and second phase of the mapping unit if present(Columns 38-39 and 40-41) -- = No phase or no second phase 01 = Stony 02 = Lithic 03 = Petric 04 = Petrocalcic 05 = Petrogypsic 06 = Petroferric 07 = Phreatic 08 = Fragipan 09 = Duripan 10 = Saline 11 = Sodic 12 = Cerrado
48	PHASE2	2	3	C	-	-	comprise codes defining the phases by type first and second phase of the mapping unit if present(Columns 38 39 and 40-41) -- = No phase or no second phase 01 = Stony 02 = Lithic 03 = Petric 04 = Petrocalcic 05 = Petrogypsic 06 = Petroferric 07 = Phreatic 08 = Fragipan 09 = Duripan 10 = Saline 11 = Sodic 12 = Cerrado
50	MISCLU1	1	1	I	-	-	comprise the codes defining the dependent miscellaneous land units by type first and second miscellaneous land unit type (Columns 42 and 43) -- = no miscellaneous land unit or no second miscellaneous land unit

							1 = Dunes or shifting sands (2 = Not used) 3 = Salt flats 4 = Rock debris or desert detritus
51	MISCLU2	1	1	I	-		comprise the codes defining the dependent miscellaneous land units by type first and second miscellaneous land unit type (Columns 42 and 43) – = no miscellaneous land unit or no second miscellaneous land unit 1 = Dunes or shifting sands (2 = Not used) 3 = Salt flats 4 = Rock debris or desert detritus
52	PERMAFROST	1	1	I	-	-	- = Not a permafrost area 1 = Permafrost 2 = Discontinuous permafrost
53	CNTCODE	3	3	I	-		is a unique number for each country or area
56	CNTNAME	3	3	C	-	-	is a two letter code unique for each country or area
59	COUNTRY_NAME	30	30	C	-	-	is the Country or area name
89	SOILCODE	2	2	I	-	-	Soil code
**	REDEFINED ITEMS	**					
25	SOIL-INFO	64	67	C	-	-	is a redefined item that comprises all items starting from column 17
29	SOIL-ASSOCIATION	24	27	C	-	-	is a redefined item that includes all soil information with items starting from column 21 to 43

Cover Name	**Soilcen soils for central america**		
Source	FAO UNEP/ISSS/ISRIC/FAO 1993 Global and national soils and terrain database (SOTER) Procedures manual World Soil Resources Report 74	**Source Date**	1994
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Polygons	1181	64	Yes
ARCS			
NODES			
ANNOTATIONS			
Polygon Labels	1180		
Fuzzy	0 000	**Dangle**	0 001
BOUNDARY STATISTICS			
Xmin	-117 114	**Precision**	single
Xmax	-59 384		
Ymin	7 189		
Ymax	32 718		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

SOILCEN PAT							
COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N DEC ALTERNATE NAME	INDEXED?	
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	SOILCEN#	4	5	B	-	-	
13	SOILCEN-ID	4	5	B	-		
17	SNUM	4	4	I	-	-	
21	FAOSOIL	17	18	C	#NAME?	-	
38	PHASE1	2	3	C	-		
40	PHASE2	2	3	C	-	-	
42	MISCLU1	1	1	I	-	-	
43	MISCLU2	1	1	I	-	-	
44	PERMAFROST	1	1	I	-	-	
45	CNTCODE	3	3	I	#NAME?	-	
48	CNTNAME	3	3	C	-	-	
51	COUNTRY_NAME	14	30	C	- C	-	
**	REDEFINED ITEMS	**					
17	SOIL-INFO	54	57	C	-	-	
21	SOIL-ASSOCIATION	24	27	C	-	-	

Cover Name	**Slope Slope created in Arc/INFO**		
Source	CIAT Arc/INFO v7 1 1 using dem1km(USGS)	**Source Date**	1998
		Comments	
Cell Size	0 080		
Data Type	Floating Point		
Number of Rows	543	**Number of Values**	
Number of Columns	864	**Attribute Data (bytes)**	
BOUNDARY STATISTICS			
Xmin	-124 118	**Minimum Value**	0 000
Xmax	-54 996	**Maximum Value**	80 104
Ymin	-3 468	**Mean**	4 015
Ymax	39 973	**Standard Deviation**	9 523
COORDINATE SYSTEM DESCRIPTION			
	Projection	**GEOGRAPHIC**	Spheroid
WGS84	Datum	**WGS84**	Units
DD	Parameters		

Cover Name	**Town_all Towns**		
Source	DCW	**Source Date**	1984
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Points	379	82	Yes
Annotations		3223	
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	120 002	**Precision**	Single
Xmax	-60 894		
Ymin	7 981		
Ymax	35 000		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84

Datum	WGS84	**Units**	DD
Parameters			

TOWN_ALL PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	Description
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	TOWN_ALL #	4	5	B	-	-	
13	TOWN_ALL-ID	4	5	B	-	-	
17	PPPTTYPE	2	2	I	-	-	1 Populated Place 2 populated place(within urbanized areas) 3 Places associated with a special symbol 4 kampong 5 Circular village
19	PPPTNAME	40	40	C	-	-	Name of place
59	PPPTFLAG	2	2	I	-	-	
61	DATE	4	4	I	-	-	Date of data
65	POP	8	8	I	-	-	Population
73	SOURCE	4	4	C	-	-	Source of information
77	POPEST	5	5	I	-	-	Population estimate

Cover Name	**Town_min Towns**		
Source	DCW	**Source Date**	1984
		Comments	
Feature Class	**Features**	**Bytes**	**Topology?**
Points	3107	82	Yes
Fuzzy	0 002	**Dangle**	0 000
BOUNDARY STATISTICS			
Xmin	-117 048	**Precision**	Single
Xmax	-59 527		
Ymin	7 406		
Ymax	32 628		
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	CLARKE1866
Datum	NAD27	**Units**	DD
Parameters			

TOWN_MIN PAT							
COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	Description
1	AREA	4	12	F	3	-	
5	PERIMETER	4	12	F	3	-	
9	TOWN_MIN #	4	5	B	-		
13	TOWN_MIN-ID	4	5	B	-	-	
17	PPPTTYPE	2	2	I	-	-	1 Populated Place 2 populated place(within urbanized areas)

							3 Places associated with a special symbol 4 kampong 5 Circular village
19	PPPTNAME	40	40	C	-		Name of place
59	PPPTFLAG	2	2	I	-	-	
61	DATE	4	4	I		-	Date of data
65	POP	8	8	I	-	-	Population
73	SOURCE	4	4	C	-	-	Source of information
77	POPEST	5	5	I	-	-	Population estimate

D

Cover Name	**Usgscrop USGS cultivated areas**		
Source	USGS http //edcwww cr usgs gov/landdaac/	**Source Date**	1998
		Comments	
Cell Size	0 01b		
Data Type	Integer		
Number of Rows	2309	**Number of Values**	4
Number of Columns	3617	**Attribute Data (bytes)**	8
BOUNDARY STATISTICS			
Xmin	-117 299	**Minimum Value**	2 000
Xmax	-59 427	**Maximum Value**	6 000
Ymin	-4 230	**Mean**	3 031
Ymax	32 714	**Standard Deviation**	1 548
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	CLARKE1866
Datum	NONE	**Units**	DD
Parameters			

USGSCROP VAT

COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED?	Description
1	VALUE	4	10	B	-	Indexed	2 Dryland Cropland and Pasture 3 Irrigated Cropland and Pasture 4 Mixed Dryland/Irrigated Cropland and Pasture 5 Cropland/Grassland Mosaic 6 Cropland/Woodland Mosaic

D

Cover Name	**Usgslac USGS land use/land cover system**		
Source	USGS http //edcwww cr usgs gov/landdaac/	**Source Date**	1998
		Comments	
Cell Size	0 016		

Data Type	Integer		
Number of Rows	1805	**Number of Values**	22
Number of Columns	3355	**Attribute Data (bytes)**	8
BOUNDARY STATISTICS			
Xmin	-117 713	**Minimum Value**	1 000
Xmax	-64 102	**Maximum Value**	27 000
Ymin	4 317	**Mean**	15 825
Ymax	33 160	**Standard Deviation**	4 451
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	CLARKE1866
Datum	NONE	**Units**	DD
Parameters			

USGSLAC VAT

COLUMN	ITEM NAME	WIDTH	OUT PUT	TYPE	N DEC ALTERNATE NAME	INDEXED ?	Description
1	VALUE	4	10	B	-	Indexed	1 100 Urban or built-up Land 2 211 Dryland Cropland and Pasture 3 212 Irrigated Cropland and Pasture 4 213 Mixed Dryland/Irrigated Cropland and Pasture 5 280 Cropland/Grassland Mosaic 6 290 Cropland/Woodland Mosaic 7 311 Grassland 8 321 Shrubland 9 330 Mixed shrubland/Grassland 10 321 Shaparral 11 332 Savanna 12 411 Broadleaf Deciduous Forest 13 422 Evergreen Needleleaf Forest 14 423 subalpine Forest 15 430 Mixed Forest 16 412 Deciduous Needleleaf Forest 17 421 Evergreen Broadleaf Forest 18 500 Water Bodies 19 620 Herbaceous Wetland 20 610 Forested Wetland 21 770 Barren or Sparsely Vegetated 22 810 Wooded Tundra 23 820 Herbaceous Tundra 24 830 Bare Ground Tundra 25 840 WetTundra 26 850 Mixed Tundra 27 911 Perennial snow or ice

Climate Data

Cover Name	**Evap01 Evaporation Jan**		
Source	CIAT (Peter Jones)	**Source Date**	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	**Number of Values**	279
Number of Columns	545	**Attribute Data (bytes)**	8
BOUNDARY STATISTICS			
Xmin	-124 757	**Minimum Value**	-4 000
Xmax	-33 922	**Maximum Value**	328 000
Ymin	-55 998	**Mean**	183 313
Ymax	49 337	**Standard Deviation**	46 489
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	**Evap010 Evaporation Oct**		
Source	CIAT (Peter Jones)	**Source Date**	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	**Number of Values**	304
Number of Columns	545	**Attribute Data (bytes)**	8
BOUNDARY STATISTICS			
Xmin	-124 757	**Minimum Value**	-6 000
Xmax	-33 922	**Maximum Value**	374 000
Ymin	-55 998	**Mean**	181 776
Ymax	49 337	**Standard Deviation**	47 923
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	**Evap011 Evaporation Nov**		
Source	CIAT (Peter Jones)	**Source Date**	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	**Number of Values**	268
Number of Columns	545	**Attribute Data (bytes)**	8
BOUNDARY STATISTICS			
Xmin	-124 757	**Minimum Value**	-4 000
Xmax	-33 922	**Maximum Value**	343 000
Ymin	-55 998	**Mean**	177 001
Ymax	49 337	**Standard Deviation**	40 749
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	Evap012 Evaporation Dec		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	Number of Values	270
Number of Columns	545	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-4 000
Xmax	-33 922	Maximum Value	315 000
Ymin	-55 998	Mean	182 914
Ymax	49 337	Standard Deviation	44 203
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Evap02 Evaporation Feb		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	Number of Values	230
Number of Columns	545	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-4 000
Xmax	-33 922	Maximum Value	295 000
Ymin	-55 998	Mean	164 719
Ymax	49 337	Standard Deviation	38 105
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Evap03 Evaporation Mar		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	Number of Values	286
Number of Columns	545	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-5 000
Xmax	-33 922	Maximum Value	385 000
Ymin	-55 998	Mean	178 004
Ymax	49 337	Standard Deviation	38 946
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Evap04 Evaporation Apr		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	Number of Values	321
Number of Columns	545	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-5 000
Xmax	-33 922	Maximum Value	384 000
Ymin	-55 998	Mean	165 426
Ymax	49 337	Standard Deviation	43 645
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Evap05 Evaporation May		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	Number of Values	403
Number of Columns	545	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-6 000
Xmax	-33 922	Maximum Value	436 000
Ymin	-55 998	Mean	162 881
Ymax	49 337	Standard Deviation	55 927
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Evap06 Evaporation Jun		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	Number of Values	435
Number of Columns	545	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-7 000
Xmax	-33 922	Maximum Value	491 000
Ymin	-55 998	Mean	151 056
Ymax	49 337	Standard Deviation	62 484
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Evap07 Evaporation Jul		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	Number of Values	393
Number of Columns	545	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	124 757	Minimum Value	-7 000
Xmax	-33 922	Maximum Value	408 000
Ymin	-55 998	Mean	157 457
Ymax	49 337	Standard Deviation	63 735
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Evap08 Evaporation Aug		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	Number of Values	373
Number of Columns	545	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-7 000
Xmax	-33 922	Maximum Value	387 000
Ymin	-55 998	Mean	170 693
Ymax	49 337	Standard Deviation	64 505
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Evap09 Evaporation Sep		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Integer		
Number of Rows	632	Number of Values	337
Number of Columns	545	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-7 000
Xmax	-33 922	Maximum Value	363 000
Ymin	55 998	Mean	172 892
Ymax	49 337	Standard Deviation	56 170
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it01 Min mean monthly temperature Jan		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-11 600
Xmax	-33 922	Maximum Value	26 600
Ymin	-55 998	Mean	16 158
Ymax	49 337	Standard Deviation	6 667
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it010 Min mean monthly temperature Oct		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-16 700
Xmax	-33 922	Maximum Value	28 900
Ymin	-55 998	Mean	15 218
Ymax	49 337	Standard Deviation	7 258
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it011 Min mean monthly temperature Nov		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-14 200
Xmax	-33 922	Maximum Value	26 700
Ymin	55 998	Mean	15 584
Ymax	49 337	Standard Deviation	6 945
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it012 Min mean monthly temperature Dec		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-12 700
Xmax	-33 922	Maximum Value	49 337
Ymin	-55 998	Mean	15 942
Ymax	49 337	Standard Deviation	6 787
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it02 Min mean monthly temperature Feb		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	124 757	Minimum Value	-11 600
Xmax	-33 922	Maximum Value	27 100
Ymin	-55 998	Mean	16 149
Ymax	49 337	Standard Deviation	6 596
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it03 Min mean monthly temperature Mar		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-13 800
Xmax	-33 922	Maximum Value	28 000
Ymin	-55 998	Mean	15 833
Ymax	49 337	Standard Deviation	6 749
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it04 Min mean monthly temperature Apr		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-16 500
Xmax	-33 922	Maximum Value	27 400
Ymin	-55 998	Mean	15 076
Ymax	49 337	Standard Deviation	7 279
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it05 Min mean monthly temperature May		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-18 700
Xmax	-33 922	Maximum Value	29 800
Ymin	55 998	Mean	14 026
Ymax	49 337	Standard Deviation	7 990
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it06 Min mean monthly temperature Jun		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-20 500
Xmax	-33 922	Maximum Value	31 200
Ymin	-55 998	Mean	13 015
Ymax	49 337	Standard Deviation	8 623
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	rt07 Min mean monthly temperature Jul		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-21 100
Xmax	-33 922	Maximum Value	31 800
Ymin	-55 998	Mean	12 505
Ymax	49 337	Standard Deviation	8 721
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	rt08 Min mean monthly temperature Aug		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-20 400
Xmax	-33 922	Maximum Value	31 300
Ymin	-55 998	Mean	13 081
Ymax	49 337	Standard Deviation	8 472
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	rt09 Min mean monthly temperature Sept		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-18 600
Xmax	-33 922	Maximum Value	31 500
Ymin	-55 998	Mean	14 343
Ymax	49 337	Standard Deviation	7 874
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Pre01 Mean monthly rainfall Jan		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 100
Xmax	-33 922	Maximum Value	73 200
Ymin	-55 998	Mean	14 910
Ymax	49 337	Standard Deviation	10 890
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Pre010 Mean monthly rainfall Oct		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 100
Xmax	-33 922	Maximum Value	78 500
Ymin	-55 998	Mean	11 237
Ymax	49 337	Standard Deviation	8 209
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Pre011 Mean monthly rainfall Nov		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 100
Xmax	-33 922	Maximum Value	86 300
Ymin	-55 998	Mean	12 023
Ymax	49 337	Standard Deviation	8 169
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Pre012 Mean monthly rainfall Dec		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 100
Xmax	-33 922	Maximum Value	78 800
Ymin	55 998	Mean	13 972
Ymax	49 337	Standard Deviation	9 846
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Pre02 Mean monthly rainfall Feb		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 100
Xmax	-33 922	Maximum Value	57 700
Ymin	-55 998	Mean	14 184
Ymax	49 337	Standard Deviation	10 710
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Pre03 Mean monthly rainfall Mar		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 100
Xmax	-33 922	Maximum Value	62 500
Ymin	-55 998	Mean	14 853
Ymax	49 337	Standard Deviation	11 249
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Pre04 Mean monthly rainfall Apr		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 100
Xmax	-33 922	Maximum Value	60 600
Ymin	-55 998	Mean	13 417
Ymax	49 337	Standard Deviation	11 118
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Pre05 Mean monthly rainfall May		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 000
Xmax	-33 922	Maximum Value	1204 000
Ymin	-55 998	Mean	115 505
Ymax	49 337	Standard Deviation	114 859
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	CLARKE1866
Datum	NAD27	Units	DD
Parameters			

Cover Name	Pre06 Mean monthly rainfall Jun		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 100
Xmax	-33 922	Maximum Value	84 700
Ymin	-55 998	Mean	11 067
Ymax	49 337	Standard Deviation	11 379
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Pre07 Mean monthly rainfall Jul		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 100
Xmax	-33 922	Maximum Value	91 400
Ymin	-55 998	Mean	9 618
Ymax	49 337	Standard Deviation	10 585
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Pre08 Mean monthly rainfall Aug		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 100
Xmax	-33 922	Maximum Value	78 100
Ymin	-55 998	Mean	8 508
Ymax	49 337	Standard Deviation	9 210
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Pre09 Mean monthly rainfall Sep		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 100
Xmax	-33 922	Maximum Value	81 300
Ymin	-55 998	Mean	9 268
Ymax	49 337	Standard Deviation	8 419
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	**xt01 Max mean monthly temperature Jan**		
Source	CIAT (Peter Jones)	**Source Date**	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	**Number of Values**	
Number of Columns	545	**Attribute Data (bytes)**	
BOUNDARY STATISTICS			
Xmin	-124 757	**Minimum Value**	1 700
Xmax	-33 922	**Maximum Value**	38 100
Ymin	-55 998	**Mean**	27 563
Ymax	49 337	**Standard Deviation**	5 746
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	**xt010 Max mean monthly temperature Oct**		
Source	CIAT (Peter Jones)	**Source Date**	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	**Number of Values**	
Number of Columns	545	**Attribute Data (bytes)**	
BOUNDARY STATISTICS			
Xmin	-124 757	**Minimum Value**	-4 400
Xmax	-33 922	**Maximum Value**	41 200
Ymin	55 998	**Mean**	27 245
Ymax	49 337	**Standard Deviation**	6 650
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	**xt011 Max mean monthly temperature Nov**		
Source	CIAT (Peter Jones)	**Source Date**	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	**Number of Values**	
Number of Columns	545	**Attribute Data (bytes)**	
BOUNDARY STATISTICS			
Xmin	-124 757	**Minimum Value**	-1 800
Xmax	-33 922	**Maximum Value**	39 300
Ymin	-55 998	**Mean**	27 496
Ymax	49 337	**Standard Deviation**	5 981
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	xt012 Max mean monthly temperature Dec		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-0 700
Xmax	-33 922	Maximum Value	38 100
Ymin	-55 998	Mean	27 523
Ymax	49 337	Standard Deviation	5 808
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt02 Max mean monthly temperature Feb		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	0 200
Xmax	-33 922	Maximum Value	38 600
Ymin	-55 998	Mean	27 568
Ymax	49 337	Standard Deviation	5 533
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt03 Max mean monthly temperature Mar		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-2 100
Xmax	-33 922	Maximum Value	40 100
Ymin	55 998	Mean	27 198
Ymax	49 337	Standard Deviation	5 649
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt04 Max mean monthly temperature Apr		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-4 800
Xmax	-33 922	Maximum Value	41 500
Ymin	-55 998	Mean	26 425
Ymax	49 337	Standard Deviation	6 379
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt05 Max mean monthly temperature May		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-7 400
Xmax	-33 922	Maximum Value	43 300
Ymin	-55 998	Mean	25 376
Ymax	49 337	Standard Deviation	7 532
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt06 Max mean monthly temperature Jun		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-9 200
Xmax	-33 922	Maximum Value	44 300
Ymin	-55 998	Mean	24 421
Ymax	49 337	Standard Deviation	8 506
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt07 Max mean monthly temperature Jul		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-9 200
Xmax	-33 922	Maximum Value	42 300
Ymin	-55 998	Mean	24 472
Ymax	49 337	Standard Deviation	8 556
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt08 Max mean monthly temperature Aug		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-9 000
Xmax	-33 922	Maximum Value	41 000
Ymin	-55 998	Mean	24 876
Ymax	49 337	Standard Deviation	8 748
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt09 Max mean monthly temperature Sept		
Source	CIAT (Peter Jones)	Source Date	1991
		Comments	
Cell Size	0 167		
Data Type	Floating Point		
Number of Rows	632	Number of Values	
Number of Columns	545	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-124 757	Minimum Value	-6 600
Xmax	-33 922	Maximum Value	41 300
Ymin	-55 998	Mean	26 685
Ymax	49 337	Standard Deviation	7 656
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Annrain		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	Number of Values	4928
Number of Columns	2580	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	53 000
Xmax	-76 000	Maximum Value	5359 000
Ymin	6 001	Mean	1073 874
Ymax	34 002	Standard Deviation	862 592
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Dry_60		
Source	CIAT (created from Texas A&M climate surfaces)	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	Number of Values	13
Number of Columns	2580	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	12 000
Ymin	6 001	Mean	7 007
Ymax	34 002	Standard Deviation	3 396
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Dry_tex		
Source	CIAT (created from Texas A&M climate surfaces)	Source Date	1997
		Comments	
Cell Size	0 080		
Data Type	Integer		
Number of Rows	361	Number of Values	13
Number of Columns	670	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	12 000
Ymin	6 001	Mean	7 456
Ymax	34 002	Standard Deviation	3 463
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	rt01 Max mean monthly temperature Jan		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	-6 600
Xmax	-76 000	Maximum Value	23 100
Ymin	6 001	Mean	8 908
Ymax	34 002	Standard Deviation	7 240
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	rt010 Max mean monthly temperature Oct		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	119 001	Minimum Value	0 400
Xmax	-76 000	Maximum Value	25 000
Ymin	6 001	Mean	18 532
Ymax	34 002	Standard Deviation	2 810
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	rt011 Max mean monthly temperature Nov		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	-4 500
Xmax	76 000	Maximum Value	23 400
Ymin	6 001	Mean	11 584
Ymax	34 002	Standard Deviation	6 702
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it012 Max mean monthly temperature Dec		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	-6 400
Xmax	-76 000	Maximum Value	23 400
Ymin	6 001	Mean	9 582
Ymax	34 002	Standard Deviation	7 144
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it02 Max mean monthly temperature Feb		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	-6 300
Xmax	76 000	Maximum Value	23 000
Ymin	6 001	Mean	9 545
Ymax	34 002	Standard Deviation	6 910
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it03 Max mean monthly temperature Mar		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	-4 700
Xmax	-76 000	Maximum Value	23 700
Ymin	6 001	Mean	11 519
Ymax	34 002	Standard Deviation	6 539
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it04 Max mean monthly temperature Apr		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	-3 700
Xmax	-76 000	Maximum Value	24 300
Ymin	6 001	Mean	13 734
Ymax	34 002	Standard Deviation	6 042
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it05 Max mean monthly temperature May		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	119 001	Minimum Value	-3 600
Xmax	-76 000	Maximum Value	24 900
Ymin	6 001	Mean	15 797
Ymax	34 002	Standard Deviation	5 372
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	it06 Max mean monthly temperature Jun		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	-4 200
Xmax	-76 000	Maximum Value	24 800
Ymin	6 001	Mean	17 738
Ymax	34 002	Standard Deviation	4 502
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	rt07 Max mean monthly temperature Jul		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	-4 400
Xmax	-76 000	Maximum Value	27 000
Ymin	6 001	Mean	18 268
Ymax	34 002	Standard Deviation	4 348
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	rt08 Max mean monthly temperature Aug		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	-4 800
Xmax	-76 000	Maximum Value	26 900
Ymin	6 001	Mean	18 007
Ymax	34 002	Standard Deviation	4 411
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	rt09 Max mean monthly temperature Sept		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 900
Xmax	-76 000	Maximum Value	26 000
Ymin	6 001	Mean	21 231
Ymax	34 002	Standard Deviation	2 661
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	itmean Min mean annual temperature		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	-0 867
Xmax	-76 000	Maximum Value	23 642
Ymin	6 001	Mean	14 551
Ymax	34 002	Standard Deviation	4 868
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Meitxt mean min and max temp / 2		
Source	CIAT (from Texas A&M climate surfaces)	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	2 433
Xmax	-76 000	Maximum Value	28 900
Ymin	6 001	Mean	21 280
Ymax	34 002	Standard Deviation	3 932
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	povpe01 Potential evapotranspiration Jan		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	3 754
Ymin	6 001	Mean	0 448
Ymax	34 002	Standard Deviation	0 488
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Unpovpes	DD
Parameters			

Cover Name	povpe010 Potential evapotranspiration Oct		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 043
Xmax	-76 000	Maximum Value	7 796
Ymin	6 001	Mean	1 139
Ymax	34 002	Standard Deviation	1 171
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Unpovpes	DD
Parameters			

Cover Name	povpe011 Potential evapotranspiration Nov		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	76 000	Maximum Value	7 464
Ymin	6 001	Mean	0 680
Ymax	34 002	Standard Deviation	0 943
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Unpovpes	DD
Parameters			

Cover Name	povpe012 Potential evapotranspiration Dec		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	6 455
Ymin	6 001	Mean	0 581
Ymax	34 002	Standard Deviation	0 699
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Unpovpes	DD
Parameters			

Cover Name	povpe02 Potential evapotranspiration Feb		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	2 093
Ymin	6 001	Mean	0 274
Ymax	34 002	Standard Deviation	0 286
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Unpovpes	DD
Parameters			

Cover Name	povpe03 Potential evapotranspiration Mar		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	1 436
Ymin	6 001	Mean	0 158
Ymax	34 002	Standard Deviation	0 187
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Unpovpes	DD
Parameters			

Cover Name	povpe04 Potential evapotranspiration Apr		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	76 000	Maximum Value	2 452
Ymin	6 001	Mean	0 204
Ymax	34 002	Standard Deviation	0 253
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Unpovpes	DD
Parameters			

Cover Name	povpe05 Potential evapotranspiration May		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	5 086
Ymin	6 001	Mean	0 543
Ymax	34 002	Standard Deviation	0 648
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Unpovpes	DD
Parameters			

Cover Name	povpe06 Potential evapotranspiration Jun		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	6 415
Ymin	6 001	Mean	1 178
Ymax	34 002	Standard Deviation	1 090
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Unpovpes	DD
Parameters			

Cover Name	povpe07 Potential evapotranspiration Jul		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	6 679
Ymin	6 001	Mean	1 354
Ymax	34 002	Standard Deviation	1 061
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Unpovpes	DD
Parameters			

Cover Name	povpe08 Potential evapotranspiration Aug		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	6 089
Ymin	6 001	Mean	1 313
Ymax	34 002	Standard Deviation	0 918
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Unpovpes	DD
Parameters			

Cover Name	povpe09 Potential evapotranspiration Sept		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 024
Xmax	-76 000	Maximum Value	7 439
Ymin	6 001	Mean	1 567
Ymax	34 002	Standard Deviation	1 129
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	povpemea Potential evapotranspiration annual		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 046
Xmax	-76 000	Maximum Value	4 154
Ymin	6 001	Mean	0 787
Ymax	34 002	Standard Deviation	0 653
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	**pre01 Mean monthly rainfall Jan**		
Source	Texas A&M	**Source Date**	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	**Number of Values**	427
Number of Columns	2580	**Attribute Data (bytes)**	8
BOUNDARY STATISTICS			
Xmin	-119 001	**Minimum Value**	0 000
Xmax	-76 000	**Maximum Value**	427 000
Ymin	6 001	**Mean**	38 117
Ymax	34 002	**Standard Deviation**	49 170
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	**pre010 Mean monthly rainfall Oct**		
Source	Texas A&M	**Source Date**	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	**Number of Values**	767
Number of Columns	2580	**Attribute Data (bytes)**	8
BOUNDARY STATISTICS			
Xmin	-119 001	**Minimum Value**	5 000
Xmax	-76 000	**Maximum Value**	779 000
Ymin	6 001	**Mean**	119 067
Ymax	34 002	**Standard Deviation**	121 753
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	**pre011 Mean monthly rainfall Nov**		
Source	Texas A&M	**Source Date**	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	**Number of Values**	716
Number of Columns	2580	**Attribute Data (bytes)**	8
BOUNDARY STATISTICS			
Xmin	119 001	**Minimum Value**	0 000
Xmax	-76 000	**Maximum Value**	724 000
Ymin	6 001	**Mean**	61 925
Ymax	34 002	**Standard Deviation**	88 239
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	**Spheroid**	WGS84
Datum	WGS84	**Units**	DD
Parameters			

Cover Name	pre012 Mean monthly rainfall Dec		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	Number of Values	660
Number of Columns	2580	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	660 000
Ymin	6 001	Mean	47 823
Ymax	34 002	Standard Deviation	67 174
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	pre02 Mean monthly rainfall Feb		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	Number of Values	233
Number of Columns	2580	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	232 000
Ymin	6 001	Mean	25 466
Ymax	34 002	Standard Deviation	29 205
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	pre03 Mean monthly rainfall Mar		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	Number of Values	171
Number of Columns	2580	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	170 000
Ymin	6 001	Mean	19 865
Ymax	34 002	Standard Deviation	23 932
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	pre04 Mean monthly rainfall Apr		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	Number of Values	287
Number of Columns	2580	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	295 000
Ymin	6 001	Mean	27 194
Ymax	34 002	Standard Deviation	32 037
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	pre05 Mean monthly rainfall May		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	Number of Values	552
Number of Columns	2580	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	580 000
Ymin	6 001	Mean	74 350
Ymax	34 002	Standard Deviation	81 220
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	pre06 Mean monthly rainfall Jun		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	Number of Values	683
Number of Columns	2580	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	76 000	Maximum Value	684 000
Ymin	6 001	Mean	148 183
Ymax	34 002	Standard Deviation	125 471
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	pre07 Mean monthly rainfall Jul		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	Number of Values	758
Number of Columns	2580	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	764 000
Ymin	6 001	Mean	171 429
Ymax	34 002	Standard Deviation	123 257
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	pre08 Mean monthly rainfall Aug		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	Number of Values	613
Number of Columns	2580	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 000
Xmax	-76 000	Maximum Value	615 000
Ymin	6 001	Mean	164 658
Ymax	34 002	Standard Deviation	105 727
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	pre09 Mean monthly rainfall Sept		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Integer		
Number of Rows	1680	Number of Values	748
Number of Columns	2580	Attribute Data (bytes)	8
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	3 000
Xmax	-76 000	Maximum Value	762 000
Ymin	6 001	Mean	175 257
Ymax	34 002	Standard Deviation	121 769
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	Premean Annual mean rainfall		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	0 046
Xmax	-76 000	Maximum Value	4 154
Ymin	6 001	Mean	0 787
Ymax	34 002	Standard Deviation	0 653
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt01 Max mean monthly temperature Jan		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	119 001	Minimum Value	4 600
Xmax	-76 000	Maximum Value	35 500
Ymin	6 001	Mean	23 420
Ymax	34 002	Standard Deviation	4 946
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt010 Max mean monthly temperature Oct		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	119 001	Minimum Value	3 400
Xmax	-76 000	Maximum Value	35 600
Ymin	6 001	Mean	27 929
Ymax	34 002	Standard Deviation	3 485
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt011 Max mean monthly temperature Nov		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	4 200
Xmax	-76 000	Maximum Value	35 500
Ymin	6 001	Mean	25 607
Ymax	34 002	Standard Deviation	3 863
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt012 Max mean monthly temperature Dec		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	3 900
Xmax	-76 000	Maximum Value	35 100
Ymin	6 001	Mean	23 680
Ymax	34 002	Standard Deviation	4 676
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt02 Max mean monthly temperature Feb		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	4 700
Xmax	-76 000	Maximum Value	37 000
Ymin	6 001	Mean	24 910
Ymax	34 002	Standard Deviation	4 618
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt03 Max mean monthly temperature Mar		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	6 900
Xmax	-76 000	Maximum Value	39 500
Ymin	6 001	Mean	27 459
Ymax	34 002	Standard Deviation	4 301
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt04 Max mean monthly temperature Apr		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	7 100
Xmax	-76 000	Maximum Value	40 600
Ymin	6 001	Mean	29 694
Ymax	34 002	Standard Deviation	3 753
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt05 Max mean monthly temperature May		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	6 900
Xmax	-76 000	Maximum Value	40 200
Ymin	6 001	Mean	31 161
Ymax	34 002	Standard Deviation	3 392
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt06 Max mean monthly temperature Jun		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	5 300
Xmax	-76 000	Maximum Value	42 300
Ymin	6 001	Mean	31 464
Ymax	34 002	Standard Deviation	3 853
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt07 Max mean monthly temperature Jul		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	4 100
Xmax	-76 000	Maximum Value	42 300
Ymin	6 001	Mean	30 733
Ymax	34 002	Standard Deviation	4 197
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt08 Max mean monthly temperature Aug		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	3 400
Xmax	-76 000	Maximum Value	41 100
Ymin	6 001	Mean	30 451
Ymax	34 002	Standard Deviation	4 082
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Cover Name	xt09 Max mean monthly temperature Sept		
Source	Texas A&M	Source Date	1997
		Comments	
Cell Size	0 017		
Data Type	Floating point		
Number of Rows	1680	Number of Values	
Number of Columns	2580	Attribute Data (bytes)	
BOUNDARY STATISTICS			
Xmin	-119 001	Minimum Value	3 400
Xmax	-76 000	Maximum Value	39 100
Ymin	6 001	Mean	29 583
Ymax	34 002	Standard Deviation	3 809
COORDINATE SYSTEM DESCRIPTION			
Projection	GEOGRAPHIC	Spheroid	WGS84
Datum	WGS84	Units	DD
Parameters			

Technical Notes

I Running the project

Copy the ArcView project onto your computer and edit the ***aaastart*** script It is edit the following information to point to where the data is located on the your computer (ie drive e \ or d \)

It is necessary to change the paths to access the location of the data on the users system The ***aaastart*** script needs to be edited The items that are in bold need to be altered

II Programmer's Notes

Scripts The scripts are documented