Elaboración y evaluación de materiales de aprendizaje

Red de Innovación Educativa y Calidad Docente

OpenStat. Guía de uso

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Universidad de Sonora

Material elaborado en el marco de la convocatoria de Ayudas para el desarrollo de la Innovación Educativa en la Universitat de València del Vicerectorat de Cultura i Igualtat de la Universitat de València de 28 de marzo de 2013

OpenStat. Guía de Uso

Objetivos

Utilización del paquete OpenStat

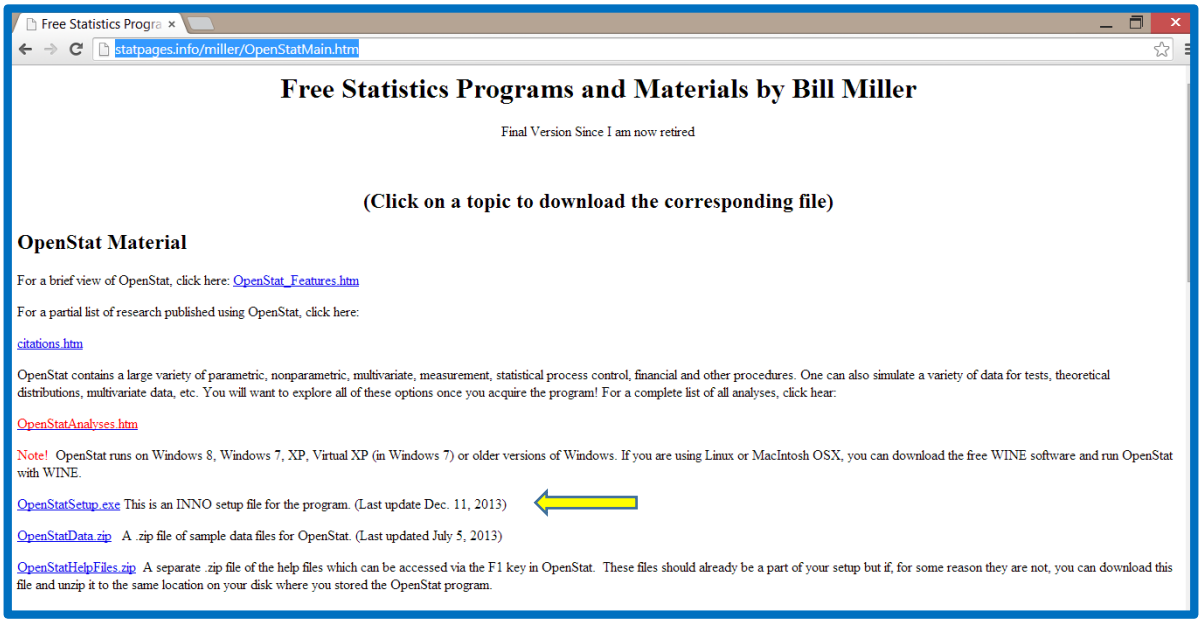
Conocimiento previo

Bases de Estadística Descriptiva

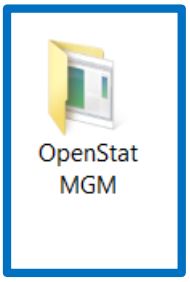
Contenido

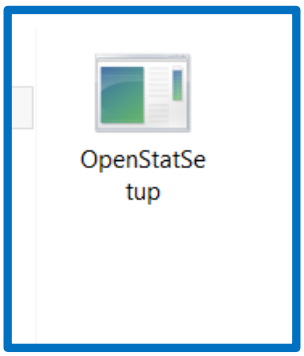
1) Acceso e instalación del software libre:

Sitio Web http://statpages.info/miller/OpenStatMain.htm

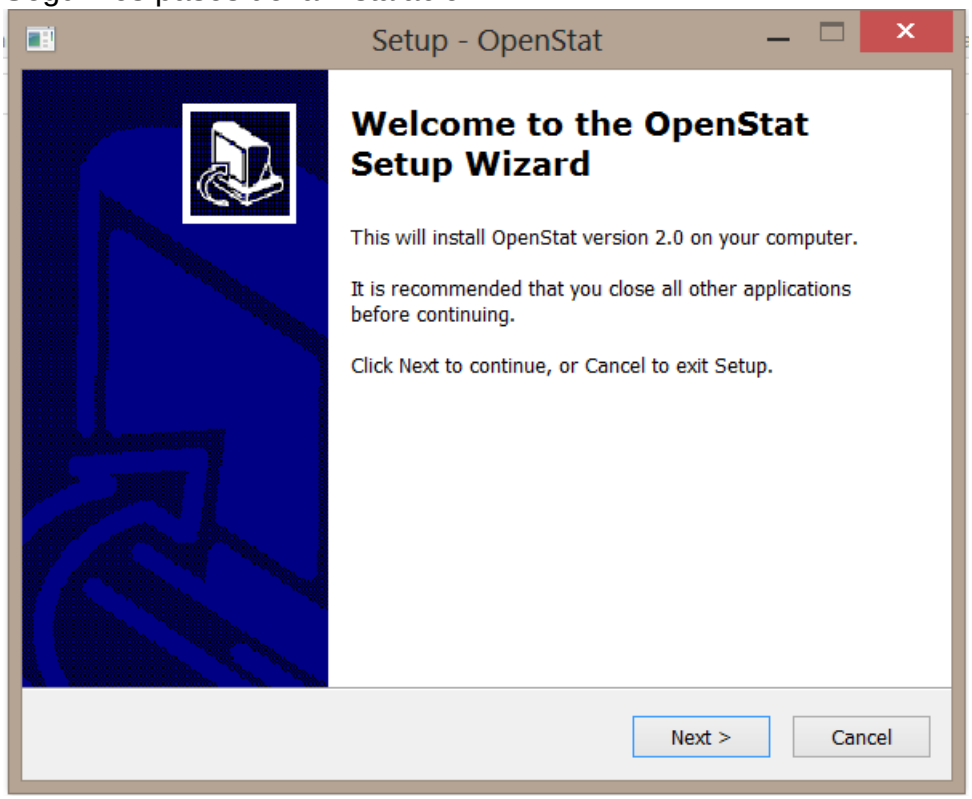


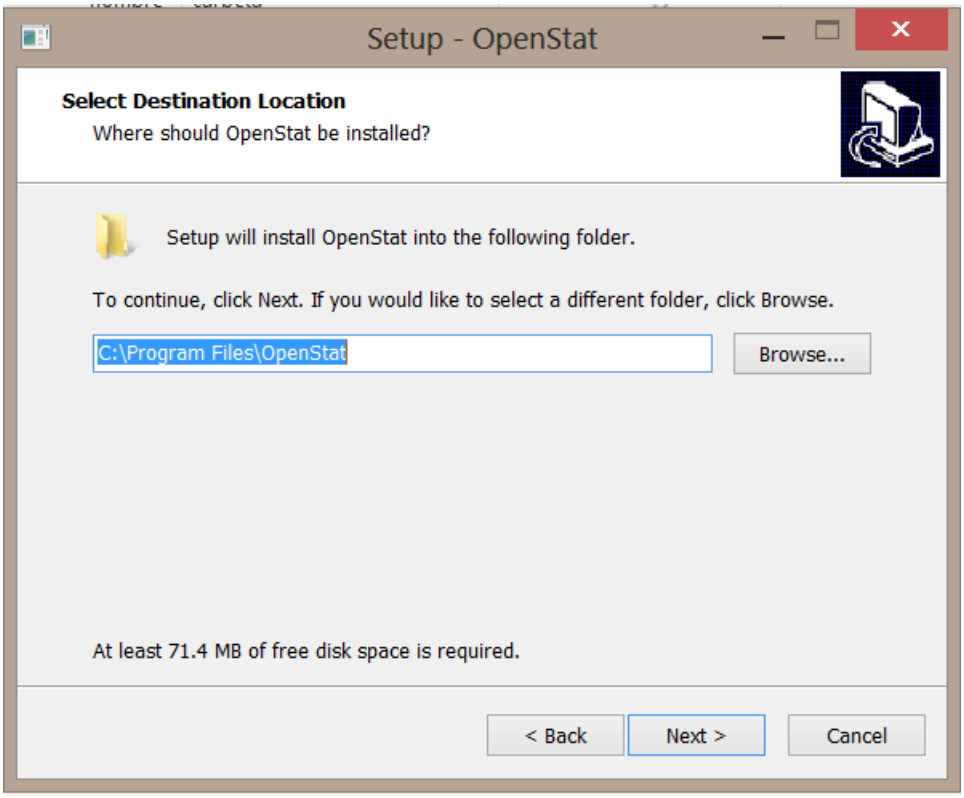
Descargar y desde el folder de descargas copiar a una nueva carpeta etiquetada OpenStat – (siglas) y desde ahí ejecutar la instalación:

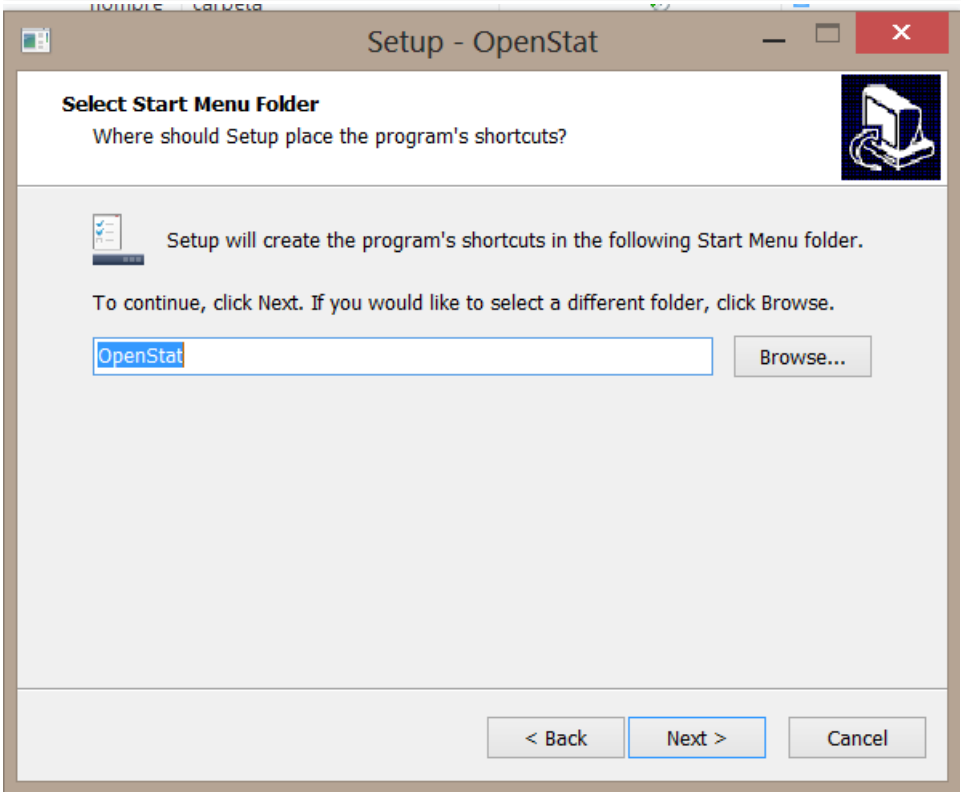


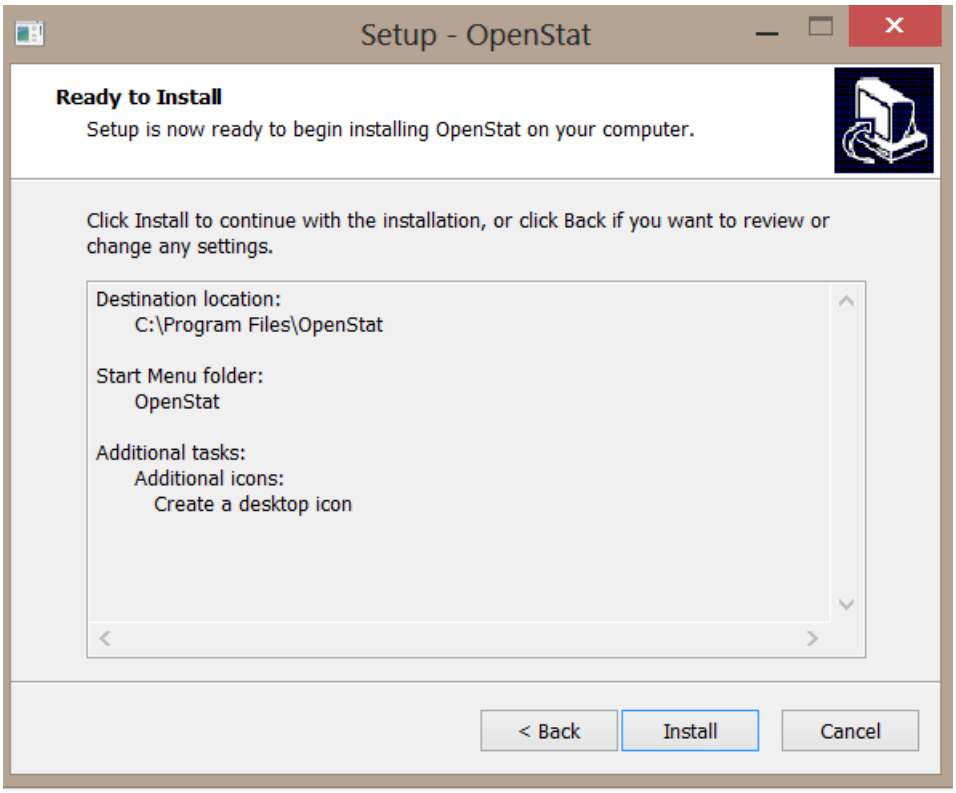


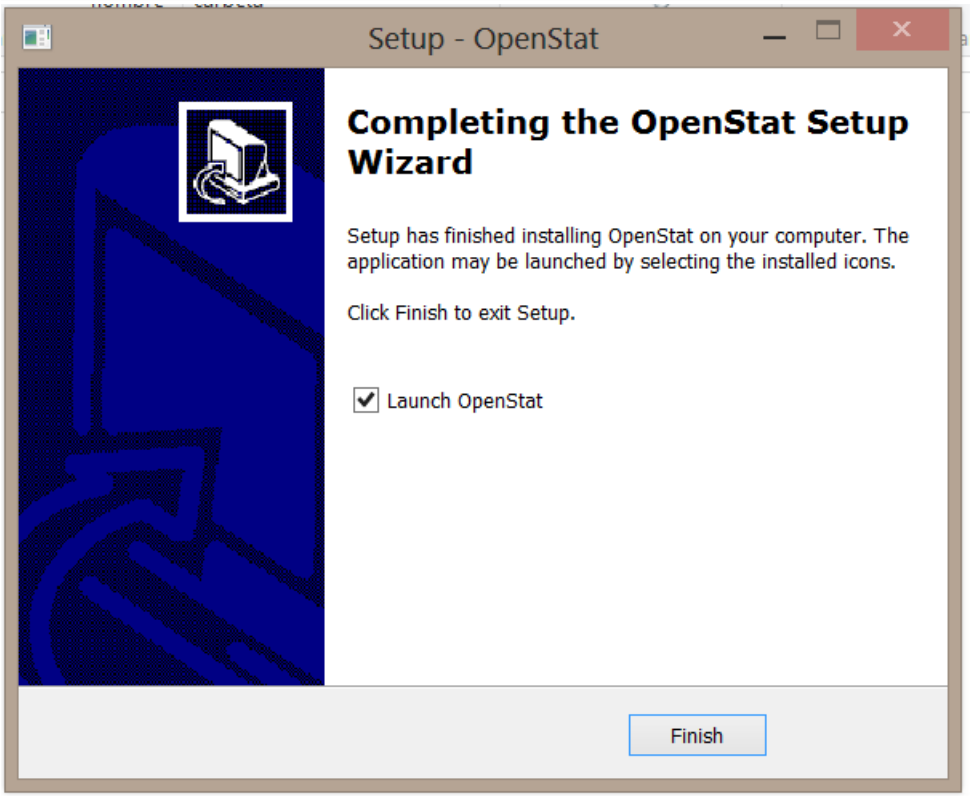
Seguir los pasos de la instalación




Setup - OpenStat
Select Destination Location
Where should OpenStat be installed?
Setup will install OpenStat into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files\OpenStat
Browse...
At least 71.4 MB of free disk space is required.
< Back
Next >
Cancel


Setup - OpenStat
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
OpenStat
Browse...
< Back
Next >
Cancel





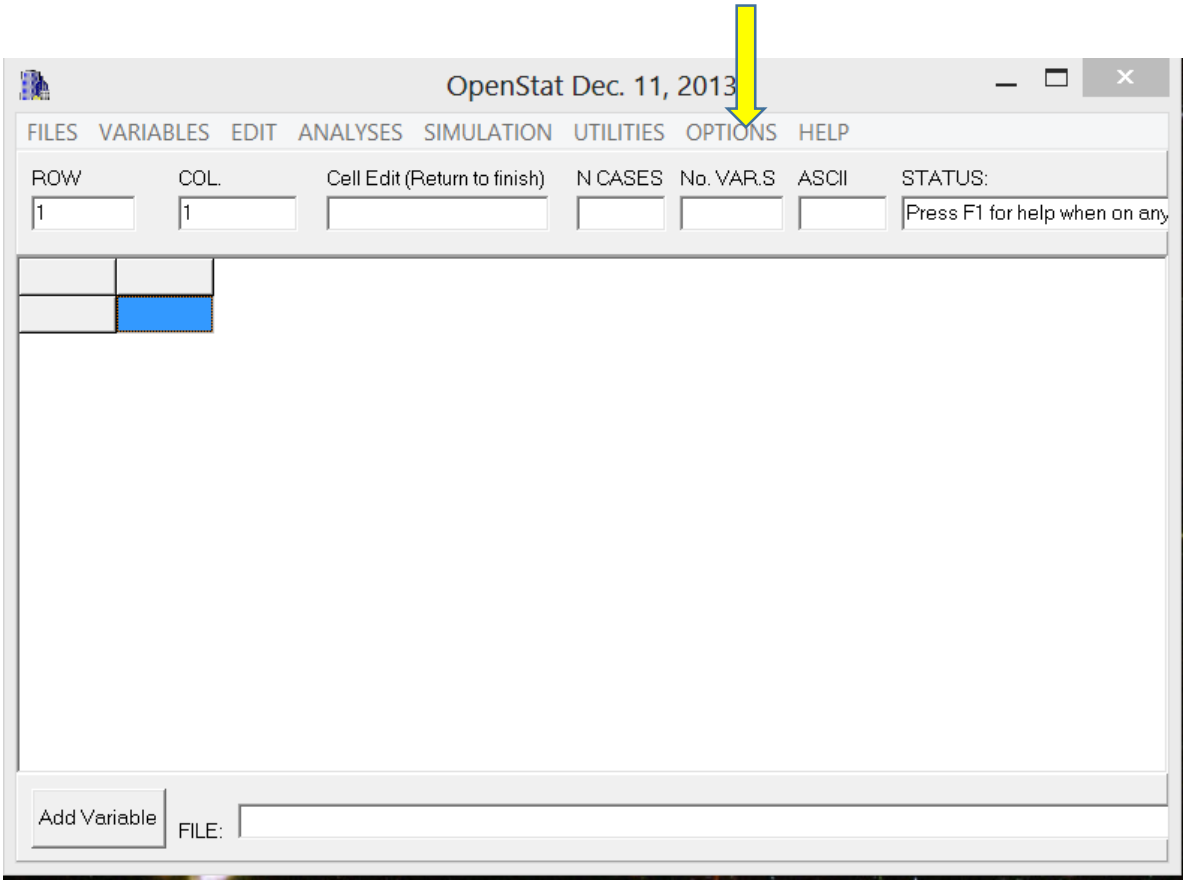
:

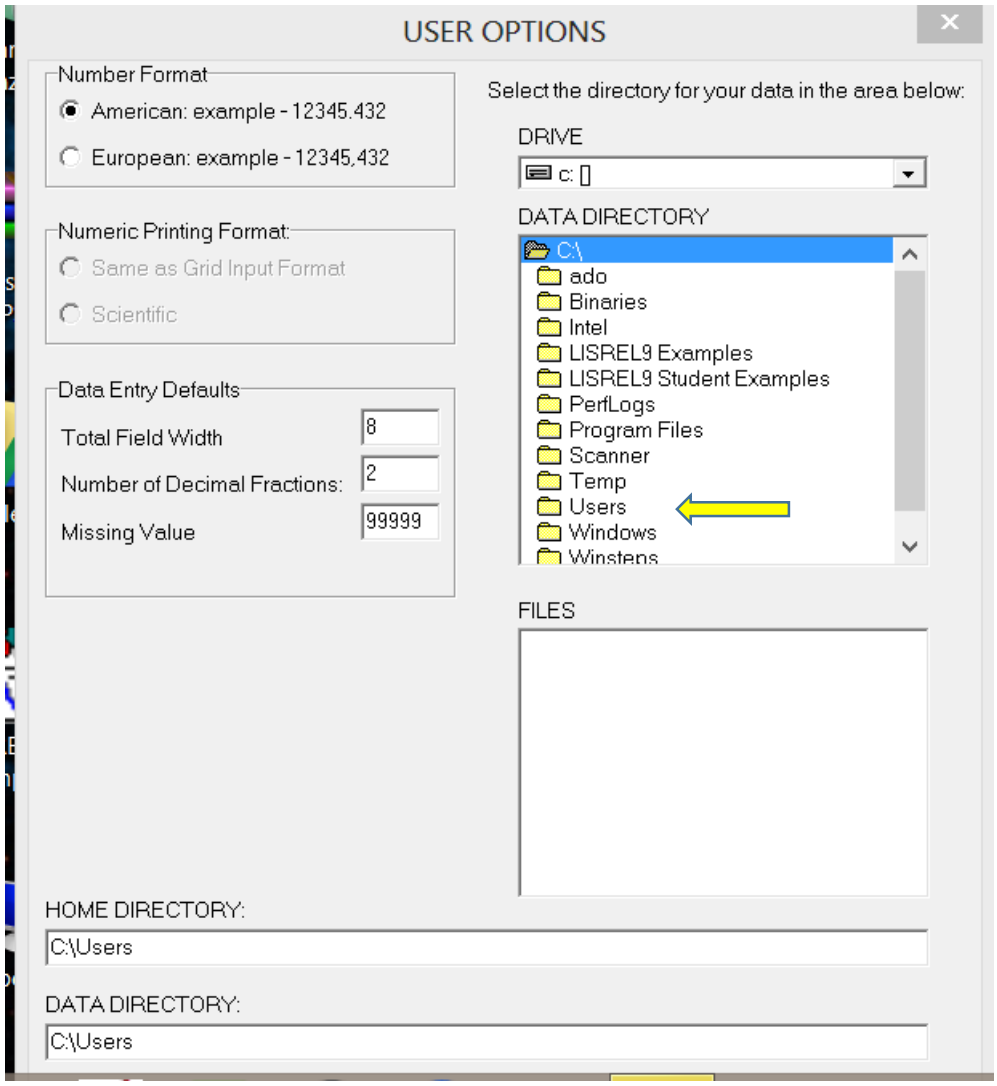
2) Preparación de carpeta para bases de datos y ruta de acceso:

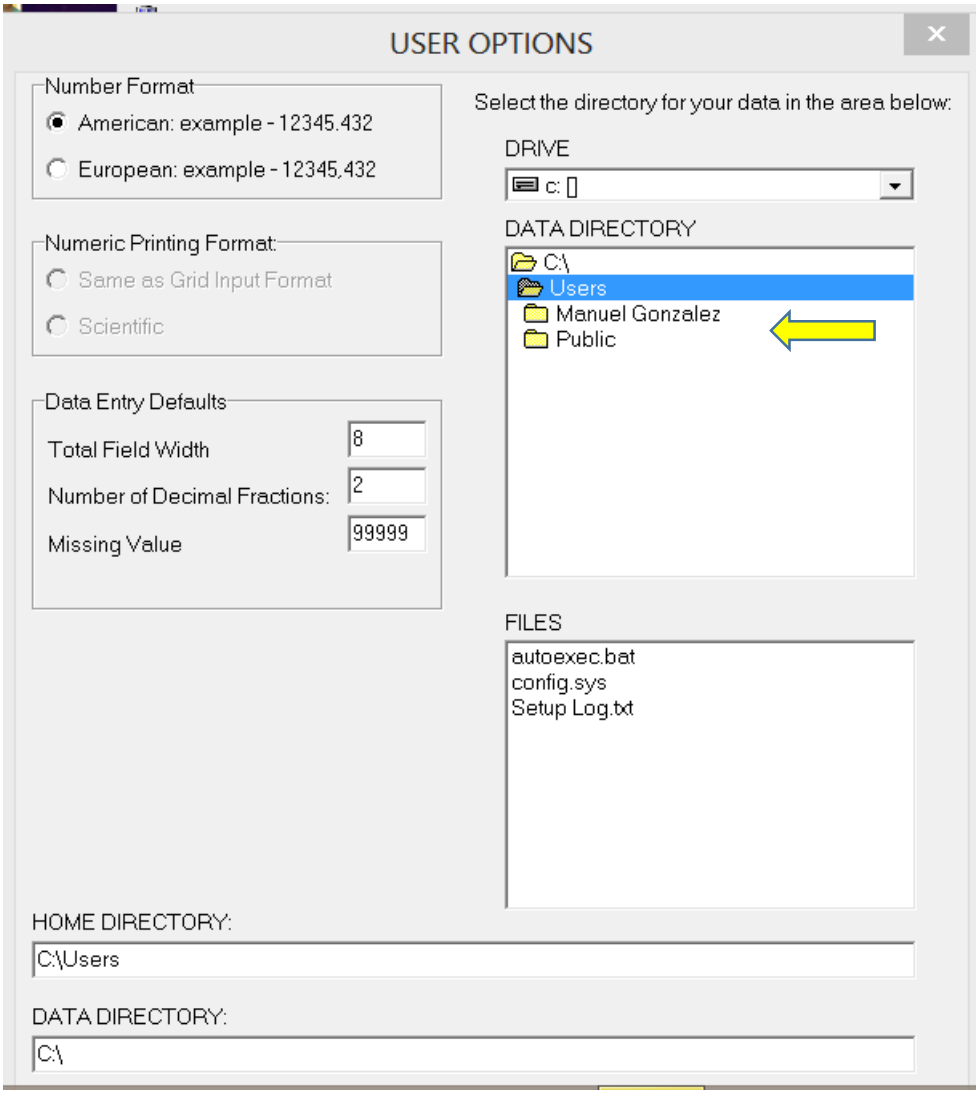
En la carpeta personal de REPRESENTACION CUANTI:

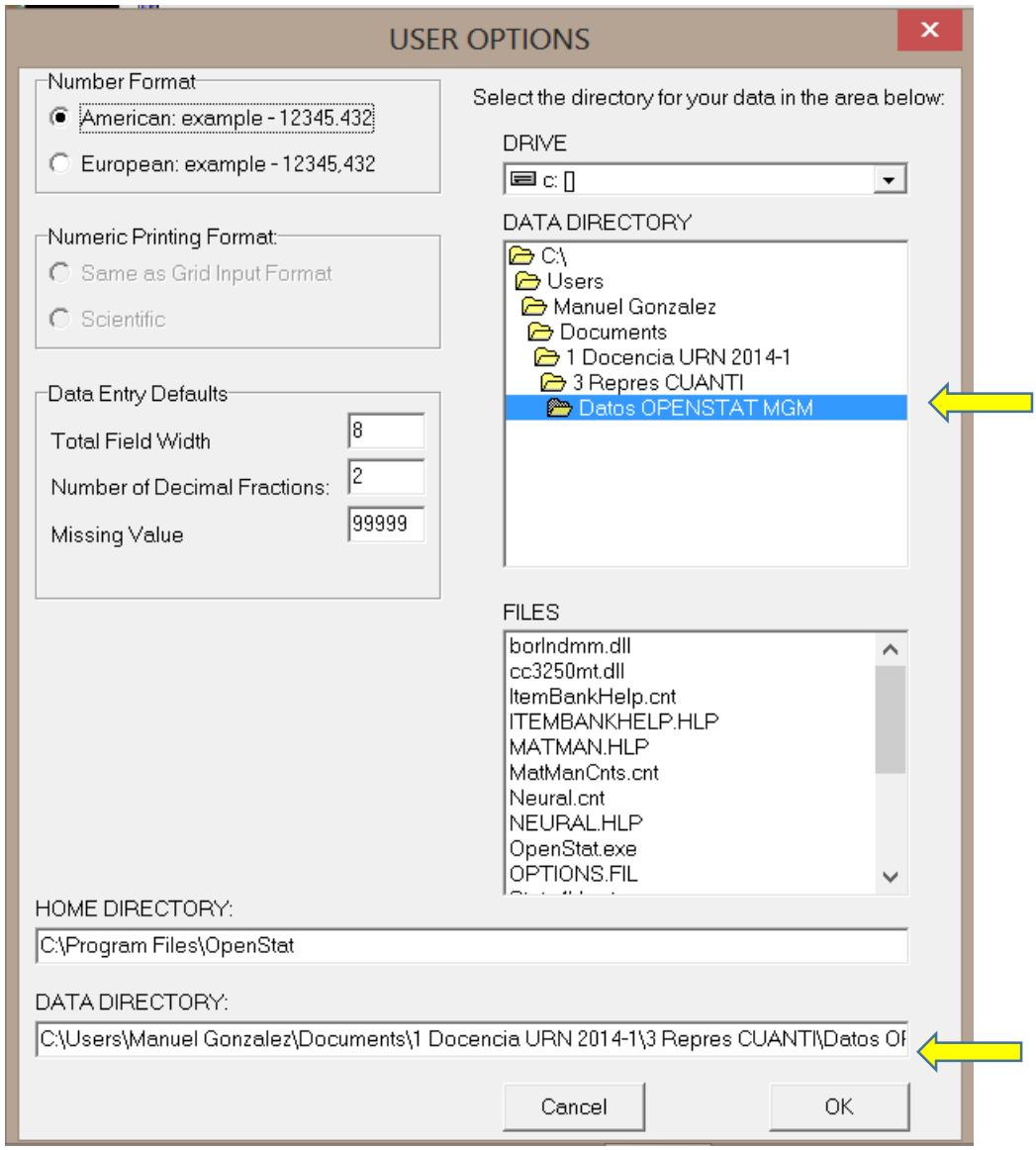
Crear una nueva carpeta llamada Datos OPENSTAT MGM (sus siglas):

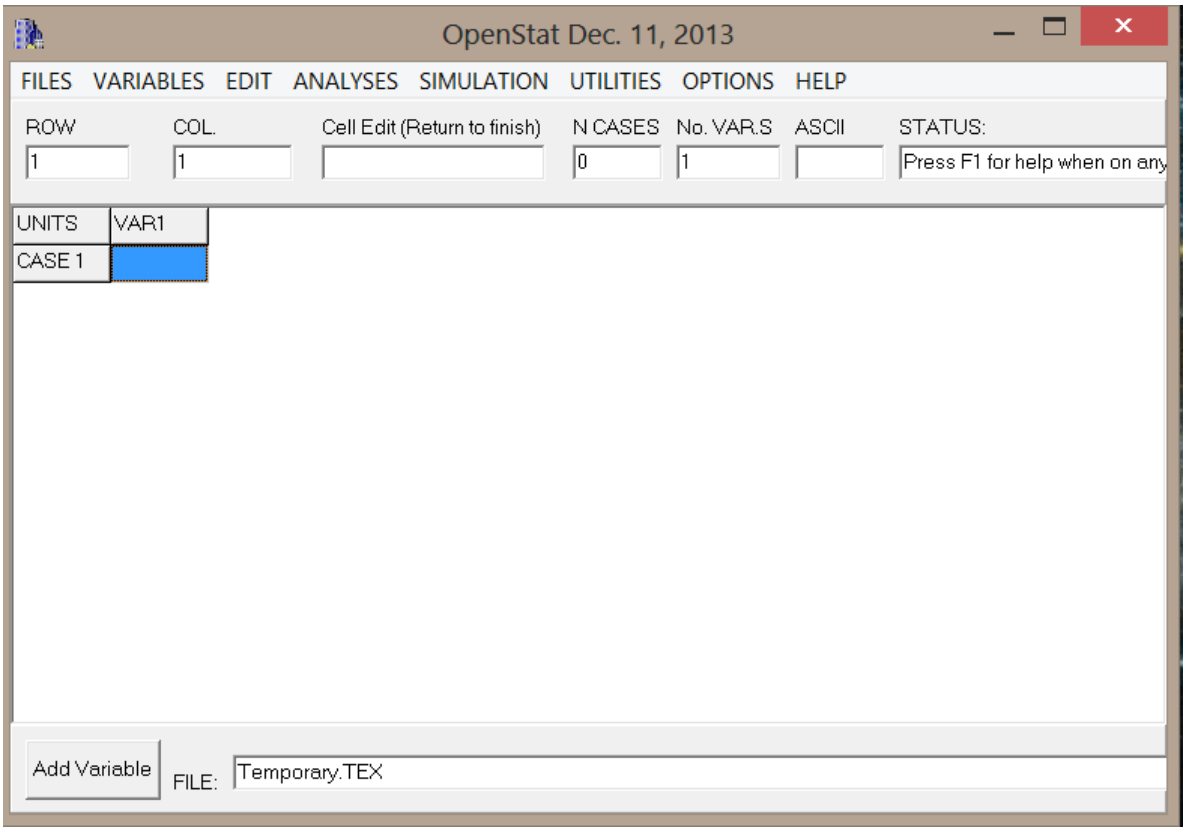
Abrir OpenStat y pulsar la sección “Options” y navegar hacia la carpeta cambiando la ruta de acceso, por medio de pulsar las sub-carpetas hasta llegar a la carpeta “destinada”: Datos OPENSTAT MGM




USER OPTIONS
Number Format
American: example - 12345.432
European: example - 12345,432
Numeric Printing Format:
Same as Grid Input Format
Scientific
Data Entry Defaults
Total Field Width
8
Number of Decimal Fractions:
2
Missing Value
99999
Select the directory for your data in the area below:
DRIVE
c: []
DATA DIRECTORY
C:\
ado
Binaries
Intel
LISREL9 Examples
LISREL9 Student Examples
PerfLogs
Program Files
Scanner
Temp
Users
Windows
Winsteps
FILES
HOME DIRECTORY:
C:\Users
DATA DIRECTORY:
C:\Users


USER OPTIONS
Number Format
American: example - 12345.432
European: example - 12345,432
Numeric Printing Format:
Same as Grid Input Format
Scientific
Data Entry Defaults
Total Field Width
8
Number of Decimal Fractions:
2
Missing Value
99999
Select the directory for your data in the area below:
DRIVE
c: []
DATA DIRECTORY
C:\
Users
Manuel Gonzalez
Public
FILES
autoexec.bat
config.sys
Setup Log.txt
HOME DIRECTORY:
C:\Users
DATA DIRECTORY:
C:\

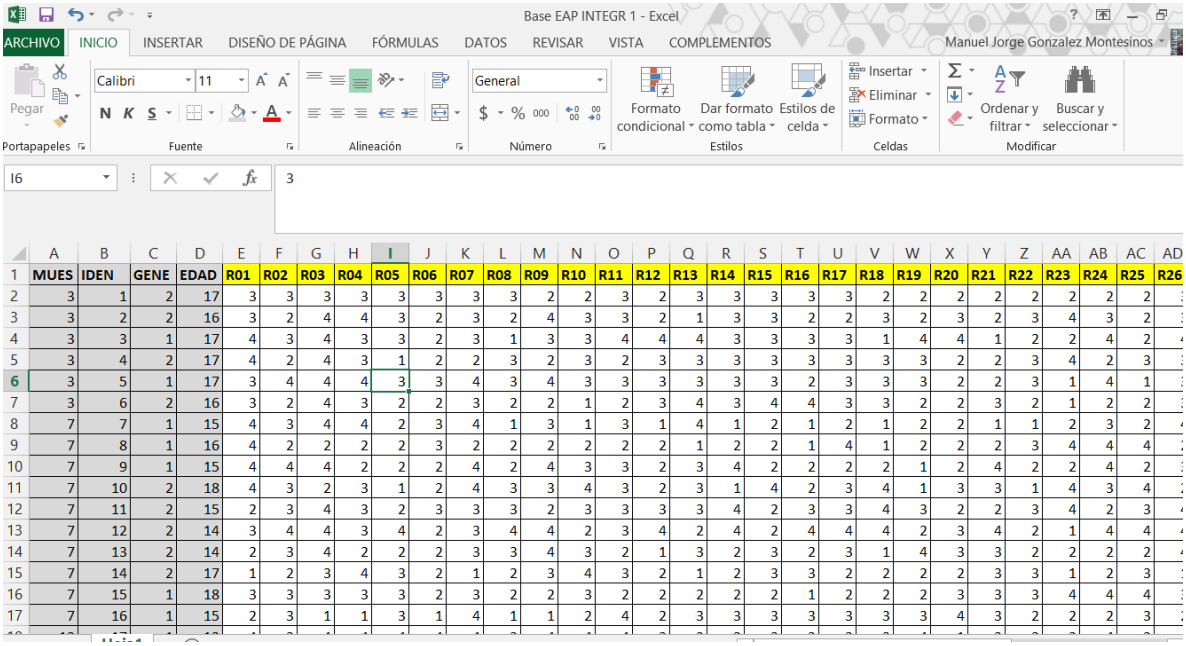

USER OPTIONS
Number Format
American: example - 12345.432
European: example - 12345,432
Numeric Printing Format:
Same as Grid Input Format
Scientific
Data Entry Defaults
Total Field Width
8
Number of Decimal Fractions:
2
Missing Value
99999
Select the directory for your data in the area below:
DRIVE
c: []
DATA DIRECTORY
C:\
Users
Manuel Gonzalez
Documents
1 Docencia URN 2014-1
3 Repres CUANTI
Datos OPENSTAT MGM
FILES
borlndmm.dll
cc3250mt.dll
ItemBankHelp.cnt
ITEMBANKHELP.HLP
MATMAN.HLP
MatManCnts.cnt
Neural.cnt
NEURAL.HLP
OpenStat.exe
OPTIONS.FIL
HOME DIRECTORY:
C:\Program Files\OpenStat
DATA DIRECTORY:
C:\Users\Manuel Gonzalez\Documents\1 Docencia URN 2014-1\3 Repres CUANTI\Datos OF
Cancel
OK



A partir de este paso podemos ingresar bases de datos a la carpeta indicada y procesar una práctica con datos recogidos a través del Cuestionario de Estrategias de Aprendizaje para adolescentes.

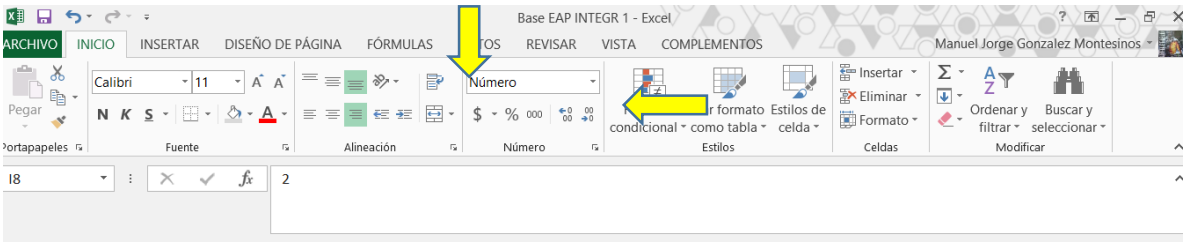
1) Preparación de BASE DE DATOS en formato .csv

Como primer paso se captura la base de datos en EXCEL con las etiquetas de las variables en la primera fila:

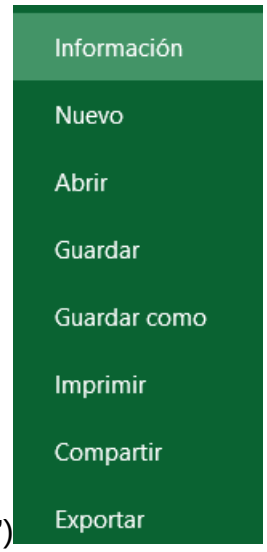


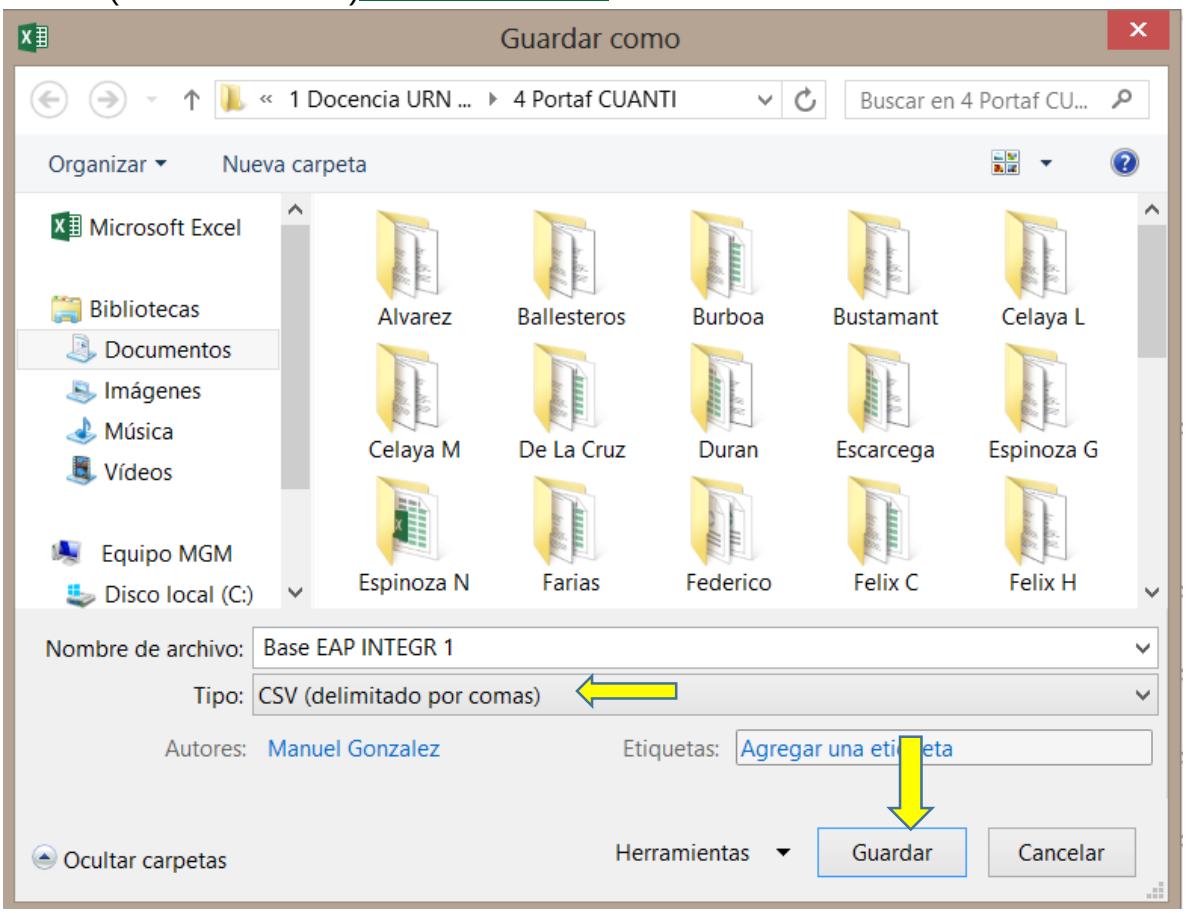
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
1	MUES	IDEN	GENE	EDAD	R01	R02	R03	R04	R05	R06	R07	R08	R09	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26
2	3	1	2	17	3	3	3	3	3	3	3	3	2	2	3	2	3	3	3	3	3	2	2	2	2	2	2	2	2	
3	3	2	2	16	3	2	4	4	3	2	3	2	4	3	3	2	1	3	3	2	2	3	2	3	2	3	4	3	2	
4	3	3	1	17	4	3	4	3	3	2	3	1	3	3	4	4	4	3	3	3	3	1	4	4	1	2	2	4	2	
5	3	4	2	17	4	2	4	3	1	2	2	3	2	3	2	3	3	3	3	3	3	3	3	2	2	3	4	2	3	
6	3	5	1	17	3	4	4	4	3	3	4	3	4	3	3	3	3	3	3	2	3	3	3	2	2	3	1	4	1	
7	3	6	2	16	3	2	4	3	2	2	3	2	2	1	2	3	4	3	4	4	3	3	2	2	3	2	1	2	2	
8	7	7	1	15	4	3	4	4	2	3	4	1	3	1	3	1	4	1	2	1	2	1	2	2	1	1	2	3	2	
9	7	8	1	16	4	2	2	2	2	3	2	2	2	2	2	2	1	2	2	1	4	1	2	2	2	3	4	4	4	
10	7	9	1	15	4	4	4	2	2	2	4	2	4	3	3	2	3	4	2	2	2	2	1	2	4	2	2	4	2	
11	7	10	2	18	4	3	2	3	1	2	4	3	3	4	3	2	3	1	4	2	3	4	1	3	3	1	4	3	4	
12	7	11	2	15	2	3	4	3	2	3	3	3	2	3	3	3	3	4	2	3	3	4	3	2	2	3	4	2	3	
13	7	12	2	14	3	4	4	3	4	2	3	4	4	2	3	4	2	4	2	4	4	4	2	3	4	2	1	4	4	
14	7	13	2	14	2	3	4	2	2	2	3	3	4	3	2	1	3	2	3	2	3	1	4	3	3	2	2	2	2	
15	7	14	2	17	1	2	3	4	3	2	1	2	3	4	3	2	1	2	3	3	2	2	2	2	3	3	1	2	3	
16	7	15	1	18	3	3	3	3	3	2	3	2	2	3	2	2	2	2	2	1	2	2	2	3	3	3	4	4	4	
17	7	16	1	15	2	3	1	1	3	1	4	1	1	2	4	2	3	3	3	3	3	3	3	4	3	2	2	2	3	

Una vez completa la base se da <u>formato de número</u> a todas las celdas por medio de y se ocultan los decimales por medio de las opciones:



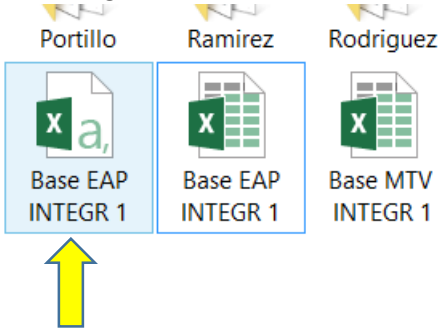
Una vez que se tienen estos cambios se activa la opción ARCHIVO “Guardar Como” (File …”Save as”)



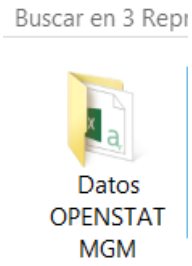


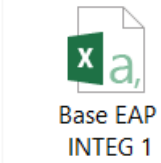
Seleccionando el formato con extensión CSV (delimitado por comas)

Una vez guardado en ese formato el archivo aparecerá como:



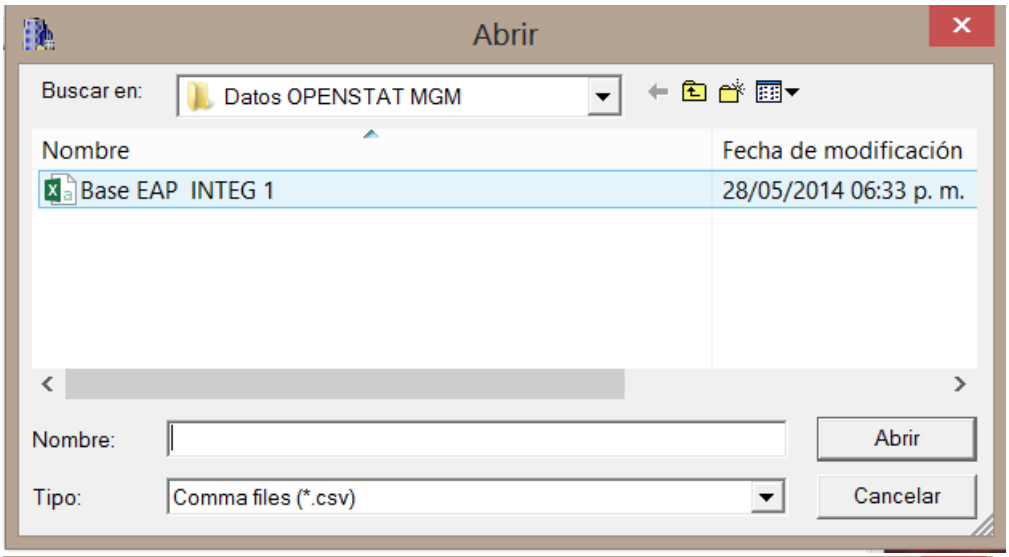
Y este es el archivo que deberá copiarse al Folder donde esta direccionada la ruta de OpenStat:

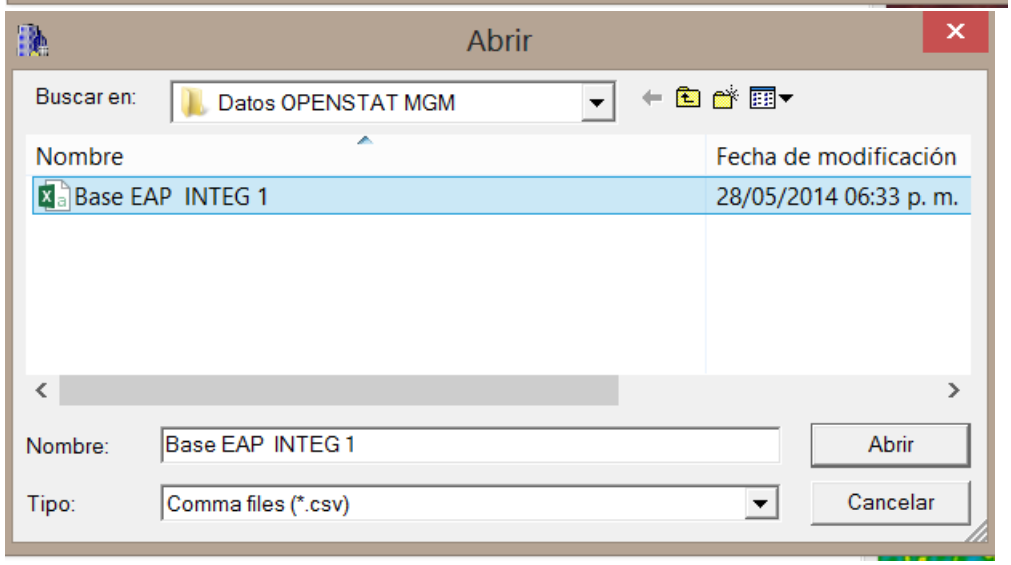


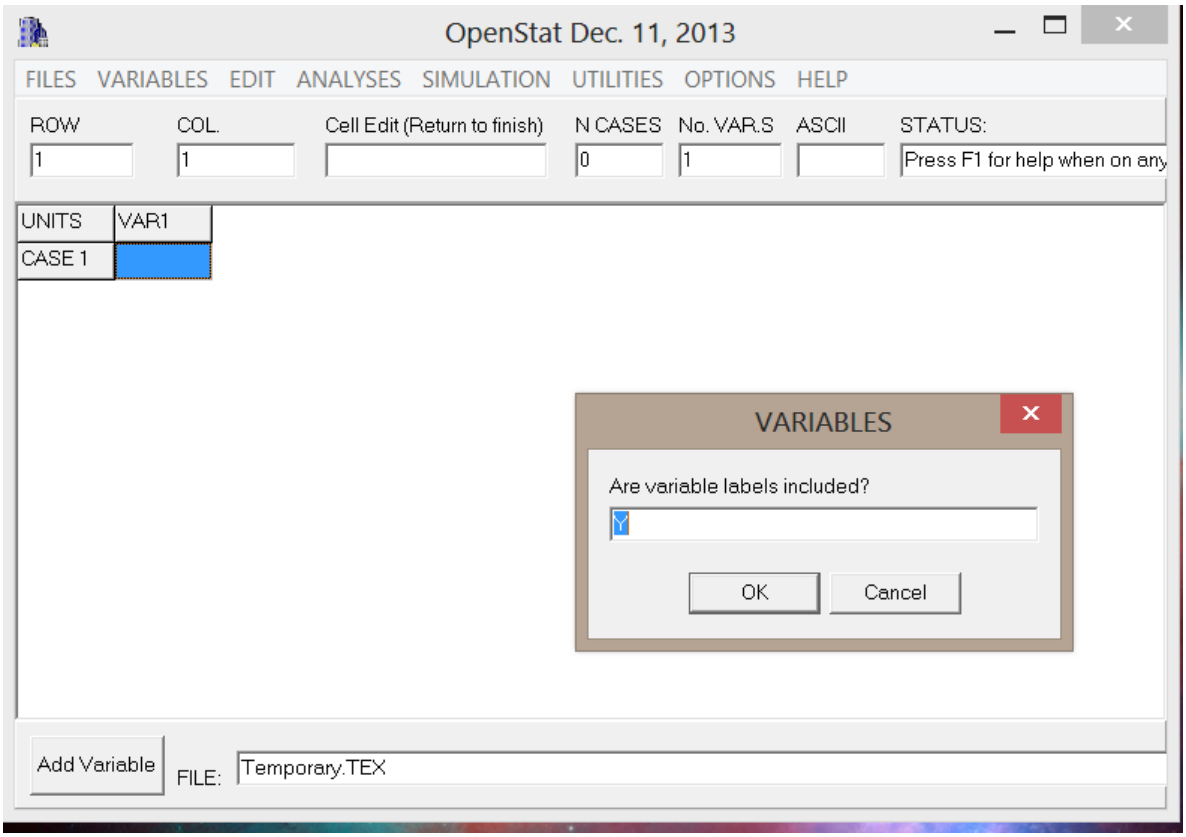


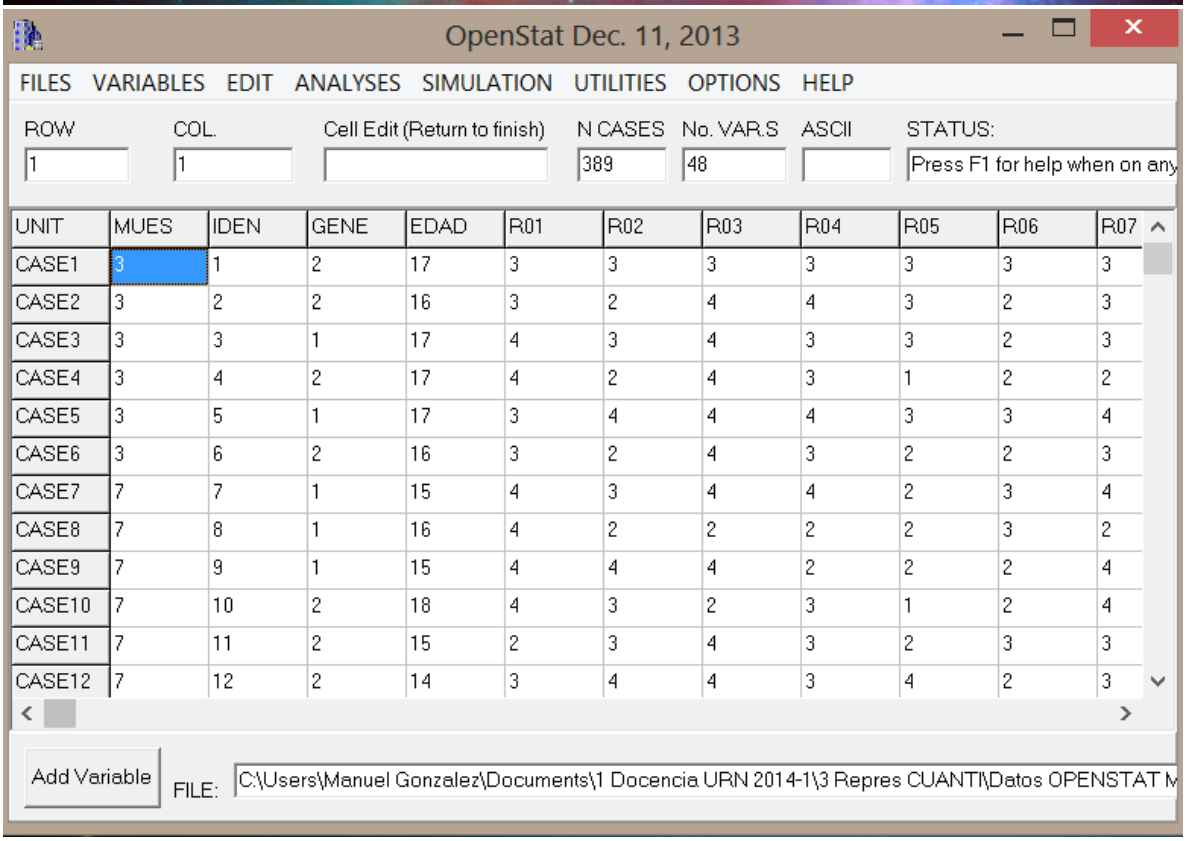
Una vez colocada la Base en el folder de la ruta OpenStat, está lista para cargarse al programa para su análisis

Abrimos OpenStat y desde la opción FILES…. Import Comma File:


Abrir
Buscar en:
Datos OPENSTAT MGM
Nombre
Fecha de modificación
Base EAP INTEG 1
28/05/2014 06:33 p. m.
Nombre:
Abrir
Tipo:
Comma files (*.csv)
Cancelar


Abrir
Buscar en:
Datos OPENSTAT MGM
Nombre
Fecha de modificación
Base EAP INTEG 1
28/05/2014 06:33 p. m.
Nombre:
Base EAP INTEG 1
Abrir
Tipo:
Comma files (*.csv)
Cancelar



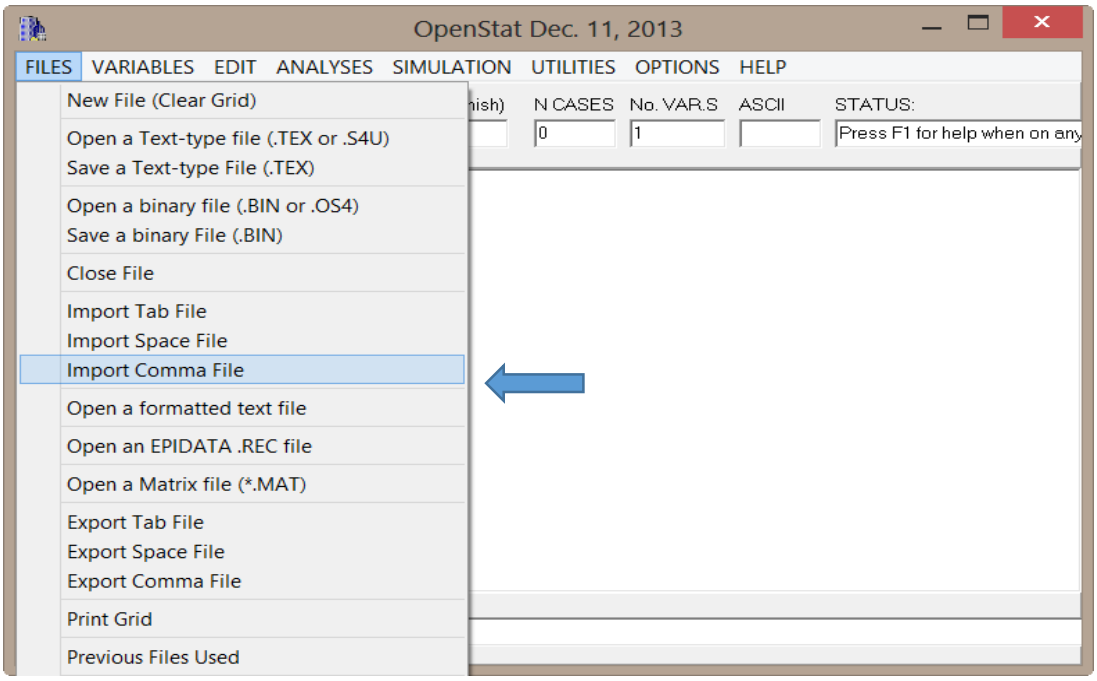


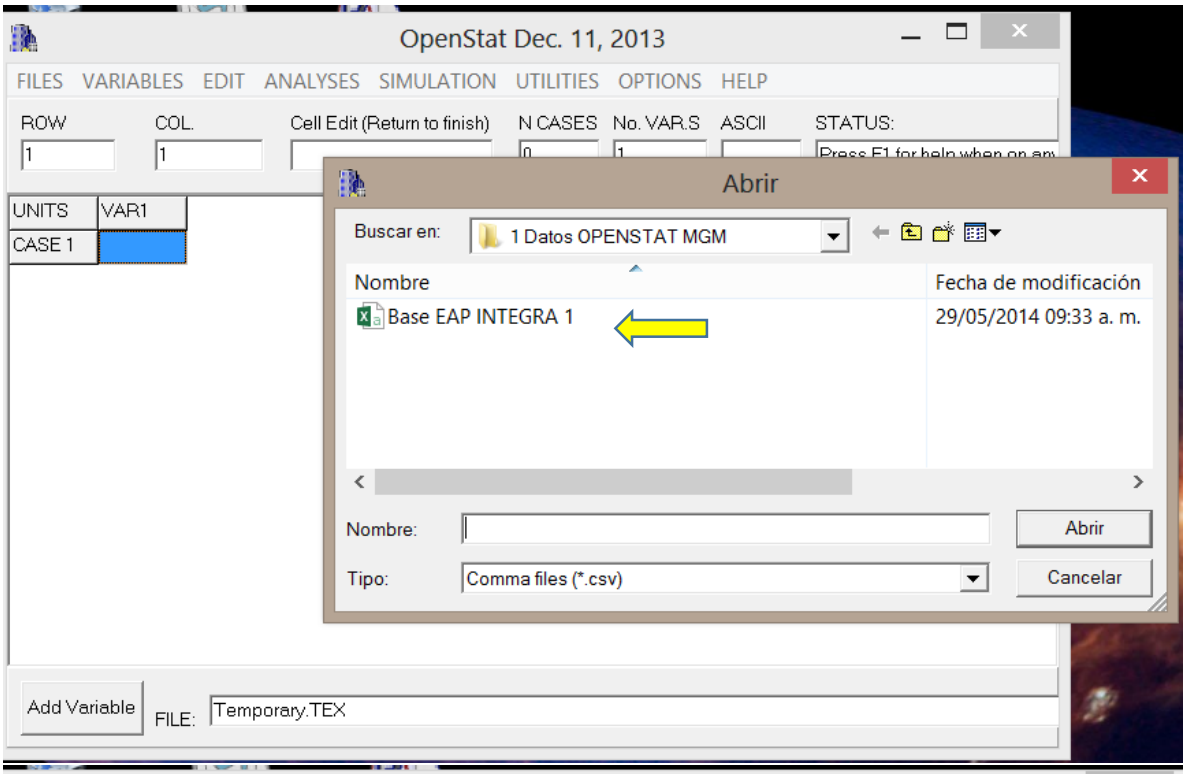
UNIT	MUES	IDEN	GENE	EDAD	R01	R02	R03	R04	R05	R06	R07
CASE1	3	1	2	17	3	3	3	3	3	3	3
CASE2	3	2	2	16	3	2	4	4	3	2	3
CASE3	3	3	1	17	4	3	4	3	3	2	3
CASE4	3	4	2	17	4	2	4	3	1	2	2
CASE5	3	5	1	17	3	4	4	4	3	3	4
CASE6	3	6	2	16	3	2	4	3	2	2	3
CASE7	7	7	1	15	4	3	4	4	2	3	4
CASE8	7	8	1	16	4	2	2	2	2	3	2
CASE9	7	9	1	15	4	4	4	2	2	2	4
CASE10	7	10	2	18	4	3	2	3	1	2	4
CASE11	7	11	2	15	2	3	4	3	2	3	3
CASE12	7	12	2	14	3	4	4	3	4	2	3

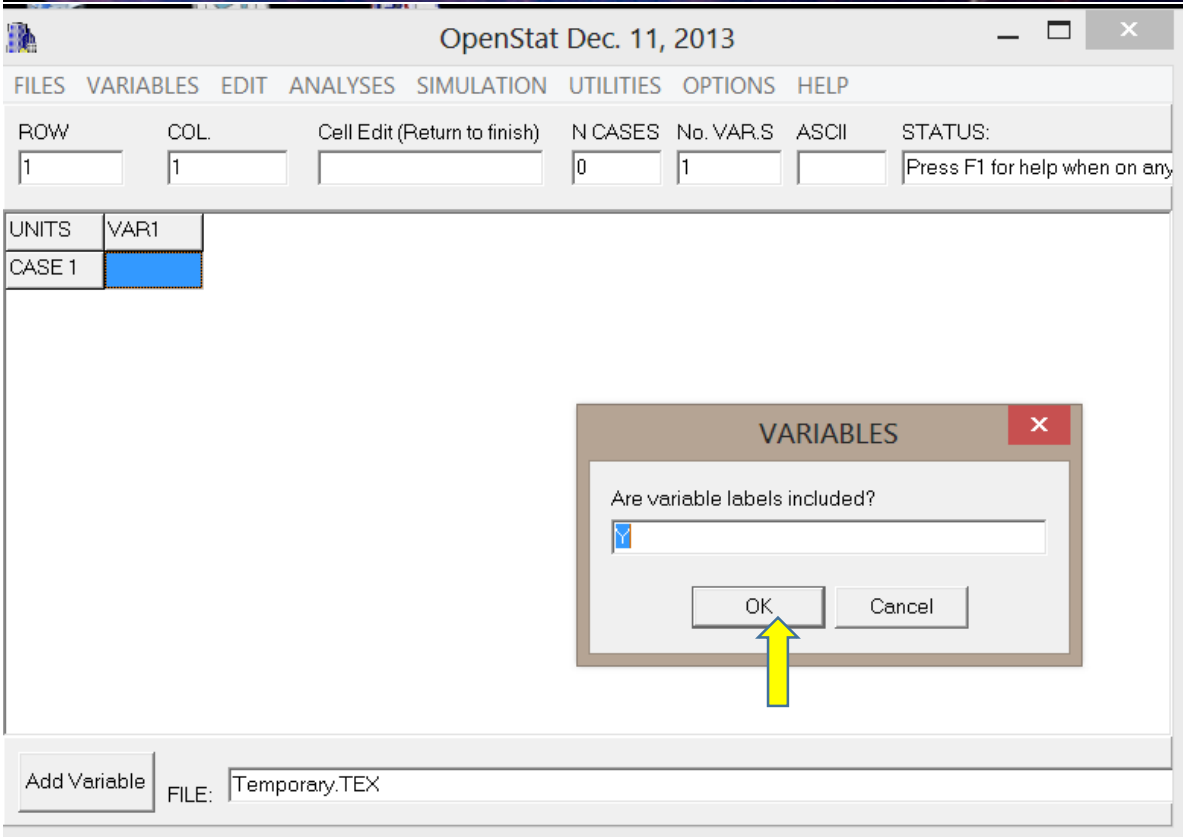
A partir de esta etapa el análisis y graficado de las variables puede comenzar.

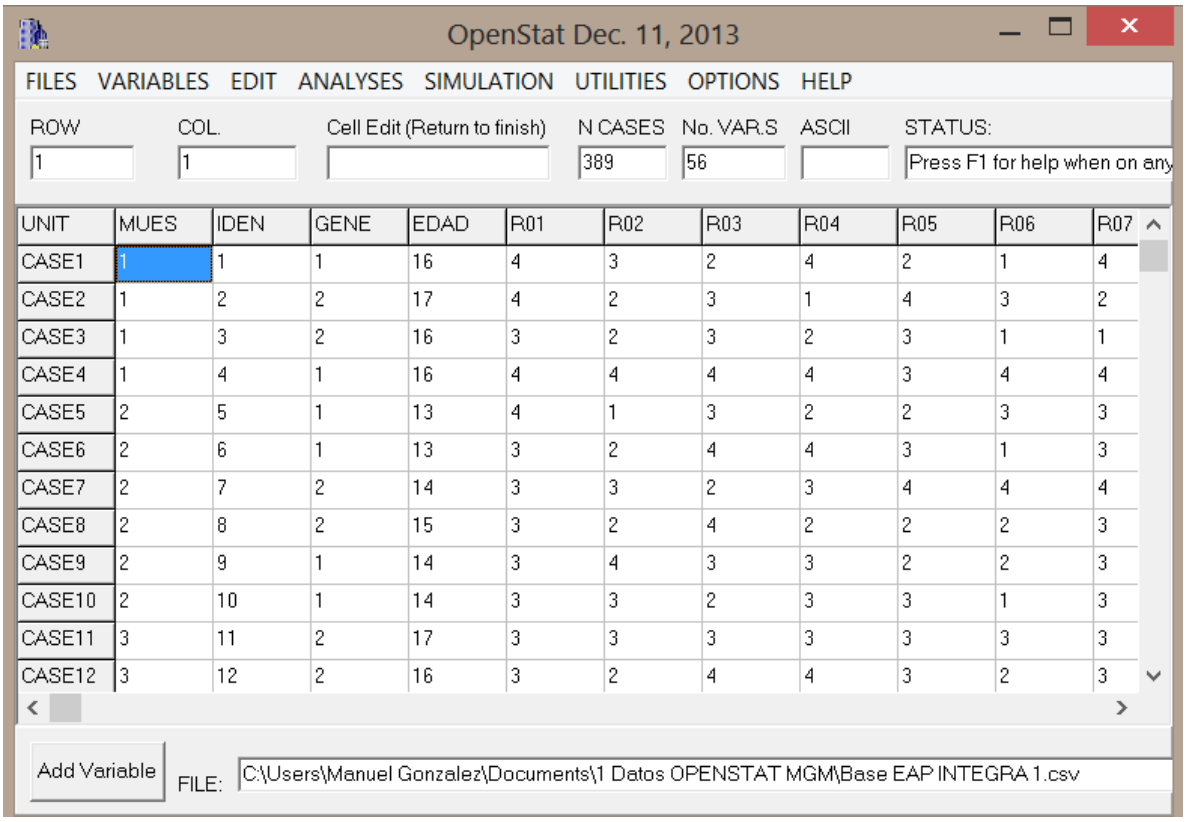
Guía de Uso OpenStat 3

Lectura de bases de datos




OpenStat Dec. 11, 2013
FILES VARIABLES EDIT ANALYSES SIMULATION UTILITIES OPTIONS HELP
ROW
COL.
Cell Edit (Return to finish)
N CASES
No. VAR.S
ASCII
STATUS:
UNITS
VAR1
CASE 1
Abrir
Buscar en:
1 Datos OPENSTAT MGM
Nombre
Fecha de modificación
Base EAP INTEGRA 1
29/05/2014 09:33 a. m.
Nombre:
Abrir
Tipo:
Comma files (*.csv)
Cancelar
Add Variable
FILE:
Temporary.TEX


OpenStat Dec. 11, 2013
FILES VARIABLES EDIT ANALYSES SIMULATION UTILITIES OPTIONS HELP
ROW
COL.
Cell Edit (Return to finish)
N CASES
No. VAR.S
ASCII
STATUS:
1
1
0
1
Press F1 for help when on any
UNITS
VAR1
CASE 1
VARIABLES
Are variable labels included?
Y
OK
Cancel
Add Variable
FILE:
Temporary.TEX

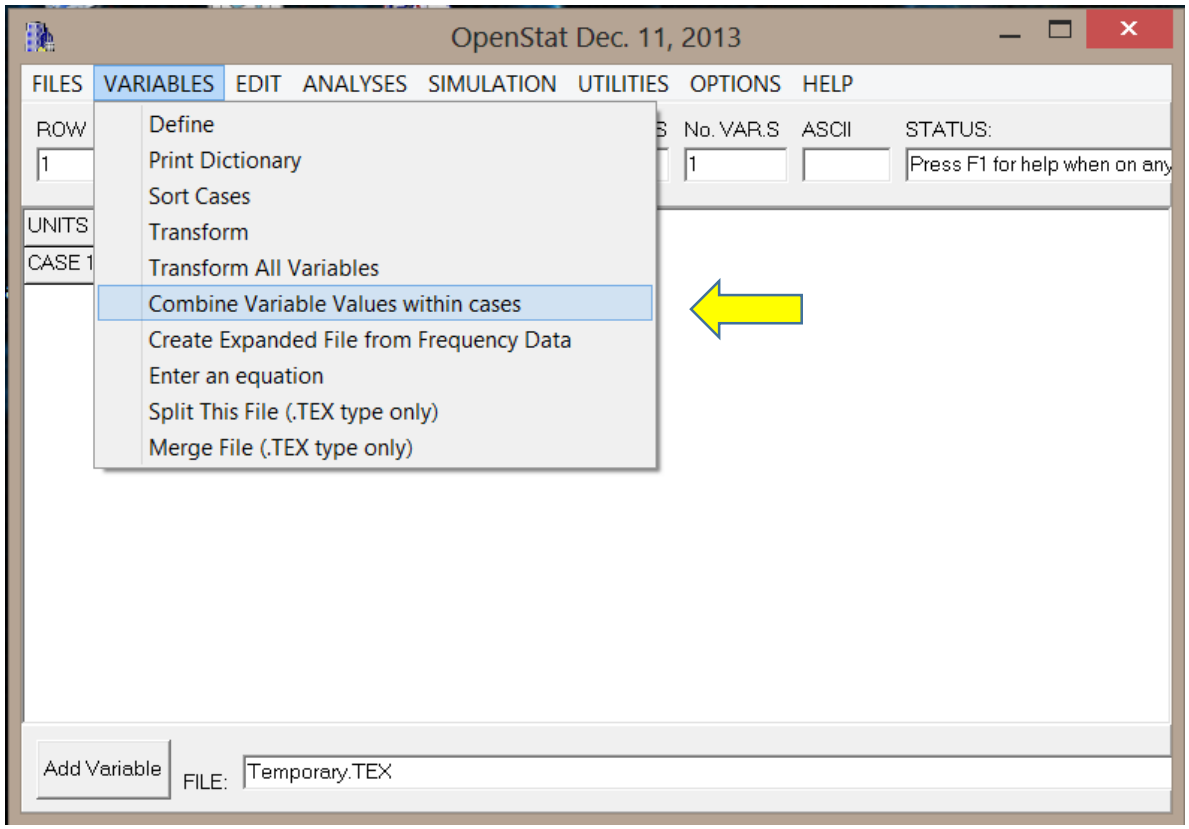


UNIT	MUES	IDEN	GENE	EDAD	R01	R02	R03	R04	R05	R06	R07
CASE1	1	1	1	16	4	3	2	4	2	1	4
CASE2	1	2	2	17	4	2	3	1	4	3	2
CASE3	1	3	2	16	3	2	3	2	3	1	1
CASE4	1	4	1	16	4	4	4	4	3	4	4
CASE5	2	5	1	13	4	1	3	2	2	3	3
CASE6	2	6	1	13	3	2	4	4	3	1	3
CASE7	2	7	2	14	3	3	2	3	4	4	4
CASE8	2	8	2	15	3	2	4	2	2	2	3
CASE9	2	9	1	14	3	4	3	3	2	2	3
CASE10	2	10	1	14	3	3	2	3	3	1	3
CASE11	3	11	2	17	3	3	3	3	3	3	3
CASE12	3	12	2	16	3	2	4	4	3	2	3

Cálculo de media, desviación estándar y puntuaciones estandarizadas (z)

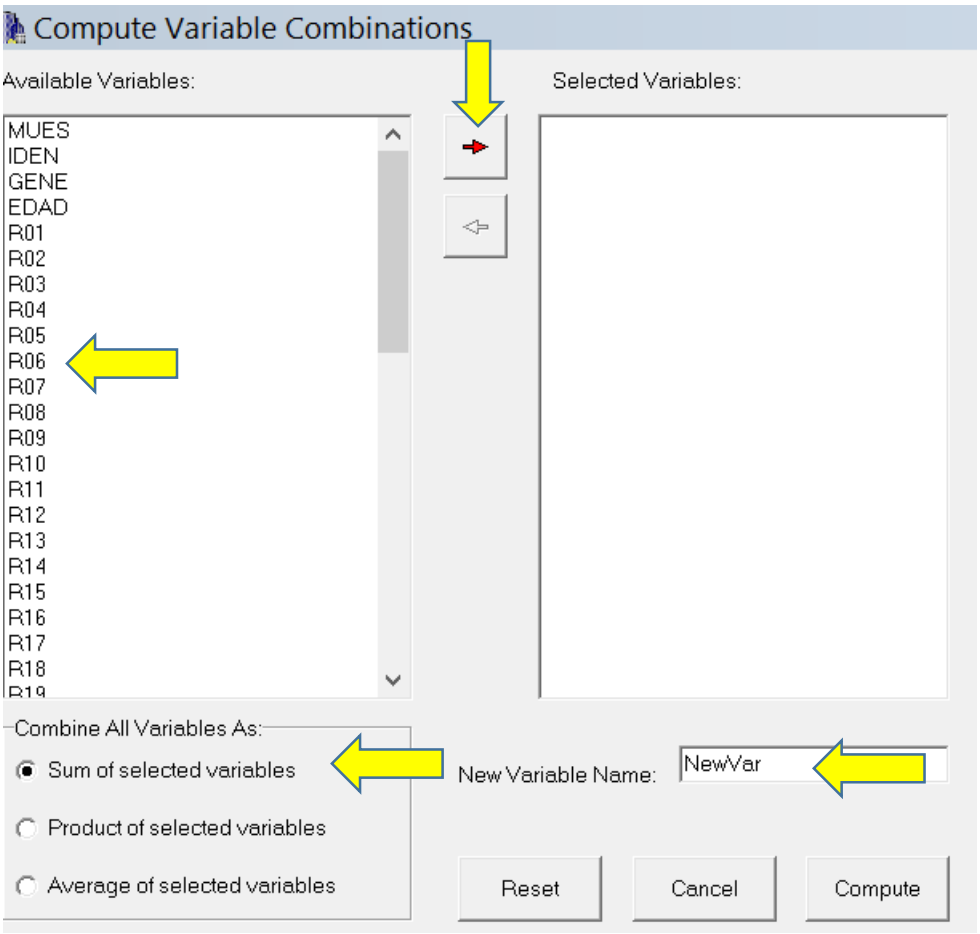
Es necesario AGRUPAR las variables como FACTORES (en este caso 4 grupos:

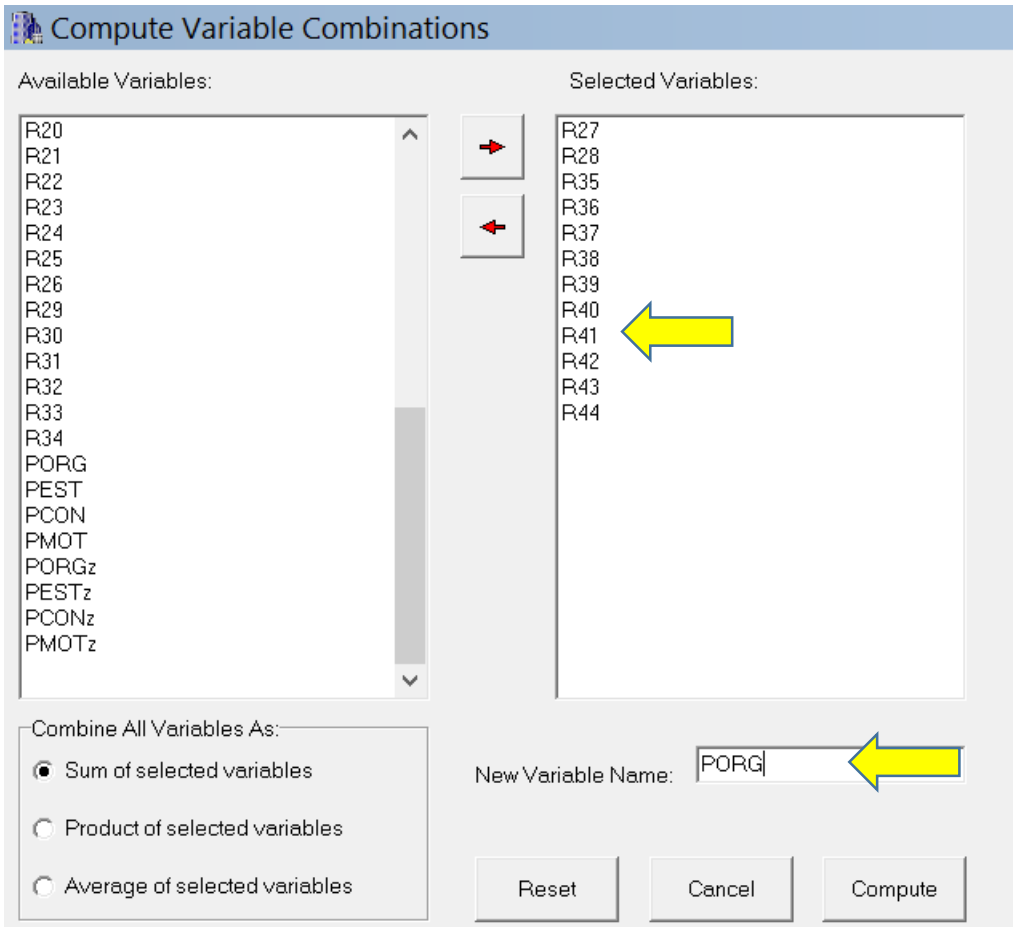
Bajo la opción VARIABLES….seleccionar “COMBINE VARIABLES WITHIN CASES”

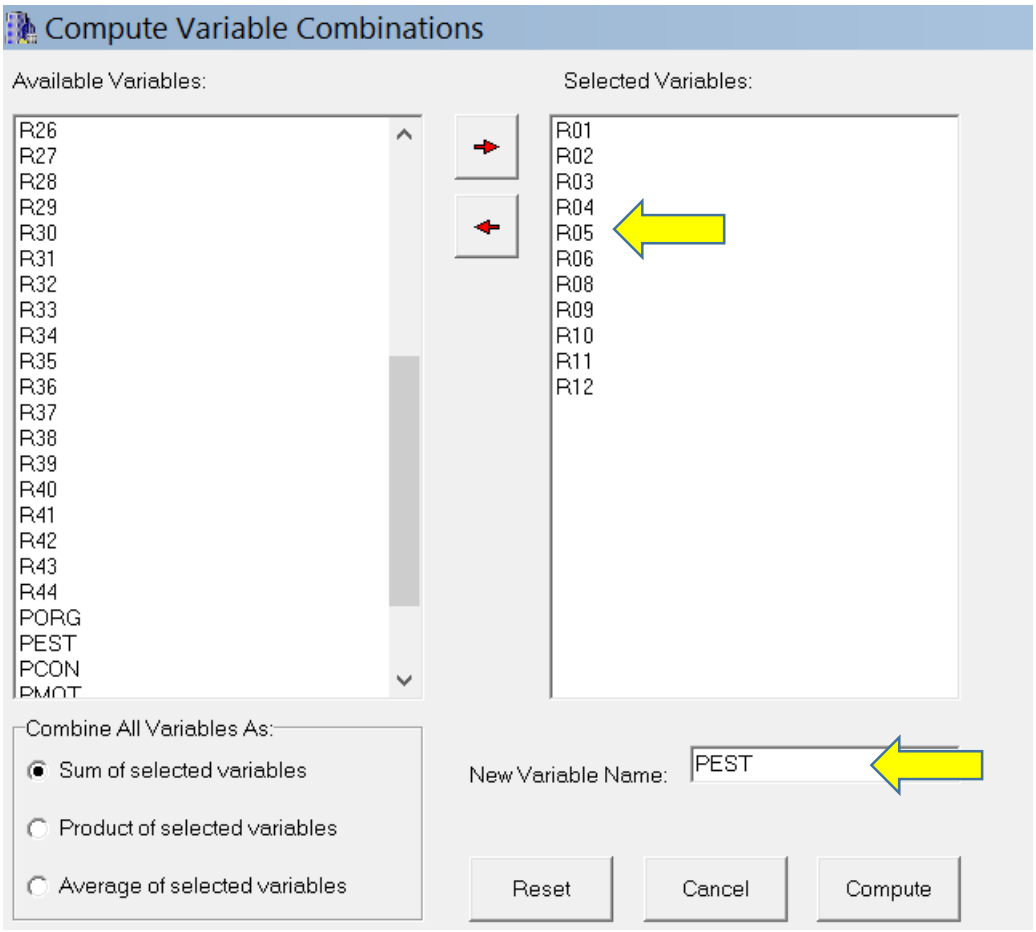


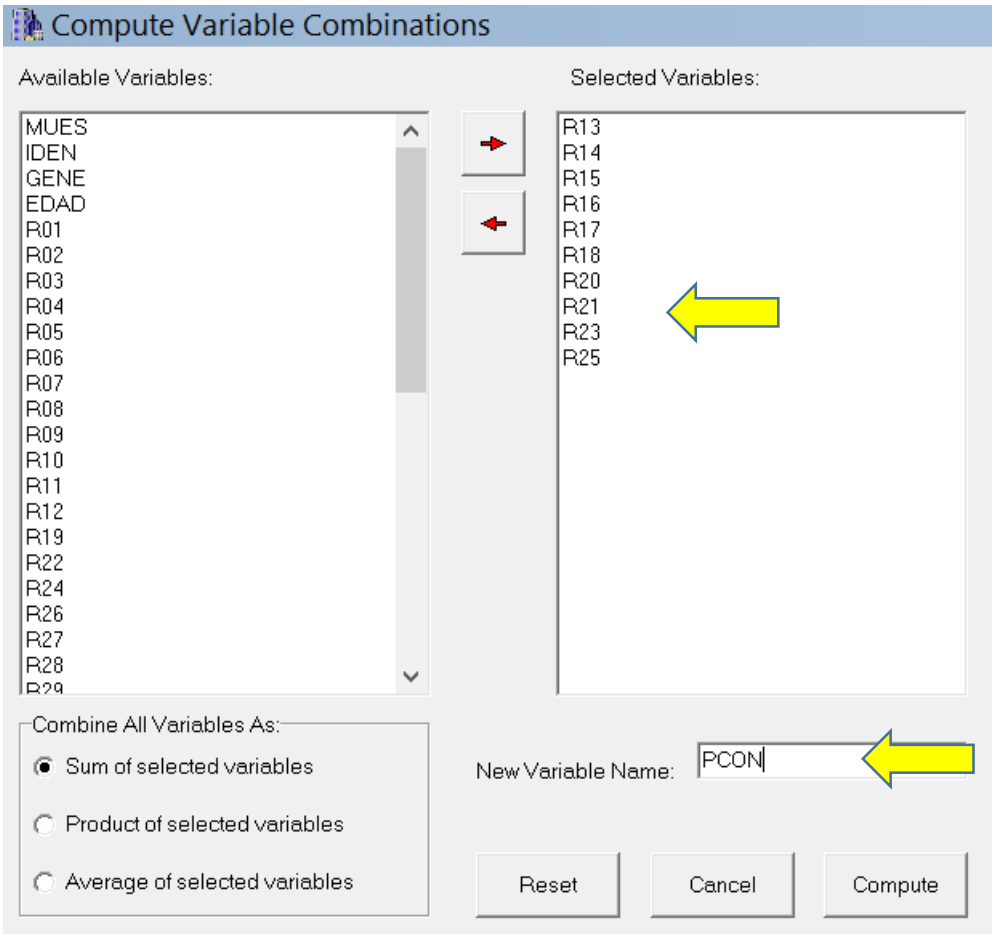
Para crear los agrupamientos seleccionaremos las variables de acuerdo a la siguiente lista:

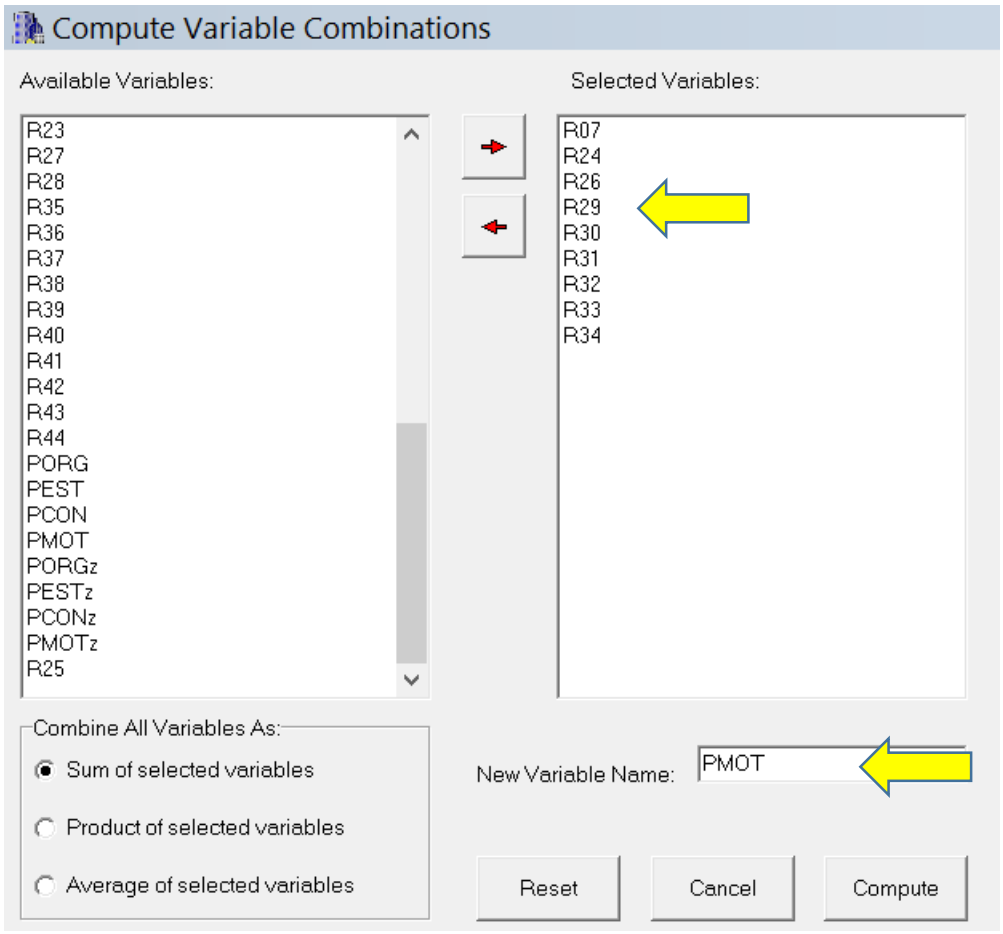
PCON (12)	PEST(11)	PORG(10)	PMOT (9)
27	1	13	7
28	2	14	24
35	3	15	26
36	4	16	29
37	5	17	30
38	6	18	31
39	8	20	32
40	9	21	33
41	10	23	34
42	11	25	
43	12		
44			


Compute Variable Combinations
Available Variables:
MUES
IDEN
GENE
EDAD
R01
R02
R03
R04
R05
R06
R07
R08
R09
R10
R11
R12
R13
R14
R15
R16
R17
R18
Selected Variables:
Combine All Variables As:
Sum of selected variables
Product of selected variables
Average of selected variables
New Variable Name:
NewVar
Reset
Cancel
Compute


Compute Variable Combinations
Available Variables:
R20
R21
R22
R23
R24
R25
R26
R29
R30
R31
R32
R33
R34
PORG
PEST
PCON
PMOT
PORGz
PESTz
PCONz
PMOTz
Selected Variables:
R27
R28
R35
R36
R37
R38
R39
R40
R41
R42
R43
R44
Combine All Variables As:
Sum of selected variables
Product of selected variables
Average of selected variables
New Variable Name:
PORG
Reset
Cancel
Compute

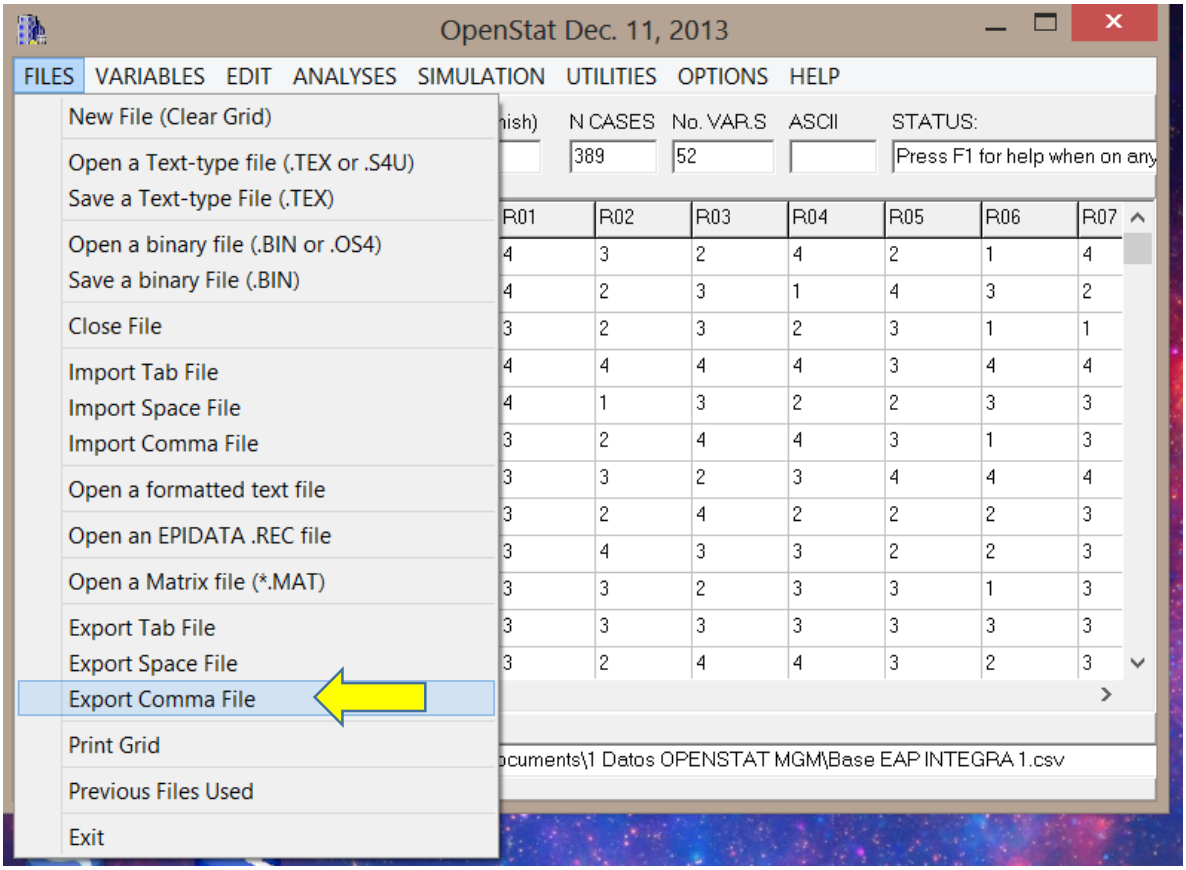

Compute Variable Combinations
Available Variables:
R26
R27
R28
R29
R30
R31
R32
R33
R34
R35
R36
R37
R38
R39
R40
R41
R42
R43
R44
PORG
PEST
PCON
Selected Variables:
R01
R02
R03
R04
R05
R06
R08
R09
R10
R11
R12
Combine All Variables As:
Sum of selected variables
Product of selected variables
Average of selected variables
New Variable Name:
PEST
Reset
Cancel
Compute

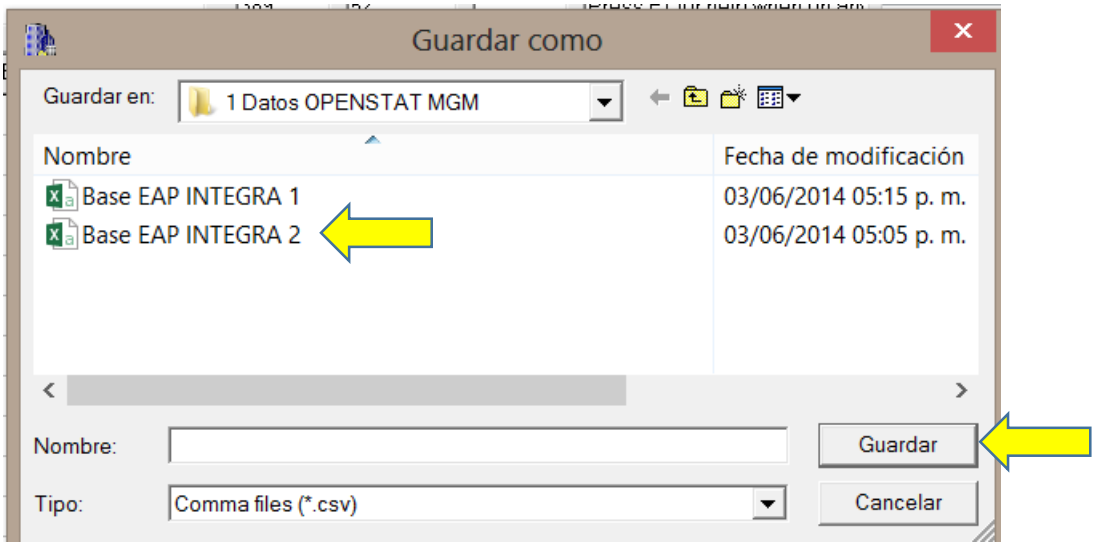

Compute Variable Combinations
Available Variables:
MUES
IDEN
GENE
EDAD
R01
R02
R03
R04
R05
R06
R07
R08
R09
R10
R11
R12
R19
R22
R24
R26
R27
R28
Selected Variables:
R13
R14
R15
R16
R17
R18
R20
R21
R23
R25
Combine All Variables As:
Sum of selected variables
Product of selected variables
Average of selected variables
New Variable Name:
PCON
Reset
Cancel
Compute



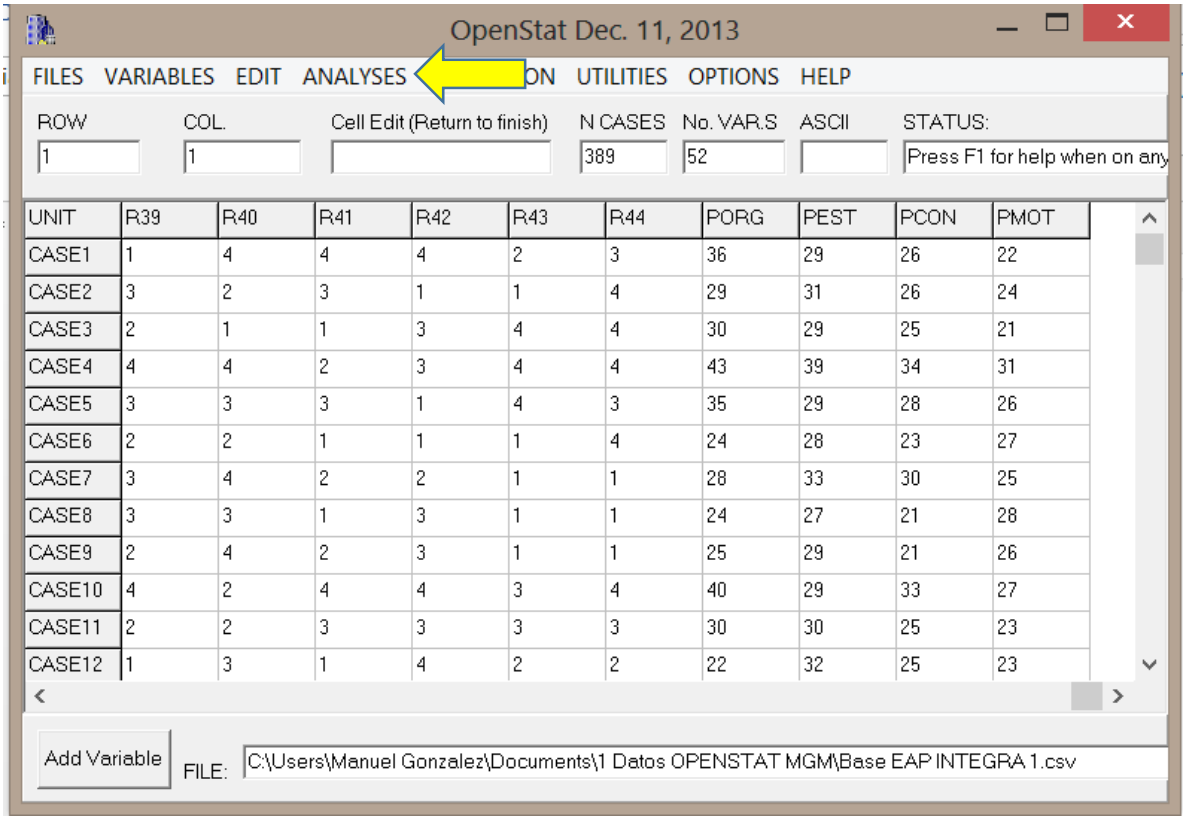
De esta forma se han creado las 4 nuevas variables combinadas PORG, PEST, PCON y PMOT.

En esta etapa es importante guardar los cambios a la base de datos. Se activa la opción FILES ….EXPORT COMMA FILE


OpenStat Dec. 11, 2013
FILES
VARIABLES
EDIT
ANALYSES
SIMULATION
UTILITIES
OPTIONS
HELP
New File (Clear Grid)
Open a Text-type file (.TEX or .S4U)
Save a Text-type File (.TEX)
Open a binary file (.BIN or .OS4)
Save a binary File (.BIN)
Close File
Import Tab File
Import Space File
Import Comma File
Open a formatted text file
Open an EPIDATA .REC file
Open a Matrix file (*.MAT)
Export Tab File
Export Space File
Export Comma File
Print Grid
Previous Files Used
Exit
N CASES
No. VAR.S
ASCII
STATUS:
389
52
Press F1 for help when on any
R01
R02
R03
R04
R05
R06
R07
ocuments\1 Datos OPENSTAT MGM\Base EAP INTEGRA 1.csv


Guardar como
Guardar en:
1 Datos OPENSTAT MGM
Nombre
Fecha de modificación
Base EAP INTEGRA 1
03/06/2014 05:15 p. m.
Base EAP INTEGRA 2
03/06/2014 05:05 p. m.
Nombre:
Guardar
Tipo:
Comma files (*.csv)
Cancelar

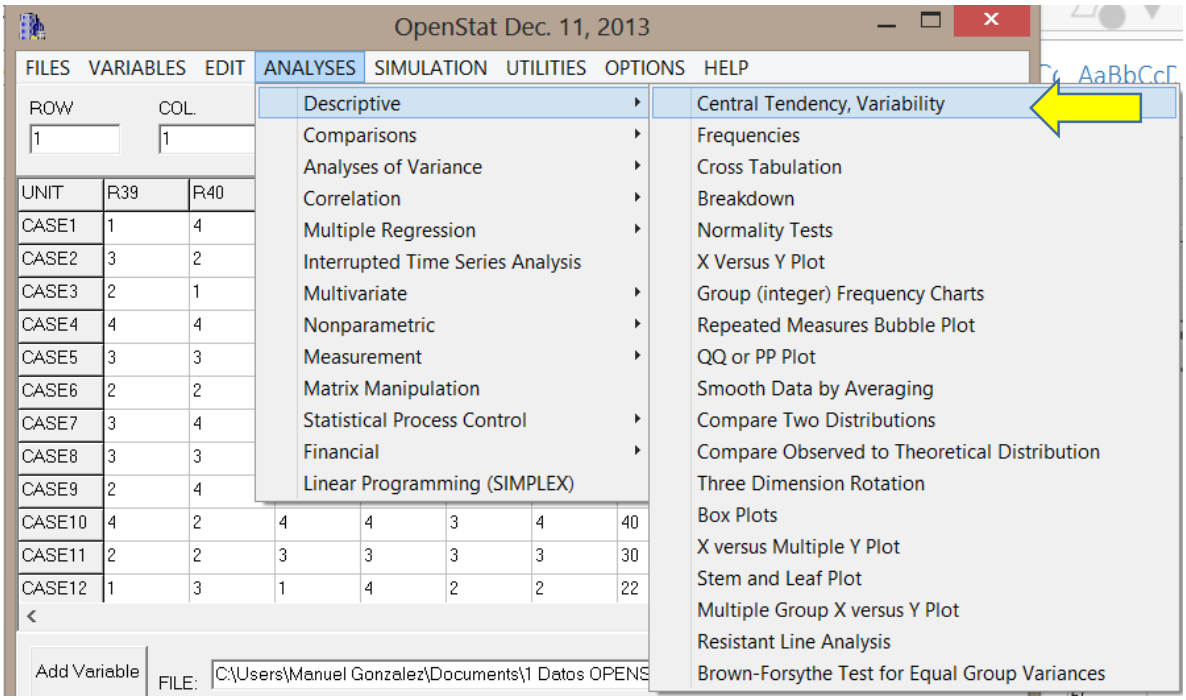
Esta modificación conservará los cambios de manera que se verán presentes las 4 nuevas variables:



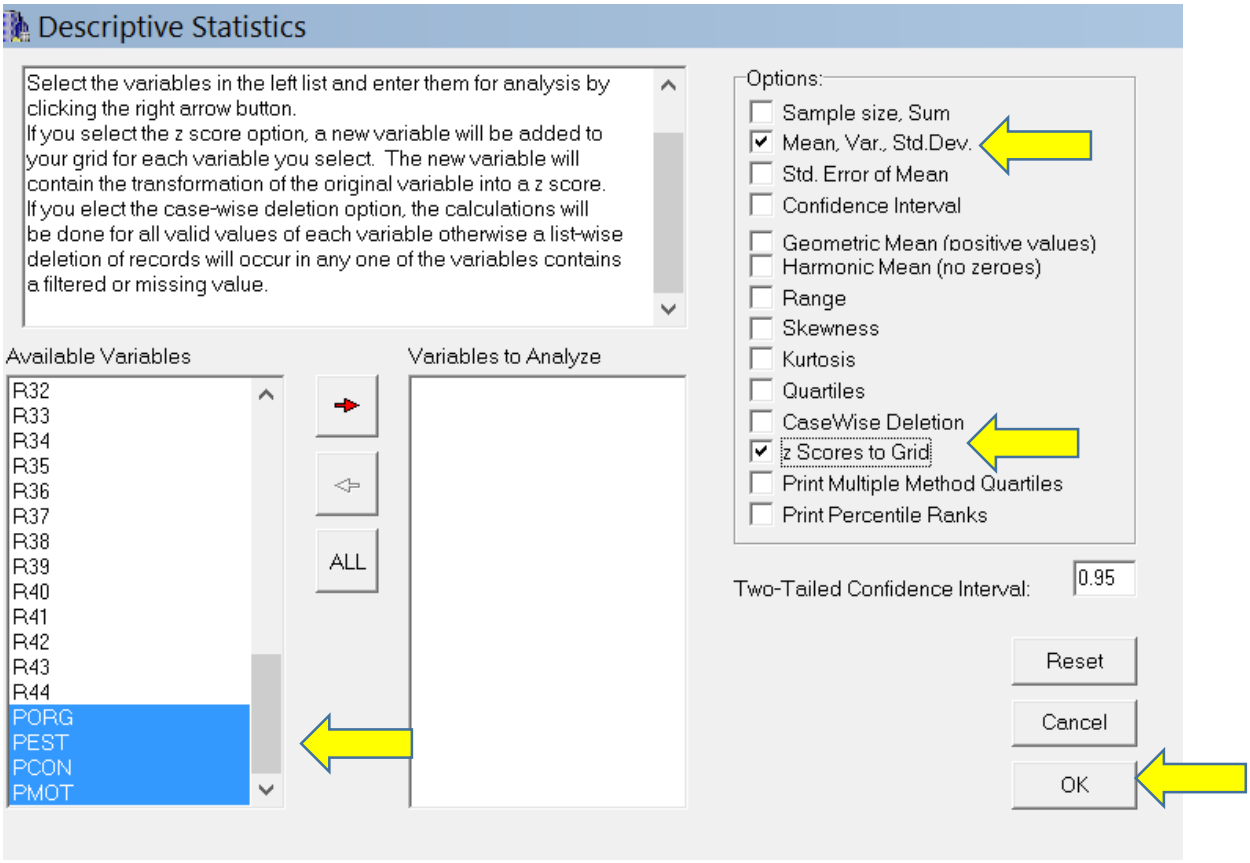
UNIT	R39	R40	R41	R42	R43	R44	PORG	PEST	PCON	PMOT
CASE1	1	4	4	4	2	3	36	29	26	22
CASE2	3	2	3	1	1	4	29	31	26	24
CASE3	2	1	1	3	4	4	30	29	25	21
CASE4	4	4	2	3	4	4	43	39	34	31
CASE5	3	3	3	1	4	3	35	29	28	26
CASE6	2	2	1	1	1	4	24	28	23	27
CASE7	3	4	2	2	1	1	28	33	30	25
CASE8	3	3	1	3	1	1	24	27	21	28
CASE9	2	4	2	3	1	1	25	29	21	26
CASE10	4	2	4	4	3	4	40	29	33	27
CASE11	2	2	3	3	3	3	30	30	25	23
CASE12	1	3	1	4	2	2	22	32	25	23

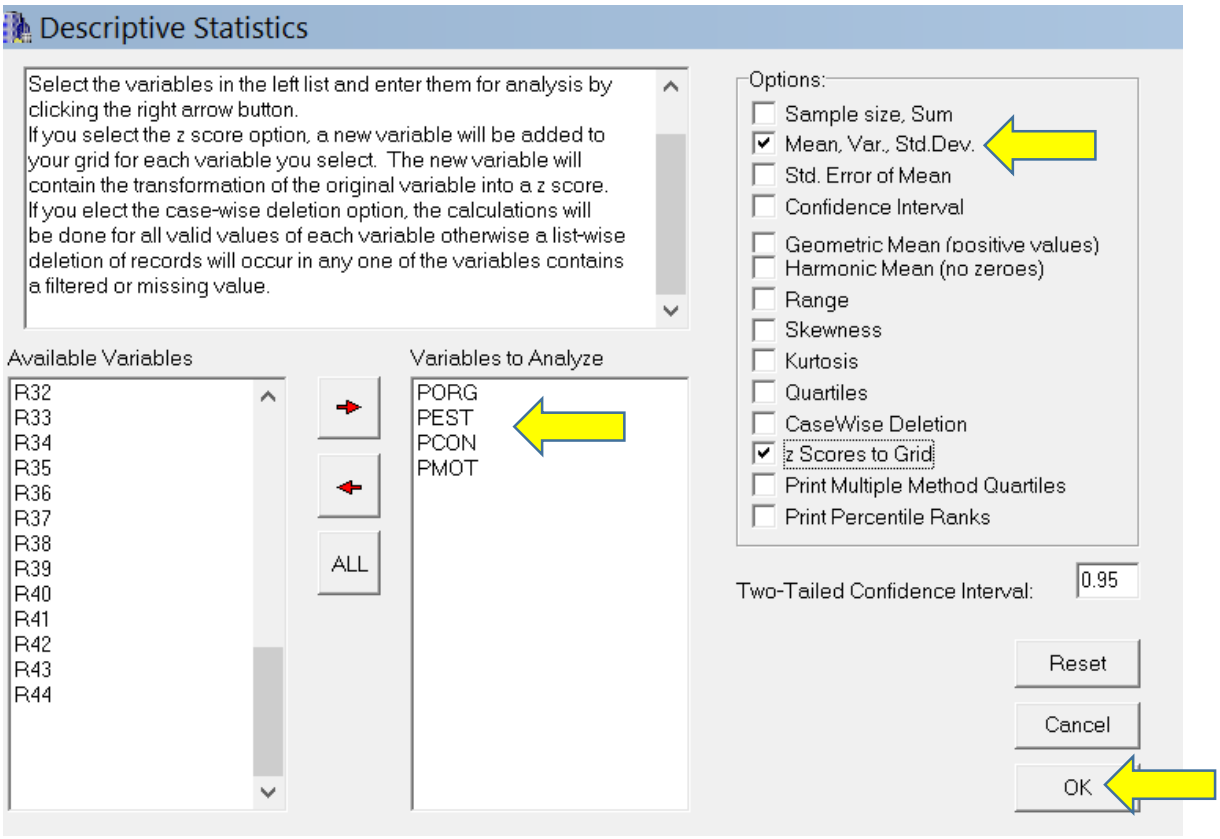
A continuación se activan las opciones:

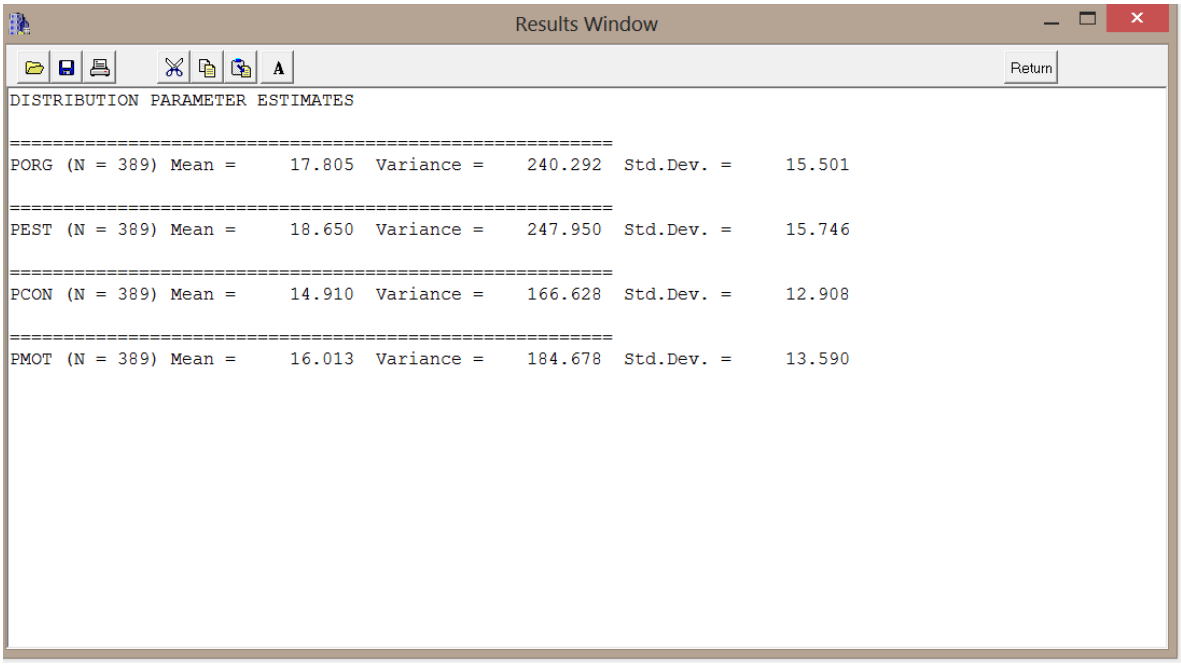
ANALYSIS….Descriptives….Central Tendency, Variability



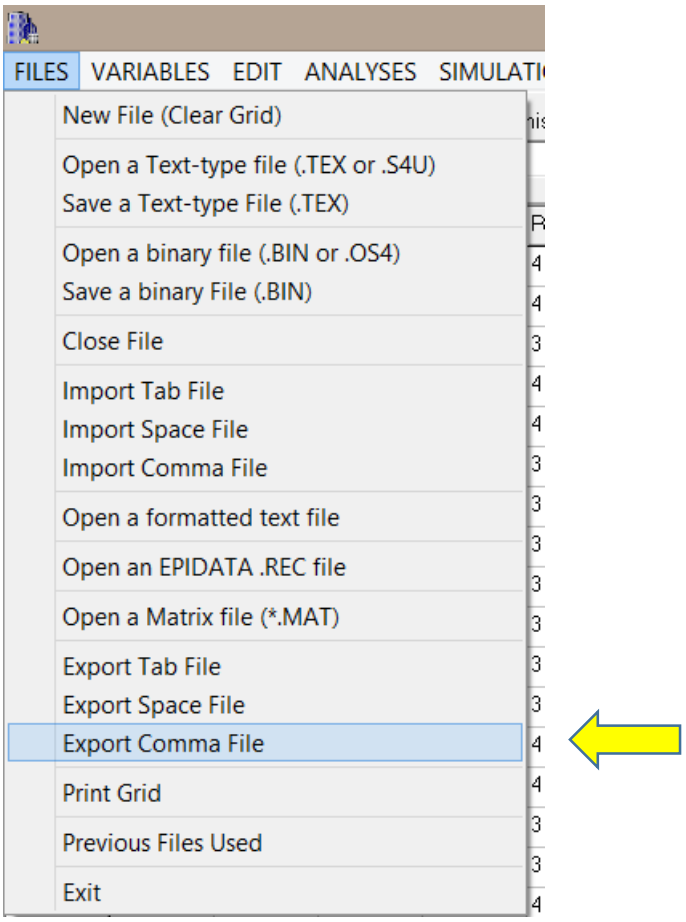
UNIT	R39	R40					
CASE1	1	4					
CASE2	3	2					
CASE3	2	1					
CASE4	4	4					
CASE5	3	3					
CASE6	2	2					
CASE7	3	4					
CASE8	3	3					
CASE9	2	4					
CASE10	4	2	4	4	3	4	40
CASE11	2	2	3	3	3	3	30
CASE12	1	3	1	4	2	2	22

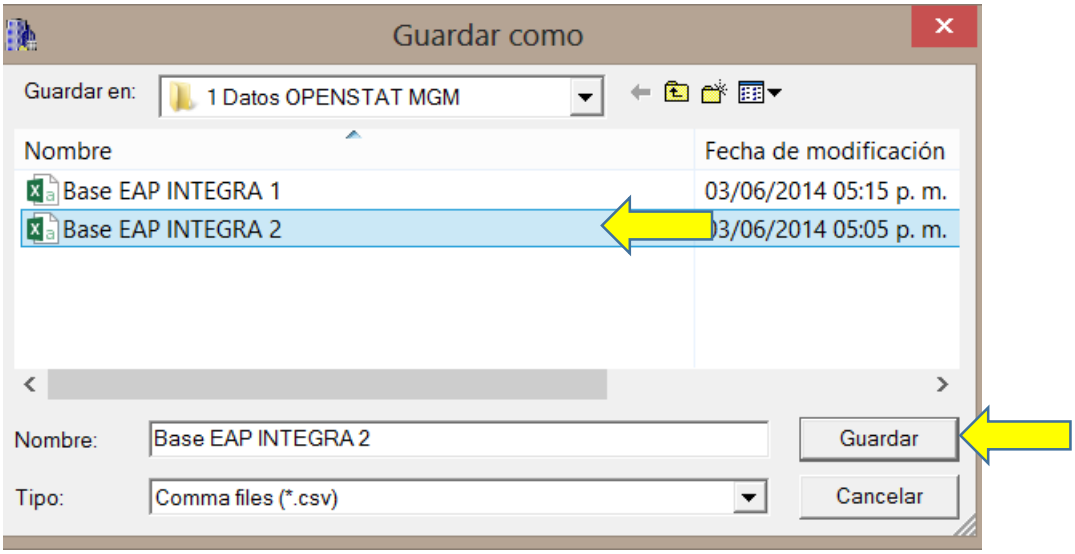



Descriptive Statistics
Select the variables in the left list and enter them for analysis by clicking the right arrow button.
If you select the z score option, a new variable will be added to your grid for each variable you select. The new variable will contain the transformation of the original variable into a z score.
If you elect the case-wise deletion option, the calculations will be done for all valid values of each variable otherwise a list-wise deletion of records will occur in any one of the variables contains a filtered or missing value.
Options:
Sample size, Sum
Mean, Var., Std.Dev.
Std. Error of Mean
Confidence Interval
Geometric Mean (positive values)
Harmonic Mean (no zeroes)
Range
Skewness
Kurtosis
Quartiles
CaseWise Deletion
z Scores to Grid
Print Multiple Method Quartiles
Print Percentile Ranks
Available Variables
R32
R33
R34
R35
R36
R37
R38
R39
R40
R41
R42
R43
R44
ALL
Variables to Analyze
PORG
PEST
PCON
PMOT
Two-Tailed Confidence Interval:
0.95
Reset
Cancel
OK


Results Window
Return
DISTRIBUTION PARAMETER ESTIMATES
PORG (N = 389) Mean = 17.805 Variance = 240.292 Std.Dev. = 15.501
PEST (N = 389) Mean = 18.650 Variance = 247.950 Std.Dev. = 15.746
PCON (N = 389) Mean = 14.910 Variance = 166.628 Std.Dev. = 12.908
PMOT (N = 389) Mean = 16.013 Variance = 184.678 Std.Dev. = 13.590

PORG	PEST	PCON	PMOT	PORGz	PESTz	PCONz	PMOTz
36	29	26	22	1.17379	0.65727	0.85912	0.44057
29	31	26	24	0.72222	0.78428	0.85912	0.58774
30	29	25	21	0.78673	0.65727	0.78166	0.36698
43	39	34	31	1.62537	1.29233	1.47887	1.10284
35	29	28	26	1.10928	0.65727	1.01406	0.73491
24	28	23	27	0.39967	0.59376	0.62672	0.80850
28	33	30	25	0.65771	0.91129	1.16900	0.66132
24	27	21	28	0.39967	0.53025	0.47178	0.88208
25	29	21	26	0.46418	0.65727	0.47178	0.73491
40	29	33	27	1.43184	0.65727	1.40140	0.80850
30	30	25	23	0.78673	0.72077	0.78166	0.51415
22	32	25	23	0.27065	0.84779	0.78166	0.51415
32	34	26	33	0.91575	0.97480	0.85912	1.25001
31	29	29	24	0.85124	0.65727	1.09153	0.58774
37	37	23	33	1.23830	1.16532	0.62672	1.25001
23	26	29	25	0.33516	0.46675	1.09153	0.66132
26	28	30	25	0.52869	0.59376	1.16900	0.66132
35	37	19	30	1.10928	1.16532	0.31684	1.02925
44	41	36	32	1.68988	1.41935	1.63381	1.17642
28	33	24	23	0.65771	0.91129	0.70419	0.51415
22	36	12	33	0.27065	1.10181	-0.22544	1.25001
26	29	23	19	0.52869	0.65727	0.62672	0.21981


FILES
VARIABLES
EDIT
ANALYSES
SIMULATI
New File (Clear Grid)
Open a Text-type file (.TEX or .S4U)
Save a Text-type File (.TEX)
Open a binary file (.BIN or .OS4)
Save a binary File (.BIN)
Close File
Import Tab File
Import Space File
Import Comma File
Open a formatted text file
Open an EPIDATA .REC file
Open a Matrix file (*.MAT)
Export Tab File
Export Space File
Export Comma File
Print Grid
Previous Files Used
Exit


Guardar como
Guardar en:
1 Datos OPENSTAT MGM
Nombre
Fecha de modificación
Base EAP INTEGRA 1
03/06/2014 05:15 p. m.
Base EAP INTEGRA 2
03/06/2014 05:05 p. m.
Nombre:
Base EAP INTEGRA 2
Guardar
Tipo:
Comma files (*.csv)
Cancelar

De esta manera se conserva el nuevo archivo Base EAP INTEGRA 2 que contiene las puntuaciones estandarizadas PORGz, PESTz, PCONz, PMOTz, las cuales pueden ser interpretadas para cada caso individual.