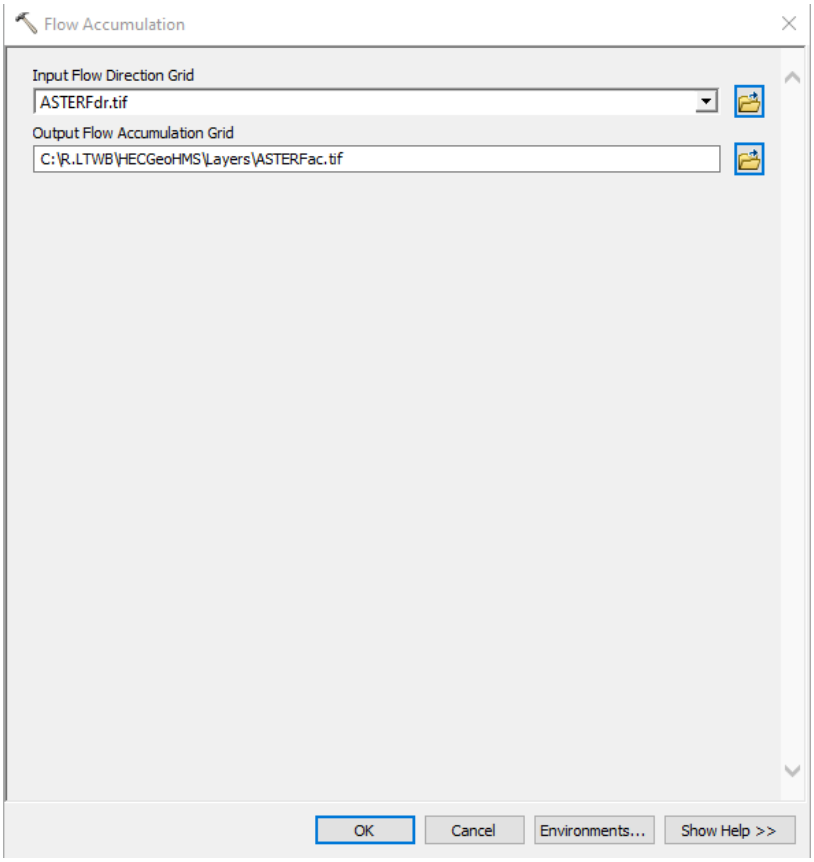
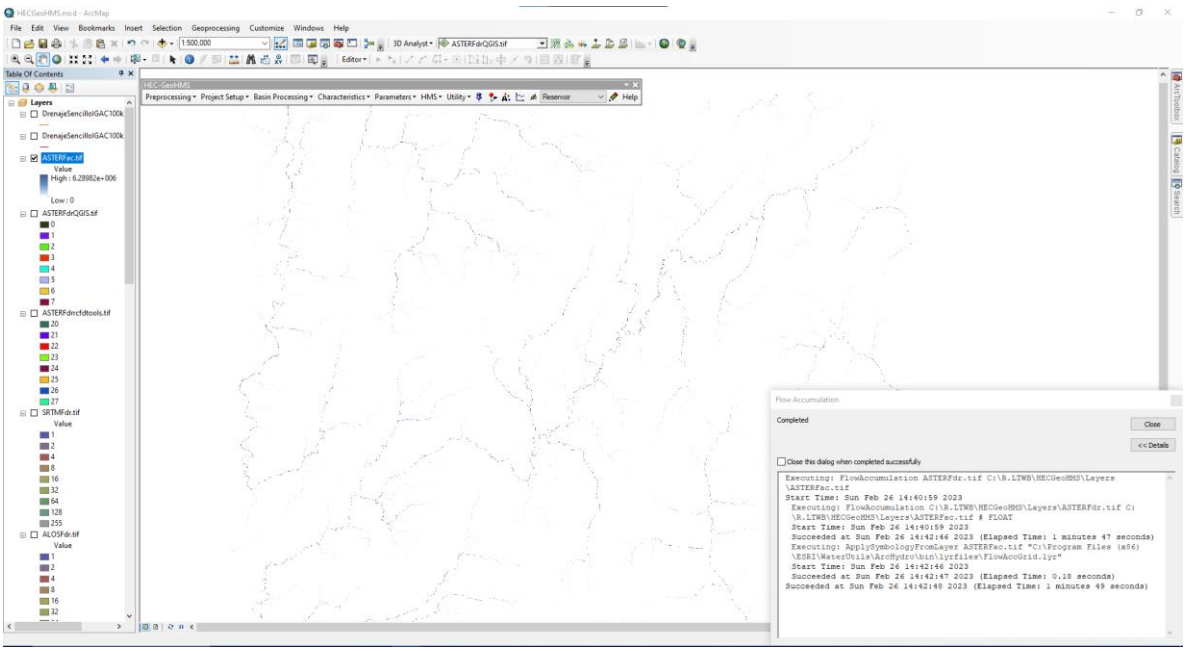
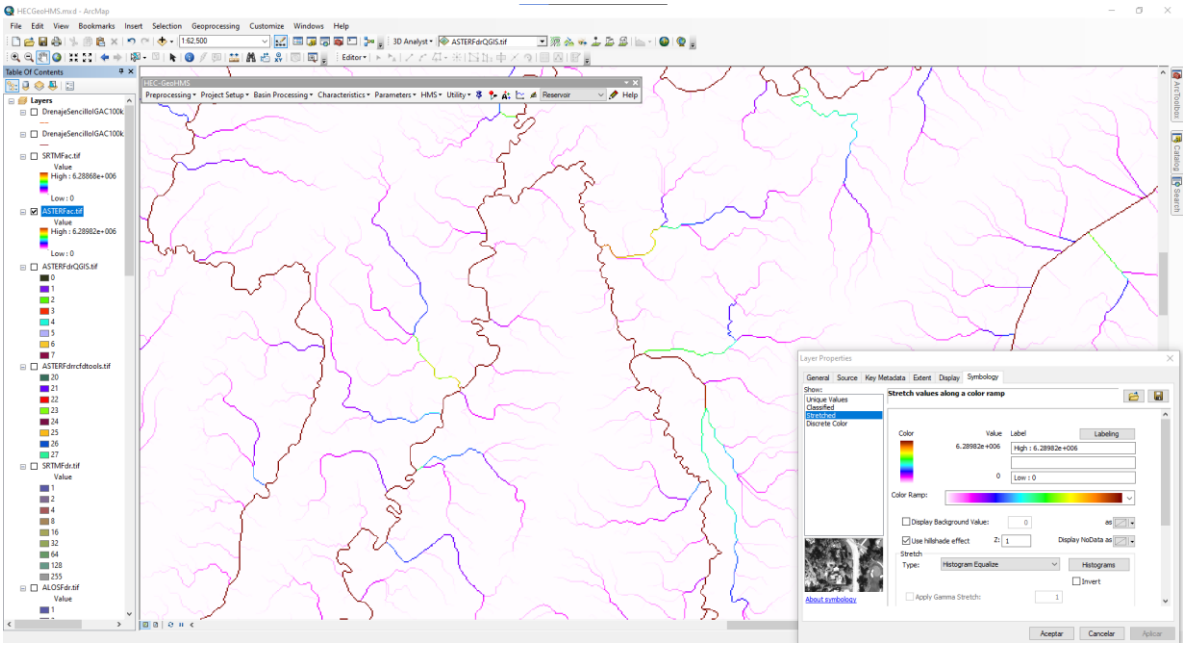
SECTION 02-FACDEM, CURSO LTWB

Herramienta Flow Accumulation

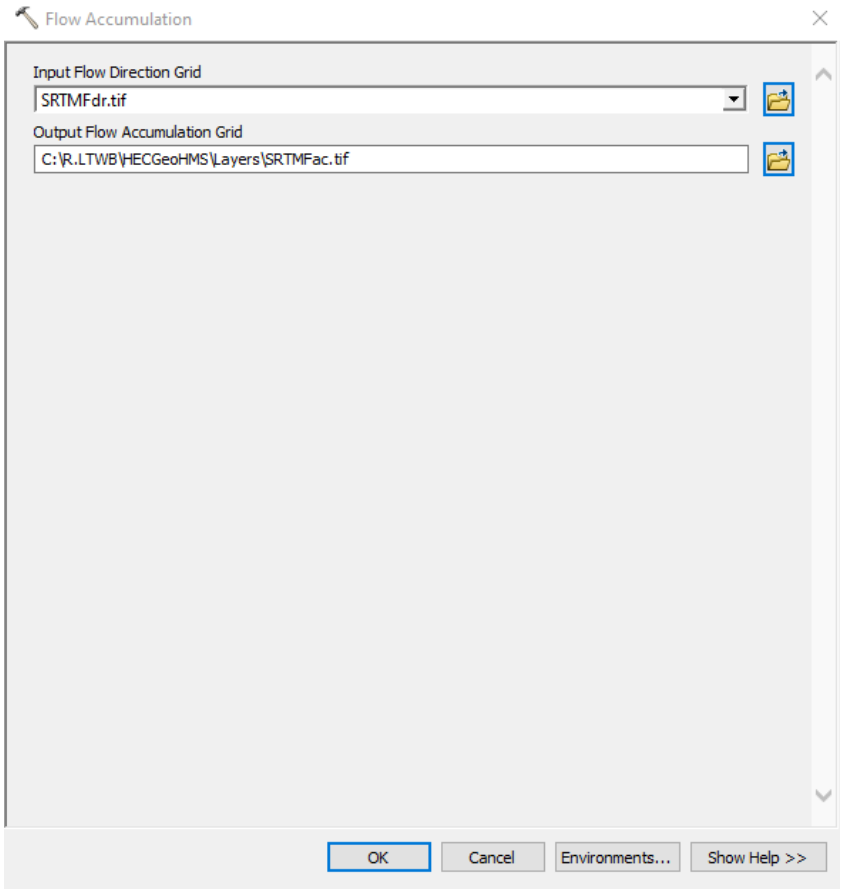


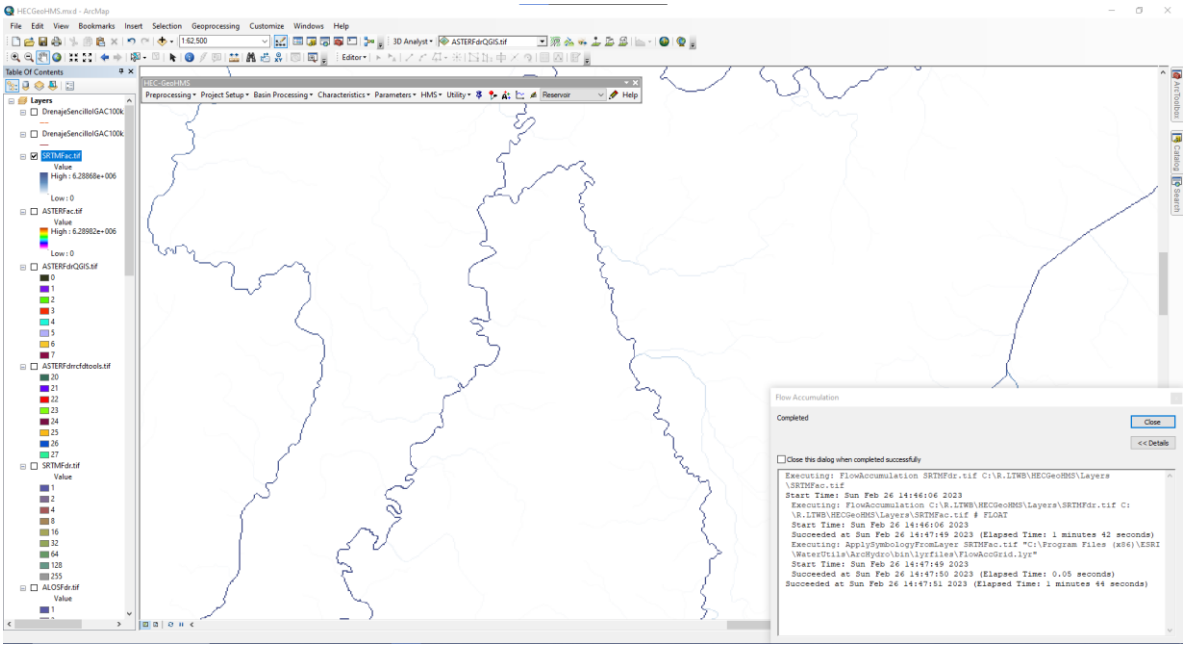


Resultado tras establecer la simbología correspondiente



Se repite el proceso anterior para las demás grillas:




HECGeoHMS.mxd - ArcMap
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Layers
DrenajeSencilloIGAC100k
SRTMFac.tif
ASTERFac.tif
ASTERFdrQGIS.tif
ASTERFdrcfdtools.tif
SRTMFdr.tif
ALOSFdr.tif
HEC-GeoHMS
Preprocessing Project Setup Basin Processing Characteristics Parameters HMS Utility Reservoir Help
Flow Accumulation
Completed
Close
<< Details
Close this dialog when completed successfully
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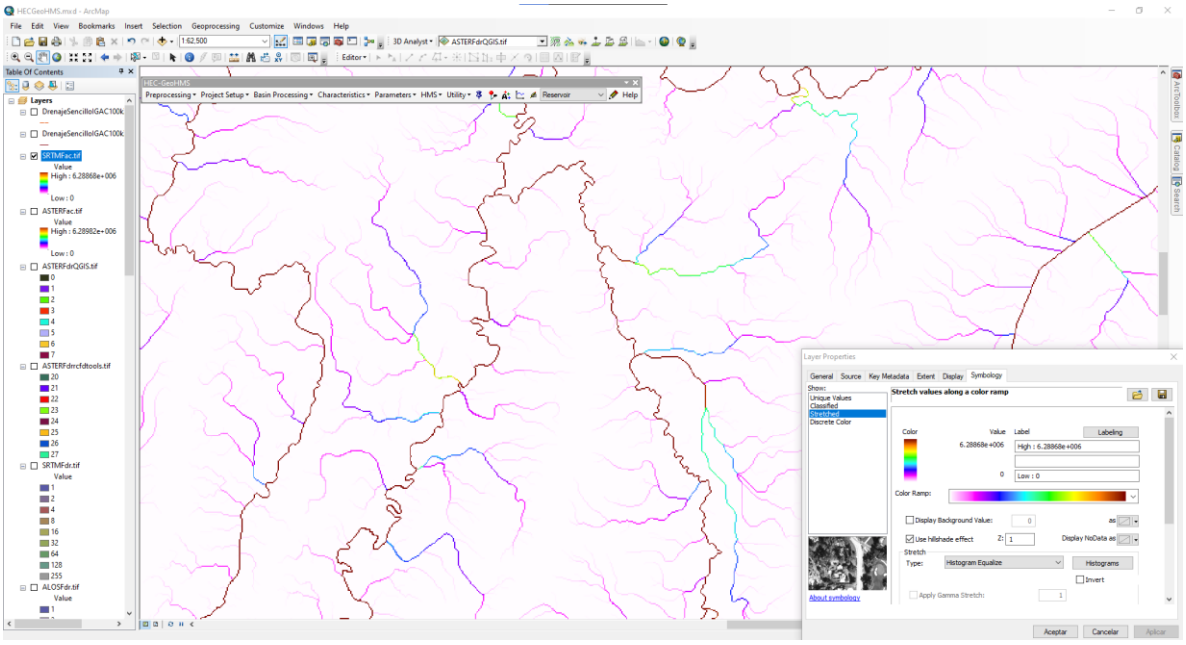
HECGeoHMS.mxd - ArcMap
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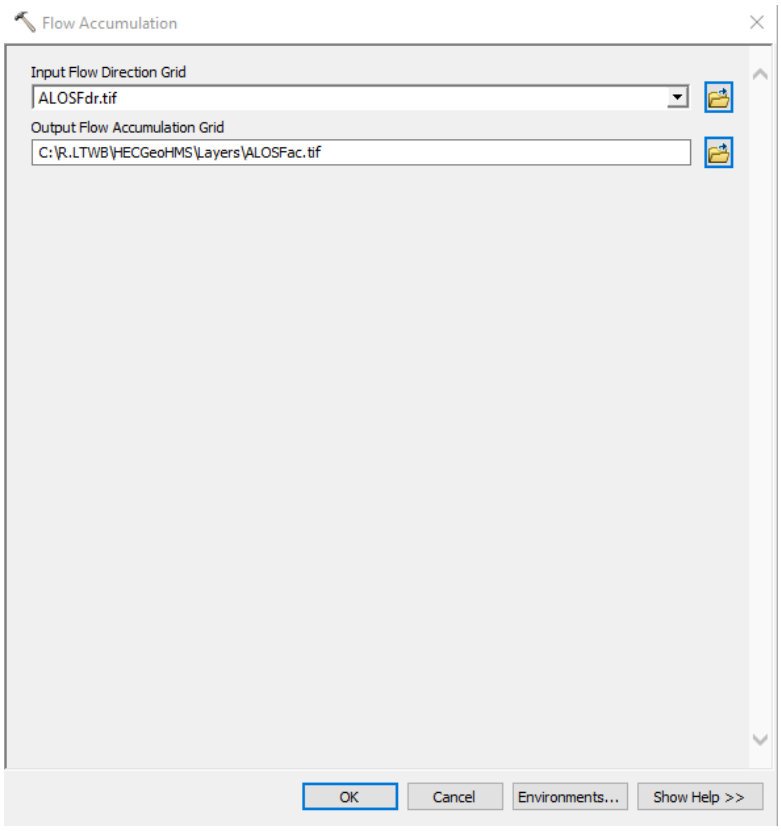
Layer Properties
General Source Key Metadata Extent Display Symbology
Show:
Unique Values
Classified
Stretched
Discrete Color
Stretch values along a color ramp
Color
Value
Label
Labeling
High : 6.28868e+006
Low : 0
Color Ramp:
Display Background Value:
Use hillshade effect
Display NoData as
Stretch
Type:
Histogram Equalize
Histograms
Invert
Apply Gamma Stretch:
About symbology
Aceptar
Cancelar
Aplicar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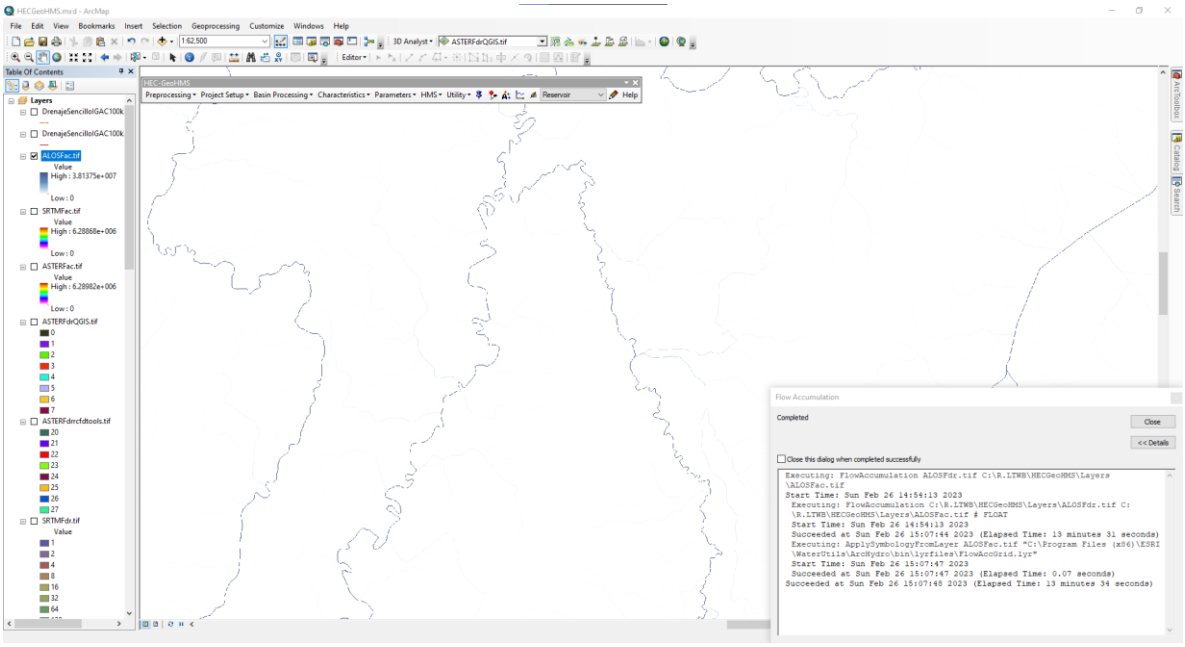
ALOSFdr.tif
Output Flow Accumulation Grid
C:\R.LTWB\HECGeoHMS\Layers\ALOSFac.tif
OK
Cancel
Environments...
Show Help >>


Flow Accumulation
Completed
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<< Details
Close this dialog when completed successfully
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\ALOSFac.tif
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\R.LTWB\HECGeoHMS\Layers\ALOSFac.tif # FLOAT
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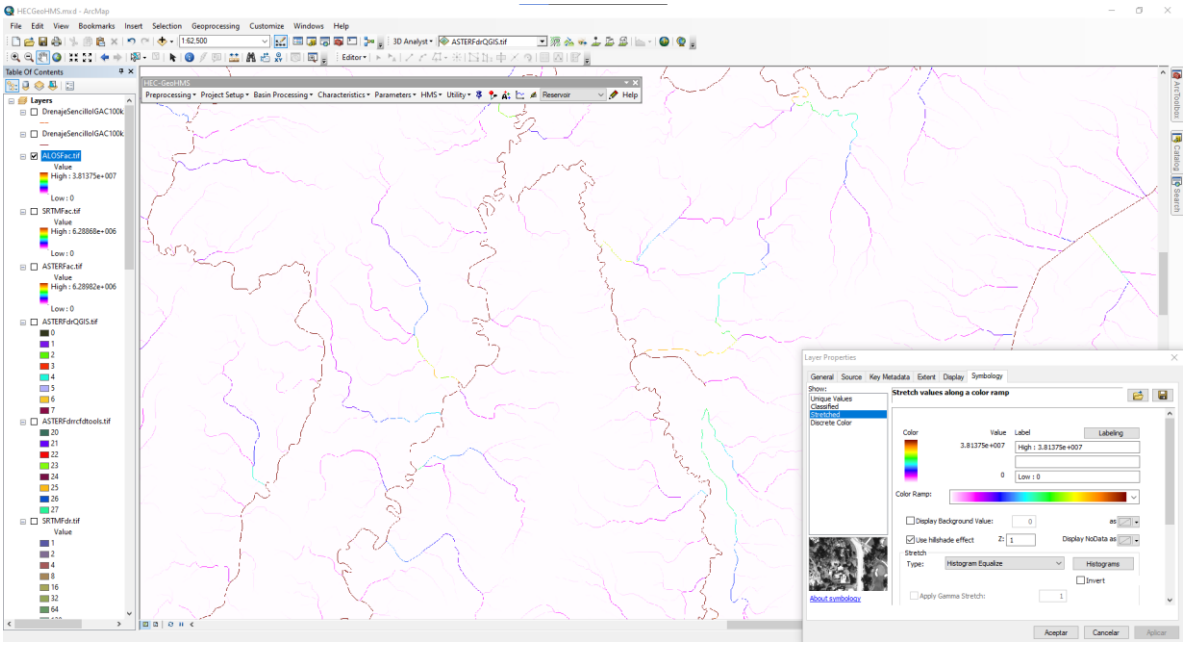
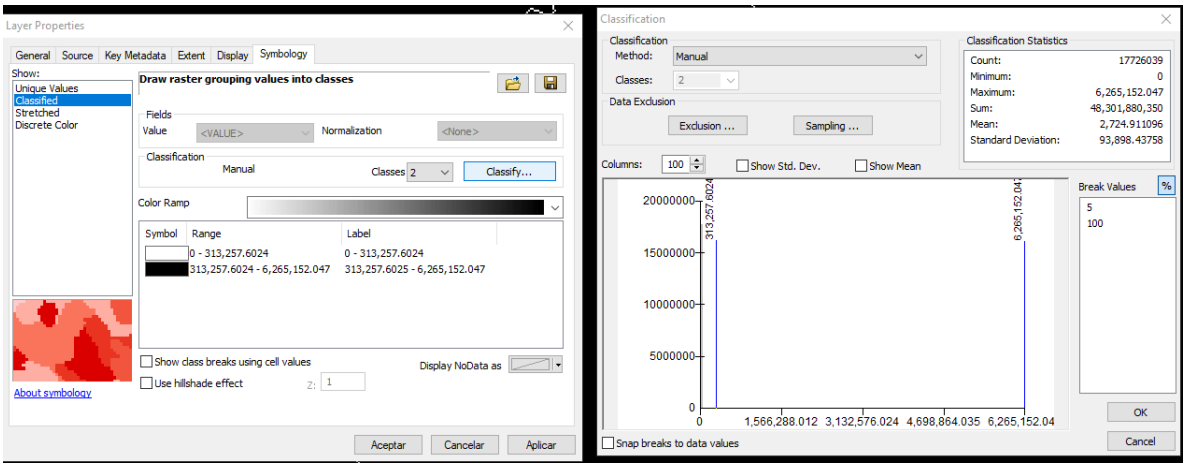
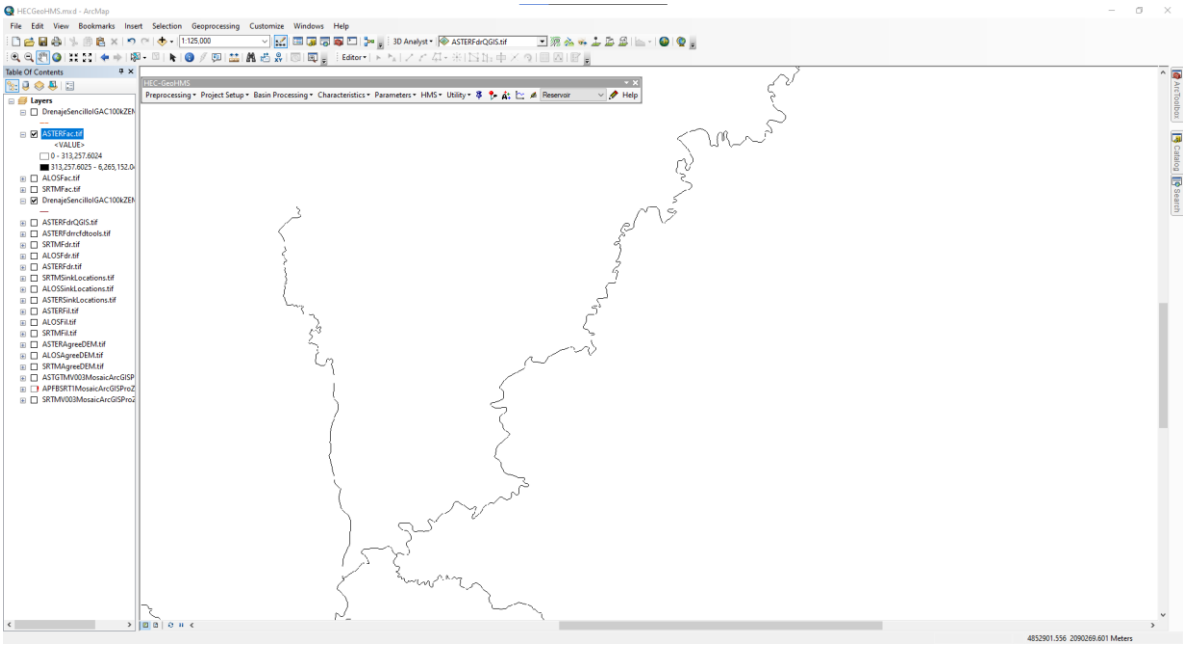


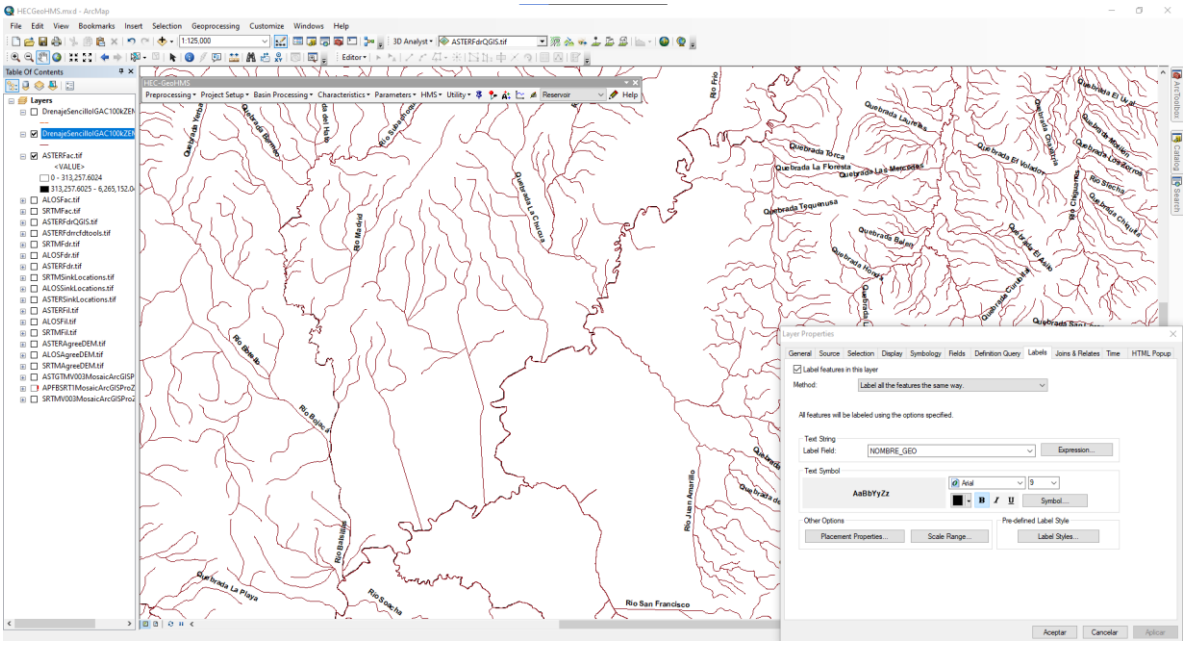
Parámetros para representación

- Capa ASTERFac

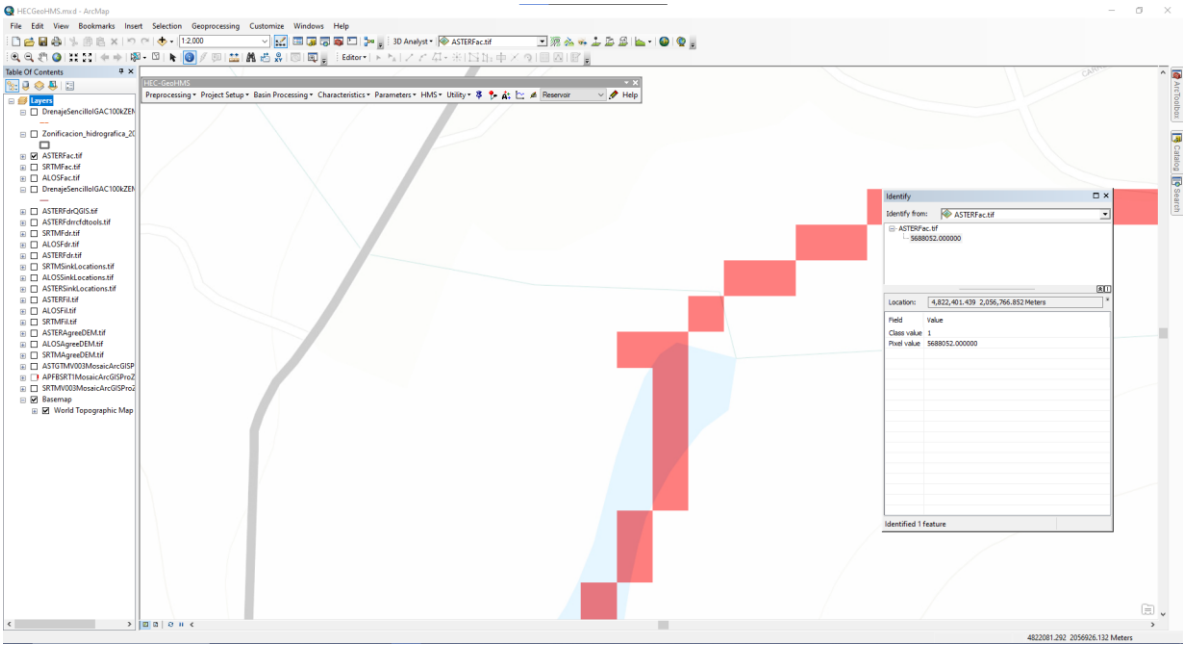




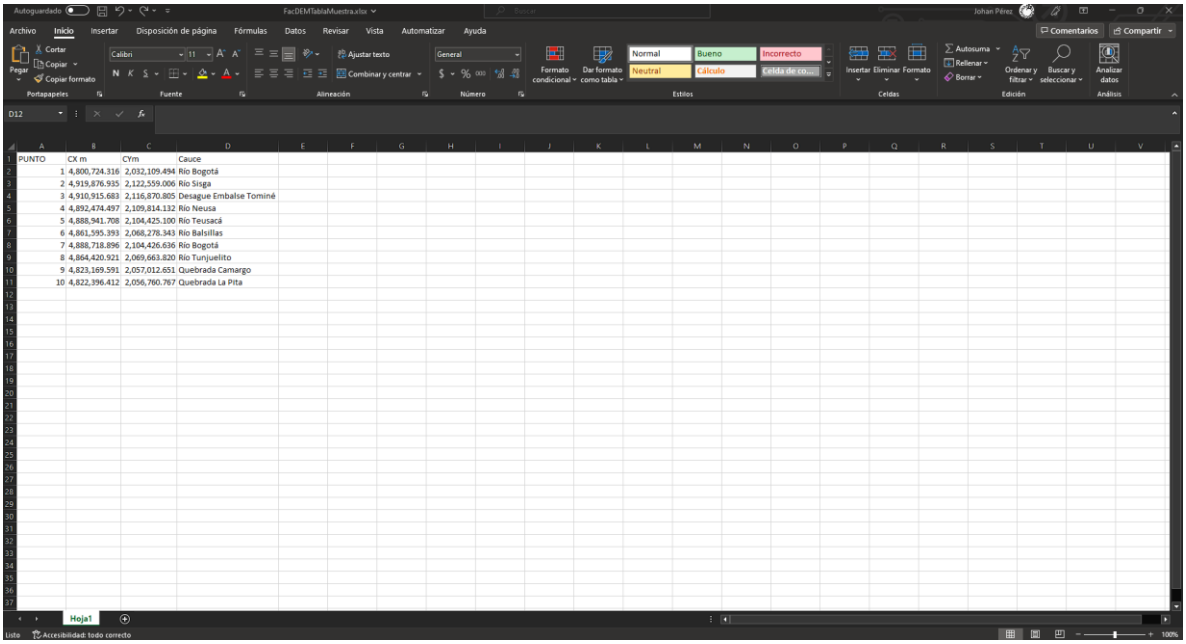
- Capa DrenajeSencilloIGAC100kZEMerge



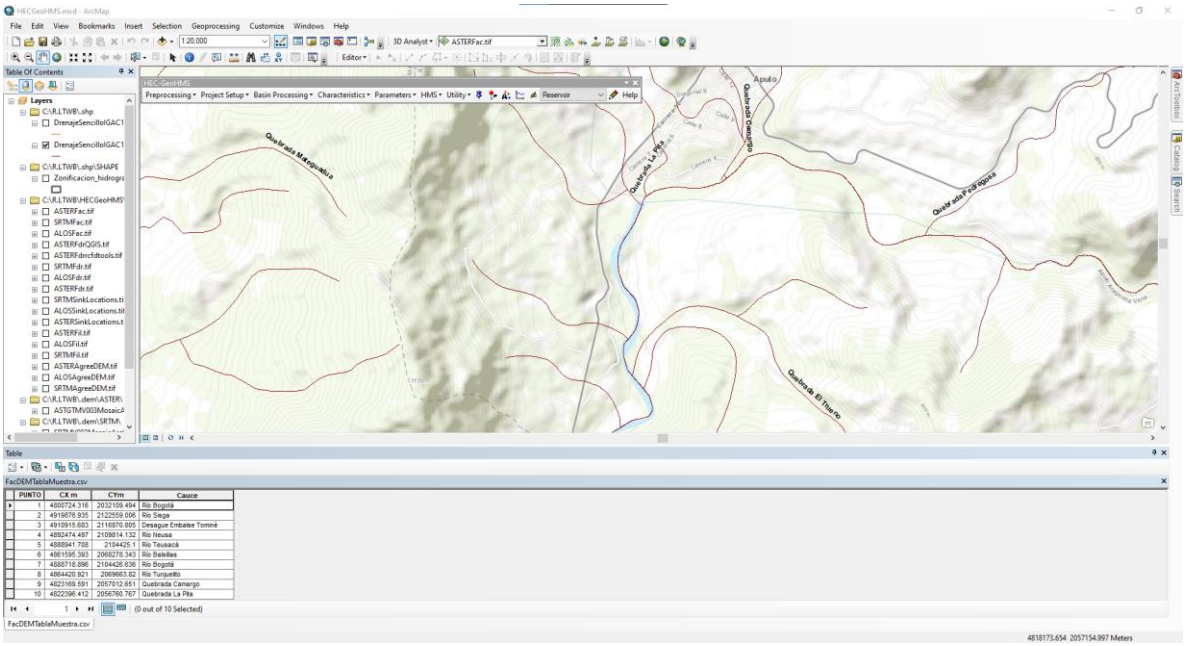
Se hace uso de la herramienta de Identify



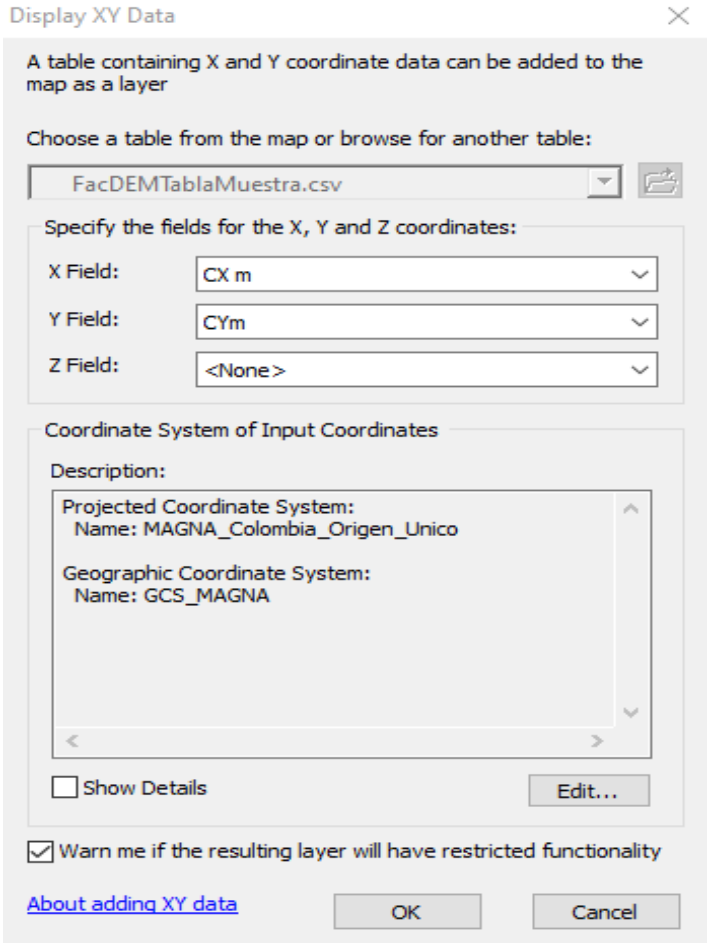
Se localizan los 10 puntos y se crea una tabla en excel

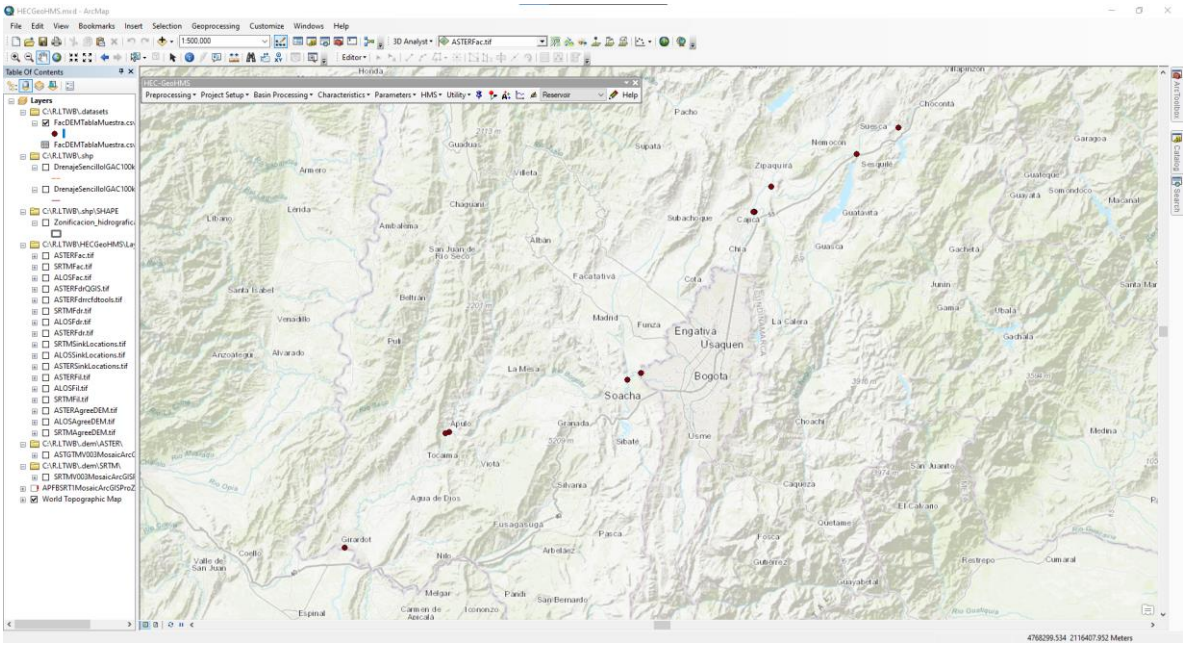


PUNTO	CX m	CYm	Cauce
1	4,800,724.316	2,032,109.494	Río Bogotá
2	4,919,876.935	2,122,559.006	Río Sisga
3	4,910,915.683	2,116,870.805	Desague Embalse Tominé
4	4,892,474.497	2,109,814.132	Río Neusa
5	4,888,941.708	2,104,425.100	Río Teusacá
6	4,861,595.393	2,068,276.343	Río Balsillas
7	4,888,718.896	2,104,426.636	Río Bogotá
8	4,864,420.921	2,069,663.820	Río Tunjuelito
9	4,823,169.591	2,057,012.651	Quebrada Camargo
10	4,822,396.412	2,056,760.767	Quebrada La Pita

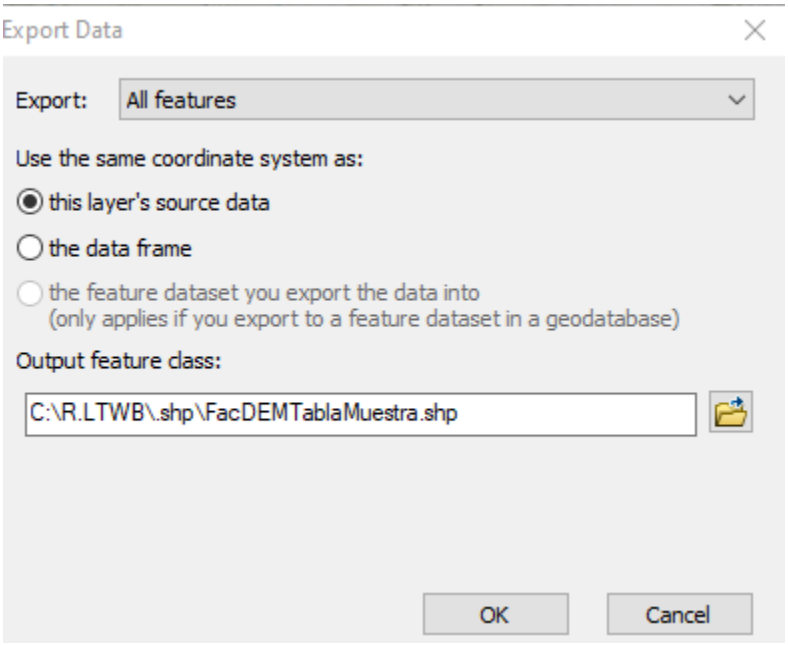


Herramienta Display XY Data

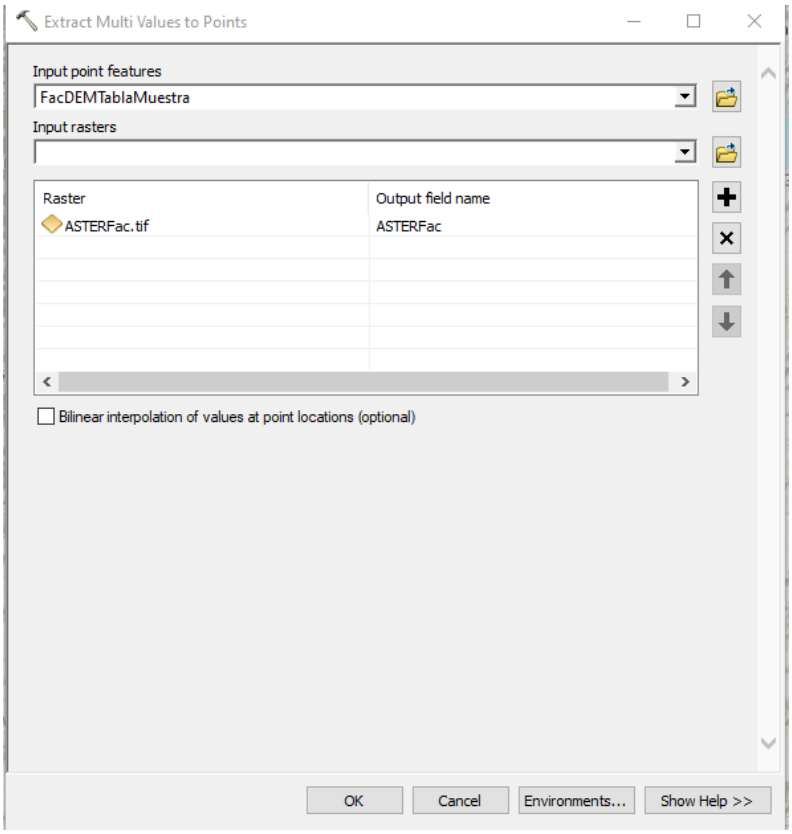




Se exportan los datos como un .shp



Herramienta Extract Multi Values to Points



Table

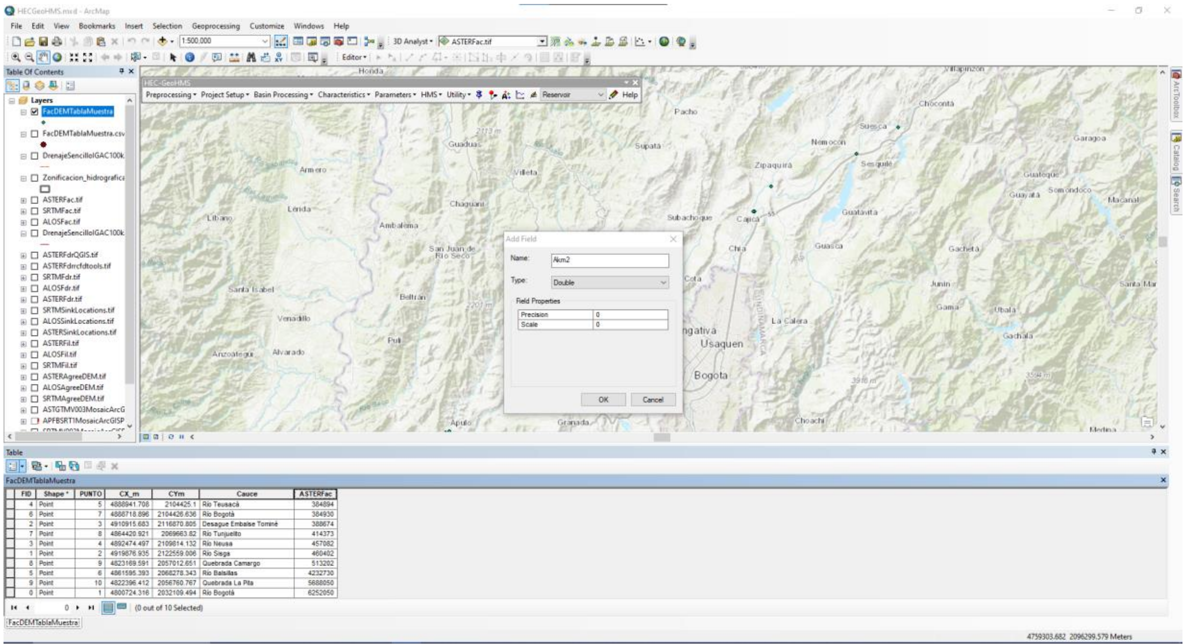
FacDEMTablaMuestra

FID	Shape *	PUNTO	CX_m	CYm	Cauce	ASTERFac
4	Point	5	4888941.708	2104425.1	Río Teusacá	384894
6	Point	7	4888718.896	2104426.636	Río Bogotá	384930
2	Point	3	4910915.683	2116870.805	Desague Embalse Tominé	388674
7	Point	8	4864420.921	2069663.82	Río Tunjuelito	414373
3	Point	4	4892474.497	2109814.132	Río Neusa	457082
1	Point	2	4919876.935	2122559.006	Río Sisga	460402
8	Point	9	4823169.591	2057012.651	Quebrada Camargo	513202
5	Point	6	4861595.393	2068278.343	Río Balsillas	4232730
9	Point	10	4822396.412	2056760.767	Quebrada La Pita	5688050
0	Point	1	4800724.316	2032109.494	Río Bogotá	6252050

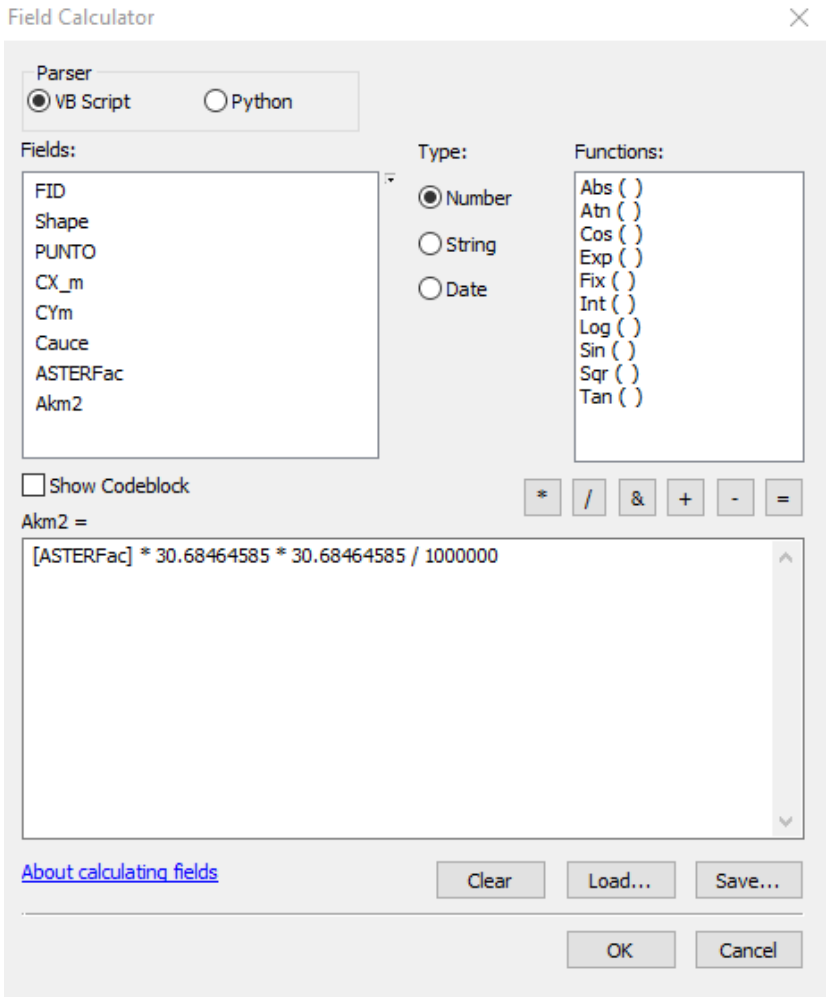
0 (0 out of 10 Selected)

FacDEMTablaMuestra

Se crea un nuevo campo en la tabla, correspondiente al área



Se calcula usando la herramienta Field Calculator



Table

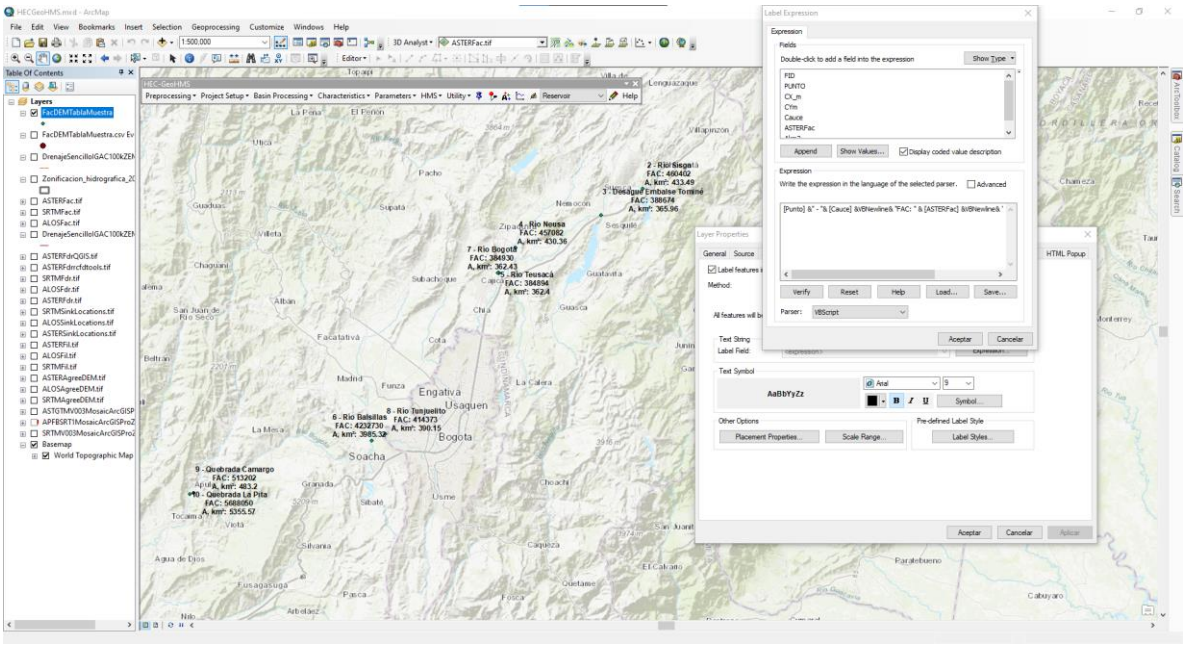
FacDEMTablaMuestra

FID	Shape *	PUNTO	CX_m	CYm	Cauce	ASTERFac	Akm2
4	Point	5	4888941.708	2104425.1	Río Teusacá	384894	362.39598
6	Point	7	4888718.896	2104426.636	Río Bogotá	384930	362.429876
2	Point	3	4910915.683	2116870.805	Desague Embalse Tominé	388674	365.955029
7	Point	8	4864420.921	2069663.82	Río Tunjuelito	414373	390.151858
3	Point	4	4892474.497	2109814.132	Río Neusa	457082	430.36441
1	Point	2	4919876.935	2122559.006	Río Sisga	460402	433.490348
8	Point	9	4823169.591	2057012.651	Quebrada Camargo	513202	483.204055
5	Point	6	4861595.393	2068278.343	Río Balsillas	4232730	3985.316311
9	Point	10	4822396.412	2056760.767	Quebrada La Pita	5688050	5355.569206
0	Point	1	4800724.316	2032109.494	Río Bogotá	6252050	5886.601991

0 (0 out of 10 Selected)

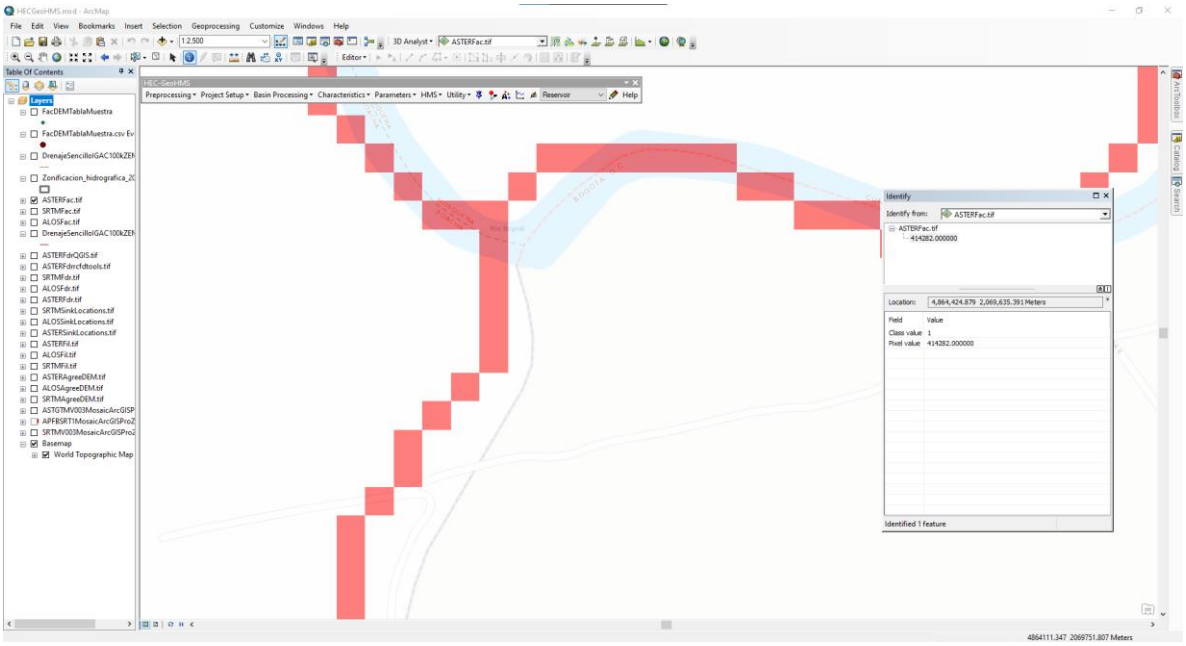
FacDEMTablaMuestra

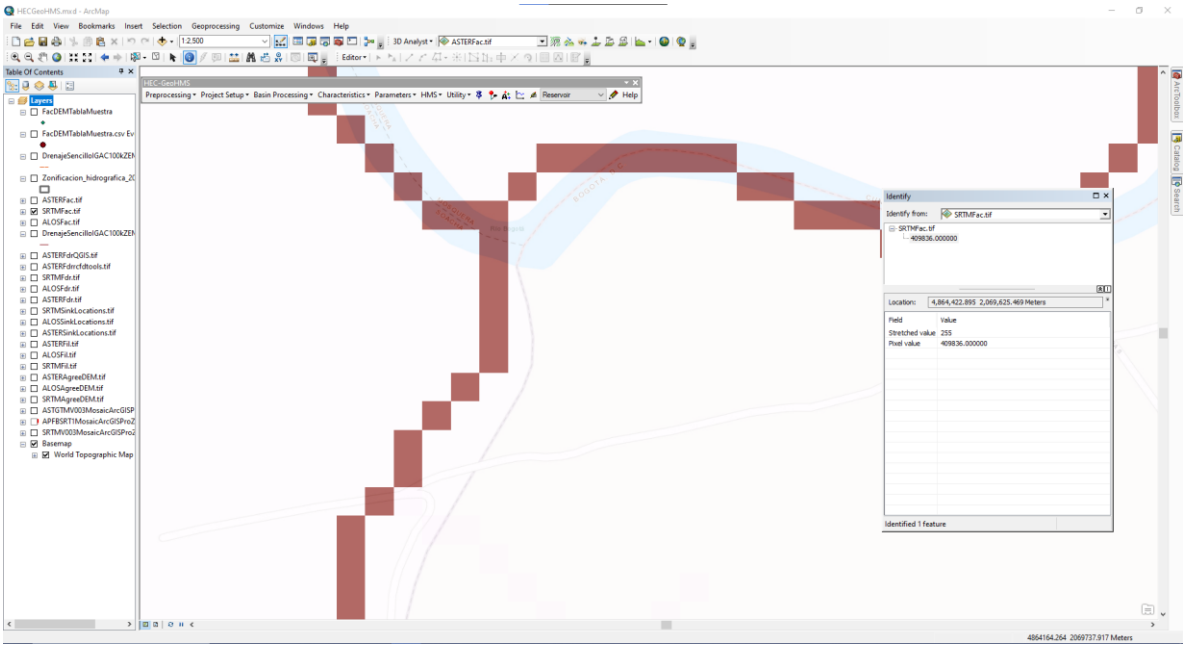
Se realiza la correspondiente simbología



Para 10 puntos de muestreo, obtenga el total de celdas acumuladas de los modelos de ASTER GDEM, SRTM, ALOS PALSAR, calcule las áreas de aportación y compare los resultados obtenidos. Presente un análisis descriptivo indicando las diferencias encontradas y sus posibles causas.

Usando la herramienta Identify, se obtienen los datos de cada grilla para los puntos seleccionados.




HECGeoHMS.mxd - ArcMap
File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help
Table Of Contents
Layers
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FacDEMTablaMuestra.csv Ev
DrenajeSencilloIGAC100kZEN
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ASTERFac.tif
SRTMFac.tif
ALOSFac.tif
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ALOSFdr.tif
ASTERFdr.tif
SRTMSinkLocations.tif
ALOSSinkLocations.tif
ASTERSinkLocations.tif
ASTERFil.tif
ALOSFil.tif
SRTMFil.tif
ASTERAgreeDEM.tif
ALOSAgreeDEM.tif
SRTMAgreeDEM.tif
ASTGTMV003MosaicArcGISP
APFBSRT1MosaicArcGISProZ
SRTMV003MosaicArcGISProZ
Basemap
World Topographic Map
HEC-GeoHMS
Preprocessing Project Setup Basin Processing Characteristics Parameters HMS Utility Reservoir Help
Identify
Identify from: SRTMFac.tif
SRTMFac.tif
409836.000000
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Field Value
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Pixel value 409836.000000
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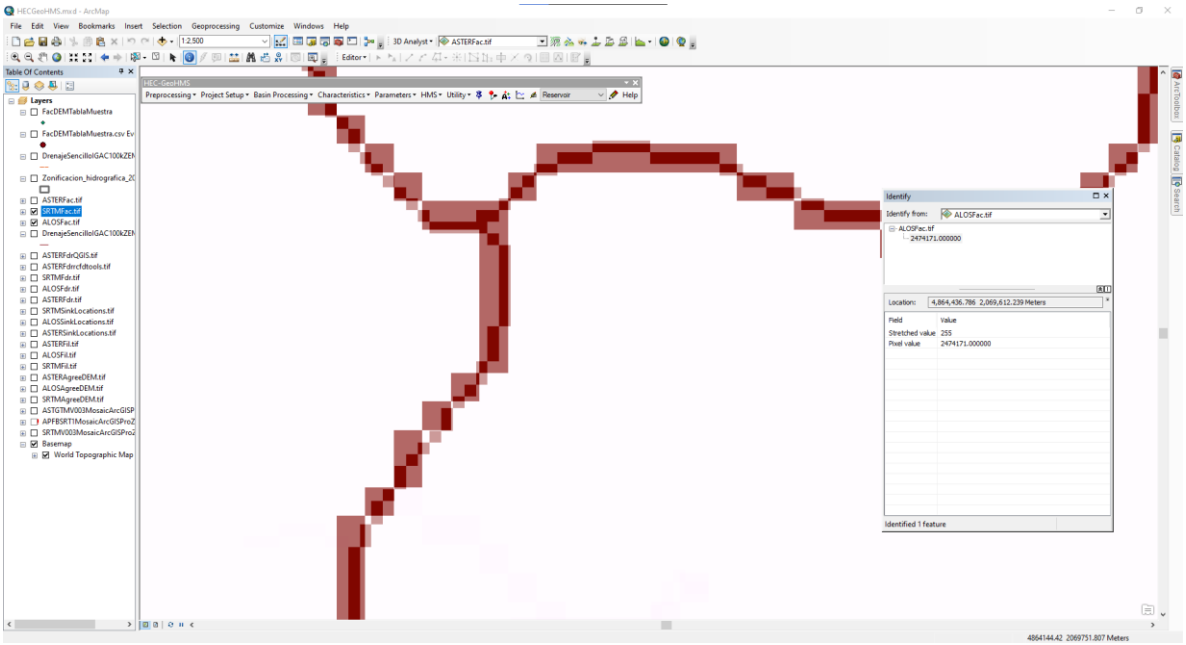
HECGeoHMS.mxd - ArcMap
File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help
Table Of Contents
Layers
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DrenajeSencilloIGAC100kZEN
Zonificacion_hidrografica_2(
ASTERFac.tif
SRTMFac.tif
ALOSFac.tif
DrenajeSencilloIGAC100kZEN
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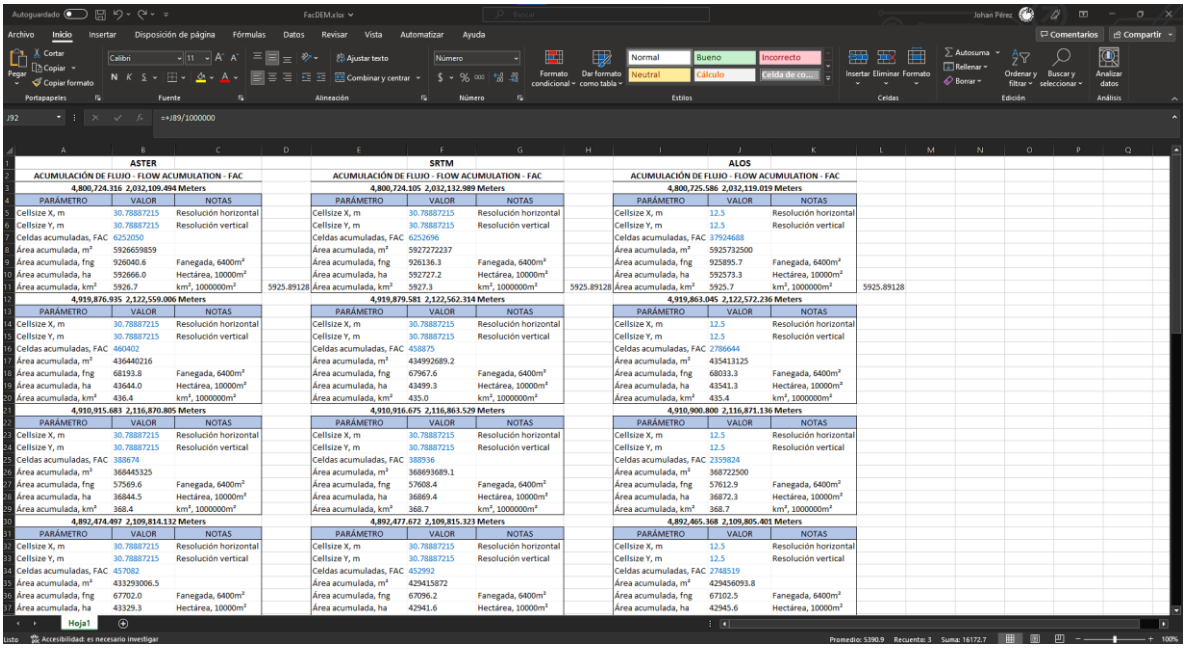
ASTERFdrrcfdtools.tif
SRTMFdr.tif
ALOSFdr.tif
ASTERFdr.tif
SRTMSinkLocations.tif
ALOSSinkLocations.tif
ASTERSinkLocations.tif
ASTERFil.tif
ALOSFil.tif
SRTMFil.tif
ASTERAgreeDEM.tif
ALOSAgreeDEM.tif
SRTMAgreeDEM.tif
ASTGTMV003MosaicArcGISP
APFBSRT1MosaicArcGISProZ
SRTMV003MosaicArcGISProZ
Basemap
World Topographic Map
HEC-GeoHMS
Preprocessing Project Setup Basin Processing Characteristics Parameters HMS Utility Reservoir Help
Identify
Identify from: ALOSFac.tif
ALOSFac.tif
2474171.000000
Location: 4,864,436.786 2,069,612.239 Meters
Field Value
Stretched value 255
Pixel value 2474171.000000
Identified 1 feature
4864144.42 2069751.807 Meters

Se repite el procedimiento para cada punto, y finalmente se registran los datos en un archivo de Excel



	A	B	C	D	E	F	G	H	I	J	K	L
1		ASTER				SRTM				ALOS		
2		ACUMULACIÓN DE FLUJO - FLOW ACUMULATION - FAC				ACUMULACIÓN DE FLUJO - FLOW ACUMULATION - FAC				ACUMULACIÓN DE FLUJO - FLOW ACUMULATION - FAC		
3		4,800,724.316 2,032,109.494 Meters				4,800,724.105 2,032,132.989 Meters				4,800,725.586 2,032,119.019 Meters		
4		PARÁMETRO	VALOR	NOTAS		PARÁMETRO	VALOR	NOTAS		PARÁMETRO	VALOR	NOTAS
5		Cellsize X, m	30.78887215	Resolución horizontal		Cellsize X, m	30.78887215	Resolución horizontal		Cellsize X, m	12.5	Resolución horizontal
6		Cellsize Y, m	30.78887215	Resolución vertical		Cellsize Y, m	30.78887215	Resolución vertical		Cellsize Y, m	12.5	Resolución vertical
7		Celdas acumuladas, FAC	6252050			Celdas acumuladas, FAC	6252696			Celdas acumuladas, FAC	37924688	
8		Área acumulada, m²	5926659859			Área acumulada, m²	5927272237			Área acumulada, m²	5925732500	
9		Área acumulada, fng	926040.6	Fanegada, 6400m²		Área acumulada, fng	926136.3	Fanegada, 6400m²		Área acumulada, fng	925895.7	Fanegada, 6400m²
10		Área acumulada, ha	592666.0	Hectárea, 10000m²		Área acumulada, ha	592727.2	Hectárea, 10000m²		Área acumulada, ha	592573.3	Hectárea, 10000m²
11		Área acumulada, km²	5926.7	km², 1000000m²	5925.89128	Área acumulada, km²	5927.3	km², 1000000m²	5925.89128	Área acumulada, km²	5925.7	km², 1000000m²
12		4,919,876.935 2,122,559.006 Meters				4,919,879.581 2,122,562.314 Meters				4,919,863.045 2,122,572.236 Meters		
13		PARÁMETRO	VALOR	NOTAS		PARÁMETRO	VALOR	NOTAS		PARÁMETRO	VALOR	NOTAS
14		Cellsize X, m	30.78887215	Resolución horizontal		Cellsize X, m	30.78887215	Resolución horizontal		Cellsize X, m	12.5	Resolución horizontal
15		Cellsize Y, m	30.78887215	Resolución vertical		Cellsize Y, m	30.78887215	Resolución vertical		Cellsize Y, m	12.5	Resolución vertical
16		Celdas acumuladas, FAC	460402			Celdas acumuladas, FAC	458875			Celdas acumuladas, FAC	2786644	
17		Área acumulada, m²	436440216			Área acumulada, m²	434992689.2			Área acumulada, m²	435413125	
18		Área acumulada, fng	68193.8	Fanegada, 6400m²		Área acumulada, fng	67967.6	Fanegada, 6400m²		Área acumulada, fng	68033.3	Fanegada, 6400m²
19		Área acumulada, ha	43644.0	Hectárea, 10000m²		Área acumulada, ha	43499.3	Hectárea, 10000m²		Área acumulada, ha	43541.3	Hectárea, 10000m²
20		Área acumulada, km²	436.4	km², 1000000m²		Área acumulada, km²	435.0	km², 1000000m²		Área acumulada, km²	435.4	km², 1000000m²
21		4,910,915.683 2,116,870.805 Meters				4,910,916.675 2,116,863.529 Meters				4,910,900.800 2,116,871.136 Meters		
22		PARÁMETRO	VALOR	NOTAS		PARÁMETRO	VALOR	NOTAS		PARÁMETRO	VALOR	NOTAS
23		Cellsize X, m	30.78887215	Resolución horizontal		Cellsize X, m	30.78887215	Resolución horizontal		Cellsize X, m	12.5	Resolución horizontal
24		Cellsize Y, m	30.78887215	Resolución vertical		Cellsize Y, m	30.78887215	Resolución vertical		Cellsize Y, m	12.5	Resolución vertical
25		Celdas acumuladas, FAC	388674			Celdas acumuladas, FAC	388936			Celdas acumuladas, FAC	2359824	
26		Área acumulada, m²	368445325			Área acumulada, m²	368693689.1			Área acumulada, m²	368722500	
27		Área acumulada, fng	57569.6	Fanegada, 6400m²		Área acumulada, fng	57608.4	Fanegada, 6400m²		Área acumulada, fng	57612.9	Fanegada, 6400m²
28		Área acumulada, ha	36844.5	Hectárea, 10000m²		Área acumulada, ha	36869.4	Hectárea, 10000m²		Área acumulada, ha	36872.3	Hectárea, 10000m²
29		Área acumulada, km²	368.4	km², 1000000m²		Área acumulada, km²	368.7	km², 1000000m²		Área acumulada, km²	368.7	km², 1000000m²
30		4,892,474.497 2,109,814.132 Meters				4,892,477.672 2,109,815.323 Meters				4,892,465.368 2,109,805.401 Meters		
31		PARÁMETRO	VALOR	NOTAS		PARÁMETRO	VALOR	NOTAS		PARÁMETRO	VALOR	NOTAS
32		Cellsize X, m	30.78887215	Resolución horizontal		Cellsize X, m	30.78887215	Resolución horizontal		Cellsize X, m	12.5	Resolución horizontal
33		Cellsize Y, m	30.78887215	Resolución vertical		Cellsize Y, m	30.78887215	Resolución vertical		Cellsize Y, m	12.5	Resolución vertical
34		Celdas acumuladas, FAC	457082			Celdas acumuladas, FAC	452992			Celdas acumuladas, FAC	2748519	
35		Área acumulada, m²	433293006.5			Área acumulada, m²	429415872			Área acumulada, m²	429456093.8	
36		Área acumulada, fng	67702.0	Fanegada, 6400m²		Área acumulada, fng	67096.2	Fanegada, 6400m²		Área acumulada, fng	67102.5	Fanegada, 6400m²
37		Área acumulada, ha	43329.3	Hectárea, 10000m²		Área acumulada, ha	42941.6	Hectárea, 10000m²		Área acumulada, ha	42945.6	Hectárea, 10000m²