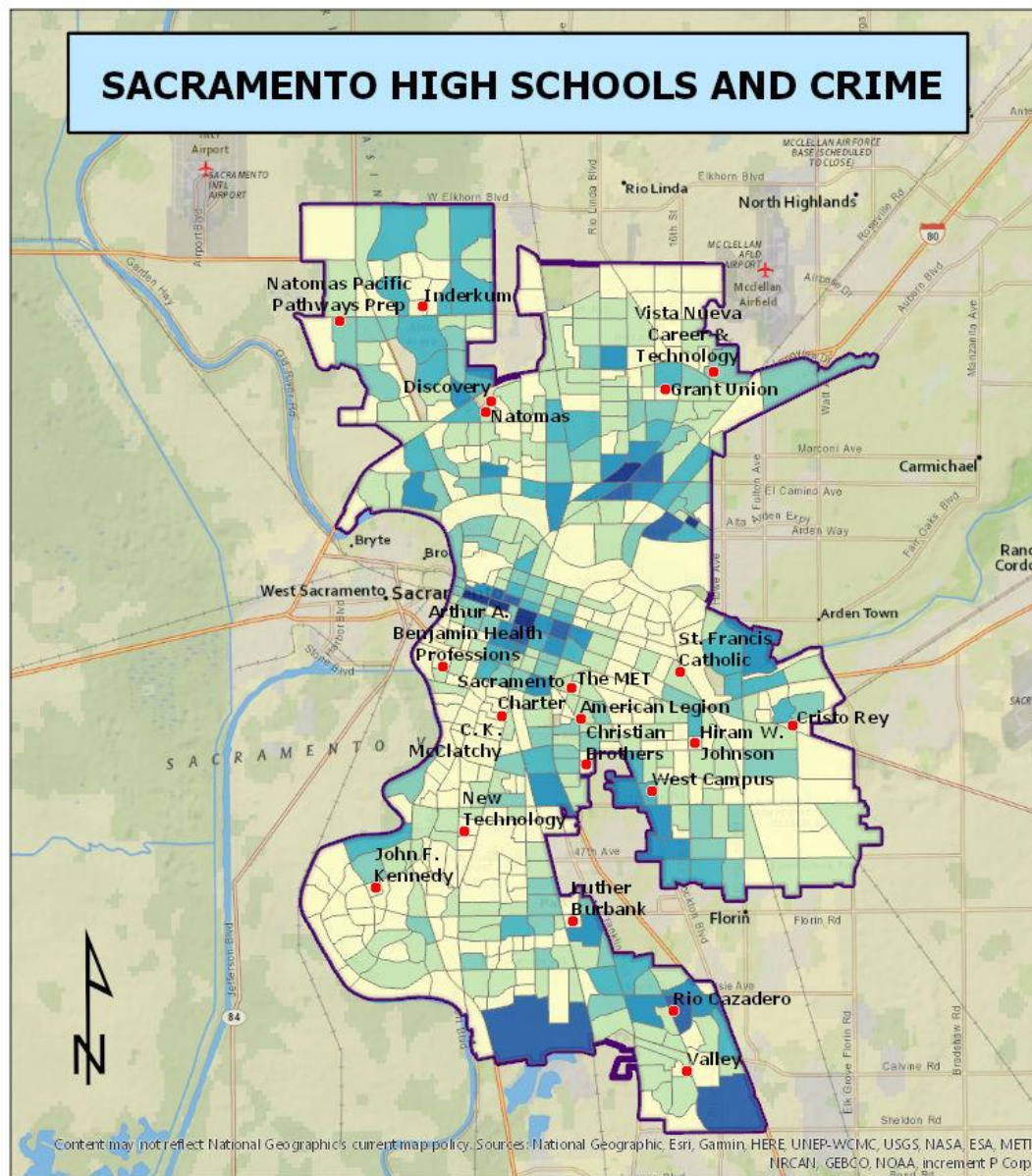


Sacramento High Schools & Crime

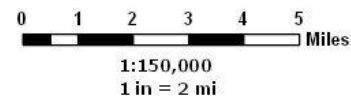
Aaron Venneman, GEOG 90, Fall 2018



SACRAMENTO HIGH SCHOOLS AND CRIME



LEGEND



Source: City of Sacramento
Date: 12/5/2018

Produced By: Aaron Venneman

Hot Spot Analysis

Geoprocessing

Hot Spot Analysis (Getis-Ord Gi*)

Parameters | Environments

Input Feature Class
Police_Grids

Input Field
Sacramento_Crime_Frequency.FREQUENCY

Output Feature Class
Police_Grids_HotSpots

Conceptualization of Spatial Relationships
Fixed distance band

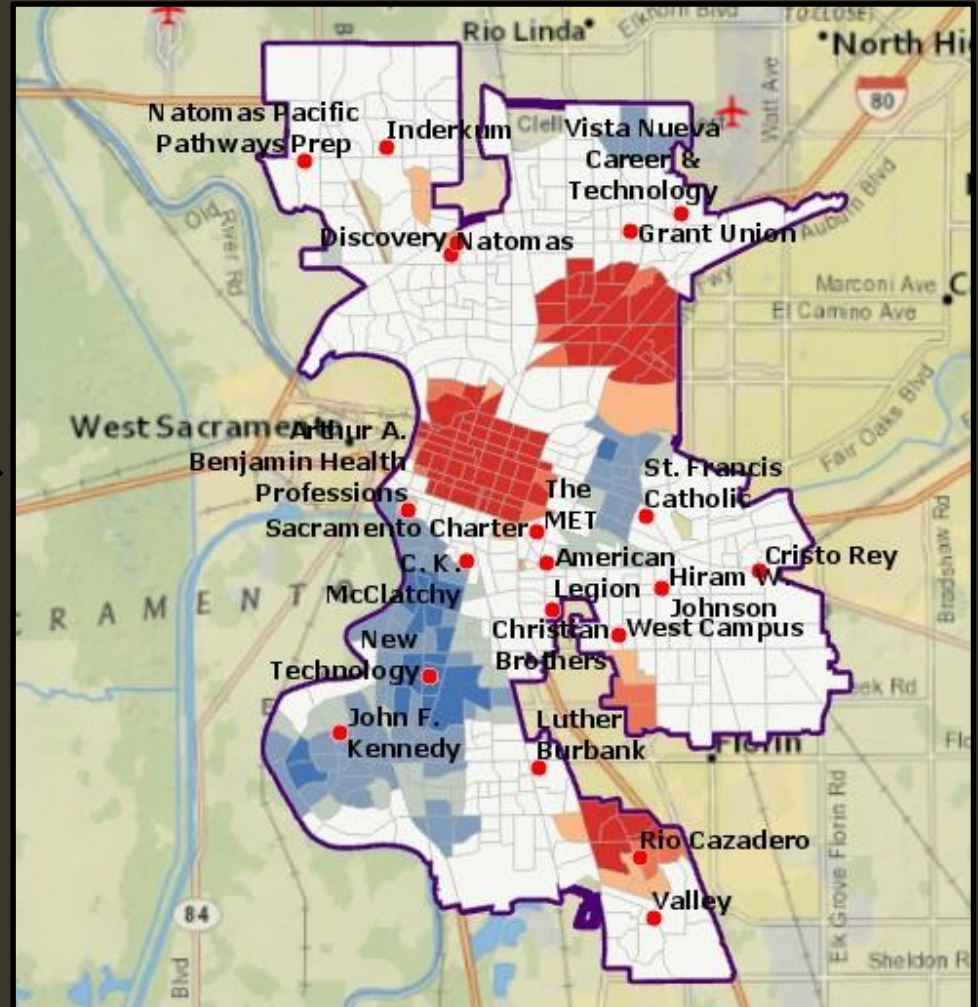
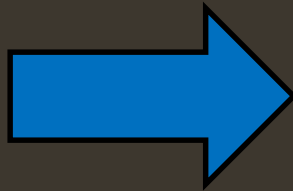
Distance Method
Euclidean

Distance Band or Threshold Distance

Self Potential Field

☐ Apply False Discovery Rate (FDR) Correction


Run



	A	B	C	D	E	F	G	H	I	J
1	OBJECTID	Record_ID	Offense_Code	Offense_Ext	Offense_Category	Description	Police_District	Beat	Grid	Occurence_Date
2	1	1287392	5404	0	TRAFFIC	23152(A) DUI ALCOHOL	3	3B	747	2018-01-01T10:12:00.000Z
3	2	1287393	1313	19	BATTERY	242 PC BATTERY CIVILIAN	3	3B	746	2018-01-01T09:39:00.000Z
4	3	1287464	5404	0	TRAFFIC	23152(A) DUI ALCOHOL	3	3M	734	2018-01-01T10:46:00.000Z
5	4	1287465	5707	6	TRESPASS	602(L)(1)TRESPASS REFUSE TO LV	3	3M	734	2018-01-01T10:15:00.000Z
6	5	1287466	5299	117	WEAPON OFFENSE	22610 ILL POSS OF STUNGUN	3	3M	744	2018-01-01T08:50:00.000Z
7	6	1287470	2202	0	BURGLARY	459 PC BURG RESIDENCE-FORCE	5	5B	1604	2018-01-02T00:45:00.000Z
8	7	1287472	4803	3	OBSTRUCTING	148.9(A) PC FALSE ID TO OFCR	2	2C	604	2018-01-01T22:17:00.000Z
9	8	1287475	1313	19	BATTERY	242 PC BATTERY CIVILIAN	6	6D	851	2018-01-01T21:45:00.000Z
10	9	1287477	3599	61	NARCOTICS	11350(A) POSS CONTROLLED SUBST	6	6C	1131	2018-01-01T19:11:00.000Z
11	10	1287478	1315	19	AGG ASSAULT	245(A)(1)AWDW-NON-FIREARM	5	5B	1633	2018-01-01T19:55:00.000Z
12	11	1287505	2203	0	BURGLARY	459 PC BURG BUSINESS-FORCE	1	1C	309	2018-01-01T13:54:00.000Z
13	12	1287511	2202	0	BURGLARY	459 PC BURG RESIDENCE-FORCE	2	2A	222	2018-01-01T11:17:00.000Z
14	13	1287545	1313	19	BATTERY	242 PC BATTERY CIVILIAN	2	2A	509	2018-01-02T08:38:00.000Z
15	14	1287549	3599	33	NARCOTICS	11377(A) POSS DANGEROUS DRUG	4	4B	1354	2018-01-02T06:53:00.000Z
16	15	1287551	7399	36B	SAC CITY CODE	9.16.140B TRESPASS AFTR NOTICE	4	4A	903	2018-01-02T05:12:00.000Z
17	16	1287553	5299	115	WEAPON OFFENSE	20150(A) ALTER IMITATION GUN	3	3M	735	2018-01-02T03:41:00.000Z
18	17	1287556	2404	0	STOLEN VEHICLE	10851(A)VC TAKE VEH W/O OWNER	2	2C	567	2018-01-02T15:00:00.000Z
19	18	1287557	2999	5	VANDALISM	594(B)(2)(A) VANDALISM <\$400	5	5B	1614	2018-01-01T09:00:00.000Z
20	19	1287560	2999	2	VANDALISM	594(B)(1) PC VANDALISM >\$400	3	3A	709	2018-01-01T22:59:00.000Z
21	20	1287563	2404	0	STOLEN VEHICLE	10851(A)VC TAKE VEH W/O OWNER	5	5A	1501	2018-01-02T11:27:00.000Z
22	21	1287564	2202	0	BURGLARY	459 PC BURG RESIDENCE-FORCE	6	6C	1445	2018-01-01T16:00:00.000Z
23	22	1287570	5299	127	WEAPON OFFENSE	30305(A)(1) FELON POSS AMMO-F	UI	UI	UI	2018-01-02T12:30:00.000Z
		Sacramento_Crime_Data_From_Curr								

1) Clean up Spreadsheet, Remove Irrelevant Data

	A	B	C	D
1	Record_ID	Offense_Category	Description	GRID_NUM
2	1287393	BATTERY	242 PC BATTERY CIVILIAN	746
3	1287465	TRESPASS	602(L)(1)TRESPASS REFUSE TO LV	734
4	1287466	WEAPON OFFENSE	22610 ILL POSS OF STUNGUN	744
5	1287470	BURGLARY	459 PC BURG RESIDENCE-FORCE	1604
6	1287472	OBSTRUCTING	148.9(A) PC FALSE ID TO OFCR	604
7	1287475	BATTERY	242 PC BATTERY CIVILIAN	851
8	1287477	NARCOTICS	11350(A) POSS CONTROLLED SUBST	1131
9	1287478	AGG ASSAULT	245(A)(1)AWDW-NON-FIREARM	1633
10	1287505	BURGLARY	459 PC BURG BUSINESS-FORCE	309
11	1287511	BURGLARY	459 PC BURG RESIDENCE-FORCE	222
12	1287545	BATTERY	242 PC BATTERY CIVILIAN	509
13	1287549	NARCOTICS	11377(A) POSS DANGEROUS DRUG	1354
14	1287553	WEAPON OFFENSE	20150(A) ALTER IMITATION GUN	735
15	1287556	STOLEN VEHICLE	10851(A)VC TAKE VEH W/O OWNER	567
16	1287557	VANDALISM	594(B)(2)(A) VANDALISM <\$400	1614
17	1287560	VANDALISM	594(B)(1) PC VANDALISM >\$400	709
18	1287563	STOLEN VEHICLE	10851(A)VC TAKE VEH W/O OWNER	1501
19	1287564	BURGLARY	459 PC BURG RESIDENCE-FORCE	1445
20	1287576	AUTO THEFT	O/S AGENCY 10851 VC LOCATE	765
21	1287581	LARCENY	484 PC PETTY THEFT	619
22	1287582	NARCOTICS	11377(A) POSS DAN DRUG/SUPER X	1326
23	1287583	NARCOTICS	11379(A)HS SALE/TRAN CNTRL SUB	563
<div> ◀ ▶ Sacramento_Crime_Data_From_Curr ⊕ </div>				



Geoprocessing

Excel To Table

Parameters | Environments

Input Excel File
C:\Users\super\Downloads\Sacramento_Cr

Output Table
Sacramento_Crime_Current



Sacramento_Crime_Current

Field: Add Delete Calculate Selection: Zoom To Switch Clear De

OBJECTID	Record_ID	Offense_Category	Description	Grid	GRID_NUM
1552	1292336	STOLEN VEHICLE	10851(A)VC TAKE VE...	101	101
4345	1300197	LARCENY	484 PETTY THEFT/LI...	101	101
362	1288857	BURGLARY	459 PC BURG VEHICLE	102	102
628	1289887	ROBBERY	211 PC ROBBERY-UN...	102	102
1021	1290895	BURGLARY	459 PC BURG VEHICLE	102	102
1316	1291697	BURGLARY	459 PC BURG VEHICLE	102	102
1327	1291719	VANDALISM	594(B)(1) PC VANDA...	102	102
2563	1295126	STOLEN VEHICLE	10851(A)VC TAKE VE...	102	102

0 of 23377 selected

3) “Frequency”


Geoprocessing


Frequency

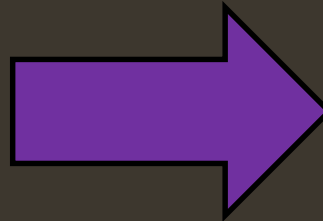
Parameters | Environments

Input Table
Sacramento_Crime_Current

Output Table
Sacramento_Crime_Frequency

Frequency Field(s) 
GRID_NUM

Summary Field(s) 

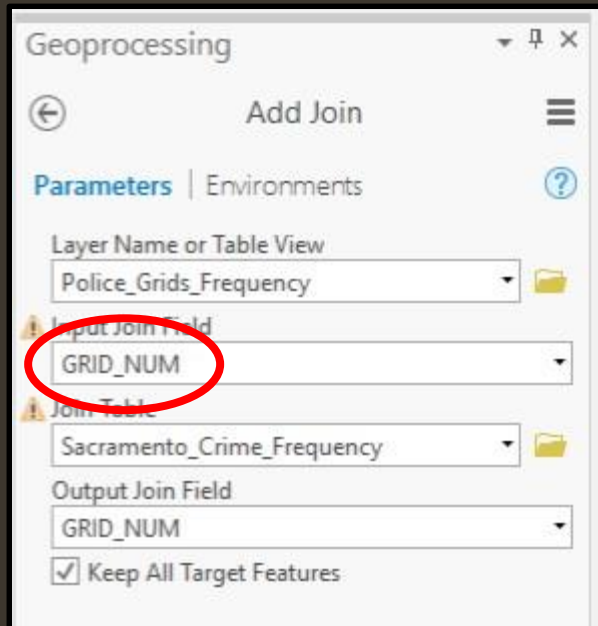


Sacramento_Crime_Frequency X				
Field:	Add	Delete	Calculate	Select
OBJECTID	FREQUENCY	GRID_NUM		
1	2	101		
2	34	102		
3	76	103		
4	43	104		
5	77	106		
6	3	107		
7	4	110		
8	28	111		

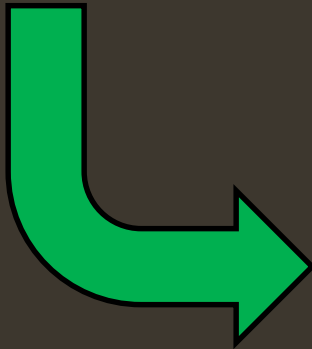
0 of 565 selected

Create table showing number of crimes per police grid

4) “Add Join” Tool



Join crime frequency table to
“Police Grids” layer (spatial
reference)



The screenshot shows the 'Police_Grids' table view. The table has columns: OBJECTID_1, Shape, GRID_NUM, Shape_Length, Shape_Area, OBJECTID, FREQUENCY, and GRID_NUM. The 'GRID_NUM' column is circled in red. The table contains 8 rows of data.

OBJECTID_1	Shape	GRID_NUM	Shape_Length	Shape_Area	OBJECTID	FREQUENCY	GRID_NUM
1	Polygon	103	20060.600313	21144700.920044	3	76	103
2	Polygon	102	19712.914536	13757607.609371	2	34	102
3	Polygon	106	17992.448078	16357370.895149	5	77	106
4	Polygon	104	16029.082166	14413080.599265	4	43	104
5	Polygon	116	9722.39496	5199502.64959	11	44	116
6	Polygon	107	11678.227805	7091226.858775	6	3	107
7	Polygon	113	8741.257523	4688757.191036	9	12	113
8	Polygon	115	10715.819707	5685708.200847	10	17	115

Clean up Spreadsheet



Excel to Table



Frequency



Add Join

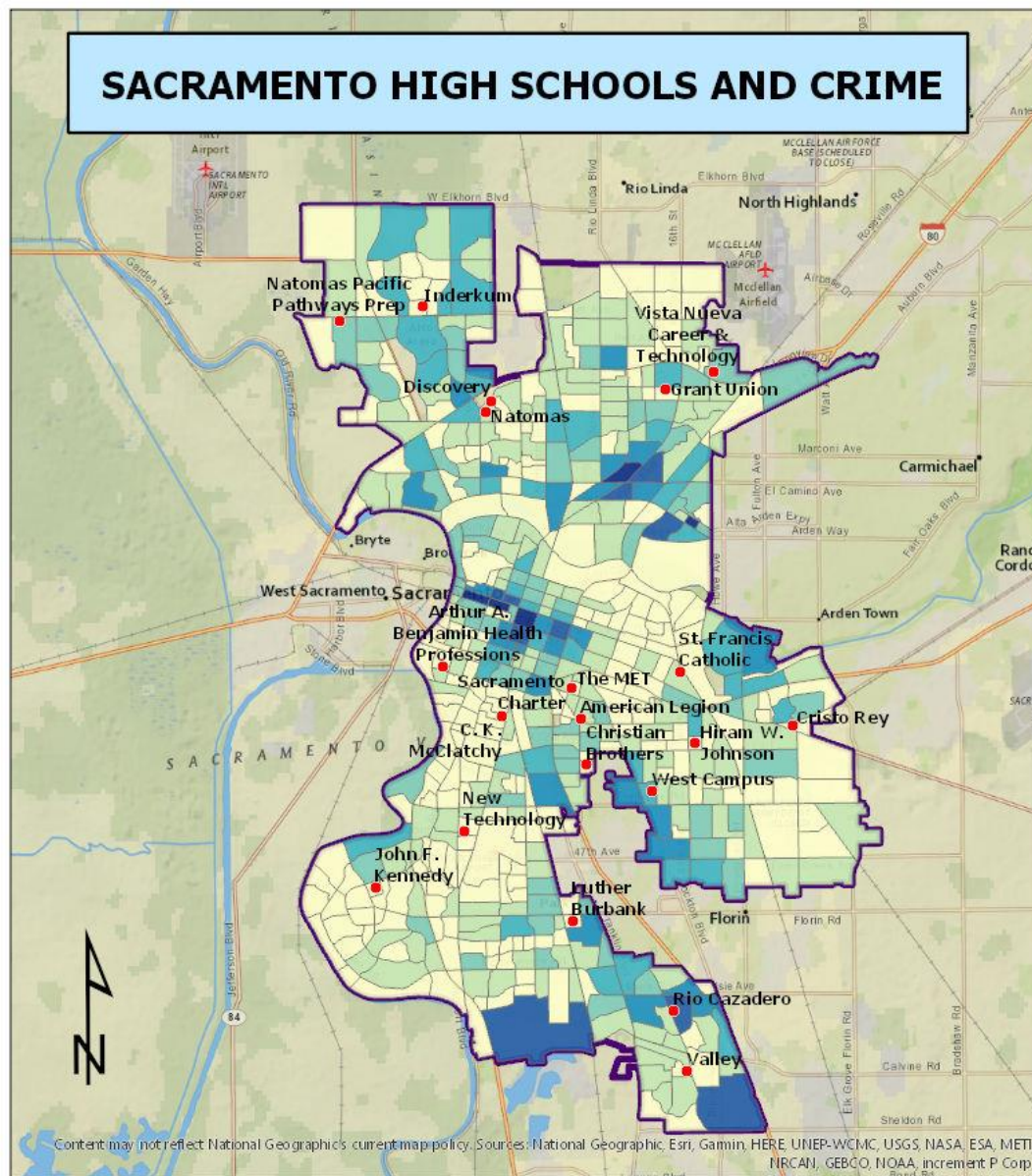


Symbology by Field (Frequency)

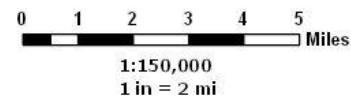
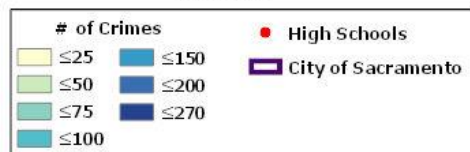
Challenges/Lessons Learned

1. Representing data starting with only a spreadsheet.
2. Learning new geoprocessing tools.
3. How to graphically display statistics with so many options?

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LEGEND



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