CSE591 Assignment4
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Dataset:

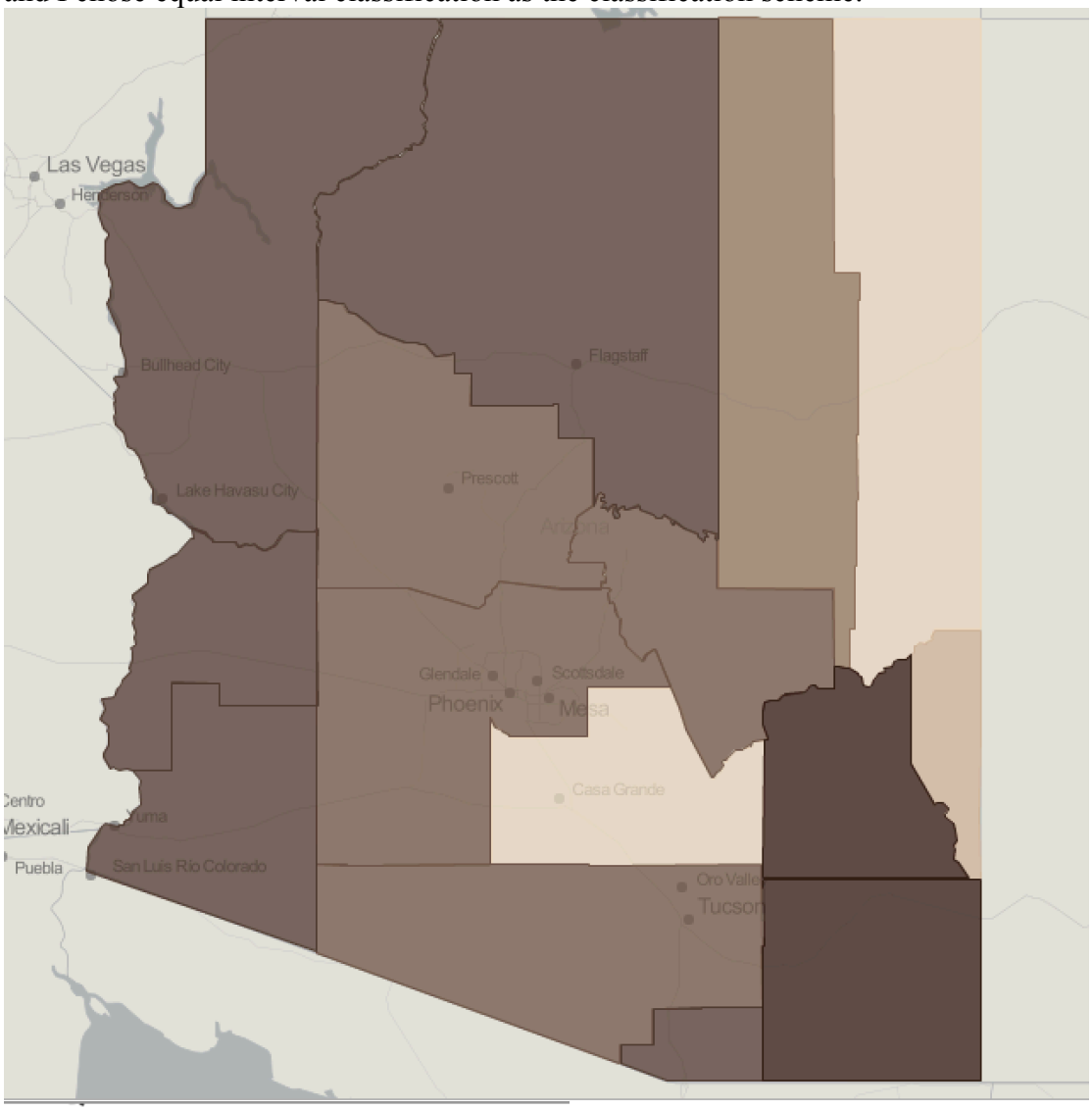
I utilized excel to normalize the given data. I found the census data from the Arizona's government workforce web site:
http://www.workforce.az.gov/pubs/demography/April1_2010Population.pdf
My final dataset contains these following variables: the country name, the total marriage number per month, the marriage rate per month, the total marriage number per county, the total population per county and the total marriage rate per county. And the reason why I added AZ after the county name is that there are some counties in other states have the same name with some counties in Arizona.

	A	B	C	D	E	F	G	H	I
1	CountyName	Jan	Jan Rate	Feb	Feb Rate	Mar	Mar Rate	Apr	Apr Rate
2	ApacheAZ	11	0.00015381	23	0.0003216	19	0.00026567	16	0.00022372
3	PinalAZ	87	0.00023153	124	0.00032999	144	0.00038321	124	0.00032999
4	GreenleeAZ	1	0.00011853	0	0	2	0.00023705	4	0.0004741
5	NavajoAZ	23	0.00021406	36	0.00033504	32	0.00029782	43	0.00040019
6	YavapaiAZ	61	0.00028905	75	0.0003554	50	0.00023693	107	0.00050703
7	GilaAZ	19	0.0003545	15	0.00027987	30	0.00055973	25	0.00046644
8	MaricopaAZ	1702	0.00044589	1356	0.00035524	2505	0.00065625	2501	0.00065521
9	PimaAZ	347	0.00035399	454	0.00046314	493	0.00050293	624	0.00063656
10	MohaveAZ	68	0.00033968	101	0.00050453	122	0.00060943	106	0.00052951
11	La PazAZ	12	0.00058568	14	0.00068329	12	0.00058568	9	0.00043926
12	Santa CruzAZ	18	0.00037959	16	0.00033741	26	0.00054829	22	0.00046394
13	YumaAZ	78	0.00039847	140	0.00071519	118	0.00060281	130	0.00066411
14	CoconinoAZ	43	0.00031989	57	0.00042404	57	0.00042404	70	0.00052075
15	CochiseAZ	56	0.00042636	88	0.00066999	95	0.00072328	84	0.00063953
16	GrahamAZ	20	0.00053735	23	0.00061795	20	0.00053735	15	0.00040301

J	K	L	M	N	O	P	Q	R	S
May	May Rate	Jun	Jun Rate	Jul	Jul Rate	Aug	Aug Rate	Sep	Sep Rate
16	0.00022372	30	0.00041948	17	0.0002377	28	0.00039151	19	0.00026567
117	0.00031136	115	0.00030604	98	0.0002608	96	0.00025548	108	0.00028741
1	0.00011853	6	0.00071115	3	0.00035558	3	0.00035558	5	0.00059263
22	0.00020475	61	0.00056771	84	0.00078177	39	0.00036296	38	0.00035366
133	0.00063023	147	0.00069657	84	0.00039804	109	0.00051651	111	0.00052598
28	0.00052242	20	0.00037316	25	0.00046644	37	0.00069034	14	0.00026121
2392	0.00062665	2111	0.00055304	1693	0.00044353	1447	0.00037908	1434	0.00037568
545	0.00055597	616	0.0006284	561	0.0005723	363	0.00037031	401	0.00040907
133	0.00066438	147	0.00073432	99	0.00049454	109	0.00054449	92	0.00045957
14	0.00068329	8	0.00039045	12	0.00058568	5	0.00024403	9	0.00043926
29	0.00061156	81	0.00170814	20	0.00042176	21	0.00044285	21	0.00044285
110	0.00056194	127	0.00064878	89	0.00045466	96	0.00049042	87	0.00044444
68	0.00050587	140	0.0010415	104	0.00077369	83	0.00061746	97	0.00072161
77	0.00058624	94	0.00071567	74	0.0005634	92	0.00070044	74	0.0005634
25	0.00067168	41	0.00110156	18	0.00048361	21	0.00056421	25	0.00067168

T	U	V	W	X	Y	Z	AA	AB
Oct	Oct Rate	Nov	Nov Rate	Dec	Dec Rate	Total	County Population	Marriage Rate
13	0.00018177	14	0.00019576	13	0.00018177	219	71518	0.003062166
122	0.00032467	117	0.00031136	121	0.00032201	1373	375770	0.003653831
5	0.00059263	1	0.00011853	2	0.00023705	33	8437	0.003911343
136	0.00126572	12	0.00011168	53	0.00049326	579	107449	0.005388603
161	0.00076291	104	0.00049281	95	0.00045017	1237	211033	0.005861642
55	0.00102618	23	0.00042913	26	0.0004851	317	53597	0.00591451
2290	0.00059993	2134	0.00055906	1562	0.00040921	23127	3817117	0.006058761
570	0.00058148	503	0.00051313	495	0.00050497	5972	980263	0.006092243
156	0.00077928	96	0.00047955	75	0.00037465	1304	200186	0.006513942
13	0.00063449	7	0.00034165	20	0.00097613	135	20489	0.006588901
24	0.00050612	17	0.0003585	19	0.00040068	314	47420	0.006621679
111	0.00056705	110	0.00056194	113	0.00057726	1309	195751	0.006687067
92	0.00068442	54	0.00040172	50	0.00037197	915	134421	0.006806972
91	0.00069283	71	0.00054056	60	0.00045681	956	131346	0.007278486
29	0.00077915	25	0.00067168	24	0.00064482	286	37220	0.007684041

Question1:
I utilized GeoCommons to upload my normalized data to generate the choropleth map and I chose equal interval classification as the classification scheme.

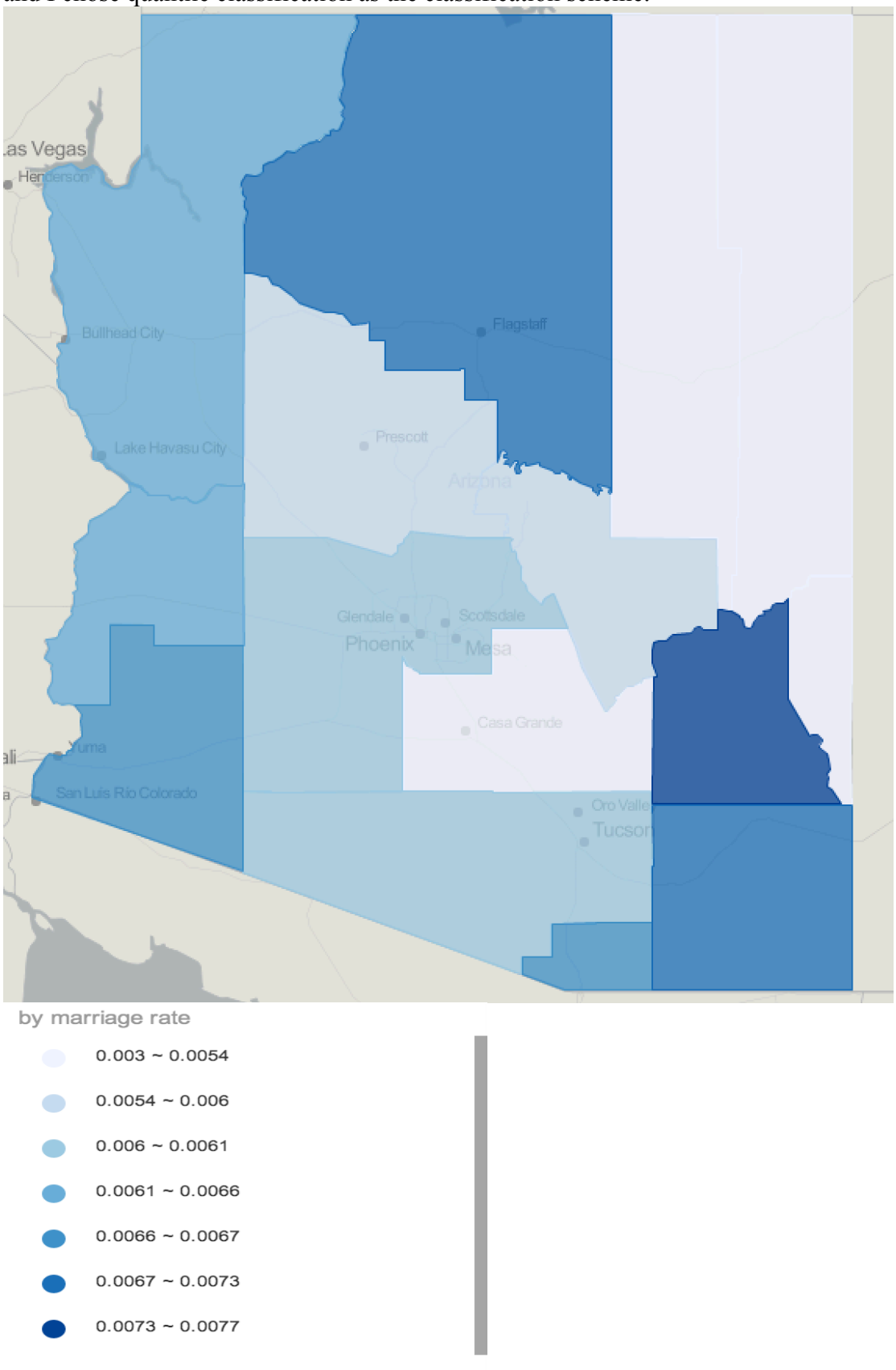


by marriage rate

- 0.003062166 ~ 0.003722433857142857
- 0.003722433857142857 ~ 0.004382701714285714
- 0.004382701714285714 ~ 0.005042969571428571
- 0.005042969571428571 ~ 0.005703237428571428
- 0.005703237428571428 ~ 0.006363505285714286
- 0.006363505285714286 ~ 0.007023773142857142
- 0.007023773142857142 ~ 0.007688662875

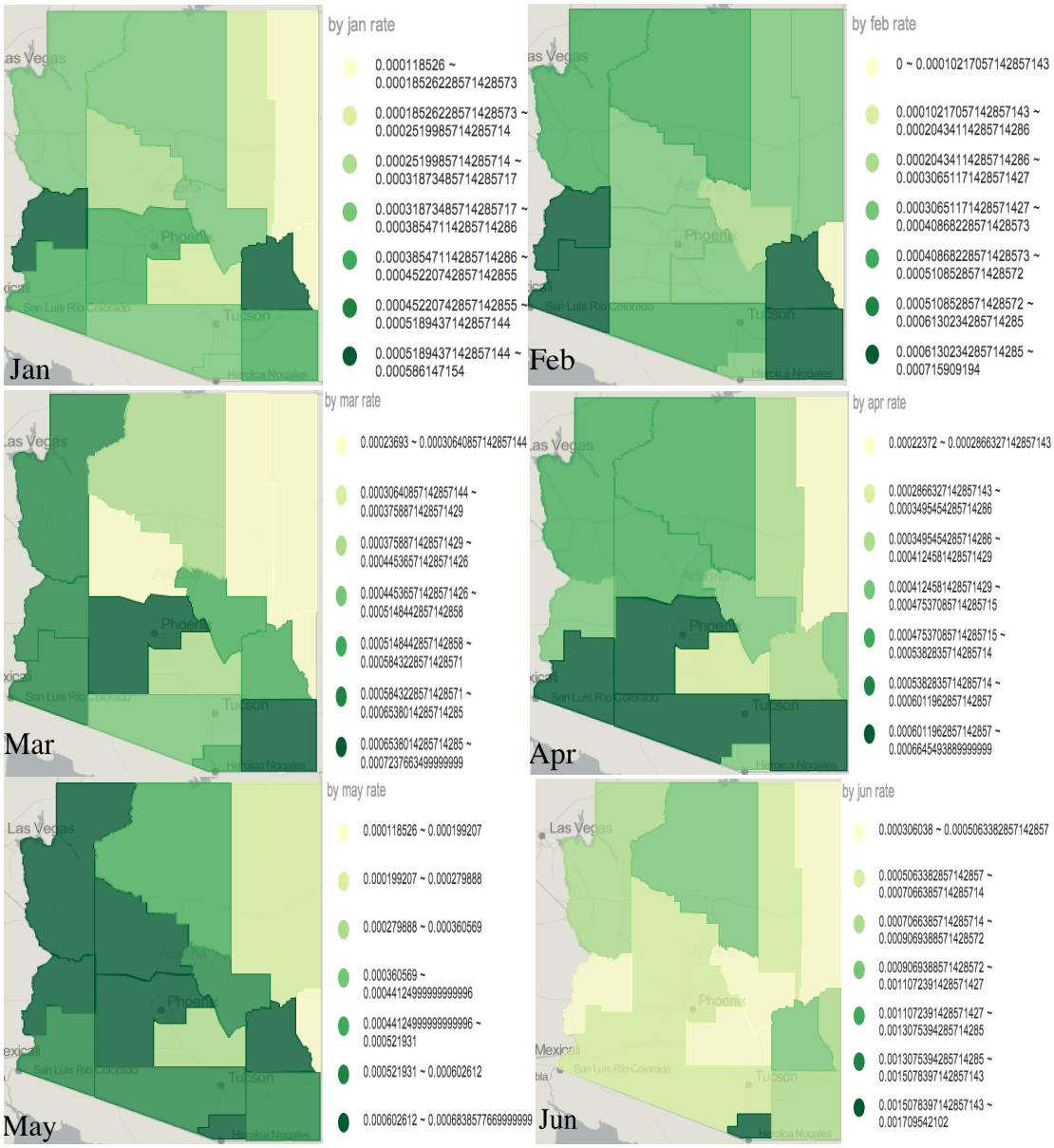
Question2:

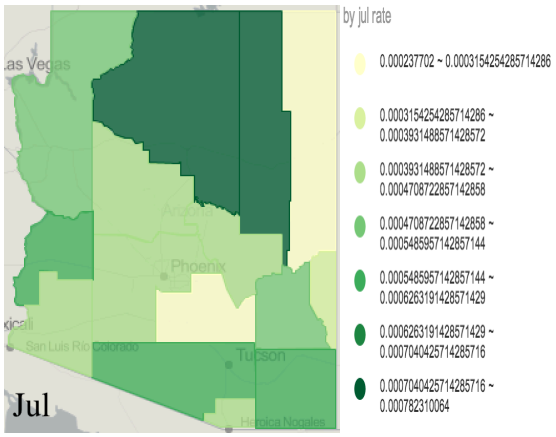
I utilized GeoCommons to upload my normalized data to generate the choropleth map and I chose quantile classification as the classification scheme.

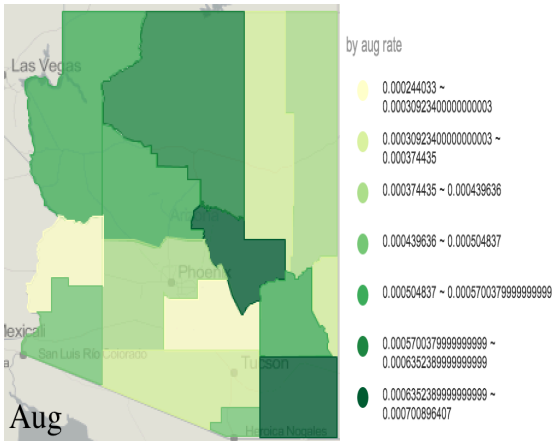


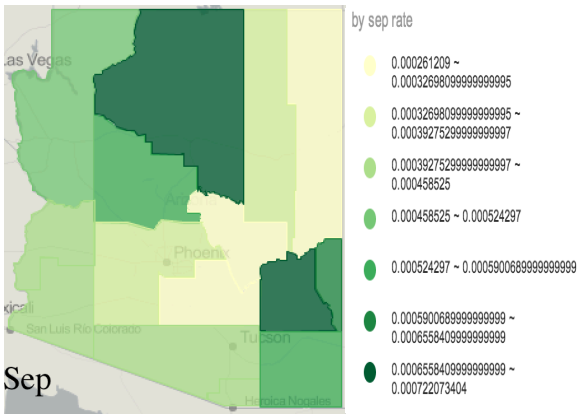
Question3:

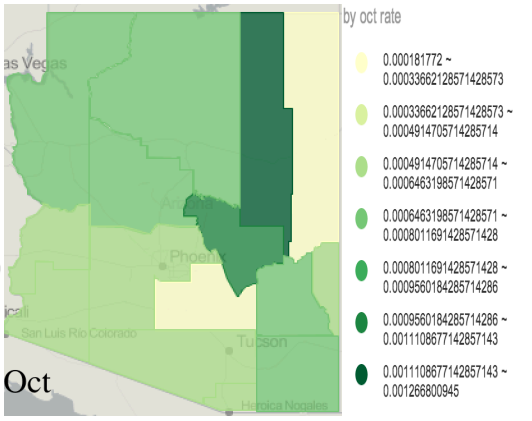
For question 3 I chose equal interval classification to classify the data. How did I classify the data given the temporal nature? I calculated the marriage rate per month for each county in excel and used the dataset to generate 12 choropleth maps to show the marriages per month.
Why did I choose equal interval classification over quantile classification? I found that the data (marriages rate per month of different counties) are familiar. In my opinion, equal interval classification is better to classify familiar data ranges, whereas quantile classification is more useful for ordinal data.

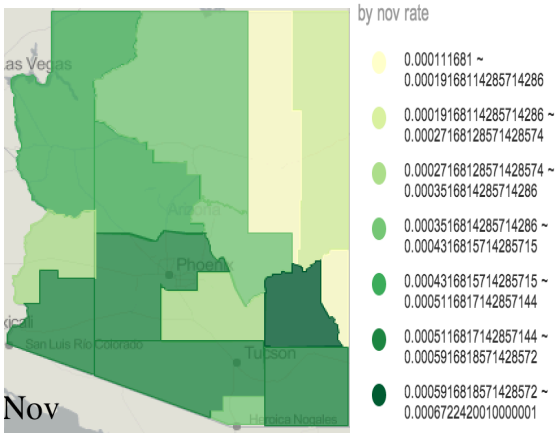


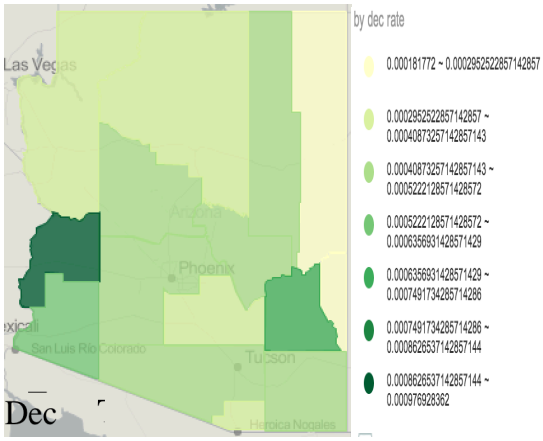

by jul rate
0.000237702 ~ 0.00031542542857142 86
0.00031542542857142 86 ~ 0.00039314885714285 72
0.00039314885714285 72 ~ 0.00047087228571428 58
0.00047087228571428 58 ~ 0.00054859571428571 44
0.00054859571428571 44 ~ 0.00062631914285714 29
0.00062631914285714 29 ~ 0.00070404257142857 16
0.00070404257142857 16 ~ 0.00078231006 4
Jul
Las Vegas
Phoenix
Tucson
San Luis Rio Colorado
Heroica Nogales


by aug rate
0.000244033 ~ 0.00030923400000000 03
0.00030923400000000 03 ~ 0.000374435
0.000374435 ~ 0.000439636
0.00043963 6 ~ 0.000504837
0.000504837 ~ 0.00057003799999999 99
0.00057003799999999 99 ~ 0.00063523899999999 99
0.00063523899999999 99 ~ 0.000700896407
Aug
Las Vegas
Phoenix
Tucson
San Luis Rio Colorado
Heroica Nogales


by sep rate
0.000261209 ~ 0.00032698099999999 995
0.00032698099999999 995 ~ 0.00039275299999999 997
0.00039275299999999 997 ~ 0.000458525
0.000458525 ~ 0.000524297
0.000524297 ~ 0.00059006899999999 99
0.00059006899999999 99 ~ 0.00065584099999999 99
0.00065584099999999 99 ~ 0.000722073404
Sep
Las Vegas
Phoenix
Tucson
San Luis Rio Colorado
Heroica Nogales


by oct rate
0.000181772 ~ 0.00033662128571428573
0.00033662128571428573 ~ 0.00049147057142857 14
0.00049147057142857 14 ~ 0.00064631985714285 71
0.00064631985714285 71 ~ 0.00080116914285714 28
0.00080116914285714 28 ~ 0.00095601842857142 86
0.00095601842857142 86 ~ 0.00111086771428571 43
0.00111086771428571 43 ~ 0.001266800945
Oct
Las Vegas
Phoenix
Tucson
San Luis Rio Colorado
Heroica Nogales


by nov rate
0.000111681 ~ 0.00019168114285714 286
0.00019168114285714 286 ~ 0.00027168128571428 574
0.00027168128571428 574 ~ 0.00035168142857142 86
0.00035168142857142 86 ~ 0.00043168157142857 15
0.00043168157142857 15 ~ 0.00051168171428571 44
0.00051168171428571 44 ~ 0.00059168185714285 72
0.00059168185714285 72 ~ 0.00067224200100000 01
Nov
Las Vegas
Phoenix
Tucson
San Luis Rio Colorado
Heroica Nogales


by dec rate
0.000181772 ~ 0.00029525228571428 57
0.00029525228571428 57 ~ 0.00040873257142857 143
0.00040873257142857 143 ~ 0.00052221285714285 72
0.00052221285714285 72 ~ 0.00063569314285714 29
0.00063569314285714 29 ~ 0.00074917342857142 86
0.00074917342857142 86 ~ 0.00086265371428571 44
0.00086265371428571 44 ~ 0.00097692836 2
Dec
Las Vegas
Phoenix
Tucson
San Luis Rio Colorado
Heroica Nogales