



Status Clusters of CSU, Chico Applications, Fall 2013: Coastal Southern CA

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Introduction

Applications for enrollment at CSU, Chico hit a record number after the October-November 2012 application term: over 26,000 total applications were received for the Fall 2013 semester. Chico State, like other campuses in the California State University system, is "impacted", meaning that there are more students applying for admission than the university can accommodate. The CSU system, as a whole, is "impacted" although at a lower and less variable requirement than at Chico. Each term, Chico State sets an eligibility index that is based on the grade point averages (GPA) and test scores reported by students composing the applicant pool for that term, to cut-off students at the enrollment capacity. This index is usually more stable for local students (using SAT, 2900; ACT, 694), but is not completely set for non-locals until late in the application period. When the dataset used in this analysis was received from CSU, Chico Office of Admissions April 2, 2013, the index for the coming fall semester had stabilized at 3350 and first time freshmen (FTF) decisions had been finalized. Students under the 3350 index received letters telling them that Chico State could not accommodate them, but this is different than a "denial" because they are still eligible to CSUs without impac-tion criteria unless lower than a GPA of 2.0. Indices are calculated as follows:

$$\text{Student Index} = (\text{GPA} * 800) + (\text{SAT Reasoning Test total})$$

or

$$\text{Student Index} = (\text{GPA} * 200) + (\text{ACT Composite} * 10)$$

This dataset uses FTF with a status of "ADMT" for students above the index, "CANCL" for those students who withdrew their application before a decision was made, and "DENY/DK" which aggregates students ineligible for both CSU and CSU, Chico impac-tion criteria. This allows the analysis to study all ineligible students in a single instance.

Data & Methods

Geographic Data:

- Geocoded applicant addresses and status, courtesy of the Office of Admissions
- 2012 census tract polygons

Methods:

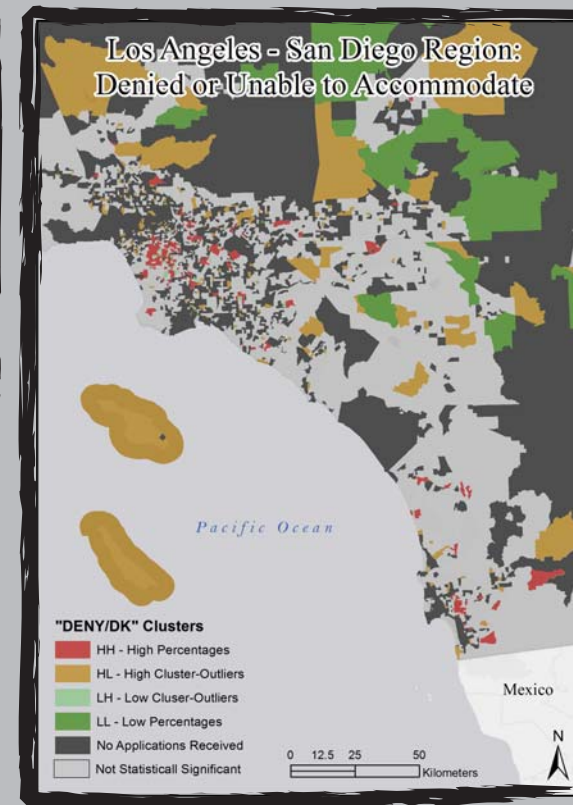
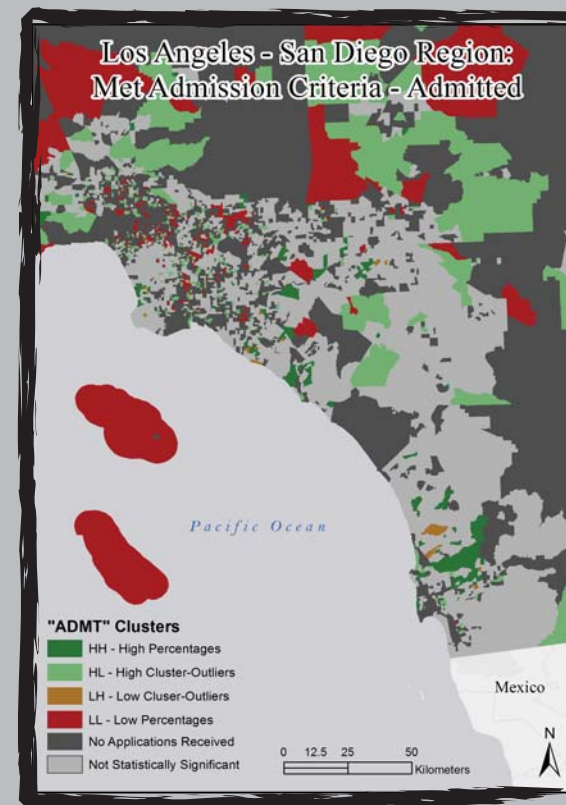
To preserve applicant anonymity, the results of geocoding (points) were aggregated into census tracts using a spatial join. We then added counts and percentages per status and had a final polygon dataset to run ESRI's Spatial Statistic tools on.

First we found the average nearest neighbor of the application point dataset which found that they are clustered (areas of high population density) and that the expected mean distance was about 3000 meters. This distance was then used on the census tracts to find status clusters in the Los Angeles - San Diego Region of California containing a total of 6827 applicants.

Results & Conclusions

This analysis found clusters of statistical significance at the $p < 0.10$ level for both datasets produced. These maps show potential for future recruitment strategies and establish spatially specific data that could be used by the Admissions or Institutional Research offices on Chico State or any campus.

Much effort was exerted programming a Python script (later abandoned due to time constraints) for future use, compatible with every incoming applicant pool, as a tool for non-GIS persons or offices wishing to explore analysis like this. This aspect of the project might be worth attempting again.



Results cont.

Table 1: Applications from the Los Angeles - San Diego Region of California

	Count	Percentage
ADMT	3768	55.19
CANCL	904	13.24
DENY/DK	2155	31.57

n = 6827

This region accounts for 36% of total FTF California resident applications