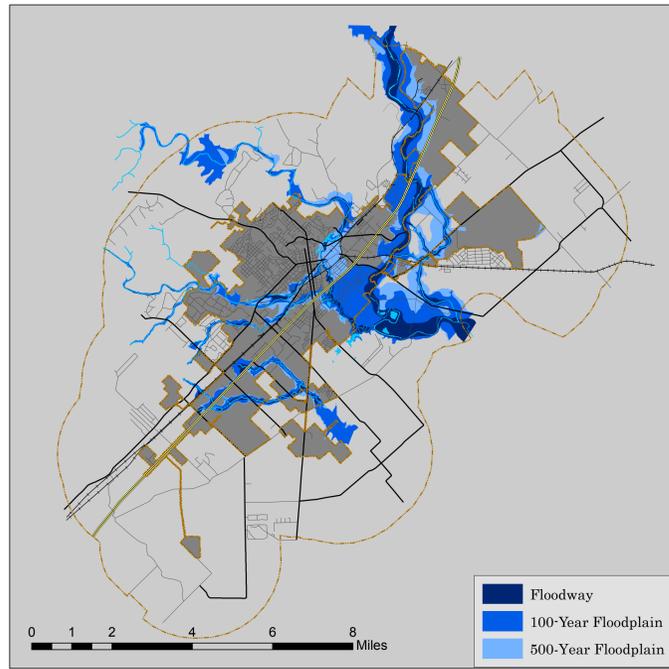


Analysis of Costs Associated with Obtaining Elevation Certificates for Low-Income Households in San Marcos, Texas

Flood Plains



Introduction

Much of San Marcos is prone to flooding, and many of its lowest-lying areas are residential areas occupied by low-income citizens. The cost of obtaining the elevation survey required for a flood insurance policy can be issued can present a substantial barrier for low-income residents trying to insure themselves from this relatively common, but destructive, occurrence. Therefore, the City of San Marcos is working on a Community Development Block Grant (CDBG) to assist its residents in obtaining flood insurance.

The application of GIS to model past flood ranges to compute areas within San Marcos that are highly prone to experience flooding is beneficial to help locate areas that need flood insurance, and its ability to determine where low-income areas and flood-prone areas overlap makes it an extremely powerful tool in developing the CDBG.

This project examines areas within both the city limits of the City of San Marcos and its extra-territorial jurisdiction (ETJ.)

Methodology

All of the data examined here was provided by the City of San Marcos. Most important among them were flood-prone areas as defined by the Federal Emergency Mapping Agency (floodway, 100-year floodplain, and 500-year floodplain,) historical flood insurance claims, active flood insurance policies, property tax assessments, and areas inundated or damaged in the flood of October of 1998. The 1998 flood was used as an example of a major flood which caused problems well outside the established flood plain. Property tax assessments are used as an estimator of the residents' income, because specific income data at such a low granularity is not available.

All data was converted to be mapped at the parcel level, in order to provide a common geographic unit for all comparisons; the parcel was selected because it represents a discrete unit which is generally only occupied by one family or business. Three property value criteria (\$15,000 or less total assessed value, \$15,001 to \$30,000, and \$30,001 to \$45,000) and four flood-based criteria (floodway, 100-year floodplain, 500-year floodplain, and areas damaged or inundated in 1998) were used to provide a comparison of areas most in need and in order to provide a range of potential costs for the CDBG.

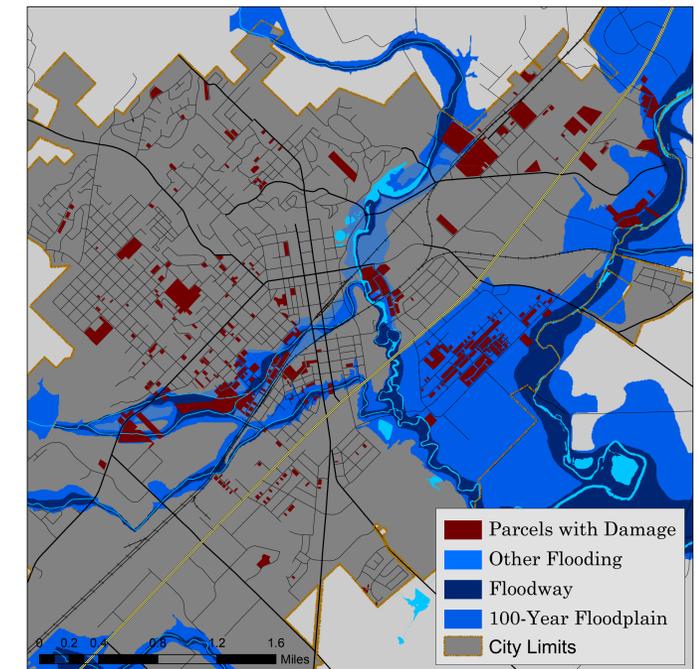
Fact Sheet

Of the 13,568 parcels entirely or partially within the city limits/ETJ of San Marcos...

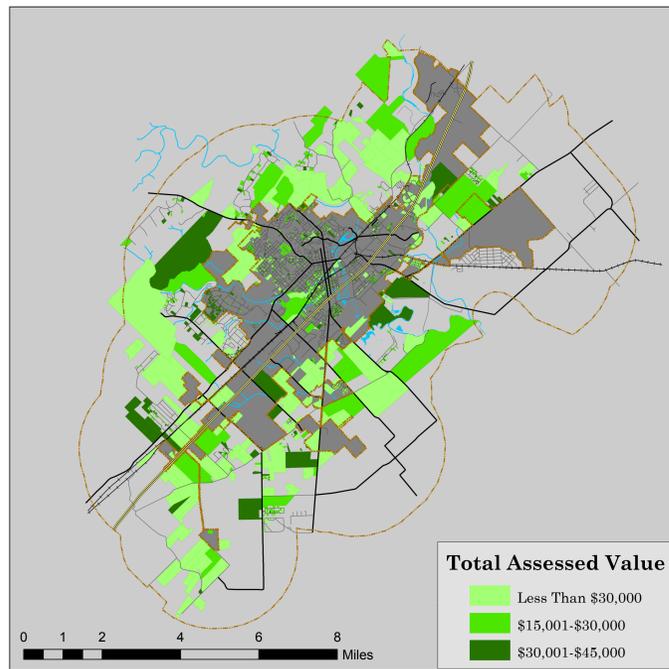
- 74 parcels have elevation certificates.
- 324 parcels have active insurance policies. Of these 324...
- 280 parcels are in the 500-year floodplain.
- 93 have a total assessed value of less than \$30,000
- 632 parcels are in the 500-year floodplain and have a total assessed value of less than \$30,000.
- 479 parcels are in the 100-year floodplain and have a total assessed value of less than \$30,000.
- There have been 267 flood insurance claims in San Marcos since 1979.

84 claims were filed for the flood of 1998. 34 addresses had at least two claims for the flood of 1998.

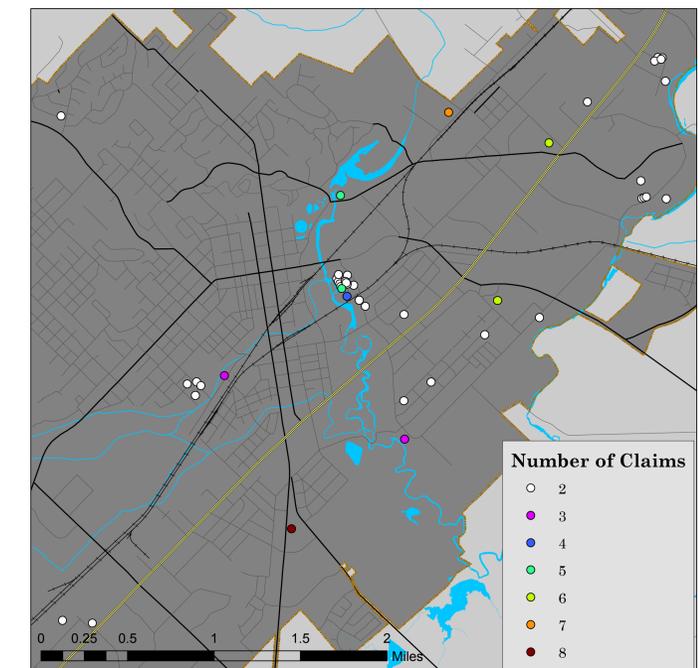
Flood of 1998



Property Values



Insurance Claims



On All Maps

- Streets
- City/County/TxState
- Interstate
- Farm-to-Market
- Highway
- Major Streets
- Railroad
- Creeks
- San Marcos River
- City Limits
- ETJ

Prepared by Water Elevation Technologies

David Lynch - Manager
Clinton Buehring - GIS Analyst
Jeff Gravett - GIS Analyst
Miriam Mosher - GIS Analyst



Prepared as a part of
Geography 4427
Advanced Geographic Information Systems II
Spring 2007

Dr. Alberto Giordano, instructor

