

Vulnerability Assessment of Coastal Flooding Threats – St. Joseph Bay to Apalachee Bay Coastline - Draft

INTRODUCTION

Located on the Gulf coast of Florida, the Apalachee Bay Region includes four coastal counties with 900 miles of coastline and the potential to be impacted by Sea Level Rise (SLR). Of these communities three, Franklin, Gulf and Wakulla counties, have a significant portion of their population living on or near the coastline. While the rise in sea level has only been approximately six inches on this portion of the coastline in the last 100 years, predictions for a more rapidly increasing rise in sea level indicates that we will eventually experience SLR.

BACKGROUND

While there is continued debate as to the rate at which the sea level is rising, historical trends and data support the notion that many locales are experiencing higher water levels. This is especially true when looking at historical data collected for the state of Florida. The tools for estimating coastal flooding and the impact of SLR on the transportation network are now readily available. This Vulnerability Assessment will focus on those segments of the transportation network predicted to be the most greatly impacted by SLR in the Apalachee Bay area. The FDOT Sea Level Rise Sketch Tool will be used to analyze the impacts of SLR rise on the transportation network along the coastline and the barrier islands of Franklin, Gulf and Wakulla counties.

PROJECT STUDY AREA

The Vulnerability Assessment will study the impact of SLR along the coastline from St. Joseph Bay in Gulf County to Apalachee Bay in Wakulla County and include St George Island and Dog Island. Once the segments of roadway most likely to be impacted have been identified using the FDOT Sea Level Rise Sketch Tool, maps specific to these targeted areas will be produced for a more in-depth analysis.

PROJECT GOALS

1. Ensure that local and regional planners have the capacity to inform their policy makers on coastal flooding issues specifically as it relates to the transportation network in their communities.
2. Create one example of a Vulnerability Assessment using free online tools available

AVAILABLE TOOLS

- **FDOT/UF's Geoplan Sketch Planning Tool** – Developed by University of Florida GeoPlan Center for the Florida Department of Transportation. This tool uses the U.S. Army Corp of Engineers (USACE) low, intermediate and high projection estimates of sea level rise to demonstrate risk, specifically to the transportation network. It is a free visualizer and modelling software package intended to promote stakeholder engagement, scoping/inventory, assessment/analysis, and planning.

- **NOAA's Digital Coast: Sea Level Rise Viewer and Coastal Flood Exposure Mapper**— A free visualizer which can facilitate stakeholder engagement, scoping and inventory, and assessment and analysis, SLR Viewer offers an online interactive platform in map format to display a variety of sea-level rise scenarios.
- **NOAA's CanVis** – A free visualizer which is intended to elicit higher levels of stakeholder engagement, CanVis modifies imagery to show potential inundation scenes.

The data analyzed for the purpose of this assessment will be the 2060, 2080 and 2100 Medium and High projections as the Low projections show no significant impact to either development or the transportation network. The following illustrations depict the 2080 projected coastal flooding estimates for the USACE High projections for Franklin, Gulf and Wakulla counties.

Draft Outline

I. Study Area Summary

- Gulf County Impacted Coastline
- Franklin County Impacted Coastline and Barrier Islands
- Wakulla County Impacted Coastline

II. Sea Level Rise Projections

- Maps from FDOT Sea Level Rise Sketch Tool

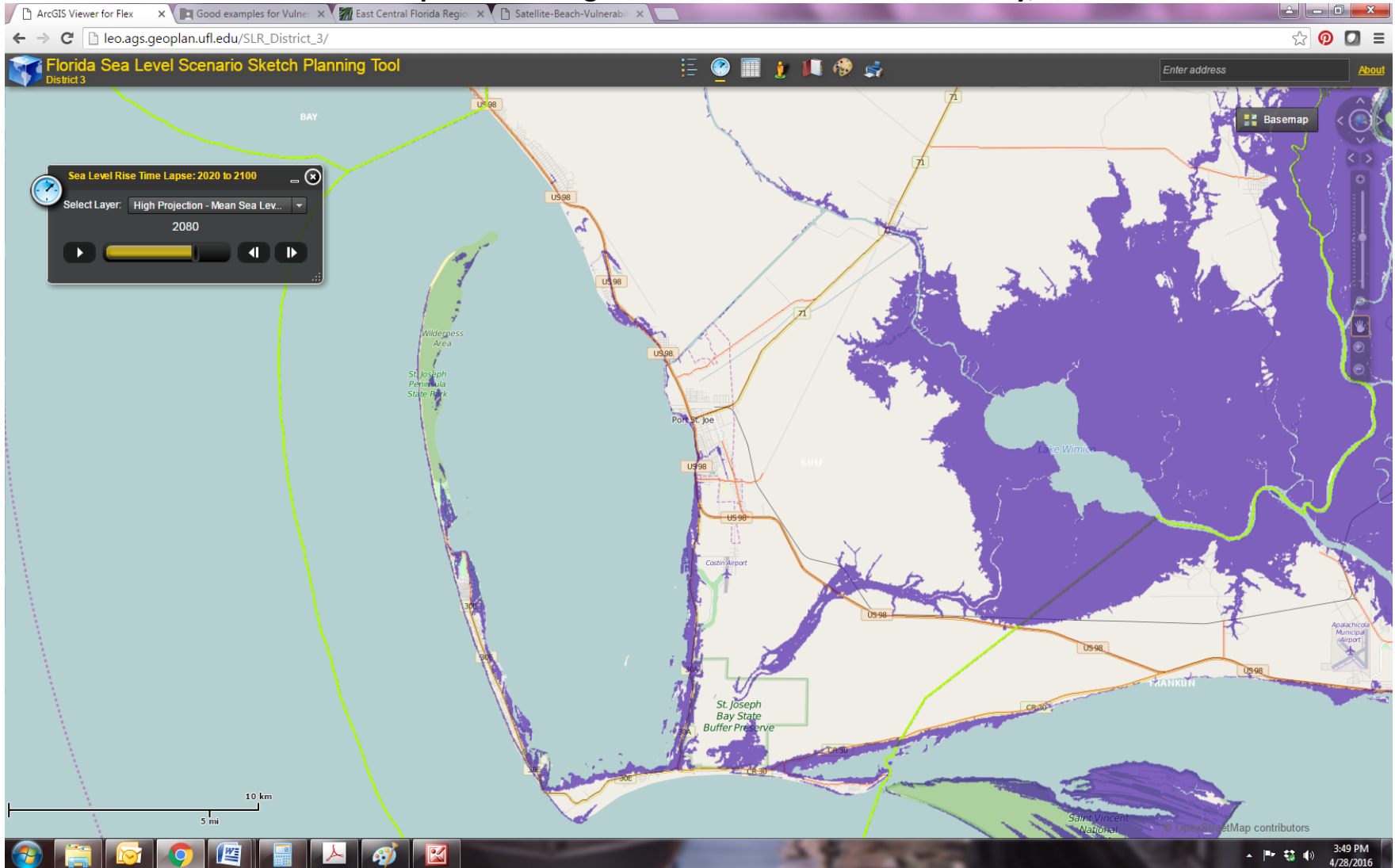
III. Infrastructure Impacts

- Data Table

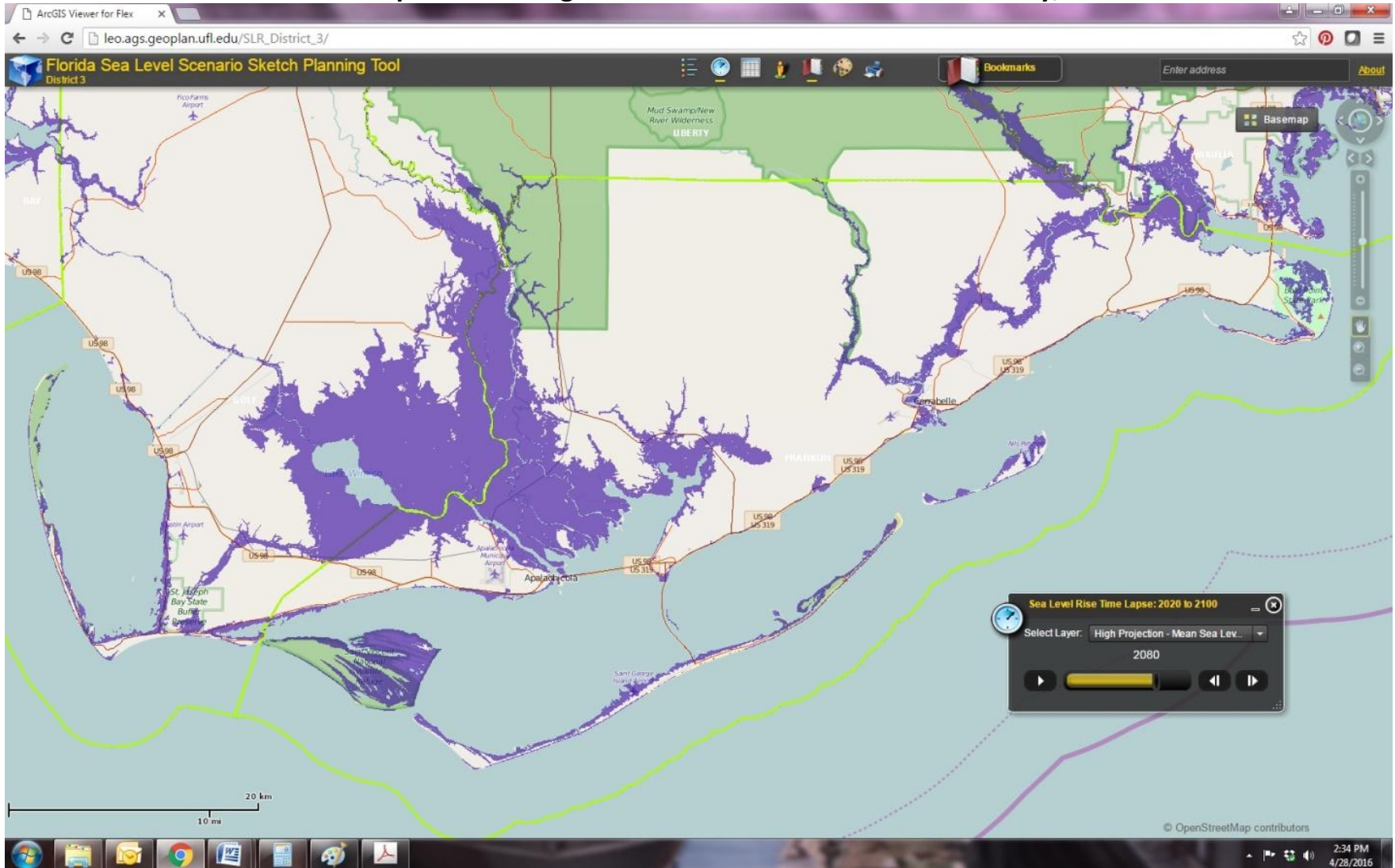
IV. Property At Risk

- Property Appraiser Data

Potential Impacts from High Estimation of SLR for Gulf County, 2080



Potential Impacts from High Estimation of SLR for Franklin County, 2080



Potential Impacts from High Estimation of SLR for Wakulla County, 2080

