Southwest Florida Regional Planning Council
1926 Victoria Ave.
Fort Myers, Florida 33901
(239) 338-2550
http://www.swfrpc.org

6/20/07

Tim Walker
GIS Coordinator
email: twalker@swfrpc.org

Southwest Sealevel Rise Study

In early 2007 the Sealevel rise data was modified to reflect changes made since the first data set was developed. From changes made by other regions and Jim Titus, we arrived at this new dataset. Most changes were based on previous attribute data while other areas were changed based on local knowledge at the direction of Dan Trescott. Since this data is considered more of a final set, a dissolve was done to simplify the data based on the elev (elevation) field and the searise2 field which contains the attributes the symbology is based on. The projection remains the same as before which is:

NAD_1927_StatePlane_Florida_East_FIPS_0901
Projection: Transverse_Mercator
False_Easting: 500000.000000
False_Northing: 0.000000
Central_Meridian: -81.000000
Scale_Factor: 0.999941
Latitude_Of_Origin: 24.333333
Linear Unit: Foot_US

GCS_North_American_1927
Datum: D_North_American_1927

NOTE: The following was left in for refernce only!

2/21/02

All GIS data is in Arcview shapefile format and created with Arcview 3.2. All shapefiles are in Florida State plane East, NAD 27, feet. Below is a brief description of the shapefiles.

Some data was produced by the Southwest Florida Regional Planning Council while others was not. Only description of in house data are given.

directory structure on the CD;

gis--- |-images (Contains all the map images, jpg, pdf, ect)
|-misc (contains avl, a simple apr file and other files)
|-shapefiles (Contains all the shapefiles described here)

Sea Level Rise Data

This data was derivered from 3 data sets; Existing Land use, Future Land Use and Topological data. For a methodology on how this data set was developed, see the file readme_searise_meth.rtf.

Data Description: Sea Level Rise data for Collier, Lee, Charlotte and Sarasota Counties.
Data Name: colsearise.shp, leesearise.shp, chsearise.shp, sarsearise.shp,
Data Type: shape
Data Feature: poly
Data Source: SWFRPC
data projection: Florida State plane East, NAD 27, feet

Field description:
shape- A GIS generated field
fac_no- Unique number given to each facility in no particular order.
Z0202flu- The 2 letter code designation of the future land use the polygon falls in'
- AG- Agriculture
- CM- Commercial
- ES- Estate
- IN- Industrial
- MF- Multi-family
- MN- Mining
- ML- Military
- PR- Preserve
- SF- Single family
- WT- water

Elev- The elevation the polygon is in
- 5- 0'-5' elevation
- 10- 5'-10' elevation
- Above 10'- Above 10'

Flucsdesc- as taken from the water management district FLUCCS level 3 description
- lev1- the fluccs level 1 code
- lev2- the fluccs level 2 code
- lev3- the fluccs level 3 code

type- coded whether the polygon is wetlands, water or uplands, see methodology file for more description
searise- This is the main field the data was developed for. Read the methodology for an idea on how the these attributes were derived.
Acreage- the acreage

Critical Facilities Data

This data was developed as part of the local mitigation strategy grant. The Southwest Florida Regional Planning Council was contracted to do the LMS critical facility work on Lee, Collier, Glades and Hendry Counties. Sarasota County and Charlotte County were done by their own in house GIS department.

Because the SWFRPC did not produce those 2 counties critical facilities data, we can not attest to the accuracy of it. While the Charlotte County data appears to be accurate, the Sarasota County data has some blatant errors of which they admit, as in points falling far out in the water. The data here was the latest available they had at the time.

Data Description: Critical Facilities for Collier & Lee
Data Name: leecritfac.shp, colcritfac.shp
Data Type: shape
Data Feature: point
Data Source: SWFRPC

data projection: Florida State plane East, NAD 27, feet

note: The following fields do not appear in all 2 counties prepared by the SWFRPC(Lee, Collier). Field descriptions for Sarasota and Charlotte are not included since the SWFRPC did not produce that data.

Field description:
shape- A GIS generated field
fac_no- Unique number given to each facility in no particular order.
Fac_type- The facility type as outlined in the contract. Several facilities were requested by Lee County that did not fit into the contract categories, these were; TOP 100 BUSINESS, ARMORY, INFORMATION AND COORDINATION, AND MISCELLANEOUS.
Facility- The critical facility description or name as given.
Address- The facility address as given.
city- The incorporated city the facility is located in, otherwise its unincorporated.
category- The landfalling storm category the facility falls in
long_dd- The point longitude in decimal degrees generated by arcview.
lat_dd- The point latitude in decimal degrees generated by arcview.
long_dms- The point longitude in degrees minutes seconds generated by arcview.
lat_dms- The point latitude in degrees minutes seconds generated by arcview
Elev- This is the main field the map uses. Tells what elevation range the critical facility falls in, wether 0'-5' or 5'-10' and wether the facility is protected or not.
include- it was decided not all the critical facilities should be included. if the record says yes then we included it in the map, if no or blank, we didnt.

Data Description: Critical Facilities for Charlotte County
Data Name: chacritfac.shp
Data Type: shape
Data Feature: point
Data Source: Charlotte County GIS
data projection: FL State Plane East, NAD 27, feet

Data Description: Critical Facilities for Sarasota County
Data Name: sarcritfac.shp
Data Type: shape
Data Feature: point
Data Source: Sarasota County GIS
data projection: FL State Plane East, NAD 27, feet

Miscellaneous Data

Data Description: Major Roads
Data Name: chrds.shp, colrds.shp, leerds.shp, sarrds.shp,
Data Type: shape
Data Feature: line
Data Source: ESRI
data projection: FL State Plane East, NAD 27, feet

Data Description: County Boundaries for Collier, Lee, Charlotte and Sarasota Counties
Data Name: colbndy.shp, leebndy.shp, chbndy.shp, sarbndy.shp,

Data Type: shape
Data Feature: poly
Data Source: SWFRPC
data projection: FL State Plane East, NAD 27, feet

JPG Files

Located in the JPG directory on the CD

Southwest Florida Regional Planning Council
1926 Victoria Ave.
Fort Myers, Florida 33901
(239) 338-2550
http://www.swfrpc.org

6/20/07

Tim Walker
GIS Coordinator
email: twalker@swfrpc.org

Southwest Sealevel Rise Study

In early 2007 the Sealevel rise data was modified to reflect changes made since the first data set was developed. From changes made by other regions and Jim Titus, we arrived at this new dataset. Most changes were based on previous attribute data while other areas were changed based on local knowledge at the direction of Dan Trescott. Since this data is considered more of a final set, a dissolve was done to simplify the data based on the elev (elevation) field and the searise2 field which contains the attributes the symbology is based on.

NOTE: The following was left in for refernce only!

2/21/02

This is a brief description of my methodology for creating the shapefile xxxsearise.shp, where xxx correspondence to the first letters of the county.

To create the final shapefile for the Sea Level Rise project I used 3 different sets of data;

1. Topological data
2. Future Land Use data
3. Existing Land Use data.

These 3 data sets were overlayed to create the final shapefile. All 3 data sets had to be manipulated before any overlays could be done. I will try to outline the work I did to arrive at the final shapefile, of course as with any GIS project, there are many ways to arrive at the final product and your path may be different. I would be interested in hearing any sugestions. All data were projected into the same projection, in my case, Florida State Plane East, NAD 27, feet. (old habits die hard)

I decided the Existing Land Use data (ELU) would be used as my shoreline, therefore I unioned the topo data with the Future Land Use data (FLU) then unioned/intersected the ELU data.

Topological Data
With the exception of Sarasota County, the only data I could find were line shapefiles/coverages. These were obtained from the SFWMD or SWFRPC for Collier, Lee and Charlotte County. I will explain Sarasota later. These 3 topo line shapefiles had to be converted into polygon coverages. Topo boundaries were extended beyond any shorelines and county boundaries so the ELU shapefile could intersect properly. A field named "elev" contains the attributes "0' to 5'", "5' to 10'" or "Above 10'" depending on which elevation the polygon represents.

After contacting Sarasota County they said they could create a polygon coverage for me using GRID. I do not have this Arcinfo module. They used the SWFWMD topo line data. I had to do a lot of cleanup work and I had to add topo data in southern Sarasota County but it still saved me time as opposed to starting

from scratch. Several areas were incorrectly shown under 10' elev but by comparing it to the line shapefile these were corrected. Because of the use of GRID, jaggies are present in the final shapefile. Once this shapefile was clean, I followed the same procedures as I did for the other 3 counties.

Future Land Use Data
I used the SWFRPC 2020 FLU shapefile developed in 1999 and updated since then. Most or all RPC's should have their own FLU data. As with the topo data, boundaries were extended beyond any shorelines and county boundaries so the ELU shapefile could intersect properly. Categories for our FLU are; Agriculture, Single Family, Multi Family, Industrial, Commercial, Preserve, Estate, Mining, Military and Water. It may be benificial for other RPC's to match their categories to ours, for an explanation of our categories see the metadata for the FLU coverage on our web site under "GIS and Maps", the address is www.swfrpc.org.

Existing Land Use
I used the SFWMD or SWFWMD 1995 ELU coverage with FLUCCS. The ELU determined my shoreline. A field named "type" was created to group all polygons into the following categorys; Wetlands, Water or Uplands. Using FLUCCS level 1, all wetlands became wetlands in my new field. All water became water in my new field, in addition all polygons with level 3 code 816, canals and locks, were made water. Other instances may occur that may need to be evaluated as encountered. After all wetlands and water were determined, all remaining polygons were labeled Uplands.

Creating the final shapefile
Once I had all 3 data sets I needed, I could combine them. As stated before, I decided the Existing Land Use data (ELU) would be used as my shoreline, therefore I unioned the topo data with the Future Land Use data (FLU) then unioned/intersected the ELU data. I unioned the FLU and topo shapefiles resulting in a shapefile that had polygons containing FLU and topo data. I made sure the ELU data had water features extended out far enough to suite me. I either unioned or intersected the topo/FLU data with the ELU data resulting in a shapefile containing FLU, topo and ELU data. Note, I could have dissolved the ELU based on my created field showing wetlands, water or uplands which would have made the resulting shapefile significantly smaller but I decided to keep level 3 FLUCCS attribute data intact based on Dan Trescott's possible need to modify it.

Once all 3 data sets/shapefiles were unioned into one final shapefile, I created a field labeled searise which will be my final attribute input. I selected all polygons labeled water and wetlands based on the field containing just water, wetlands or uplands data and copied that data into this new field.

I then selected all polygons that were uplands (the remaining polygons) and selected out polygons that were preserve, mining and agriculture from the FLU field. These polygons became my areas of "0'-10' Uplands, Not Protected" areas and I populated the field searise as such. This area is light green.

I then selected all the remaining uplands polygons and labeled them "0'-10' Uplands, Protection Likely But Wetland Migration Possible". These areas are red.

I selected all polygons outside 0' to 10' in the elev field and deleted any attribte data in the searise field. Note there may be islands of above 10' areas that need to be dealt with.

The areas that are "0'-5' Uplands, Protection Not Likely" were determined by Dan Trescott with input from local governments and could be any non wetland or water areas. These areas are blue.

This is a brief description of my methodology for creating the shapefile xxxcritfac.shp, where xxx correspondence to the first letters of the county.

This data was originally developed as part of the local mitigation strategy grant. The Southwest Florida Regional Planning Council was contracted to do the LMS critical facility work on Lee, Collier, Glades and

Hendry Counties. Sarasota County and Charlotte County were done by thier own in house GIS department.

The critical facility data is used to show which areas may be protected within the 0' to 10' elevation. Certain fields were omitted that were'nt pertinant to the project and 2 fields were added, they were "elev" and "include". The critical facilty data was simply overlaid on the topological data described above to determine the elevation it fell into and then was labeled either "5'-10' Protection Definite" or "0' to 5' Protection not recommended". The other field added was "include". This field simply indicates whether or not we include that facility in the final map. Certain facilities were deemed not necessary, for example non government facilities, churches, businesses, nursing homes, ect.