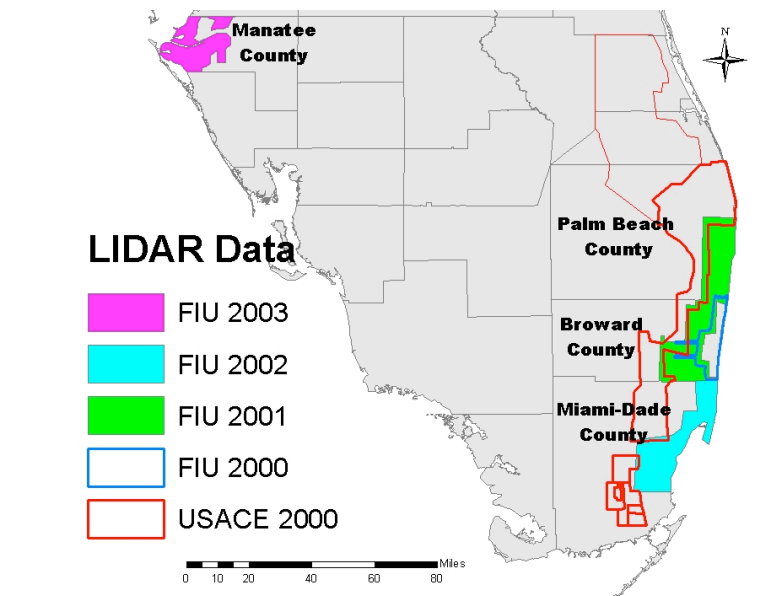


## LIDAR DATA Acquisition

- Dr. Dean Whitman, Department of Earth Sciences, Florida International University
- Dr. Keqi Zhang, International Hurricane Research Center, Florida International University
- William Robertson V., Department of Earth Sciences, Florida International University
- Sonia Hernandez, Department of Earth Sciences, Florida International University
- Zhen Cui, International Hurricane Research Center, Florida International University
- Carolyn Anderson, International Hurricane Research Center, Florida International University
- Daniel Gann, GIS Library, Florida International University

The first stage for this project is to collect high-resolution elevation data via airborne laser technology for participating South Florida Counties. Participating counties include Broward, Palm Beach, Miami-Dade, and Manatee Counties.



## Terrain Filtering

### Airborne LIDAR Data Processing System

#### Data Validation

- Relative Accuracy
  - Analysis of intersecting/overlapping swaths
- Absolute Accuracy
  - Bare Earth DEM grids are compared with independent data of higher accuracy
- Benchmark heights
- Surface GPS or level survey transects

## **Type of Data Sets**

- Strip Data
  - 9 column ASCII text files (T,x1,y1,z1,i1,x2,y2,z2,i2)
- 5000x5000 ft Tiles
  - Unfiltered 1st return data (“Top Surface”)
    - X,Y,Z points (ASCII text)
    - 5 ft DEMs (Binary Grids)
  - Filtered Last return data (“Bare Earth”)
    - X,Y,Z points (ASCII text)
    - 5 ft DEMs (Binary Grids)
- Subaveraged Bare Earth DEM Mosaic
  - Tiles mosaiced and subaveraged to 100 ft postings