### FPL 2012-13 RESEARCH PROJECTS

# "SMALL-SCALE WIND POWER IN FPL SERVICE TERRITORIES:

Assessment of Wind Resource and Selection of Wind Turbine Designs"

# **FINAL REPORT**

### Submitted to:

Craig V. Muccio, M.E.
Program Manager
Conservation R&D Program
Demand Side Management Department
(305) 552-4127
c.v.craig.muccio@fpl.com

# **FLORIDA POWER & LIGHT COMPANY (FPL)**

9250 W. Flagler Street Miami, Florida 33174

# Submitted By:

Y.I. Sharaf-Eldeen, PhD, PE

Department of Mechanical & Aerospace Engineering
(321) 674-8124

eldeen@fit.edu

# **FLORIDA INSTITUTE OF TECHNOLOGY (FIT)**

150 West University Boulevard Melbourne, FL 32901

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### "SMALL-SCALE WIND POWER IN FPL SERVICE TERRITORIES:

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## **EXECUTIVE SUMMARY AND OVERVIEW**

## Overview:

This work was carried out under a research project funded by FPL, Florida Power & Light Company, entitled: "Small-Scale Wind Power in FPL Service Territories: Assessment of Wind Resource and Selection of Wind Turbine Designs." The project concerned feasibility and potential role of wind energy in Florida, with regard to available wind resource assets and small-scale windturbine designs. Historical wind speed records and data were analyzed, with the results used for making assessments of anticipated wind speeds at potential sites in FPL service territories, as well as an overall assessment of the wind regime throughout the State. A technology survey and performance output assessments of small-scale wind turbine designs was undertaken in order to select wind systems for installations at promising wind resource sites. Emphasis was placed upon opportunities for residential, wind power generation using small-scale wind turbines with rated capacities in the range of 1 - 10 kW. Wind systems, having rated power outputs of up 50 kW were considered for commercial, utility-connected applications. Wind technologies of such sizes are suited for distributed power generation when connected to the grid, resulting in potentially relieving pressure on the utility system, diversification of energy sources, and creation of greater energy security. Further, when battery storage options are used, grid-connected wind systems provide alternatives for both demand side management (DSM) and emergency back-up power applications.

The project involved several tasks: First, conducting detailed assessments of the wind resource at potential installation sites within the service territories of FPL. An overall assessment of the wind resource throughout the State of Florida was also made. These assessments are vital for characterizing the wind resource and selecting wind turbine designs that best match the wind regime at given installation sites. A second task involved surveying small-scale wind turbine technologies, including urban/architecture wind turbine systems, in order to select candidate designs for installations and performance outputs evaluations. The third task centered upon making estimates of total energy productions of wind systems and the divisions of their energy productions between portions used for meeting load-demands and excess energy fed-back into utility lines.

### **Wind Resource Assessments:**

Accurate information about the wind resource is essential to policy makers, regulators, developers and other stakeholders, as well as to the audience throughout the State, in making decisions on the development of wind energy. Historical records of wind speed data, collected over a period of 5 - 15 years, are usually used in making projections of future wind speeds at potential wind-turbine installation sites.

### **Sources of Wind Speed Records and Data:**

The wind speed records and data sources used in this work include, but are not limited to, the following:

- National Data Buoy Center (NDBC),
   National Oceanic and Atmospheric Administration (NOAA):
   http://www.ndbc.noaa.gov/maps/florida\_hist.shtml
- 2. <u>Center for Operational Oceanographic Products and Services, (CO-OPS):</u> <a href="http://www.co-ops.nos.noaa.gov/">http://www.co-ops.nos.noaa.gov/</a>
- 3. <u>City-Data: http://www.city-data.com/city/Florida.html</u>
- **4.** FirstLook Wind: http://firstlook.3tiergroup.com/wind/

- 5. Records of Wind Speed Data at Airports and Army bases and/or Training
  Camps
- **6.** <u>Weather Underground: http://www.wunderground.com/</u>

### **Site-Specific Wind Resource Assessments:**

Because historical wind speed data are often collected at different heights above ground level, vertical extrapolation was used to estimate wind speeds at various wind turbine hub heights. In this work, vertical extrapolation was carried out using the 1/7<sup>th</sup> power law, logarithmic law, and/or correlations developed from site specific measurements of wind speeds taken at various heights above ground level. Examples of wind assessment results at several sites in Florida are summarized below:

### 1. Okahumpka Service Plaza, Florida's Turnpike Enterprise:

Sumter County, FL (28.78694 N, 81.98194 W)

The site has an elevation of about 25 m above sea level, and is centered in an open and clear area all around. For this site, the analysis gives an annual, mean wind speed in the neighborhood of 3.9 m/sec at a height of 10 m above the ground level. Vertical extrapolation gives estimates of annual, mean wind speeds of about 4.3, 4.5, 4.7, 4.9, 5.0, 5.1 and 5.2 m/sec at heights above ground level of 20, 30, 40, 50, 60, 70, and 80 m, respectively.

### 2. Isla Del Sol, St. Petersburg, Florida:

St. Petersburg, FL (27.709 N, 82.715 W)

The analysis of wind speed records and data for this site in St. Petersburg gives an estimated, annual mean wind speed in the neighborhood of 3.25 m/sec, at a height of 10 m above ground. Extrapolation gives estimates of annual, mean wind speeds of about 3.7, 4.1, 4.4, 4.6, 4.7, 4.8, and 4.8 m/sec, for hub heights of 20, 30, 40, 50, 60, 70, and 80 m above ground level, respectively.

#### 3. Southeast Orlando Operations Center:

Orange County, FL (28.44615 N, 81.34893 W)

Using wind speed records and data available for a site at the Southeast Orlando Operation Center, the analysis gives a value in the neighborhood of 3.2 m/sec, for annual, mean wind speed at a height of 10 m above ground level. To account for different hub heights, vertical extrapolation results in annual, mean wind speed estimates of about 3.8, 4.2, 4.4, 4.6, 4.8, 4.9, and 5.0 m/sec, for heights of 20, 30, 40, 50, 60, 70, and 80 m above ground level, respectively.

### **4.** Winter Garden Operations Center:

Orange County, FL (28.575118 N, 81.561796 W)

The analysis carried out for a site at the Winter Garden Operations Center in Orange County resulted in an annual, mean wind speed in the neighborhood of 3.5 m/sec, at a height of 10 m above ground level. Corresponding values of annual, mean wind speeds were about 4.1, 4.4, 4.7, 4.9, 5.0, 5.1, and 5.3 m/sec, for heights of 20, 30, 40, 50, 60, 70, and 80 m above ground level, respectively.

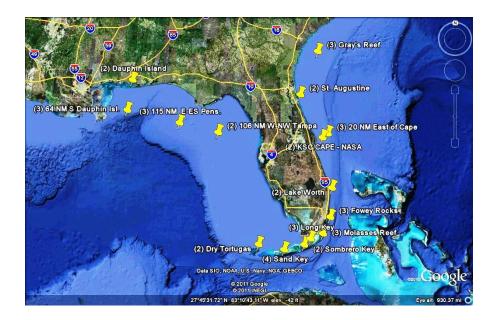
### **5.** Levy County Site:

Levy County, FL (29.084377 N, 82.633667 W)

The analyses results for this site give an annual, mean wind speed in the neighborhood of 3.9 m/sec, at a height of 10 m above ground level. For different hub heights, the analyses gives annual, mean wind speed estimates of about 4.3, 4.5, 4.6, 4.7, 4.8, 4.9, and 5.0 m/sec, for heights of 20, 30, 40, 50, 60, 70, and 80 m above ground level, respectively.

#### **State-Wide Wind Resource Assessments:**

The analyses undertaken in this work clearly indicate that, most of the interior sites in the State of Florida have annual, mean wind speeds corresponding to a "class 1" wind power. These results conform, in general, to those derived and published in several other wind resource studies, as well as recent analyses (April 13, 2011) undertaken by <a href="AWS Truewind">AWS Truewind</a> for <a href="NREL">NREL</a>, the National Renewable Energy Laboratory. Potential installation sites having annual, mean wind speeds that are generally considered suitable for wind energy development, "class 2" or higher, are mapped below:



These results are in good agreement with those reported in earlier assessment studies, including the recent study by AWS Truewind for NREL. The study indicates that, the total size of available areas with annual, average wind speeds above 6.5 m/sec (at 80 m above ground level), which is generally considered suitable for wind energy development, is about 0.1 km<sup>2</sup> (AWS Truewind/NREL). Wind turbines installed in these areas would have gross capacity factors of about 30 %.

This leads to the conclusion that, except for coastal installation sites, the development of wind energy in Florida would not be considered economical. However, for the promising sites, the installation of modern, small wind turbines, including urban/architecture wind systems, for renewable energy production, and educational and outreach benefits would be highly recommended. A site-specific wind resource analysis and assessment would be required before any installations of wind energy systems at such sites.

# **Selection of Wind-Turbine Designs:**

Analysis of historical data of wind speeds, collected over a period of 5 -15 years at a potential wind system installation site, is essential for the proper

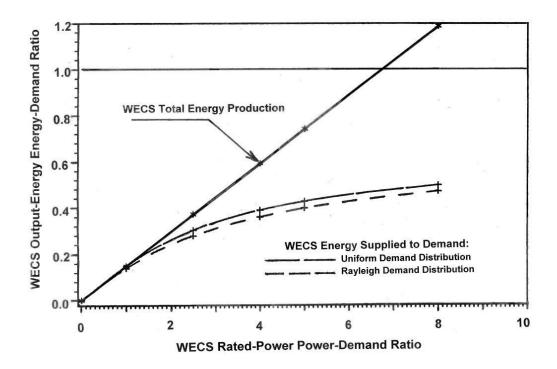
selection of the wind turbine design, and for making estimates of its potential energy production. Based upon performance output curves of a large number of small wind systems, the ReDriven Power, Inc.'s 10 kW, Ventera Energy's VT10-240 (10 kW), Gaia-Wind 11-kW, and the ARE 442 10 kW wind systems were found to produce comparable amounts of annual energy at potential installation sites. These systems have low cut-in wind speeds of 3.0 m/sec or less. Other systems with 10 kW rated power outputs include: Bergey's BWC Excel system, AEROSTAR®'s 6 METER, and Wind Turbine Industries Corp.'s turbine. The cut-in wind speeds for these systems are about 3.6 m/sec. Wind systems having rated powers of up 50 kW, including Wind Energy Solutions WES50 and Entegrity Wind Systems EW50 are potential candidates for commercial, utility-connected applications.

For the wind systems class of ~ 2.5-kW rated-power outputs, the ReDriven Power, Inc.'s 2 kW, Proven's 2.5 kW, Southwest Windpower Skystream 3.7 (2.4 kW), and the ARE 110 (2.5 kW) systems are all candidate designs for installation at potential sites. Among the urban/architecture wind systems considered, the Quiet**revolution**'s QR5 (6 kW VAWT) represents an attractive option worthy of consideration for sites with low values of annual, mean wind speeds. The Swift Rooftop, 1.5 kW wind energy system and the Aerovironment's 1.0 kW, building-integrated wind-system, are potential candidate for installation on rooftops of tall buildings.

# **Energy Productions and Divisions:**

The total annual energy production of a wind turbine design depends upon the annual, mean wind speed at the turbine hub-height and the power performance outputs of the wind turbine system. For utility-connected applications, portions of the total annual energy production of the wind system are directly used to satisfy portions of the load-demand requirements, and the excess energy produced is fed-back into the utility line. This division of total energy production is determined by the ratio of the wind-system rated-power

output to the mean power requirement of the load demand, as shown in the figure below:



The data presented in this figure clearly shows that, in order to produce enough total annual energy to satisfy the requirements of the load-demand, the wind turbine system should have a rated power output of about 7 times the mean power requirements of the load-demand. In such a case, however, only about 50% of the total energy production of the wind system is directly used for the energy requirements of the load-demand, with the other 50% of energy production being fed-back into the utility line. When the wind system has no output power, the 50% of energy production is used for satisfying the remaining half of the load-demand requirements. In other words, the wind system would not be producing more than the annual load-demand requirements. Furthermore, the results given clearly show that, most of the total annual energy production of the wind system would be used to satisfy the load-demand requirements, when the rated power output of the wind system is two times or less than the mean power of the load-demand.

### "SMALL-SCALE WIND POWER IN FPL SERVICE TERRITORIES:

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This report presents an overall assessment of the wind resource in Florida, with focus on identifying potential installation sites for small-scale wind energy systems in the service territories of FPL, Florida Power & light Company. Sources of historical wind speed records and data utilized in the analyses are given in Section I. Section II outlines the analyses used in making projections of future wind speeds at potential wind turbine installation sites, with details for 5 example sites. Florida wind resource assessment outcomes are given in Section III. Section IV provides a technology survey of wind turbine designs. The energy production and its divisions between load-demand and utility-line are outlined in Section V.

# I. Historical Wind Speed Records and Data

Analysis of historical data of wind speeds, collected over a period of 5 -15 years at a potential wind system installation site, is essential for the proper selection of the wind turbine design, and for making estimates of its potential energy production. Historical wind speed records and data available in public domains were utilized in this work, including, but are not limited to, the following sources and records of data:

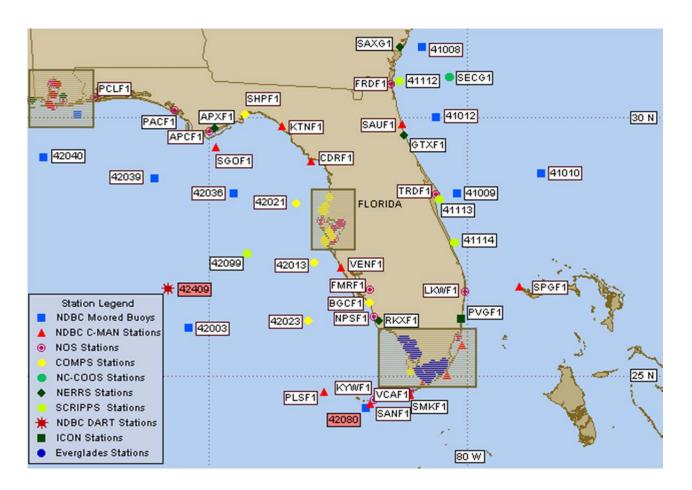
# National Data Buoy Center (NDBC),

National Oceanic and Atmospheric Administration (NOAA):

http://www.ndbc.noaa.gov/maps/florida\_hist.shtml

Most of the meteorological stations mapped in the National Data Buoy Center (NDBC) figure given below contain long-term records of historical wind speed data:

To view wind speed data, click a station on the map below:



Shown below are data records for **Station LKWF1-8722670 – Lake Worth, FL**:

http://www.ndbc.noaa.gov/station\_history.php?station=lkwf1

26.612 N 80.033 W (26°36'42" N 80°2'0" W)

Site elevation: 5.5 m above mean sea level

**Anemometer height:** 6 m above site elevation

<u>Historical data</u> (data descriptions):

<u>Standard meteorological data</u>: <u>1984</u> <u>1985</u> <u>1986</u> <u>1987</u> <u>1988</u> <u>1989</u> <u>1990</u>

<u>1991 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004</u>

<u>2006</u> <u>2007</u> <u>2008</u> <u>2009</u> <u>2010</u> <u>2011</u> <u>2012</u>

# 2. Center for Operational Oceanographic Products and Services, (CO-OPS): http://www.co-ops.nos.noaa.gov/

This source provides long-term records of meteorological observations for the following stations in Florida:

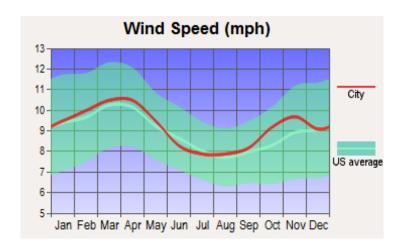


8728690 Apalachicola, FL 8726669 Berth 223, FL 8727520 Cedar Key, FL 8726724 Clearwater Beach, FL 8720376 Dames Point Bridge Air Gap, FL 8720219 Dames Point, FL 8726679 East Bay Causeway, FL 8720030 Fernandina Beach, FL 8725520 Fort Myers, FL 8720357 I-295 Bridge, St Johns River, FL 8720245 Jacksonville University, FL 8724580 Key West, FL 8722670 Lake Worth Pier, FL 8720218 Mayport (Bar Pilots Dock), FL 8726412 Middle Tampa Bay, FL 8726667 Mckay Bay Entrance, FL 8725110 Naples, FL 8726607 Old Port Tampa, FL 8729210 Panama City Beach, FL 8729108 Panama City, FL 8729840 Pensacola, FL 8726384 Port Manatee, FL 8726673 Seabulk, FL 8726520 St. Petersburg, FL 8726694 TPA Cruise Terminal 2, FL 8721604 Trident Pier, FL 8723970 Vaca Key, FL 8723214 Virginia Key, FL

# 3. City-Data: http://www.city-data.com/city/Florida.html

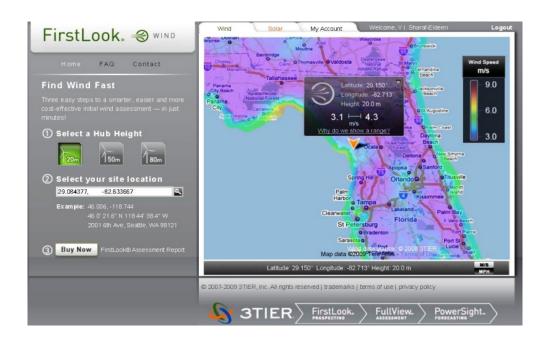
Long-term wind speed data charts are given for most cities in the State of Florida. For the city of Miami, Florida (Latitude: 25.79 N, Longitude: 80.22 W), the long-term record of wind speed data, based on observations reported by over 4,000 weather stations, is given below:

# http://www.city-data.com/city/Miami-Florida.html



# 4. FirstLook Wind: http://firstlook.3tiergroup.com/wind/

FirstLook 3tiergroup provides site-specific reports of wind resource assessments at different heights, at a cost depending upon the details of the desired assessment. A sample output is given below:



# 5. Records of Wind Speed data at Airports and Army bases and/or Training Camps

Examples for long-term, wind-speed data records collected at sites are given below:

### • Orland International Airport:

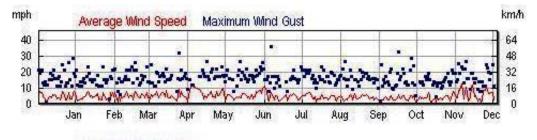
http://www.wunderground.com/history/airport/KMCO/2009/3/16/DailyHistory.html

Kennedy Space Center: http://trmm.ksc.nasa.gov/

## 6. Weather Underground: http://www.wunderground.com/

The following link provides a list of weather stations throughout Florida: <a href="http://www.wunderground.com/weatherstation/ListStations.asp?selectedState=FL">http://www.wunderground.com/weatherstation/ListStations.asp?selectedState=FL</a> <a href="https://www.wunderground.com/weatherstation/ListStations.asp?selectedState=FL">http://www.wunderground.com/weatherstation/ListStations.asp?selectedState=FL</a> <a href="https://www.wunderground.com/weatherstation/ListStations.asp?selectedState=FL">https://www.wunderground.com/weatherstation/ListStations.asp?selectedState=FL</a> <a href="https://www.wunderground.com/weatherstation/ListStations.asp?selectedState=FL">https://www.wund

Weather History for KFLWESTP36, <u>foxhall</u>, <u>West Palm Beach</u>, <u>FL</u>, for the year 2013 is given below:



Mean Wind Speed (Dec. 2, 2012-Dec. 3, 2013): 4.7 mph

In the absence of long term historical wind speed records at potential installation sites, data records from stations in proximity of the site could be used to make estimates of annual, mean wind speed at that site. The most recent list of weather stations in Florida is given in Appendix B.

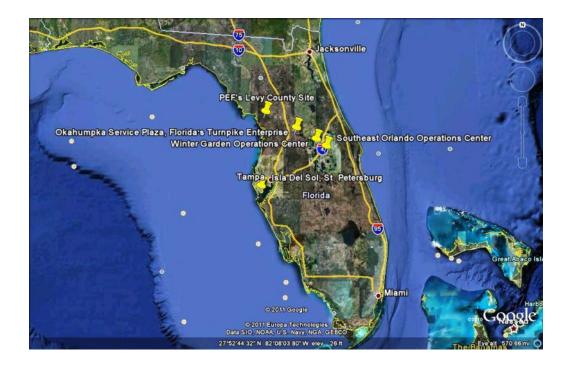
# II. <u>Wind Resource Assessment</u> For Selected Sites in Florida

Site-specific, historical records of wind speed data collected over a period of 5 – 15 years represent the best option for making projections of future wind speeds at a given wind turbine installation site. In the absence of long-term records at a potential installation site, data collected at meteorological sites in proximity of the site are often used for making estimates of future mean wind speeds at that site. Because wind speed data are often collected at various heights above ground level, vertical extrapolation of wind speeds to the hub height of the wind turbine is usually carried out. Height adjustments are made using the power law, logarithmic law, and/or site specific measurements and correlations of wind-speed versus height.

This section outlines details of the analyses methods utilized in making estimates of future, annual mean-wind-speeds, with applications to five example sites in Florida, namely:

- Okahumpka Service Plaza, Florida's Turnpike Enterprise
   Sumter County, FL (28.78694 N, 81.98194 W),
- 2. <u>Isla Del Sol, St. Petersburg, Florida</u>
  St. Petersburg, FL (27.709 N, 82.715 W),
- Southeast Orlando Operations Center
   Orange County, FL (28.44615 N, 81.34893 W),
- 4. Winter Garden Operations Center
  Orange County, FL (28.575118 N, 81.561796 W), and
- Levy County Site
   Levy County, FL (29.084377 N, 82.633667 W).

The locations of these sites are marked on the map shown below:



# 1. Wind Resource Assessment for:

Okahumpka Service Plaza, Florida's Turnpike Enterprise, Sumter County, FL (28.78694 N, 81.98194 W)

The Okahumpka Service Plaza on the Florida Turnpike in Sumter County is easily accessible by the public and, thus, represents an ideal location from an educational and outreach perspective, for the installation of a small wind turbine generator to promote the use of wind energy (in particular) and in renewable energy sources (in general) in Florida. A detailed assessment of the wind resource characteristics was carried out. The following sections outline the wind speed data and analysis utilized in making the resource assessment of the wind regime at that site.



Okahumpka Service Plaza, Florida's Turnpike Enterprise,

# **Wind Resource Data:**

In the absence of site-specific wind speed data records and earlier wind resource assessment studies at the Okahumpka Service Plaza, estimates were made utilizing wind speed data from several sources, namely:

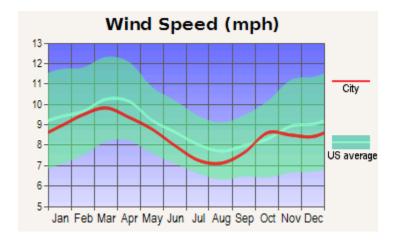
• FirstLook Wind: http://firstlook.3tiergroup.com/ (28.78694 N, 81.98194 W)

The results obtained are tabulated below:

| <u>Hub Height</u> : | Wind Speed:      | <u>Average</u> : |
|---------------------|------------------|------------------|
| 80 m                | 3.8 - 4.9  m/sec | 4.2 m/sec        |
| 50 m                | 3.4 - 4.5  m/sec | 4.0 m/sec        |
| 20 m                | 2.5 - 3.6  m/sec | 3.1 m/sec        |



<u>City-Data: http://www.city-data.com/city/Okahumpka-Florida.html</u>
 <u>Latitude</u>: 28.75 N, <u>Longitude</u>: 81.90 W, <u>Elevation</u>: 87 ft.



Annual Mean Wind Speed: ~ 3.8 m/sec (8.5 mph)

- Weather Underground Okahumpka, Florida:
   <a href="http://www.wunderground.com/weatherstation/ListStations.asp?selectedSt">http://www.wunderground.com/weatherstation/ListStations.asp?selectedSt</a> ate=FL&selectedCountry=United+States
- MKHPF1 Okahumpka FAWN (<a href="http://fawn.ifas.ufl.edu/">http://fawn.ifas.ufl.edu/</a>), Okahumpka FL:
   Latitude: N 28 ° 40 ' 55 " (28.682), <a href="Longitude">Longitude</a>: W 81 ° 53 ' 13 " (-81.887)
   Elevation: 121 ft.



Mean Wind Speed (3/14/2007 - 3/15/2009): 5.15 mph (2.30 m/sec)

Wind Energy Resource Atlas of the United States (1986):

http://rredc.nrel.gov/wind/pubs/atlas/ http://rredc.nrel.gov/wind/pubs/atlas/maps/chap3/3-36m.html

For most of the interior regions of Florida, the "Wind Power Class" reported is class "1", for which the following data apply:

| Height Above Ground: | Wind Speed: |
|----------------------|-------------|
| 10 m                 | < 4.4 m/sec |
| 50 m                 | < 5.6 m/sec |
| 80 m                 | < 5.9 m/sec |

- National Climatic Data Center Wind Speed Data
- The National Center for Atmospheric Research

### **Assessment Summary:**

Using available wind speed data records for the site of Okahumpka Service Plaza and the surrounding area, the analysis carried out resulted in an estimated annual, mean wind speed in the neighborhood of 3.85 m/sec at a height of 10 m above the ground, which represents a class "one" wind regime. This value accounts for the fact that the Okahumpka site has an elevation of about 25 m above sea level. However, it is most likely that, the true value of the annual mean wind speed at that site would exceed the estimated 3.85 m/sec value. This is believed to be due to the fact that, the site is centered in an open

area, clear of obstructions all around, with the exception of a few of 20 - 35 ft. high clusters of trees.

Using the power law, the estimated annual, mean wind speeds at heights of 20-, 30-, 40-, and 50-m above the ground level would be about 4.25-, 4.50-, 4.70-, and 4.85-m/sec, respectively. For a hub height of 80-m above ground, the annual mean wind speed estimate would be about 7.20-m/sec.

# 2. <u>Wind Resource Assessment for:</u>

Isla Del Sol, St. Petersburg, Florida

St. Petersburg, FL (27.709 N, 82.715 W)

The Isla Del Sol site in St. Petersburg, FL, located at a Latitude of 27.709 N and a longitude of 82.715 W, is shown below. A detailed analysis of available wind resource data was carried out to make accurate assessment of the wind regime and the wind energy potential at this site. The wind speed data utilized in this analysis are summarized here.



#### **Wind Resource Data:**

A large volume of historical wind speed data records collected at various meteorological stations is available for the Isla Del Sol, and the surrounding area, in St. Petersburg. Estimates of the annual, mean wind speed at various heights were made using the following records of wind resource data:

• National Oceanic and Atmospheric Administration (NOAA), National Data Buoy Center (NDBC):

http://www.ndbc.noaa.gov/maps/Central Florida.shtml

### 1. Station CAMF1 - Campbell Park, FL:

http://www.ndbc.noaa.gov/station\_page.php?station=camf1

7.765 N, 82.649 W (27°45'54" N, 82°38'56" W)

Owned and maintained by: <u>University of South Florida</u>: <a href="http://comps.marine.usf.edu/">http://comps.marine.usf.edu/</a>

<u>Historical data</u> (<u>data descriptions</u>) <u>Standard meteorological data</u>: <u>2008</u>



Stations with no data in last 8 hours (24 hours for tsunami stations)

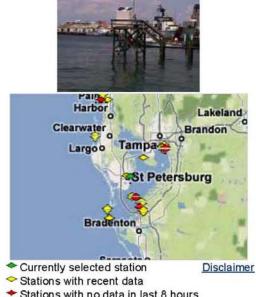
#### 2. Station SAPF1 – 8726520 – St. Petersburg, FL:

http://www.ndbc.noaa.gov/station page.php?station=sapf1 27.760 N, 82.627 W (27°45'36" N, 82°37'36" W)

Owned and maintained by:
NOAA's National Ocean Service

Anemometer height: 6.1 m above site elevation

Historical data (data descriptions)
Standard meteorological data:
2005 2006 2007 2008

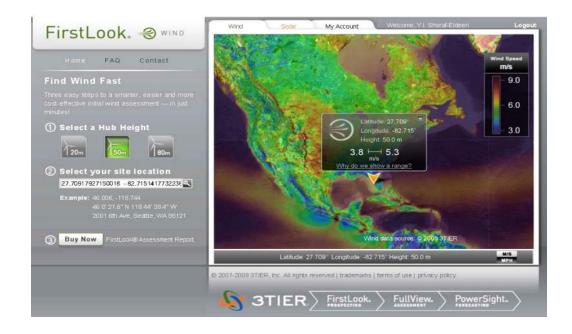


Stations with no data in last 8 hours (24 hours for tsunami stations)

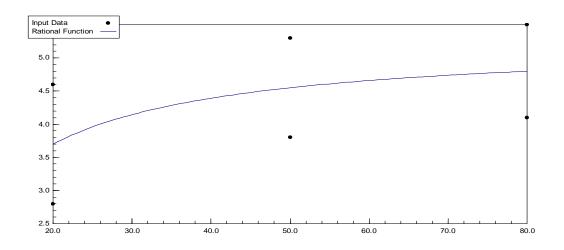
A summary of the results obtained is given below:

| Mean Wind Speed, m/sec |                       |      |  |  |
|------------------------|-----------------------|------|--|--|
|                        | Station St<br>CAMF1 S |      |  |  |
| 2005                   | _                     | 3.1  |  |  |
| 2006                   |                       | 3.05 |  |  |
| 2007                   |                       | 2.96 |  |  |
| 2008                   | 1.62 3.18             |      |  |  |
| Average 3.07           |                       |      |  |  |

• <u>FirstLook Wind: http://firstlook.3tiergroup.com/wind/</u> (27.709 N - 82.715 W)

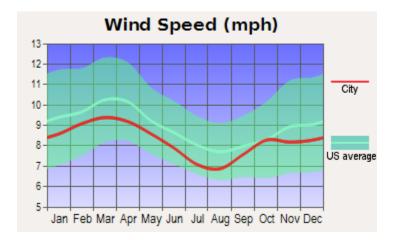


A rational function fitting of the data was used to determine the annual means at different heights and the results are shown in the following table.



| Height, m   | 10   | 20         | 30   | 40          | 50          | 60   | 70          | 80         |
|-------------|------|------------|------|-------------|-------------|------|-------------|------------|
| FirstLook   |      | 2.8        |      |             | 3.8         |      |             | 4.1        |
| WSPD,       |      | -          |      |             | -           |      |             | -          |
| m/sec       |      | 4.6        |      |             | 5.3         |      |             | 5.5        |
| Fitted Mean |      |            |      |             |             |      |             |            |
| WSPD,       |      |            |      |             |             |      |             |            |
| m/sec       | 3.28 | <u>3.7</u> | 4.08 | <u>4.35</u> | <u>4.55</u> | 4.68 | <u>4.76</u> | <u>4.8</u> |

• <u>City-Data: http://www.city-data.com/city/St.-Petersburg-Florida.html</u>
<u>Latitude</u>: 27.78 N, <u>Longitude</u>: 82.67 W, <u>Elevation</u>: 0 to 60 ft.



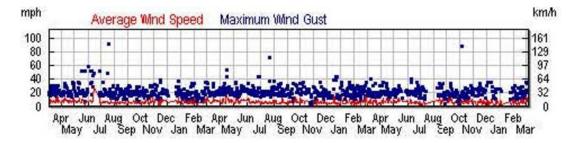
Annual Mean Wind Speed: ~ 3.67 m/sec (8.2 mph)

• Weather Underground - Saint Petersburg, Florida:

http://www.wunderground.com/cgibin/findweather/getForecast?query=St.%20Petersburg,%20FL&wuSelect= WEATHER

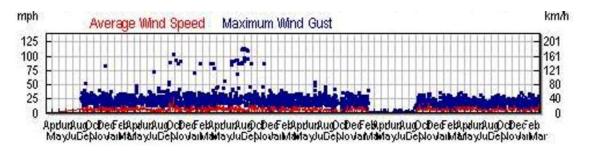
# 1. KFLSTPET4 - Balao Way, St. Petersburg Beach, FL,

March 3, 2006 – March 4, 2009: Mean Wind Speed = 3.0 m/sec (6.7 mph)



### 2. KFLSAINT5 - Bella Vista, Saint Petersburg Beach, FL,

March 3, 2003 - March 4, 2009: Mean Wind Speed = 1.7 m/sec (3.8 mph)



# 3. MAR886 – APRSWXNET St. Pete Beach FL, Saint Petersburg, FL, March 4, 2007 - March 5, 2009: Mean Wind Speed = 2.2 m/sec (4.9 mph)

The Weather Underground results are summarized below:

| Station          | KFLSTPET4 | KFLSAINT5 | MAR886 |
|------------------|-----------|-----------|--------|
| # Years          | 3         | 6         | 2      |
| Mean WSPD, m/sec | 3         | 1.7       | 2.2    |

#### Wind Energy Resource Atlas of the United States (1986):

http://rredc.nrel.gov/wind/pubs/atlas/ http://rredc.nrel.gov/wind/pubs/atlas/maps/chap3/3-36m.html

For most of the interior regions of Florida, a "Wind Power Class" of "1" is reported, for which the following data apply:

| Height Above Ground: | Wind Speed: |
|----------------------|-------------|
| 10 m                 | < 4.4 m/sec |
| 50 m                 | < 5.6 m/sec |
| 80 m                 | < 5.9 m/sec |

- National Climatic Data Center Wind Speed Data
- The National Center for Atmospheric Research

### **Assessment Summary:**

Analysis of wind speed data records available for the Isla Del Sol site in St. Petersburg, FL has been carried out. The results indicate an annual mean wind speed in the neighborhood of 3.25 m/sec, at a height of 10 m above the ground level. This would result in mean wind speeds of about 3.7, 4.1, 4.4, 4.6, 4.7, 4.8, and 4.8 m/sec for heights above ground level of 20, 30, 40, 50, 60, 70, and 80 m, respectively. These values were obtained using the power law in combination with correlations derived from wind speed estimates made at different heights. These results confirm earlier estimates made as to the classes of wind speeds in Florida. For this site, the annual, wind speed estimate represents a wind speed of class one.

## 3. Wind Resource Assessment for:

Southeast Orlando Operations Center

Orange County, FL (28.44615 N, 81.34893 W)

The Southeast Orlando Operations Center site in Orange County, FL is located at: Latitude of 28.44615 N and a longitude of 81.34893 W, as shown below. A detailed assessment of the wind resource characteristics at this site was carried out. This section outlines the wind speed data utilized and provides an assessment of the wind regime at that site.



# **Wind Resource Data:**

An extensive analysis has been carried out using wind speed records available for the site of Southeast Orlando Operation Center and the surrounding area in Orange County, FL. Estimates of annual, mean wind speeds at various heights were made using data records from the following sources:

# • Weather Underground - Orlando, Florida:

The results of the analysis of wind speed data for available stations are given in the following table:

| Station  | WSPD,<br>mph | # Yrs. |
|--|--------------|--------|
| KFLORLAN1 Azalea Park: 28.54, -81.30           | 3.325        | 8      |
| KFLORLAN3 Waterford Lakes: 28.53, -81.20       | 1.45         | 8      |
| KFLORLAN10 Pine Hills: 28.58, -81.44           | 2.25         | 6      |
| KFLORLAN11 Conway: 28.53, -81.32               | 1.829        | 7      |
| KFLORLAN13 College Park: 28.58, -81.40         | 0.25         | 6      |
| KFLORLAN24 Wedgefield: 28.50, -81.10           | 3.4          | 4      |
| KFLORLAN28 Lake Gloria Preserve: 28.46, -81.38 | 1.6          | 4      |
| KFLORLAN29 Sky Lake South: 28.41, -81.41       | 2.3          | 4      |

| KFLORLAN32 South Chase Downs: 28.40, -81.39     | 2.975 | 4 |
|---|-------|---|
| KFLORLAN45 Lake Eola Heights: 28.55, -81.37     | 1.2   | 2 |
| KFLORLAN49 Country Lake Estates: 28.58, -81.13  | 2.05  | 2 |
| KFLORLAN51 Belle Isle: 28.48, -81.34            | 4.1   | 1 |
| KFLORLAN52 Dubsdread Golf Course: 28.58, -81.38 | 2.4   | 1 |
| KFLORLAN55 Union Park: 28.55, -81.23            | 1.7   | 1 |
| KFLORLAN58 Fairview Shores: 28.60, -81.41       | 1.3   | 1 |
| KFLORLAN60 Lake Pickett: 28.61, -81.12          | 1.5   | 1 |
| MAP008 Orlando:<br>28.56, -81.27                | 1.8   | 2 |
| MAP063 Orlando:<br>28.57, -81.35                | 0.6   | 2 |
| MAP723 Orlando:<br>28.60, -81.17                | 1.85  | 2 |
| MC6860 Orlando:<br>28.56, -81.28                | 1.3   | 2 |
| MC9347 Orlando:<br>28.40, -81.42                | 2.5   | 1 |
|   |       |   |

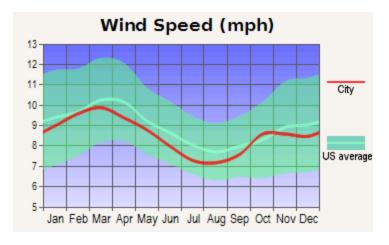
Weighted, Mean WSPD: 2.00 mph (0.90 m/sec)

# Annual Mean Wind Speed: ~ 2.00 mph (0.90 m/sec)

KMCO – Orlando International Airport: 15 years of data
 <a href="http://www.wunderground.com/history/airport/KMCO/2009/3/16/DailyHistory.html">http://www.wunderground.com/history/airport/KMCO/2009/3/16/DailyHistory.html</a>: Latitude: 28.43 N, Longitude: 81.32 W, Elevation: 95 ft.

# Annual Mean Wind Speed: 6.53 mph (2.92 m/sec)

• <u>City-Data: http://www.city-data.com/city/Orlando-Florida.html</u>
<u>Latitude</u>: 28.53 N, <u>Longitude</u>: 81.38 W, <u>Elevation</u>: 106 ft.

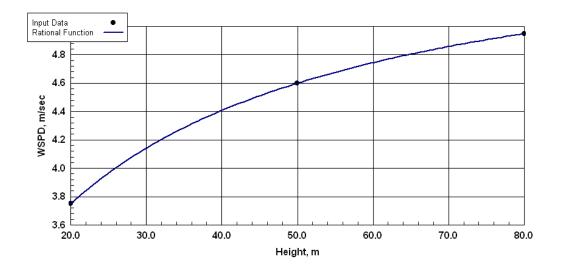


Annual Mean Wind Speed: ~ 3.8 m/sec (8.5 mph)

FirstLook Wind: <a href="http://firstlook.3tiergroup.com/wind/">http://firstlook.3tiergroup.com/wind/</a>
 (28.446 N - 81.349 W)

A rational function fitting of the data was used to determine the annual means at different heights and the results are shown in the following table.





| Height, m   | 10   | 20   | 30          | 40   | 50   | 60          | 70   | 80   |
|-------------|------|------|-------------|------|------|-------------|------|------|
| FirstLook   |      | 3.10 |             |      | 4.00 |             |      | 4.30 |
| WSPD,       |      | -    |             |      | -    |             |      | -    |
| m/sec       |      | 4.40 |             |      | 5.20 |             |      | 5.60 |
| Fitted Mean |      |      |             |      |      |             |      |      |
| WSPD,       |      |      |             |      |      |             |      |      |
| m/sec       | 2.96 | 3.75 | <u>4.16</u> | 4.42 | 4.60 | <u>4.75</u> | 4.86 | 4.95 |

# • Wind Energy Resource Atlas of the United States (1986):

http://rredc.nrel.gov/wind/pubs/atlas/ http://rredc.nrel.gov/wind/pubs/atlas/maps/chap3/3-36m.html

For most of the interior regions of Florida, a "Wind Power Class" of "1" is reported, for which the following data apply:

| Height above Ground: | Wind Speed: |
|----------------------|-------------|
| 10 m                 | < 4.4 m/sec |
| 50 m                 | < 5.6 m/sec |
| 80 m                 | < 5.9 m/sec |

- National Climatic Data Center Wind Speed Data
- The National Center for Atmospheric Research

### **Assessment Summary:**

Estimates of the annual, mean wind speed at various heights, for the Southeast Orlando Operation Center site (28.44615 N – 81.34893 W) and the surrounding area in Orange County, FL, have been made using data records available from various sources. The results of the analysis point out to an annual, mean wind speed in the neighborhood of 3.2 m/sec, at a height of 10 m above the ground. To account for different hub heights, the mean wind speed was adjusted using the power-law, as well as correlations derived from wind speed estimates made at different heights. The adjusted estimates of annual, mean wind speeds were about 3.8, 4.2, 4.4, 4.6, 4.8, 4.9, and 5.0 m/sec for heights above ground level of 20, 30, 40, 50, 60, 70, and 80 m, respectively. These values place the wind regime at the SE Orlando Operations Center site in a class one of the wind speed classes.

# 4. Wind Resource Assessment for:

**Winter Garden Operations Center** 

Orange County, FL (28.575118 N, 81.561796 W)

The site of Winter Garden Operations Center in Orange County, FL is located at: a Latitude of 28.5751 N and a longitude of 81.5618 W, as shown below. An assessment of the wind resource characteristics was carried out to provide estimates of annual, mean wind speeds at different heights above ground level. The wind speed data utilized and estimates of the mean wind speed for the wind regime at that site are outlined in this section.



# **Wind Resource Data:**

The analysis has been carried out using wind speed records available for the Winter Garden Operations Center location and the surrounding area. Estimates of the annual, mean wind speed at various heights above ground level were made using data records from the following sources:

# • Weather Underground, Winter Garden, Florida:

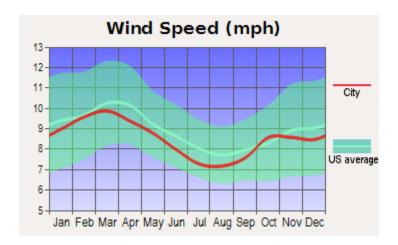
The results of the analysis of wind speed data for available stations are given in the following table:

| Place  | Station       | Lat., N | Lon., W | Elev., ft | WSPD,<br>mph |
|--|---------------|---------|---------|-----------|--------------|
| Apopka <b>FAWN</b> , Apopka                      | (MADIS)MPOPF1 | 28.642  | 81.550  | 91        | 6.05         |
| Avalon <b>FAWN</b> , Winter Garden               | (MADIS)MVLNF1 | 28.477  | 81.640  | 134       | 6.2          |
| Clermont FL US, Killarney                        | (MADIS)MD0617 | 28.500  | 81.700  | 190       | 1.6**        |
| Clermont FL US, Clermont                         | (MADIS)MAR543 | 28.518  | 81.715  | 186       | 0.8**        |
| East Clermont, Clermont                          | KFLCLERM13    | 28.557  | 81.725  | 220       | 2.25         |
| Hartwood Marsh Rd - Southern<br>Fields, Clermont | KFLCLERM12    | 28.495  | 81.696  | 160       | 4.4          |
| Hills of Clermont, Clermont                      | KFLCLERM20    | 28.542  | 81.705  | 200       | No Data      |
| Magnolia Springs, Orlando                        | KFLORLAN62    | 28.567  | 81.512  | 108       | No Data      |
| Steeplechase Orlando,<br>Clarcona                | KFLORLAN44    | 28.600  | 81.490  | 89        | 3.1          |
| Stoneybrook West, Winter<br>Garden               | KFLWINTE23    | 28.521  | 81.608  | 123       | 3.9          |

| Place   | Station | Lat., N | Lon., W | Elev., ft | WSPD,<br>mph |
|---|---------|---------|---------|-----------|--------------|
| Annual Mean WSPD: 1.6 – 1.9 m/sec (3.54 – 4.32 mph) |         |         |         |           |              |
| ** Data Excluded, Estimates represent Outliers      |         |         |         |           |              |

Annual Mean Wind Speed: 1.6 - 1.9 m/sec (3.54 - 4.32 mph)

City-Data: <a href="http://www.city-data.com/city/Winter-Garden-Florida.html">http://www.city-data.com/city/Winter-Garden-Florida.html</a>
 Latitude: 28.56 N, Longitude: 81.58 W, Elevation: 126 ft



Annual Mean Wind Speed: 3.8 m/sec (8.5 mph)

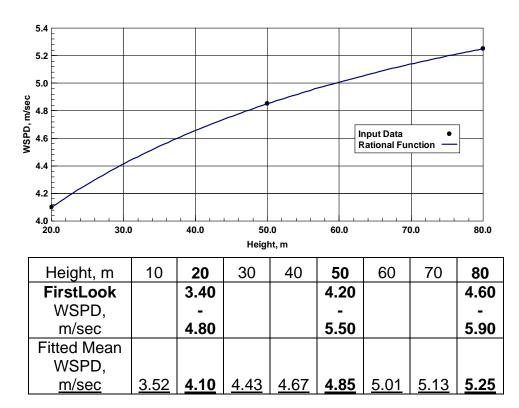
KMCO – Orlando International Airport: 15 years of data
 http://www.wunderground.com/history/airport/KMCO/2009/3/16/DailyHistor
 y.html: Latitude: 28.43 N, Longitude: 81.32 W, Elevation: 95 ft.

Annual Mean Wind Speed: 2.92 m/sec (6.53 mph)

• FirstLook Wind: http://firstlook.3tiergroup.com/wind/ (28.575 N - 81.562 W)

A rational function fitting of the data was used to determine the annual means at different heights and the results are shown in the following table:





### **Assessment Summary:**

A detailed analysis has been carried out using wind speed records available for the site of Winter Garden Operations Center and the surrounding area in Orange County, FL. Estimates of the annual, mean wind speed at various heights above ground level were made using available data records. The

results of the analysis point out to an annual mean wind speed in the neighborhood of 3.5 m/sec at a height of 10 m above the ground level. To account for different hub heights, the corresponding values for the annual, mean wind speed were estimated to be about 4.1, 4.4, 4.7, 4.9, 5.0, 5.1, and 5.3 m/sec for heights above ground level of 20, 30, 40, 50, 60, 70, and 80 m, respectively. These values were obtained using the power-law as well as correlations derived from wind speed estimates made at different heights.

### 5. Wind Resource Assessment for:

## **Levy County Site**

# Levy County, FL (29.084377 N, 82.633667 W)

The Levy County site is located at: a Latitude of 29.0844 N and a longitude of 82.6337 W, as shown below. Using all available historical wind speed records, a detailed assessment of the wind resource characteristics was carried out to provide accurate estimates of the energy production potential for various designs of wind turbines. This section outlines the wind speed data utilized and provides estimates of annual, mean wind speeds at different heights for the wind regime at this site.



#### **Wind Resource Data:**

An detailed analysis was carried out using wind speed records available for a site in Levy County (29.0844 N, 82.6337 W), and the surrounding area. Estimates of the annual, mean wind speed at various heights were made utilizing historical data records from the following sources:

 National Oceanic and Atmospheric Administration (NOAA), National Data Buoy Center (NDBC):

http://www.ndbc.noaa.gov/maps/Central\_Florida.shtml

### 1. Station CDRF1 – Cedar Key, FL:

http://www.ndbc.noaa.gov/station\_page.php?station=CDRF1

29.136 N, 83.029 W (29°8'10" N, 83°1'45" W)

Site elevation: 1.8 m above mean sea level

Anemometer height: 10 m above site elevation

<u>Standard Meteorological Data: 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008</u>

| Year | WSPD,<br>m/sec |  |  |
|------|----------------|--|--|
| 2008 | 4.089          |  |  |
| 2007 | 4.065          |  |  |
| 2006 | 4.022          |  |  |
| 2005 | 4.116          |  |  |
| 2004 | 4.068          |  |  |
| Mean | 4.072          |  |  |



### 2. <u>Station HSSF1 – Homosassa, FL</u>:

http://www.ndbc.noaa.gov/station\_page.php?station=hssf1

Owned and maintained by University of South Florida

28.772 N, 82.707 W (28°46'20" N, 82°42'26" W

Offshore Tower

Site elevation: sea level

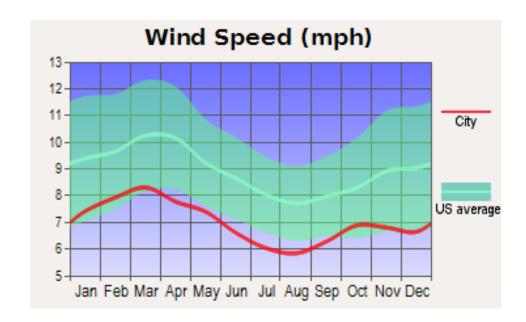
### Anemometer height: 6.6 m above site elevation

<u>Standard Meteorological Data:</u>
2004 2005 2006 2007 2008

| Year | WSPD,<br>m/sec |
|------|----------------|
| 2008 | 4.886          |
| 2007 | 4.644          |
| 2006 | 4.801          |
| 2005 | 4.746          |
| 2004 | 5.039          |
| Mean | 4.823          |



• <u>City-Data: http://www.city-data.com/city/Inglis-Florida.html</u>
<u>Latitude</u>: 29.03 N, <u>Longitude</u>: 82.67 W, <u>Elevation</u>: 15 ft.



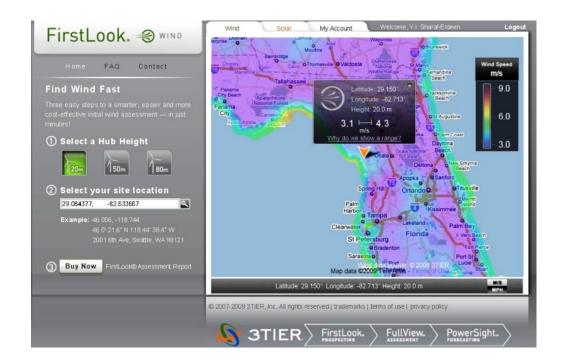
Annual Mean Wind Speed: 3.13 m/sec (7.0 mph)

• Weather Underground, PEF's Levy County Site, Florida:

| Place  | Station    | Lat., N | Lon., W | Elev., ft | WSPD,<br>mph |
|--|------------|---------|---------|-----------|--------------|
|  |            |         |         |           |              |
| Citrus Springs, Dunnellon                      | KFLDUNNE3  | 29.02   | 82.48   | 138       | 0.6          |
| Citrus Springs, South, Dunnellon               | KFLDUNNE2  | 28.99   | 82.44   | 63        | 0.5          |
| Classic Hills - Unit II, Ocala                 | KFLOCALA24 | 29.15   | 82.40   | 110       | 0.2          |
| Forest Lake North, Holder                      | KFLHERNA1  | 28.94   | 82.42   | 70        | 1.2          |
| Pine Ridge Estates, Pine Ridge                 | KFLPINER1  | 28.94   | 82.50   | 108       | 0.5          |
| Vintage Garage, Citrus Springs                 | KFLCITRU2  | 29.02   | 82.47   | 105       | 1.5          |
| Annual WSPD: 0.09 – 0.67 m/sec (0.2 – 1.5 mph) |            |         |         |           |              |
| Mean WSPD: 0.34 m/sec (0.75 mph)               |            |         |         |           |              |

These values of wind speed were found to be significantly lower as compared to those obtained from all other sources utilized and, thus, were not included in the analysis.

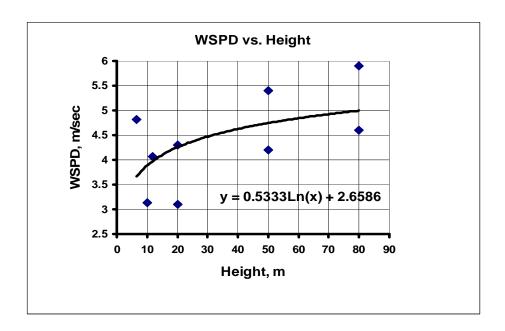
• <u>FirstLook Wind</u>: <u>http://firstlook.3tiergroup.com/wind/</u> (29.084377 N, 82.633667 W)



| Height, m   | 20        | 50        | 80        |
|-------------|-----------|-----------|-----------|
| FirstLook   | 3.1 – 4.3 | 4.2 – 5.4 | 4.6 – 5.9 |
| WSPD, m/sec | 3.1 - 4.3 | 4.2 – 5.4 | 4.0 – 5.9 |

#### **Mean Wind Speed Estimates:**

The above results were combined to produce a function of wind speed versus height above ground, as show below. As mentioned before, the Weather Underground wind speed records were not utilized in determining estimates here.



#### **Assessment Summary:**

An analysis of historical wind speed data has been carried out for the site in Levy County (29.0844 N, 82.6337 W) and the surrounding area. Estimates of annual, mean wind speed at various heights above ground level were made utilizing data records available from various sources. The results of the analysis give an annual, mean wind speed in the neighborhood of 3.9 m/sec at a height of 10 m above the ground, which represents a class one wind speed. This gives corresponding annual, mean wind speed estimates of about 4.3, 4.5, 4.6, 4.7, 4.8, 4.9, and 5.0 m/sec for heights of 20, 30, 40, 50, 60, 70, and 80 m, respectively. These values were obtained using the power-law, as well as correlations derived from wind speed estimates made at different heights.

#### III. Florida Wind Resource Assessment outcomes

This work was carried out to assess the wind resource potential in the state of Florida, with particular attention paid to potential sites located within the service area of Florida Power & Light Corporation, FPL. Accurate information about the wind resource is essential to state policy makers, regulators, developers and other stakeholders, as well as the audience in making decisions on the development of wind energy. This section outlines the results of the wind resource assessment analyses made and compares the outcomes with those obtained from other, earlier assessment studies.

Extensive effort was devoted to acquiring accurate, historical wind speed records and in the analysis of the data collected. Wind speed records from various sources were obtained and used in this work, including:

 The National Data Buoy Center (NDBC), The National Oceanic and Atmospheric Administration (NOAA):

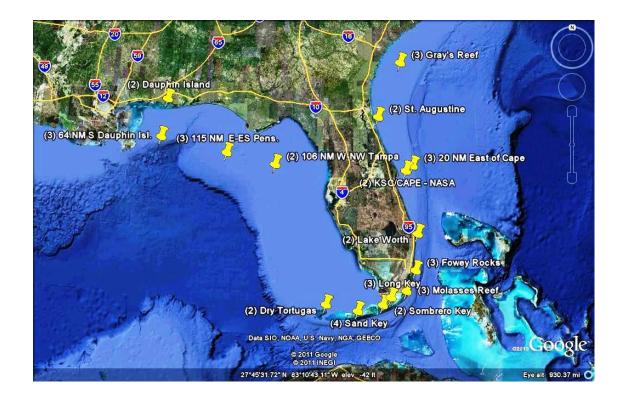
http://www.ndbc.noaa.gov/maps/Florida.shtml

- Center for Operational Oceanographic Products and Services,
   (CO-OPS): <a href="http://www.co-ops.nos.noaa.gov/gmap3/index.shtml?type=MeteorologicalObservations&region=Florida">http://www.co-ops.nos.noaa.gov/gmap3/index.shtml?type=MeteorologicalObservations&region=Florida</a>
- FirstLook<sup>®</sup> Global Renewable Resource Ranking, 3Tier, Inc: http://firstlook.3tiergroup.com/wind/
- <u>City-Data.com</u>: <u>http://www.city-data.com/city/Florida.html</u>
- Weather Underground (http://www.wunderground.com/):
   http://www.wunderground.com/weatherstation/ListStations.asp?selectedSt
   ate=FL&selectedCountry=United+States

 Airports, Army Training Centers, Air force Bases, KSC, Universities, etc.

The analysis undertaken to assess the wind resource at specific sites was detailed for five example locations, as outlined in the above section. To account for different heights above ground level, the mean wind speed was adjusted using the power-law, as well as correlations derived from site-specific wind speed measurements made at different heights. The annual, mean wind speeds at all five sites were found to correspond to class one wind power. Locations having annual, mean wind speeds that are generally considered suitable for wind energy developments, class "2" or higher, were identified and are tabulated and mapped below:

| Annual, Mean Wind Speed and Classes at 80-m Height (agl) |           |                 |                |       |  |
|--|-----------|-----------------|----------------|-------|--|
| Site   | Tower ID# | Location        | Wind Spd., m/s | Class |  |
| Gray's Reef  | 41008     | 31.40 N 80.87 W | 6.88           | 3     |  |
| St. Augustine  | SAUF1     | 29.86 N 81.26 W | 5.9            | 2     |  |
| KSC/CAPE - NASA  | 313       | 28.36 N 80.39 W | 5.9            | 2     |  |
| 20 NM East of Cape                                       | 41009     | 28.50 N 80.17 W | 7.34           | 3     |  |
| Lake Worth   | LKWF1     | 26.61 N 80.03 W | 6.58           | 2     |  |
| Fowey Rocks  | FWYF1     | 25.59 N 80.10 W | 7.06           | 3     |  |
| Molasses Reef  | MLRF1     | 25.01 N 80.38 W | 7.4            | 3     |  |
| Long Key   | LONF1     | 24.84 N 80.86 W | 7.39           | 3     |  |
| Sombrero Key   | SMKF1     | 24.63 N 81.11 W | 6.81           | 2     |  |
| Sand Key   | SANF1     | 24.46 N 81.88 W | 7.53           | 4     |  |
| Dry Tortugas   | DRYF1     | 24.64 N 82.86 W | 6.79           | 2     |  |
| Dauphin Island   | DPIA1     | 30.25 N 88.07 W | 6.78           | 2     |  |
| 64 NM S Dauphin Isl.                                     | 42040     | 29.18 N 88.21 W | 7.21           | 3     |  |
| 115 NM E-ES Pens.  | 42039     | 28.80 N 86.06 W | 7.08           | 3     |  |
| 106 NM W-NW Tampa  | 42036     | 28.51 N 84.51 W | 6.81           | 2     |  |



The above results are given for 80-m height above ground. The annual, mean wind speeds for different classes corresponding to different heights above ground are given in the following table:

Wind Speeds Corresponding to Different Power Classes
At 10-, 50- and 80-m Heights Above Ground Level\*

|       | Wind Speed at Various Heights |             |            |             |               |             |  |
|-------|-------------------------------|-------------|------------|-------------|---------------|-------------|--|
| Class | 10 m                          | (33 ft)     | 50 m (     | 164 ft)     | 80 m (262 ft) |             |  |
|       | m/s                           | mph         | m/s        | mph         | m/s           | mph         |  |
| 1     | 0 - 4.4                       | 0 - 9.8     | 0 - 5.6    | 0 - 12.5    | 0 - 5.9       | 0 - 13.2    |  |
| 2     | 4.4 - 5 .1                    | 9.8 - 11.5  | 5.6 - 6.4  | 12.5 - 14.3 | 5.9 - 6.9     | 13.2 - 15.6 |  |
| 3     | 5.1 - 5.6                     | 11.5 - 12.5 | 6.4 - 7.0  | 14.3 - 15.7 | 6.9 - 7.5     | 15.6 - 16.8 |  |
| 4     | 5.6 - 6.0                     | 12.5 - 13.4 | 7.0 - 7.5  | 15.7 - 16.8 | 7.5 - 8.1     | 16.8 - 18.0 |  |
| 5     | 6.0 - 6.4                     | 13.4 - 14.3 | 7.5 - 8.0  | 16.8 - 17.9 | 8.1 - 8.6     | 18.0 - 19.2 |  |
| 6     | 6.4 - 7.0                     | 14.3 - 15.7 | 8.0 - 8.8  | 17.9 - 19.7 | 8.6 - 9.4     | 19.2 - 21.1 |  |
| 7     | 7.0 - 9.4                     | 15.7 - 21.1 | 8.8 - 11.9 | 19.7 - 26.6 | 9.4 -12.7     | 21.1 - 28.4 |  |

<sup>\*</sup> Vertical extrapolation of wind speed is based on the 1/7 power law.

The results obtained in this work and outlined above conform with the results derived from several earlier studies, going back to 1968 (Wind Energy Resource Atlas of the United States: <a href="http://rredc.nrel.gov/wind/pubs/atlas/">http://rredc.nrel.gov/wind/pubs/atlas/</a>). As shown in the figure below, Florida has a class "1" wind power for all interior areas and a class "2" for eastern and northwest coastal areas.



The results derived from the analysis of wind speed records collected over the period from 1930 – 1996, for several locations in Florida, are shown below.

#### WIND SPEED (at 33 ft agl), mph Florida, 1930-1996

#### National Climatic Data Center

http://www.ncdc.noaa.gov/oa/mpp/wind1996.pdf

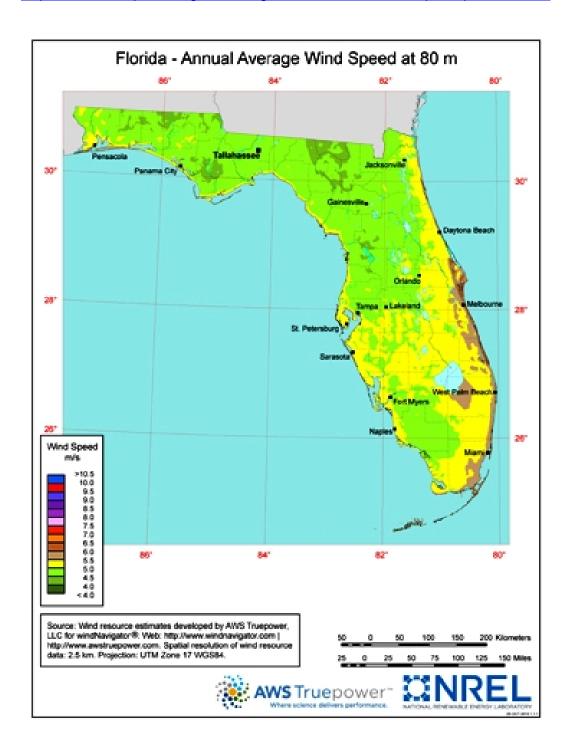
|                         | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANN |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Apalachicola            | 8   | 9   | 9   | 9   | 8   | 7   | 6   | 6   | 8   | 8   | 8   | 8   | 8   |
| Daytona Bch             | 9   | 10  | 10  | 10  | 9   | 8   | 7   | 7   | 8   | 9   | 9   | 9   | 9   |
| Cocoa Beach/Patrick AFB | 8   | 9   | 9   | 9   | 8   | 7   | 6   | 6   | 7   | 9   | 8   | 8   | 8   |
| Fort Myers              | 8   | 9   | 9   | 9   | 8   | 7   | 7   | 7   | 7   | 8   | 8   | 8   | 8   |
| Gainesville             | 7   | 8   | 8   | 8   | 7   | 6   | 6   | 6   | 6   | 7   | 7   | 6   | 7   |
| Jacksonville            | 8   | 9   | 9   | 9   | 8   | 8   | 7   | 7   | 8   | 8   | 8   | 8   | 8   |
| Key West                | 12  | 12  | 12  | 12  | 11  | 10  | 10  | 9   | 10  | 11  | 12  | 12  | 11  |
| Miami                   | 10  | 10  | 11  | 11  | 10  | 8   | 8   | 8   | 8   | 9   | 10  | 9   | 9   |
| Orlando                 | 8   | 9   | 9   | 9   | 8   | 7   | 6   | 6   | 7   | 8   | 8   | 8   | 8   |
| Panama City/Tyndall AFB | 7   | 7   | 8   | 7   | 6   | 6   | 6   | 5   | 6   | 6   | 6   | 7   | 6   |
| Pensacola NAS           | 10  | 11  | 11  | 12  | 10  | 10  | 8   | 7   | 9   | 9   | 9   | 10  | 10  |
| Tallahassee             | 7   | 7   | 8   | 7   | 6   | 5   | 5   | 5   | 6   | 6   | 6   | 6   | 6   |
| Tampa                   | 9   | 9   | 10  | 9   | 9   | 8   | 7   | 7   | 8   | 8   | 8   | 8   | 8   |
| Vero Beach              | 9   | 9   | 10  | 10  | 9   | 8   | 7   | 7   | 7   | 9   | 9   | 8   | 8   |
| W. Palm Bch             | 10  | 11  | 11  | 11  | 10  | 8   | 8   | 8   | 9   | 10  | 11  | 10  | 10  |

Truewind/NREL) have collaborated to produce a comprehensive recent state-level assessment of the wind resource potential. The estimates made are based on high-resolution maps of predicted mean annual wind speeds, developed by AWS Truewind. A recently published map of estimated annual, mean wind speeds at 80-m height above ground level for the state of Florida is shown below. The study further indicate that, the total size of available areas with annual average wind speeds above 6.5 m/s, which is generally considered suitable for wind energy development, is about 0.1 km² (NREL). Wind turbines installed in such areas would have a gross, annual capacity factor of about 30 %.

The analyses of this work indicate that, Florida has a class "1" wind power for all interior areas and a class "2" or higher for eastern and northwest coastal areas. This leads to the conclusion that, except for coastal installation sites, the development of wind energy in Florida would not be considered economical. However, for such promising sites, the installation of modern, small wind turbines, including urban/architecture wind systems, for renewable energy production, and educational and outreach benefits, would be highly recommended. In these cases, a site-specific wind resource analysis and

assessment would be required before any installations of wind energy systems at such sites.

http://www.windpoweringamerica.gov/wind\_resource\_maps.asp?stateab=fl



#### IV. <u>Technology Survey and Performance Outputs</u>

#### of Small-Scale Wind Turbine Designs

Analyses of historical wind speed records collected over several years (5 – 15 years) at candidate wind turbines installation sites are vital for making selections of appropriate designs and estimates of their energy production. Annual, mean wind speed estimates were determined at different heights for sites throughout the State. The outcomes of these analyses were used, in combinations with performance outputs of small-scale wind turbine systems, to make appropriate selection of candidate wind turbine designs. This section outlines performance of small-scale, wind power systems and provides guidelines as to the appropriate designs for the wind regime at various installation sites throughout the State. The wind energy systems considered include, but not limited to, the following:

#### 1. Southwest Windpower Skystream 3.7:

http://www.windenergy.com/sites/www.windenergy.com/files/3-CMLT-1338-01 Skystream spec 0.pdf

Rated Output Power: 2.4 kW
Rated Wind Speed: 13.0 m/sec
Cut-in Wind Speed: 3.5 m/sec
Rotor Diameter: 3.72 meters



#### 2. Abundant Renewable Energies ARE 110 Wind Turbine:

http://www.abundantre.com/ARE\_Wind\_Turbines.htm#ARE110

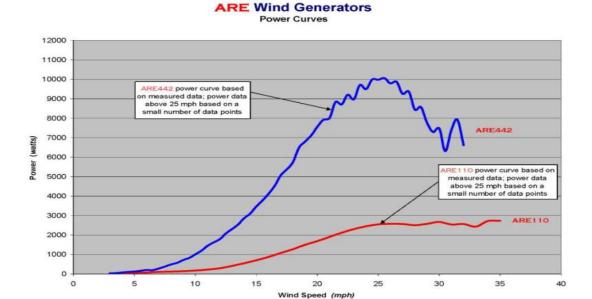
Rated Output Power: 2.5 kW

Rated Wind Speed: 11 m/sec

Cut-in Wind Speed: 2.5 m/sec

Rotor Diameter: 3.6 meters

http://www.abundantre.com/actual\_power\_curve\_11-1-07.pdf



#### 3. Bergey WindPower's BWC Excel:

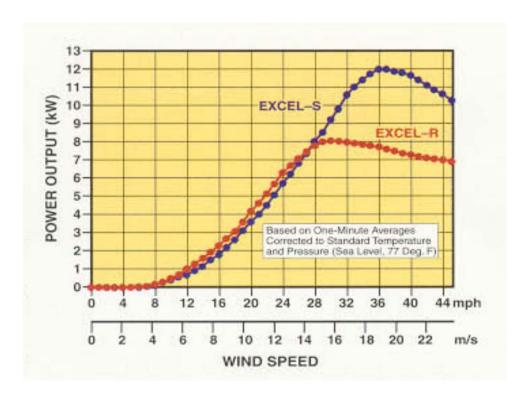
http://www.bergey.com/Products/Excel.Spec.Frt.pdf

Rated Output Power: 10 kW

Rated Wind Speed: 13.9 m/sec

Cut-in Wind Speed: 3.6 m/sec

Rotor Diameter: 7.0 meters



# Wind Turbine Systems Testing at the National Renewable Energy Laboratory/U.S. Department of Energy (NREL/DOE):

http://www.nrel.gov/wind/smallwind/

#### 4. Abundant Renewable Energy's ARE 442 (10 kW):

http://www.abundantre.com/ARE\_Wind\_Turbines.htm#ARE110

The ARE 442 is a 10-kilowatt (kW), three-bladed, horizontal-axis upwind small wind turbine. It has a hub height of 30.9 meters and a rotor diameter of 7.2 meters. Testing results are outlined in the following report: <a href="http://www.nrel.gov/wind/smallwind/abundant\_renewable\_energy.html">http://www.nrel.gov/wind/smallwind/abundant\_renewable\_energy.html</a>

#### 5. Entegrity Wind System's EW50 (50 kW):

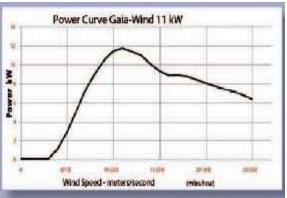
http://www.entegritywind.com/

The EW50 is a 50-kilowatt (kW), three-bladed, horizontal-axis downwind small wind turbine. The turbine's rotor diameter is 15 meters, and its hub height is 30.5 meters. Testing results are outlined in the following report: <a href="http://www.nrel.gov/wind/smallwind/entegrity\_wind\_systems.html">http://www.nrel.gov/wind/smallwind/entegrity\_wind\_systems.html</a>

#### 6. Gaia-Wind's 11 kW: http://www.gaia-wind.com/

The Gaia-Wind 11 kW is a two-bladed, downwind turbine, with a cut-in wind speed of 3 m/sec and a rated power of 11 kW at approximately 9.5 m/sec. The turbine has an oversized rotor, a 13-meter diameter rotor designed for low to moderated wind speeds, and its tower is 18 meters tall. <a href="http://www.nrel.gov/wind/smallwind/gaia\_wind.html">http://www.nrel.gov/wind/smallwind/gaia\_wind.html</a>





#### 7. Mariah Power's Windspire (1.2 kW): <a href="http://www.mariahpower.com/">http://www.mariahpower.com/</a>

The Mariah Windspire is a three-bladed, 1.2-kilowatt (kW) vertical-axis small wind turbine. The turbine tower is a 9.1 meters tall, and its rotor area is 1.2 by 6.1 meters. It produces its rated power at approximately 11 m/s.



http://www.nrel.gov/wind/smallwind/mariah power.html

Several additional, U.S. and European manufactured, small-scale windturbine systems with relatively low cut-in wind speeds were considered, including:

#### AEROSTAR WIND TURBINES (AEROSTAR® 6 METER, 10 kW): http://www.aerostarwind.com/specifications.html, V<sub>in</sub> = 3.58 m/sec

#### 9. Ventera Energy (VT10-240, 10 kW):

http://venteraenergy.com/product-specs/, Vin = 2.7 m/sec

The Ventera VT10 is a three-bladed downwind, free yaw wind turbine with a rated power of 10 kW. It has a rotor diameter of 22 ft., and is installed on a freestanding 60 ft. lattice tower with a 10-ft extension tube.

#### 10. ReDriven Power, Inc. (2, 5, 10, & 20 kW Wind Turbines):

http://www.redriven.net/products.html, Vin = 2 m/sec

#### 11. Wind Turbine Industries Corp. (10, 12.5, 15, 17.5, and 20 kW):

http://www.windturbine.net/products.htm, Vin = 3.58 m/sec

#### 12. Proven Energy: (The Proven 2.5 kW, 6.0 kW, and 15 kW):

<u>http://urlm.co.uk/g/sw/p/1007326/dl2</u>,  $V_{Avg} = 5 \text{ m/sec}$ 

#### 13. Wind Energy Solutions (WES50, 50.0 kW):

http://www.windenergysolutions.nl/wes50

- High performance (With 6.5 m/s wind outputs 215.500 kWh/year)
- Ideal turbine for average wind speeds up to 7.5 m/sec.
- Rated wind speed: 9.5 m/s (21mph)
- Low cut-in wind speed, of 3 m/sec.

#### **Urban/Architecture Wind Turbines:**

A large number of Vertical Axis Wind Turbines (VAWT) and Horizontal Axis Wind Turbines (HAWT) technologies have been developed over the past decade, including the following systems:

#### 14. Aerovironment, Inc.'s Architectural Wind<sup>TM</sup>,

http://www.avinc.com/engineering/architecturalwind1



AVX1000 Building Integrated Wind Turbine (1 kW)

#### 15. Swift Rooftop Wind Energy System (1.5 kW):

http://www.swiftwindturbine.com/



#### 16. Quietrevolution's QR5 VAWT (6 kW):



http://www.quietrevolution.co.uk/

In spite of various claims made by the manufacturers, typical performance outputs for urban/architecture wind systems have yet to be established. In particular, the VAWT class of wind turbines is a technology that remains to be proven.

#### Closure:

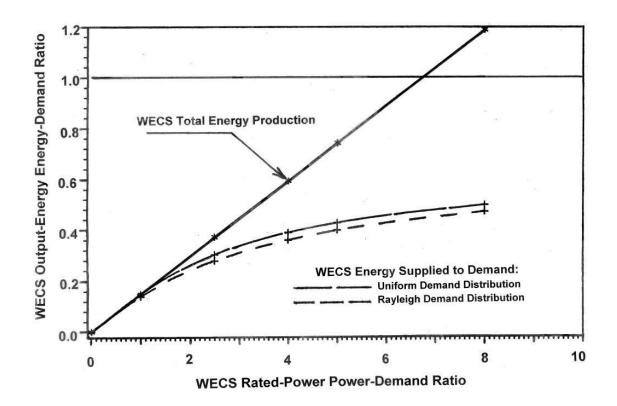
"Small-scale wind turbine Systems" refers to turbines with rated power outputs up to 100 kilowatts (kW). These systems are ideal for residential and commercial, utility-connected applications. The performance curves of small-scale wind systems studied indicate that, the ReDriven Power, Inc.'s 10 kW, Ventera Energy's VT10-240 (10 kW), Gaia-Wind 11-kW, and the ARE 442 10 kW systems would produce comparable amounts of annual energy at installation sites having similar wind regimes. These systems have low cut-in wind speeds of 3 m/sec or less. Other systems with 10 kW rated power outputs include: Bergey's BWC Excel system, AEROSTAR®'s 6 METER, and Wind Turbine Industries Corp.'s turbine. The cut-in wind speed for these turbines is about 3.6 m/sec. Wind systems having rated powers of 50 kW, including Wind Energy Solutions WES50 and Entegrity Wind Systems EW50, would be candidate for utility-connected commercial application.

For the class of ~ 2.5-kW rated-power systems, the ReDriven Power, Inc.'s 2 kW, Proven Energy 2.5 kW, Southwest Windpower Skystream 3.7 (2.4 kW), and the ARE 110 (2.5 kW) system, would all be considered possible candidate designs to recommend for installations at candidate sites. The Swift Rooftop, 1.5 kW wind energy system and the Aerovironment's 1.0 kW, building-integrated wind system would be candidate for installation on top of tall buildings. Among other urban/architecture wind systems considered, the Quiet**revolution**'s QR5 (6 kW VAWT) represents an attractive option, worthy of consideration for urban sites with low values of annual, mean wind speed.

#### V. <u>Energy Productions and Divisions of</u>

### **Wind Energy Conversion Systems (WECS)**

The energy production of a wind energy conversion system (WECS) and its division into energy applied to the load-demand and energy fed-back into the utility line are discussed in this section. The total, annual energy production of the system depends upon the annual, mean wind speed at the turbine hub-height and the power performance outputs of the wind turbine system. For utility-connected applications, portions of the total annual energy production of the wind system are directly used to satisfy portions of the load-demand requirements, and the excess energy produced is fed-back into the utility line. This division of total energy production is determined by the ratio of the wind-system rated-power output to the mean power requirement of the load demand, as shown in the figure below:



The data presented in this figure clearly shows that, in order to produce enough total annual energy to satisfy the requirements of the load-demand, the wind turbine system should have a rated power output of about 7 times the mean power requirements of the load-demand. In such a case, however, only about 50% of the total energy production of the wind system is directly used for the energy requirements of the load-demand, with the other 50% of energy production being fed-back into the utility line. When the wind system has no output power, the 50% of energy production is used for satisfying the remaining half of the load-demand requirements. In other words, the wind system would not be producing more than the annual load-demand requirements. Furthermore, the results given clearly show that, most of the total annual energy production of the wind system would be used to satisfy the load-demand requirements, when the rated power output of the wind system is two times or less than the mean power of the load-demand.

# **APPENDIX A**

# **Proposed Project**

#### **APPENDIX A**:

#### FPL 2012-13 RESEARCH PROJECTS

# "Small-Scale Wind Power in FPL Service Territories:

# Assessment of Wind Resource and Selection of Wind Turbine Designs"

#### Submitted to:

Craig V. Muccio, M.E.
Program Manager
Conservation R&D Program
Demand Side Management Department
(305) 552-4127
c.v.craig.muccio@fpl.com

#### FLORIDA POWER & LIGHT COMPANY (FPL)

9250 W. Flagler Street Miami, Florida 33174

#### Principal Investigator:

Y. I. Sharaf-Eldeen, PhD, PE (321) 674-8124 eldeen@fit.edu

Mechanical & Aerospace Engineering Department

#### **FLORIDA INSTITUTE OF TECHNOLOGY (FIT)**

150 West University Boulevard Melbourne, FL 32901

A detailed assessment of the wind resource characteristics will be carried out in order to identify potential wind system installation sites within the service area of FPL utility. The results will be used to select candidate, small-scale wind turbine designs appropriate for the installation sites, and to provide accurate estimates of their energy production at such potential installation sites. All available sources of wind speed data and wind turbine system (WTS) designs are outlined here. The ultimate objective of this work will be to provide guidelines as to the appropriate designs of WTS for the wind regime at anticipated wind turbine installation sites. Energy production, energy savings, and energy fedback into the electric utility line will also be determined in this work.

#### **Wind Resource Data:**

Detailed analyses will be carried out using all available sources of wind speed data records made at all sites in (or in close proximity to) the service territories of FPL utility and surrounding areas. The results will be utilized in selecting potential wind turbine installation sites and in making estimates of the annual, mean wind speeds at various wind turbine heights at the selected sites. The sources used will include, but not limited to, the following:

- Weather Underground: <a href="http://www.wunderground.com/cgi-bin/findweather/hdfForecast?query=FLorida&MR=1">http://www.wunderground.com/cgi-bin/findweather/hdfForecast?query=FLorida&MR=1</a>
- <u>City-data/Florida.html</u>: http://www.city-data.com/city/Florida.html
- <u>FirstLook Global Renewable Resource Ranking</u>: http://www.3tier.com/firstlook/
- NOAA's National Data Buoy Center Florida: http://www.ndbc.noaa.gov/maps/florida\_hist.shtml
- Florida Power & Light Company (FPL): Data Collected by FPL http://www.fpl.com/

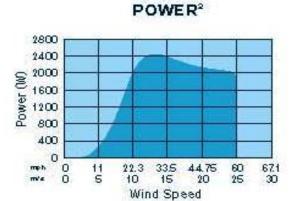
#### **Wind Turbine Systems Designs:**

The wind turbine designs considered will include, but not limited to, the following:

#### 17. Southwest Windpower Skystream 3.7:

http://www.windenergy.com/documents/spec\_sheets/3-CMLT-1338-01\_Skystream\_spec.pdf

Rated Output Power: 2.4 kW
Rated Wind Speed: 13.0 m/sec
Cut-in Wind Speed: 3.5 m/sec
Rotor Diameter: 3.72 meters



#### Abundant Renewable Energy's ARE 110 Wind Turbine:

http://www.abundantre.com/ARE\_Wind\_Turbines.htm#ARE110

Rated Output Power:

Rated Wind Speed:

Cut-in Wind Speed:

Rotor Diameter:

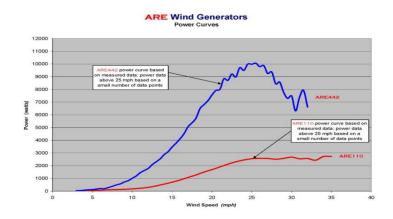
2.5 kW

11 m/sec

2.5 m/sec

3.6 meters

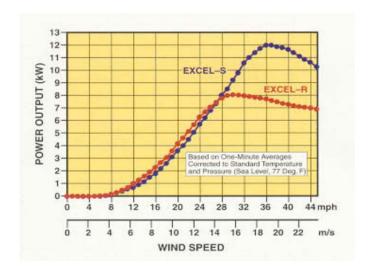
http://www.abundantre.com/actual\_power\_curve\_11-1-07.pdf



#### Bergey WindPower's BWC Excel:

http://www.bergey.com/Products/Excel.Spec.Frt.pdf

Rated Output Power: 10 kW
Rated Wind Speed: 13.9 m/sec
Cut-in Wind Speed: 3.6 m/sec
Rotor Diameter: 7.0 meters



#### • Wind Turbine Systems Undergoing Testing at NREL:

- Abundant Renewable Energy's ARE 442 (10 kW): http://www.abundantre.com/ARE\_Wind\_Turbines.htm#ARE110
- Entegrity Wind System's EW50 (50 kW): http://www.entegritywind.com/
- 3. Gaia-Wind's 11 kW: http://www.gaia-wind.com/
- 4. Mariah Power's Windspire (1.2 kW): http://www.mariahpower.com/

The Gaia-Wind's turbine with a cut-in WSPD of <u>3 m/sec</u> represents an attractive option for sites with low wind speeds.





Several additional, U.S. and European manufactured, small wind-turbine systems with relatively low cut-in wind speeds were considered, including:

- <u>AEROSTAR WIND TURBINES</u> (AEROSTAR® 6 METER, 10 kW): <a href="http://www.aerostarwind.com/specifications.html">http://www.aerostarwind.com/specifications.html</a>, V<sub>in</sub> = 3.58 m/sec
- <u>Ventera Energy</u> (VT10-240, 10 kW): http://venteraenergy.com/product-specs/, V<sub>in</sub> = 2.7 m/sec
- <u>ReDriven Power, Inc.</u> (2, 5, 10, & 20 kW Wind Turbines): <a href="http://www.redriven.net/products.html">http://www.redriven.net/products.html</a>, <u>V<sub>in</sub> = 2 m/sec</u>
- Wind Turbine Industries Corp. (10, 12.5, 15, 17.5, and 20 kW): <a href="http://www.windturbine.net/products.htm">http://www.windturbine.net/products.htm</a>, V<sub>in</sub> = 3.58 m/sec
- PROVEN ENERGY (The Proven 2.5 kW, 6.0 kW, and 15 kW): <a href="http://www.provenenergy.co.uk/windturbines">http://www.provenenergy.co.uk/windturbines</a> buy our products.php, V<sub>Avg</sub> = 5 m/sec
- Wind Energy Solutions (WES<sup>5</sup> Tulips (2.5 kW):
   http://www.windenergysolutions.ca/documents/WES5Tulipo\_001.pdf,
   V<sub>in</sub> = 3 m/sec
- <u>Urban/Architecture Wind Turbines</u>:

A large number of VAWT and HAWT technologies have been developed over the past two decades, including the following systems:

#### Swift Rooftop Wind Energy System (1.5 kW):

http://www.swiftwindturbine.com/

# Aerovironment, Inc.'s Architectural Wind™:

AVX1000 Building Integrated Wind Turbine (1 kW)

#### Quietrevolution's QR5 VAWT (6 kW):

http://www.quietrevolution.co.uk/

#### Windside Wind Energy Systems:

http://www.windside.com/products

In spite of various claims made by manufacturers, typical performance outputs for urban/architecture wind systems have not yet been established. In particular, the VAWT class of wind turbines is a technology that remains to be

proven. However, the viability of such technologies will be investigated further in this work.

#### **OBJECTIVES AND SCOPE OF WORK:**

This work is being proposed with the overall objective of making accurate assessments of the wind resource at potential wind system installation sites in the service territories of FPL utility, as well as, making assessments of all commercially available small-scale wind turbine system (WTS) designs. The outcome of such assessments will help in selecting candidate wind turbine designs appropriate for the wind regime at anticipated installation sites.

Historical wind speed records will be analyzed in order to select WTS(s) appropriate for the wind regime at potential/anticipated installation sites. All commercially available small-scale wind turbines, including urban/architecture designs, with rated output powers up to 10 kW will be considered in this work. Annual energy outputs, energy savings, and energy fed-back into the utility line will be assessed in this work. The outcome of the study should provide crucial answers to various relevant questions, including: The potential installation sites for small-scale WTS(s) within FPL's service territories, and, impacts of such installation on FPL utility system.

The deliverable/report will include all sources of wind speed data utilized, with estimates of expected, mean wind speeds at potential installation sites and various WTS heights. Specifications of all commercially available small-scale WTS(s), including their power performance curves, will be given. In addition, this work/report will identify WTS(s) appropriate for potential/promising installation sites and will provide estimates of their annual energy production at the installation sites. The "Final Report", outlining details of analyses used, will be developed and submitted at the conclusion of this work. The report will have an executive summary with conclusions and recommendations and will be prepared in "Microsoft Word" format, with all tables and figures given in "Microsoft Excel" format. The work will be carried out over the course of an 8 to

12-month time period. "Progress" and/or "Interim" reporting will be provided, whenever requested by FPL.

## **BUDGET REQUESTED:** (FOUR equal invoice/payments)

| ITEM  | COST, \$ |
|---|----------|
| 1. P.I. AND STUDENTS:                                   |          |
| <ul> <li>Principal Investigators' Salaries *</li> </ul> | 15,000   |
| <ul> <li>Graduate Students' Stipends</li> </ul>         | 8,000    |
| <ul> <li>Undergraduate Students' Stipends *</li> </ul>  | 4,000    |
| <ul> <li>Graduate students Tuitions</li> </ul>          | 10,107   |
| 3. TRAVEL *   | 2,000    |
| 4. MISCELLANEOUS SUPPLIES *                             | 3,000    |
| 5. <u>INDIRECT COST</u>                                 | 12,000   |
| TOTAL BUDGET REQUESTED:                                 | 54,107   |

# **APPENDIX B**

# Weather Underground Stations in Florida

## **APPENDIX B**:

# Weather Underground: <a href="http://www.wunderground.com/">http://www.wunderground.com/</a>

## **Weather Stations in FL, United States:**

| Station ID  | <u>Neighborhood</u>              | <u>City</u>     |
|-------------|----------------------------------|-----------------|
| KFLFTLAU9   | River Reach in SW Ft. Lauderdale | Ft.Lauderdale   |
| KFLDAVIE2   | Gilchrist County                 | Trenton         |
| KFLALLIG2   | Bald Point                       | Alligator Point |
| KFLALVA2    |                                  | Alva            |
| KFLALVA3    | River Oaks                       | Alva            |
| KFLIMMOK3   | English Bros / Alva              | Alva            |
| KFLAMELI2   | Amelia Island                    | Amelia Island   |
| KFLAPOLL3   | Cobia Cay                        | Apollo Beach    |
| KFLAPOPK1   | Apopka Weather                   | Apopka          |
| KFLAPOPK16  | Apopka                           | Apopka          |
| KFLAPOPK19  | Fisher Plantation                | Apopka          |
| KFLASTAT1   |                                  | Astatula        |
| KFLATLAN2   | 13th and Ocean                   | Atlantic Beach  |
| KFLATLAN3   | Atlantic Beach/Mayport           | Atlantic Beach  |
| KFLATLAN4   | Atlantic Beach, Florida          | Atlantic Beach  |
| KFLAUBUR2   | SW Auburndale, Jones Corner      | Auburndale      |
| KFLAUBUR7   | Juliana Plantation               | Auburndale      |
| KFLAVEMA2   | Ave Maria                        | Ave Maria       |
| KFLJACKS112 | Lazy Dogs Ranch                  | Baldwin         |
| KFLBELLE5   | Lake Conway Estates              | Belle Isle      |
| KFLCLEAR10  | Belleair Florida KK4EQF          | Belleair        |
| KFLBELLE8   | Belleview                        | Belleview       |
| KFLBEVER5   | Vintage Garage                   | Beverly Hills   |
| KFLBEVER6   | Pine Ridge                       | Beverly Hills   |
| KFLBLOUN2   |                                  | Blountstown     |
| KFLBOCAR4   | Boca (C6162)                     | Boca Raton      |
| KFLBOCAR26  | Boca Falls                       | Boca Raton      |
| KFLBOCAR23  | Conference Ridge                 | Boca Raton      |
| KFLBOCAR20  | University Gardens               | Boca Raton      |
| KFLBOCAR29  | Spanish Village                  | Boca Raton      |
| KFLBOCAR32  | Rogers Circle                    | Boca Raton      |
| KFLBOCAR35  | Terra Tranquila                  | Boca Raton      |
| KFLBOKEE7   | Pine Island                      | Bokeelia        |
| KFLBONIF2   |                                  | Bonifay         |

| KFLBONIT3  | Citrus Park                     | Bonita Springs     |
|------------|---------------------------------|--------------------|
| KFLBONIT5  | Villagewalk                     | Bonita Springs     |
| KFLBOYNT15 | Boynton Beach                   | Boynton Beach      |
| KFLBOYNT18 | Forest Park                     | Boynton Beach      |
| KFLBOYNT21 | Pipers Glen Estates             | Boynton Beach      |
| KFLBOYNT25 | Venetian Isles                  | Boynton Beach      |
| KFLBOYNT26 | Rolling Green Ridge             | Boynton Beach      |
| KFLBOYNT30 | Princeton Place 2               | Boynton Beach      |
| KFLBOYNT34 | Princeton Place                 | Boynton Beach      |
| KFLBOYNT35 | Sky Lake                        | Boynton Beach      |
| KFLBOYNT36 | Richie's Weather Station 33472  | Boynton Beach      |
| KFLBOYNT39 | Aberdeen                        | Boynton Beach      |
| KFLBOYNT38 | Westchester                     | Boynton Beach      |
| KFLBRADE14 | Braden Oaks Area                | Bradenton          |
| KFLBRADE23 | North of Manatee High School    | Bradenton          |
| KFLBRADE25 | Lakeside South                  | Bradenton          |
| KFLBRADE27 | Cleveland's in Sandpointe       | Bradenton          |
| KFLBRADE28 | Southern Cedar Hammock          | Bradenton          |
| KFLBRADE33 | East Manatee Fire Rescue        | Bradenton          |
| KFLBRADE34 |                                 | Bradenton          |
| KFLBRADE37 | SMR 89 Grove / Bradenton        | Bradenton          |
| KFLBRAND10 | SMR / North Grove               | Brandenton         |
| KFLBRAND11 | SMR / Shop Grove                | Brandenton         |
| KFLBRAND8  | Christopher                     | Brandon            |
| KFLBRAND9  | Hickory Woods                   | Brandon            |
| KFLBRANF5  | Hatchbend on the Suwannee       | Branford           |
| KFLNICEV11 | Clara Miles, REALTOR            | Broker Associate   |
| KFLBROOK3  | Highland Lakes                  | Brooksville        |
| KFLBROOK5  | Rural Hernando County           | Brooksville        |
| KFLBROOK7  |                                 | Brooksville        |
| KFLBROOK8  | Brookridge                      | Brooksville        |
| KFLBROOK9  | Brookridge                      | Brooksville        |
| KFLBROOK10 | Cedar Falls - Valley Spring Dr. | Brooksville        |
| KFLBROOK11 | Sherman Hills                   | Brooksville        |
| KFLCLEWI4  | Clewiston                       | Bryant             |
| KFLBURNT2  | Burnt Store Marina              | Burnt Store Marina |
| KFLBELLE2  |                                 | Candler            |
| KFLCAPEC7  | Veterans / Santa Barbara        | Cape Coral         |
| KFLCAPEC14 | Cape Harbour                    | Cape Coral         |
| KFLCAPEC24 |                                 | Cape Coral         |
| KFLCAPEC30 | Hastings Canal                  | Cape Coral         |
| KFLCAPEC39 | Chantrey Canal                  | Cape Coral         |
| KMADORCH2  | Mariner/NW Softball Complex     | Cape Coral         |

| KFLCAPEC43 | Shamrock lakes                 | Cape Coral                   |
|------------|--------------------------------|------------------------------|
| KFLCAPEC45 | Gold Coast                     | Cape Coral                   |
| KFLCAPTI3  | Upper Captiva Island           | Captiva                      |
| KFLCARRA3  | City of St. George             | Carrabelle                   |
| KFLCASSE8  | Deer Run/KE4LOJ                | Casselberry                  |
| KFLCASSE9  | Camalot                        | Casselberry                  |
| KFLCELEB2  | CELEBRATION,FL.                | CELEBRATION                  |
| KFLMELBO67 |                                | Chestnut Run                 |
| KFLCHIPL3  | Greenhead                      | Chipley                      |
| KFLCITRA1  | Rural Wooded Citra             | Citra                        |
| KFLBEVER4  | Beverly Hills                  | Citrus County                |
| KFLCLEAR21 | City of Largo WWRF/Highpoint   | Clearwater                   |
| KFLCLEAR25 | Bayside Court-CW7824           | Clearwater                   |
| KFLCLEAR30 | Druid Rd                       | Clearwater                   |
| KFLCLEAR32 | W4PG Wedgewood Estates         | Clearwater                   |
| KFLCLEAR37 | McMullen Tennis Complex        | Clearwater                   |
| KFLCLEAR39 | South Greenwood                | Clearwater                   |
| KFLCLEAR40 | Clearwater Industrial          | Clearwater                   |
| KFLCLEAR43 | Campbell Causeway              | CLearwater                   |
| KFLCLEAR48 | S Betty Lane                   | Clearwater                   |
| KFLCLEAR55 | KE4CWS - Orange St / Highlands | Clearwater                   |
|            | Ave                            |                              |
| KFLCLEAR56 | Sunset Point Estates           | Clearwater                   |
| KFLCLEAR63 | N San Remo                     | Clearwater                   |
| KFLCLEAR64 | cleveland plaza                | Clearwater                   |
| KFLCLERM7  | Lake Minnehaha N Shore         | Clermont                     |
| KFLCLERM10 | Bent Tree                      | Clermont                     |
| KFLCLERM13 | East Clermont                  | Clermont                     |
| KFLCLERM15 | Lake Ralph                     | Clermont                     |
| KFLCLERM18 | Lake Minnehaha SW Shore        | Clermont                     |
| KFLCLERM28 | Regency Hills                  | Clermont                     |
| KFLCLERM30 | Sugarloaf Mountain             | Clermont                     |
| KFLCLEWI6  | ESG South Grove                | Clewiston                    |
| KFLCOCOA1  | Hartman St., Port St. John     | Cocoa                        |
| KFLCOCOA19 | West Port Saint John           | Cocoa                        |
| KFLCOCOA23 | Parkchester                    | Cocoa                        |
| KFLCORAL8  | Oakwood                        | Coral Springs                |
| KFLCORAL15 | The Crossings.                 | Coral Springs                |
| KFLPOMPA14 | ARS KK4XO - Cypress Run        | Coral Springs                |
| KFLCORAL19 | Coral Creek                    | Coral Springs                |
| KFLCORAL20 | West Country Club Addition     | Coral Springs                |
| KFLCORAL22 | Center West                    | Caral Caringa                |
|            |                                | Coral Springs                |
| KFLCORAL23 | Wyndham Lakes                  | Coral Springs  Coral Springs |

| KFLCORTE2  | Holiday Cove                      | Cortez           |
|------------|-----------------------------------|------------------|
| KFLCRAWF2  | 6 mi. south town                  | Crawfordville    |
| KFLCRAWF8  | Songbird                          | Crawfordville    |
| KFLCRAWF12 | The Park                          | Crawfordville    |
| KFLCRAWF13 | The Grove                         | Crawfordville    |
| KFLCRAWF15 | Hilliardville Road                | Crawfordville    |
| KFLCRESC1  | River Park West,                  | Crescent City    |
| KFLCRESC2  | Beulah Church Rd,Fruitland        | Crescent City    |
| KFLCREST3  | Crestview                         | Crestview        |
| KFLCREST7  | Steeplechase                      | Crestview        |
| KFLCREST10 | Sandy Ridge                       | Crestview        |
| KFLCREST11 | KE4BFX                            | Crestview        |
| KFLCREST12 | Patton Street                     | Crestview        |
| KFLCROSS2  | Cross Creek                       | Cross Creek      |
| KFLCRYST10 | Crystal Beach                     | Crystal Beach    |
| KFLCRYST8  | Ozello                            | Crystal River    |
| KFLCUTLE2  | Cutler Bay, FL                    | Cutler Bay       |
| KFLDADEC3  | 10th Street (S) @ Willingham Ave. | Dade City        |
| KFLDADEC10 | Dade City @ Lacoochee             | Dade City        |
| KFLDADEC5  | Dade City at Blanton              | Dade City        |
| KFLDADEC12 | Saint Joseph                      | Dade City        |
| KFLDANIA3  | Melaleuca Gardens                 | Dania Dania      |
| KFLDANIA4  | Dania Beach Marina                | Dania Beach      |
| KFLDAVEN12 | Sunset Ridge                      | DAVEN PORT       |
| KFLDAVEN5  | Edgehill                          | Davenport        |
| KFLDAVEN7  | Watersong                         | Davenport        |
| KFLDAVEN8  | WINDMILL VILLAGE-Rt 27            | Davenport        |
| KFLDAVEN9  | Polk County                       | Davenport        |
| KFLDAVEN10 | Davenport                         | Davenport        |
| KFLDAVIE6  | Davie - Near Tree Tops Park       | Davie            |
| KFLDAYTO3  | David Treat Tree Tope Fam.        | Daytona Beach    |
| KFLDAYTO6  | ERAU Daytona Beach                | Daytona Beach    |
| KFLDEBAR4  | Saxon Woods                       | De Bary          |
| KFLDELEO2  | De Leon Springs                   | De Leon Springs  |
| KFLDEERF7  | Deer Run                          | Deerfield Beach  |
| KFLPOMPA18 | Crystal Lake                      | Deerfield Beach  |
| KFLDEERF8  | Deerfield Beach                   | Deerfield Beach  |
| KFLDEFUN1  | Windmaster Farms                  | DeFuniak Springs |
|            | WZEP AM 1460 DeFuniak             |                  |
| KFLDEFUN2  | Springs, FL                       | DeFuniak Springs |
| KFLDEFUN5  |                                   | DeFuniak Springs |
| KFLDEFUN7  | Defuniak Springs, FL (West Side)  | DeFuniak Springs |
| KFLDELAN5  | Victoria Hills                    | DeLand           |

| KFLDELAN6  | Glenwood Hammock              | DeLand                  |
|------------|-------------------------------|-------------------------|
| KFLDELRA11 | Lake Ida                      | Delray Beach            |
| KFLDELRA12 | Brads Bedding Plants Inc.     | Delray Beach            |
| KFLDELRA13 | Bexley Park                   | Delray Beach            |
| KFLDELRA14 | J-Ball at Mizner Country Club |                         |
|            | Four Seasons                  | Delray Beach            |
| KFLDELRA18 |                               | Delray Beach            |
| KFLDELRA19 | Lake Ida - Garden House       | Delray Beach<br>Deltona |
| KFLDELTO8  | SW Deltona                    |                         |
| KFLDELTO9  | Galveston Boulevard           | Deltona                 |
| KFLDELTO12 | Deltona Weather               | Deltona                 |
| KFLDELTO14 | Providence Blvd. & Fisher Dr. | Deltona                 |
| KFLDELTO15 | 0:- 11 !!                     | Deltona                 |
| KFLDESTI4  | City Hall                     | Destin                  |
| KFLDESTI7  | Destin Water Users            | Destin                  |
| KFLDUKES2  |                               | Dukes                   |
| KFLDUNED4  | E of Dunedin Marina           | Dunedin                 |
| KFLDUNED10 | Steve's home station          | Dunedin                 |
| KFLDUNNE2  | Citrus Springs                | Dunnellon               |
| KFLEAGLE2  | Roeville                      | Eagle Lake              |
| KFLMILTO10 | Chuck's Weather Station       | East Milton             |
| KFLEASTP2  | Mitchell Drive                | Eastpoint               |
| KFLEDGEW2  | Florida Shores                | Edgewater               |
| KFLENGLE2  | Lehn & Vogt Insurance         | Englewood               |
| KFLESTER10 | OCP-1 South                   | Estero                  |
| KFLEUSTI2  | JNP Farms                     | Eustis                  |
| KFLEUSTI3  | Paradise Ranch                | Eustis                  |
| KFLFERNA6  | SW Fernandina Beach           | Fernandina Beach        |
| KFLFERNA7  | Joes House                    | Fernandina Beach        |
| KFLFLAGL5  |                               | Flagler Beach           |
| KFLFLEMI4  |                               | Fleming Island          |
| KFLFLORA4  | George's Lake #1              | Florahome               |
| KFLFLORA5  |                               | Floral City             |
| KFLFLORI3  | Chiles High WeatherSTEM       | Florida                 |
| KFLMELBO49 | Beachside                     | Floridana Beach         |
| KFLFORTL32 | Lake Ridge                    | Fort Lauderdale         |
| KFLFORTL27 | North Andrews Gardens         | Fort Lauderdale         |
| KFLFORTL46 | Fort Lauderdale beach         | Fort Lauderdale         |
| KFLFORTM19 | Morse Shores                  | Fort Myers              |
| KFLFORTM24 | Fort Myers Villas             | Fort Myers              |
| KFLFORTM25 | Iona Gardens                  | Fort Myers              |
| KFLFORTM31 | South Fort Myers, Oakbrook    | Fort Myers              |
| KFLFORTM38 | San Carlos Park (Central)     | Fort Myers              |
| KFLFORTM45 | South Fort Myers              | Fort Myers              |
|            |                               |                         |

| KFLFORTM46 KFLFORTM50 KFLFORTM51 KFLFORTM53 KFLFORTM55 KFLFORTM59 KFLFORTM60 KFLFORTM48 KFLFORTM48 KFLFORTM57 KFLWHITE2 KFLFORTP10  | Heritage Cove Carriedale Tice Orangewood Fleamasters Fleamarket OCP-5 North FMB Golf Club Pearl Street White City - Citrus Ranchlands Indian River Drive Dock  | Fort Myers Beach Fort Myers Beach Fort Pierce Fort  |
|---|--|---|
| KFLFORTP8  KFLFORTW12 KFLFORTW19 KFLFORTM58 KFLFOUNT2 KFLFREEP3 KFLFRUIT7 KFLFRUIT9 KFLFRUIT8 KFLFTLAU7 KFLFTLAU4 KFLFTLAU4 KFLFTLAU4 KFLFTLAU5 KFLFTLAU10 KFLWINTE43 KFLFTPIE3 KFLFTPIE3 KFLGAINE14 KFLGAINE14 KFLGAINE1 KFLGAINE17 KFLGAINE20 KFLGAINE21 KFLGAINE21 | Wynne Ranch Cinco Bayou - Pocahontas Dr. Willow Bend Unger Ave Silver Lake Road Portland Executive Cove Bunker Fruit Cove The Glen Coretti Home ICW @ Oakland Park Bridge Ft. Lauderdale Executive Airport Star Grove II Star Grove Kirchman South Kirchman North Stillwind Community KC4MHH The Duckpond Suburban Heights Haile Plantation Monteocha Farms USGS | Fort Pierce/Okeechobee Fort Walton Beach Fort Walton Beach Fort Walton Beach Fortmyers Fountain Freeport Fruit Cove Fruit Cove Fruitland Park Ft Lauderdale Ft. Lauderdale Ft. Lauderdale Ft. Pierce Ft. Pierce Ft. Pierce Ft. Pierce Gainesville Gainesville Gainesville Gainesville Gainesville Gainesville Gainesville Gainesville |
| KFLGAINE25 KFLGENEV3 KFLGOTHA4 KFLGOULD2 KFLGRAND2 KFLGREEN6 KFLGREEN10   | Hague Oaks of Windermere Black Point SDWWTP Sunlake Estates Magnolia Point   | Gainesville Geneva Gotha Goulds Grand Island Green Cove Springs Green Cove  |

|            |                            | Springs                 |
|------------|----------------------------|-------------------------|
| KFLGREEN11 | Battery Bluff              | Green Cove<br>Springs   |
| KFLGREEN7  | River Bridge               | Greenacres              |
| KFLGULFB1  | Sawgrass at Tiger Point    | Gulf Breeze             |
| KFLGULFB3  | Santa Rosa Park            | Gulf Breeze             |
| KFLGULFB5  | Town Hall Area             | Gulf Breeze             |
| KFLHALLA2  | Hallandale Beach           | Hallandale              |
| KFLHASTI2  | French                     | Hastings                |
| KFLHAVAN3  | Rabbit Pond                | Havana                  |
| KFLHAVAN4  | TeligentEMS                | Havana                  |
| KFLHAVAN6  | Fastphoto                  | Havana                  |
| KFLHAVAN8  | Jamieson                   | Havana                  |
| KFLHAWTH2  | Melrose Landing Airpark    | Hawthorne               |
| KFLHAWTH3  | Lochloosa Grade            | Hawthorne               |
| KFLHERNA6  | Hernando Beach North       | Hernando Beach          |
| KFLHERNA7  | Hernando Beach South       | Hernando Beach          |
| KFLHIGHS1  | South of                   | High Springs            |
| KFLHIGHL2  | Bel Lido                   | Highland Beach          |
| KFLHOBES2  | The Hawks Nest             | Hobe Sound              |
| KFLHOBES3  | The FALLS at Lost Lakes    | Hobe Sound              |
| KFLHOBES4  | Otter Lake                 | Hobe Sound              |
| KFLDUNED7  | Aloha Gardens              | Holiday                 |
| KFLHOLID5  |                            | Holiday                 |
| KFLHOLID6  | La villa gardens           | Holiday                 |
| KFLHOLLY20 | Downtown                   | Hollywood               |
| KFLAUBUR6  | Clear Springs Blueberries  | Homeland                |
| KFLHOMEL3  | Blue Eagle Farms Station 1 | Homeland                |
| KFLHOMES5  | Farmland Estates           | Homestead               |
| KFLHOMES6  | Bali at The Isles at Oasis | Homestead               |
| KFLHOMES8  | redland                    | Homestead               |
| KFLHOMOS6  | Southern Woods             | Homosassa               |
| KFLHOMOS7  | Sugarmill Woods            | Homosassa               |
| KFLHORSE4  | Horseshoe Beach            | Horseshoe Beach         |
| KFLHUDSO5  | Pine Ridge at Sugar Creek  | Hudson                  |
| KFLHUDSO18 | Leisure Beach              | Hudson                  |
| KFLIMMOK2  | Ag-Tronix / Immokalee      | Immokalee               |
| KFLIMMOK5  | Immokalee Grove            | Immokalee               |
| KFLIMMOK4  | Heller Immokalee           | Immokalee               |
| KFLIMMOK6  | Eagle Island Grove         | Immokalee               |
| KFLINDIA5  |                            | Indian Harbour<br>Beach |
| KFLINDIA12 | IHB FL                     | Indian Harbour          |

|             |                                  | Beach         |
|-------------|----------------------------------|---------------|
| KFLINDIA6   |                                  | Indiantown    |
| KFLINDIA14  | Hinson                           | Indiantown    |
| KFLINTER2   | Trout Puddle                     | Interlachen   |
| KFLINTER4   | Interlachen/Mannville            | Interlachen   |
| KFLINVER1   |                                  | Inverness     |
| KFLINVER8   | Henderson Trail                  | Inverness     |
| KFLINVER6   | Davis Lake Golf Estates          | Inverness     |
|             | Keith & Patty's Islamorada       | lala manua da |
| KFLISLAM5   | Weather                          | Islamorada    |
| KFLJACKS13  | Ortega Forest                    | Jacksonville  |
| KFLJACKS18  | UNF/San Pablo                    | Jacksonville  |
| KFLJACKS20  | Lakeshore                        | Jacksonville  |
| KFLJACKS24  | Near downtown                    | Jacksonville  |
| KFLJACKS26  | Amelia View - Northside          | Jacksonville  |
| KFLJACKS28  | Mandarin / Julington Crk         | Jacksonville  |
| KFLJACKS36  | Brierwood/Mandarin               | Jacksonville  |
| KFLJACKS40  | Historic Springfield             | Jacksonville  |
| KFLJACKS61  | Westside, South Ricker Rd        | Jacksonville  |
| KFLJACKS69  | San Marco @ Duck Pond            | Jacksonville  |
| KFLJACKS73  | Jacksonville Corporate Center    | Jacksonville  |
| KFLJACKS74  | Normandy/Fouraker                | Jacksonville  |
| KFLJACKS76  | St. Mark's Episcopal Day School  | Jacksonville  |
| KFLJACKS77  | Greenland Park                   | Jacksonville  |
| KFLJACKS79  | RainmanWeather.com               | Jacksonville  |
| KFLJACKS84  | Lakeshore Normandy/Ellis         | Jacksonville  |
| KFLJACKS87  | Ortega Bluff                     | Jacksonville  |
| KFLJACKS89  | Venetia                          | Jacksonville  |
| KFLJACKS92  | RainmanWeather.com               | Jacksonville  |
| KFLJACKS94  | San Marco - Club Jax - Hendricks | Jacksonville  |
| KFLJACKS97  | Baldwin                          | Jacksonville  |
| KFLJACKS98  | RainmanWeather.com               | Jacksonville  |
| KFLJACKS101 | Bartram Springs                  | Jacksonville  |
| KFLJACKS103 | Osprey Pointe                    | Jacksonville  |
| KFLJACKS107 | Ortega Farms                     | Jacksonville  |
| KFLJACKS108 | Grove Park                       | Jacksonville  |
| KFLJACKS113 | Blout Island                     | Jacksonville  |
| KFLJACKS118 | Sutton Estates                   | Jacksonville  |
| KFLJACKS119 | Fort George                      | Jacksonville  |
| KFLJACKS120 | Cedar Hills                      | Jacksonville  |
| KFLJACKS123 | Carrington Place                 | Jacksonville  |
| KFLJACKS124 | Westlake                         | Jacksonville  |
| KFLJACKS125 | K4PAD - Oakleaf                  | Jacksonville  |

| KFLJACKS126 | Ramoth Drive                           | Jacksonville            |
|-------------|--|-------------------------|
| KFLJACKS128 | Hatton Chase                           | Jacksonville            |
| KFLJACKS129 | Baymeadows, SE Jacksonville            | Jacksonville            |
| KFLJACKS130 | Talleyrand                             | Jacksonville            |
| KFLJACKS131 | Radio Control Club of Jax              | Jacksonville            |
| KFLJACKS132 | Pickwick Park                          | Jacksonville            |
| KFLJACKS135 | Country Side Village                   | Jacksonville            |
| KFLJAY3     | Nelsontown Road                        | Jay                     |
| KFLJAY4     | Sellersville                           | Jay                     |
| KFLJAY6     | Jenkins Farm                           | Jay                     |
| KFLJENSE6   | nettles island                         | Jensen Beach            |
| KFLJENSE9   | eden                                   | Jensen Beach            |
| KFLPALMB6   | Juno Beach, Jupiter, PB Gardens        | Juno Beach              |
| KFLJUNOB1   | Dan Ringdahl                           | Juno Beach              |
| KFLJUPIT10  | Pennock Ln.                            | Jupiter                 |
| KFLJUPIT12  | Loxahatchee River                      | Jupiter                 |
| KFLJUPIT18  | Jupiter Heights                        | Jupiter                 |
| KFLJUPIT25  | Jupiter Farms                          | Jupiter                 |
| KFLKENNE3   | West Lealman                           | Kenneth City            |
| KFLKEYLA3   | Mile marker 95                         | Key Largo               |
| KFLKEYLA8   | COALUSA                                | Key Largo               |
| KFLKEYLA10  | KLWTD Plant                            | Key Largo               |
| KFLKEYLA13  | Garden Cove Marina / Buzzards<br>Roost | Key Largo               |
| KFLKEYWE12  |  | Key West                |
| KFLKEYWE15  | Fort Jefferson, Dry Tortugas           | Key West                |
| KFLKEYST2   | North Keystone                         | Keystone Heights        |
| KFLKEYST4   | Big Moe @ Ari Woods                    | Keystone Heights        |
| KFLKEYST6   | McRae                                  | Keystone Heights        |
| KFLKEYST8   | Keystone Beach-Keystone<br>Heights     | Keystone Heights        |
| KFLKISSI10  | Southport Bay                          | Kissimmee               |
| KFLKISSI15  | Celebration, FL                        | Kissimmee               |
| KFLKISSI17  | OHP                                    | Kissimmee               |
| KFLKISSI19  | Kissimmee                              | Kissimmee               |
| KFLPOINC2   | Kissimmee-Poinciana                    | Kissimmee-<br>Poinciana |
| KFLLACRO2   | La Crosse                              | La Crosse               |
| KFLLAKEA2   | Lake Alfred Fire Dept.                 | Lake Alfred             |
| KFLLAKEB2   | Bonnet Bluff                           | Lake Butler             |
| KFLLAKEC3   | LakeCityWeather dot Com                | LAKE CITY               |
| KFLLAKEC6   | Columbia County                        | Lake City               |
| KFLLAKEC4   | Caribbean Rd. East                     | Lake Clarke Shores      |

| KELLAKEC12               | LCS Police HO / FOC                     | Laka Clarka Charaa                   |
|--------------------------|---|--------------------------------------|
| KFLLAKEC12               | LCS Police HQ / EOC                     | Lake Clarke Shores                   |
| KFLLAKEH3                | Jennings Avenue                         | Lake Helen                           |
| KFLLAKEM2                | Hills of Lake Mary                      | Lake Mary                            |
| KFLLAKEM7                | Manderley                               | Lake Mary                            |
| KFLLAKEP4                | Florida Design Drilling                 | Lake Park                            |
| KELL AKEDO               | Disciplination Weather Station          | Lake Placid (33852)                  |
| KFLLAKEP6                | Placid Lakes Weather Station            | Courtesy of<br>KJ4SWT                |
| KFLLAKEW24               |   | Lake Wales                           |
| KFLLAKEW26               | Country Oaks                            | Lake Wales                           |
| KFLLAKEW30               | Cherry Pocket                           | Lake Wales                           |
| KFLLAKEW36               | ABC Road - TBW Farms                    | Lake Wales                           |
| KFLLAKEW5                | Chestnut Hill                           | Lake Worth                           |
| KFLLAKEW7                | Suburban Lake Worth/Lantana             | Lake Worth                           |
| KFLLAKEW13               | TWO GEMS Wind & Weather                 | Lake Worth                           |
| KFLLAKEW13               |   | Lake Worth                           |
| KFLLAKEW27               | Thoroughbred Lakes D A N E T S          | Lake Worth                           |
| KFLLAKEW29               | _                                       | Lake Worth                           |
| KFLLAKEW35               | College Park Park Vista High School     | Lake Worth                           |
|                          | SOUTHWEST LAKELAND                      | Lakeland                             |
| KFLLAKEL6<br>KFLLAKEL8   |   | Lakeland                             |
|                          | Grandview @ Eaglebrooke                 | Lakeland                             |
| KFLLAKEL9                | Hawks Ridge                             | Lakeland                             |
| KFLLAKEL35               | Lake Bonny Heights                      | Lakeland                             |
| KFLLAKEL38<br>KFLLAKEL40 | Itchepackesassa                         | Lakeland                             |
|                          | Lakeland Highlands<br>Lake Deeson       | Lakeland                             |
| KFLLAKEL42               |   | Lakeland                             |
| KFLLAKEL43               | Bridgewater<br>Summerland Hills         | Lakeland                             |
| KFLLAKEL44               |   | Lakeland                             |
| KFLLAKEL45               | Clubhouse Heritage                      | Lakeland                             |
| KFLLAKEL50<br>KFLLAKEL39 | Lake Hancock-Circle B, FL               |                                      |
| KFLLAKEU39<br>KFLLAKEW21 | LWR Greenbrook                          | Lakeland Highlands<br>Lakewood Ranch |
| KFLLAKEW28               | LWR - Summerfield                       | Lakewood Ranch                       |
|                          |   |                                      |
| KFLLANDOZ                | Cabbage Grove                           | Lamont<br>Land O Lakes               |
| KFLLANDO7                | Plantation Palms Neighborhood Pine Glen |                                      |
| KFLLANDO8                |   | Land O Lakes                         |
| KFLLANDO9                | Lake Padgett Estates                    | Land O Lakes                         |
| KFLLANTA2                | Lantana                                 | Lantana                              |
| KFLLANTA5                | Island Estates                          | Largo                                |
| KFLLARGO2                | Largo Fl                                | Largo                                |
| KFLLARGO5                | Largo FL                                | Largo                                |
| KFLLARGO12               | KJ4RUS - West of Taylor Park            | Largo                                |
| KFLLARGO13               | Starkey Heights                         | Largo                                |

| KFLLARGO15 | Pinebrook Estates                 | Largo            |
|------------|-----------------------------------|------------------|
| KFLLARGO16 | Lake Seminole Resort              | Largo            |
| KFLLARGO17 | Century Oaks                      | Largo            |
| KFLLARGO19 | Taylor Park area                  | Largo            |
| KFLLAUDE1  | Hill Observatory                  | Lauderhill       |
| KFLLECAN2  | Citrus County Mosquito Control    | Lecanto          |
| KFLLEESB4  | Royal Highlands-W9CLS             | Leesburg         |
| KFLLEESB9  | Royal Highlands - Orange Grove    | Leesburg         |
| KFLLEHIG4  | N.E. Lehigh Acres, Florida        | Lehigh Acres     |
| KFLLEHIG9  | Central Lehigh Acres              | Lehigh Acres     |
| KFLLEHIG16 | PSWest                            | Lehigh Acres     |
| KFLLIGHT2  | Lighthouse Point Estates          | Lighthouse Point |
| KFLLITHI1  | Jaegerglen                        | Lithia           |
| KFLLITHI2  | Hammock at Eagle Ridge            | Lithia           |
| KFLLITHI3  | FishHawk Ranch                    | Lithia           |
| KFLLITHI4  | Fish Hawk Trails                  | Lithia           |
| KFLLITHI5  | Fishhawk Trails (KFLLITHI5)       | Lithia           |
| KFLLIVEO3  | Florida Olive Farms               | Live Oak         |
| KFLGRENE2  | Grenelefe Florida Landscapes      | Local Area       |
| KFLLONGW9  | Lake Wayman Heights               | Longwood         |
| KFLLONGW12 | Wekiva                            | Longwood         |
| KFLLOXAH8  | The Acreage (86th                 | Loxahatchee      |
| KFLLOXAH12 | Loxahatchee                       | Loxahatchee      |
|            | Pickert Lane, US                  |                  |
| KFLLUTZ5   | 41/Pasco/Hillsborough County      | Lutz             |
|            | Line                              |                  |
| KFLLUTZ7   | Turtle Lakes                      | Lutz             |
| KFLLUTZ8   | Alan Archer Weather just north of | LUTZ             |
|            | Tampa, FL                         |                  |
| KFLLUTZ19  | Lake Park                         | Lutz             |
| KFLLUTZ21  | Deer Lake                         | Lutz             |
| KFLLYNNH5  | Michigan Ave                      | Lynn Have        |
| KFLLYNNH4  | Barnes in Mowat Highlands         | Lynn Haven       |
| KFLMACCL1  | Baker County                      | Macclenny        |
| KFLMACCL2  | Baker County                      | Macclenny        |
| KFLMACDI2  | Independence Park                 | MacDill AFB      |
| KCTWESTO2  | Madeira Beach, FL                 | Madeira Beach    |
| KFLMADIS3  | Madison                           | Madison          |
| KFLMAITL6  | Maitland Tire Co.                 | Maitland         |
| KFLMALAB5  | Brook Hollow                      | Malabar          |
| KFLMARAT3  | Little Venice House Rooftop       | Marathon         |
| KFLMARAT7  | Key Colony Beach FL               | Marathon         |
| KFLMARAT12 | Marathon Shores                   | Marathon         |

| KFLMARCO2                |                                | Marco Island    |
|--------------------------|--------------------------------|-----------------|
| KFLMARCO3                | San Marco Rd                   | Marco Island    |
| KFLPOMPA12               | #4 at The Carolina Club        | Margate         |
| KFLMARGA5                | Margate Elementary School      | Margate         |
| KFLMARGA6                | Margate                        | Margate         |
| KFLMARIA3                | Cypress                        | Marianna        |
| KFLMARYE1                | Parrish Point                  | Mary Esther     |
| KFLMELBO41               | West Melbourne                 | Melbourne       |
| KFLMELBO13               | LongWood                       | Melbourne       |
| KFLMELBO17               | Windover Farms                 | Melbourne       |
| KFLMELBO25               | Viera/Capron Ridge             | Melbourne       |
| KFLMELBO26               | Springs of Suntree             | Melbourne       |
| KFLMELBO35               | Eau Gallie                     | Melbourne       |
| KFLMELBO40               | Infinity's Edge Observatory-FL | Melbourne       |
| KFLMELBO48               | West Eau Gallie                | Melbourne       |
| KFLMELBO58               | Harlock                        | Melbourne       |
| KFLMELBO50               |                                | Melbourne       |
| KFLMELBO56               | Viera                          | Melbourne       |
| KFLMELBO63               | Florida Tech                   | Melbourne       |
| KFLMELBO66               | Baymeadows                     | Melbourne       |
| KFLMELBO69               | Magnolia Springs               | Melbourne       |
| KFLMELBO46               | Whitehouse Cove                | Melbourne Beach |
| KFLMELRO4                | Magnolia Forest                | Melrose         |
| KFLMELRO5                | Forest Hills                   | Melrose         |
| KFLSMERR1                | River Grove                    | Merritt Island  |
| KFLMERRI7                | Sunset Lakes                   | Merritt Island  |
| KFLMERRI21               | Island Crossings               | Merritt Island  |
| KFLMERRI23               | Florida Weather Consulting     | Merritt Island  |
|                          | Company                        |                 |
| KFLMIAMI15               | The Hammocks                   | Miami           |
| KFLMIAMI16               | South Dade / The Falls         | Miami           |
| KFLMIAMI29               | Westwood Lake/Snapper Creek    | Miami           |
| KFLMIAMI50               | Miami Everglades RV Resort     | Miami           |
| KFLMIAMI75               | DV Floral Group                | Miami           |
| KFLMIAMI72               | North Micro:                   | Miami           |
| KFLMIAMI79               | North Miami                    | Miami           |
| KFLMIAMI83               | Tamiami-Imperial Lake          | Miami<br>Miami  |
| KELMIAMI88               | FIU MMC PG5                    | Miami           |
| KFLMIAMI90<br>KFLMIAMI92 | Metrozoo<br>Coconut Grove      | Miami           |
| KFLMIAMI92<br>KFLMIAMI60 | FARRBETTER                     | Miami Beach     |
|                          | Nikki Beach Miami              | Miami Beach     |
| KFLMIAMI65               |                                | Miami Beach     |
| KFLMIAMI89               | Malhotra Observatory           | ivilaitii beach |

| KFLMIAMI91<br>KFLMICAN2<br>KFLMIDDL9<br>KFLMILTO11<br>KFLMILTO12 | Maimi Shores<br>Micanopy BadLands<br>Pine Ridge | Miami Shores<br>Micanopy<br>Middleburg<br>Milton<br>Milton |
|--|---|--|
| KFLMIMS3   |   | Mims   |
| KFLCLERM1  | Quail Valley                                    | Minneola   |
| KFLMINNE1  | Apshawa Lake                                    | Minneola   |
| KFLMINNE2  | Lake Minneola                                   | Minneola   |
| KFLMIRAM7  | West Miramar, West of 75 on Broward/Dade line   | Miramar  |
| KFLMIRAM3  | ISLAND DR. AREA                                 | MIRAMAR  |
| KFLMIRAM11   | River Run                                       | Miramar  |
| KFLMIRAM10   | Miramar Beach                                   | Miramar Beach  |
| KFLMOLIN2  | Hwy 29/Atmore Cutoff                            | Molino   |
| KFLMONTI2  | Pecan Acres                                     | Monticello   |
| KFLMOUNT4  | Loch Leven                                      | Mount Dora   |
| KPAWARRI2  | Lake Saunders RV Resort                         | Mt Dora  |
| KFLMTDOR2  | Timberlake Drive Mt. Dora                       | Mt Dora  |
| KFLMTDOR3  | Sylvan Shores                                   | Mt Dora  |
| KFLMULBE5  |   | Mulberry   |
| KFLNPALM2  | Juno Isles                                      | N Palm Beach   |
| KFLNAPLE17   | Golden Gate Estates                             | Naples   |
| KFLNAPLE20   | Kings Lake                                      | Naples   |
| KFLNAPLE24   | Isles of Capri                                  | Naples   |
| KFLNAPLE31   |   | Naples   |
| KFLNAPLE36   | Foxfire   | Naples   |
| KFLNAPLE42   | H P Park  | Naples   |
| KFLNAPLE43   | Golden Gate Estates                             | Naples   |
| KFLNAPLE50   | Rock Rd   | Naples   |
| KFLNAVAR7  | Hidden Creek                                    | Navarre  |
| KFLGULFB6  |   | Navarre  |
| KFLNAVAR12   | Boggs Cooling and Heating                       | Navarre  |
| KFLNAVAR16   | Country Breeze East                             | Navarre  |
| KFLNAVAR17   | Mossy Cove                                      | Navarre  |
| KFLNAVAR19   | Alfred Blvd                                     | Navarre  |
| KFLNEPTU2  | Leeward Landing @ Neptune Beach                 | Neptune Beach  |
| KFLNEWPO1  | Magnolia Valley                                 | New Port Richey  |
| KFLDAVIE5  | Trinity Area                                    | New Port Richey  |
| KFLNEWPO13   | Country Place Village                           | New Port Richey  |
| KFLNEWPO16   | Waters Edge                                     | New Port Richey  |
| KFLNEWPO19   | Woodridge Estates                               | New Port Richey  |

| KFLNEWSM6  | Isleboro                    | New Smyrna<br>Beach |
|------------|-----------------------------|---------------------|
| KFLNEWSM11 | New Smyrna RV Park          | New Smyrna<br>Beach |
| KFLNEWSM13 | Venetian Bay-Savona North   | New Smyrna<br>Beach |
| KFLNEWSM14 | S. Timberlane Drive         | New Smyrna<br>Beach |
| KFLNICEV10 | Boggy Bayou Alan's Marina   | Niceville           |
| KFLNICEV14 | Collegewood                 | Niceville           |
| KFLNICEV15 | Indigo Village              | Niceville           |
| KFLSARAS27 | Sorrento East               | Nokomis             |
| KFLNOKOM2  | East Nokomis, Shakett Creek | Nokomis             |
| KFLNORTH21 | Grandma-Grandpa House       | North Fort Myers    |
| KFLNORTH30 | North Fort Myers            | North Fort Myers    |
| KFLNORTH35 | Buccaneer Estates           | North Fort Myers    |
| KFLNORTH33 | Wigert's Bonsai Nursery     | North Ft. Myers     |
| KFLNORTH26 | Keystone Point              | North Miami         |
| KFLNORTH37 | Interama NDWWTP             | North Miami Beach   |
| KFLPLANT25 | Bull's Back Yard            | North of Plant City |
| KFLNORTH3  | Beautiful North Port        | North Port          |
| KFLNORTH14 | Bills Lawn and Landscape    | North Port          |
| KOHWESTC9  | North Cranberry             | North Port          |
| KFLNORTH16 | North Port Fire Rescue 81   | North Port          |
| KFLNORTH23 | North Port Fire Rescue 82   | North Port          |
| KFLNORTH24 | North Port Fire Rescue 83   | North Port          |
| KFLNORTH29 |                             | North Port          |
| KFLNORTH34 | North Port Fire Rescue 84   | North Port          |
| KFLNORTH38 | North Port Fire Rescue 85   | North Port          |
| KFLNORTH45 | N Biscayne N. P.            | North Port          |
| KFLNORTH25 | GlenLakes                   | North Weeki         |
|            |                             | Wachee              |
| KFLOAKLA2  | Oakland Pointe              | Oakland             |
| KFLOCALA16 | Leighton Estates            | Ocala               |
| KFLOCALA17 | Orange Estates              | Ocala               |
| KFLOCALA24 | Classic Hills - Unit II     | Ocala               |
| KFLOCALA29 | Shady Airport               | Ocala               |
| KFLOCALA36 | Brookstone-II               | Ocala               |
| KFLOCALA41 | Longleaf                    | Ocala               |
| KFLODESS2  | Lake Rainbow                | Odessa              |
| KFLODESS5  | Keystone Groves             | Odessa              |
| KFLODESS10 | Montreux                    | Odessa              |
| KFLOKEEC1  | Okeechobee City             | Okeechobee          |
| KFLOKEEC5  | Buckhead Ridge, Fl.         | Okeechobee          |

| KFLOKEEC8   | 734 Citrus / Island Pond                     | Okeechobee   |
|-------------|--|--------------|
| KFLOLDSM6   | Oldsmar                                      | Oldsmar      |
| KFLORANG3   | Fleming Island                               | Orange Park  |
| KFLORANG5   | South end of Orange Park by Old Jennings rd. | Orange Park  |
| KFLORANG12  | (Oak Hollow)                                 | Orange Park  |
| KFLORANG18  | Holly Point West                             | Orange Park  |
| KFLORANG20  | Fallen Timbers                               | Orange Park  |
| KFLORANG23  | Miniature Acres                              | Orange Park  |
| KFLORANG22  | Drs. Lake                                    | Orange Park  |
| KFLORANG29  | KK4ECR - Orange Park                         | Orange Park  |
| KFLORANG30  | Heritage Hills                               | Orange Park  |
| KFLORANG31  | The Springs                                  | Orange Park  |
| KFLORLAN1   | Azalea Park                                  | Orlando      |
| KFLORLAN10  | Pine Hills                                   | Orlando      |
| KFLORLAN11  | Conway                                       | Orlando      |
| KFLORLAN24  | Wedgefield                                   | Orlando      |
| KFLORLAN47  | Audubon Park                                 | Orlando      |
| KFLORLAN51  | Belle Isle                                   | Orlando      |
| KFLORLAN52  | Dubsdread Golf Course                        | Orlando      |
| KFLORLAN55  | Union Park                                   | Orlando      |
| KFLORLAN60  | Lake Pickett                                 | Orlando      |
| KFLORLAN62  | Baton Rouge Drive                            | Orlando      |
| KFLORLAN72  | UCF Area / WUCF-FM                           | Orlando      |
| KFLORLAN3   | Waterford Lakes                              | Orlando      |
| KFLLOCKH2   | Lockhart                                     | Orlando      |
| KFLORLAN79  | WFTV - Orlando Science Center                | Orlando      |
| KFLORLAN86  | Stoneybrook East                             | Orlando      |
| KFLORLAN87  | Union Park                                   | Orlando      |
| KFLORLAN91  | Union Park                                   | Orlando      |
| KFLORLAN92  | Nova Preserve                                | Orlando      |
| KFLORLAN94  | kensington                                   | Orlando      |
| KFLORLAN95  | Lake Rose                                    | Orlando      |
| KFLORLAN97  | Stratford Blvd                               | Orlando      |
| KFLORLAN99  | lockhart                                     | Orlando      |
| KFLORLAN105 | Waterford Lakes                              | Orlando      |
| KFLORLAN106 | Summer Field                                 | Orlando      |
| KFLORMON11  | Ormond Beach Fire Station 91 - East          | Ormond Beach |
| KFLORMON12  | Ormond Beach Fire Station 92 - South         | Ormond Beach |
| KFLORMON13  | Ormond Beach Fire Station 93 -<br>North      | Ormond Beach |

|            | 0 15 15 000 01                                |                       |
|------------|---|-----------------------|
| KFLORMON14 | Ormond Beach Fire Station 94 - West           | Ormond Beach          |
| KFLORMON15 | Ormond Beach City Hall - Central              | Ormond Beach          |
| KFLORMON16 | Ormond Beach Police Department - Central      | Ormond Beach          |
| KFLORMON17 | KOMN - Ormond Beach Airport Control Tower     | Ormond Beach          |
| KFLORMON18 | Ormond Beach Wastewater Plant - North         | Ormond Beach          |
| KFLORMON23 | pines   | Ormond Beach          |
| KFLORMON25 | Ormond Beach near Tamoka                      | Ormond Beach          |
| KFLORMON26 | The Trails                                    | Ormond Beach          |
| KFLOSPRE3  | Oaks Bayside                                  | Osprey                |
| KFLOSTEE1  | Bent Oaks                                     | Osteen                |
| KFLOVIED9  | Kingsbridge West                              | Oviedo                |
| KFLOVIED16 | Alafaya Woods                                 | Oviedo                |
| KFLOVIED11 | Huntington                                    | Oviedo                |
| KFLOVIED14 | Stillwater                                    | Oviedo                |
| KFLOVIED15 | Black Hammock                                 | Oviedo                |
| KFLOXFOR2  |   | Oxford                |
| KFLPACE1   | Rual  | Pace                  |
| KFLMILTO9  |   | Pace                  |
| KFLPACE3   |   | Pace                  |
| KFLPALAT3  | Palatka, Fl Putnam County<br>Sheriff's Office | Palatka               |
| KFLPALMB1  | Lockmar                                       | Palm Bay              |
| KFLPALMB11 | Vermont Street Weather                        | Palm Bay              |
| KFLPALMB30 | City of Palm Bay Public Works Facility        | Palm Bay              |
| KFLPALMB8  | Trinity Ave, S.E. Palm Bay                    | Palm Bay              |
| KFLPALMB41 | Lockmar Estates                               | Palm Bay              |
| KFLPALMB45 |   | Palm Bay              |
| KFLPALMB50 | Shady Asphalt Oasis                           | PALM BAY              |
| KFLPALMB55 | 07 Streetglide                                | Palm Bay              |
| KFLPALMB36 | Will's Weather Station                        | Palm Beach            |
| KFLPALMB56 | Palm Beach, FL                                | Palm Beach            |
| KFLPALMB15 | Hale Kapa'a                                   | Palm Beach<br>Gardens |
| KFLPALMB17 | Palm Beach Counrty Estates                    | Palm Beach<br>Gardens |
| KFLPALMB26 | Palm Bch Cntry Estates                        | Palm Beach<br>Gardens |
| KFLPALMB42 | Palm Beach Gardens / Acreage                  | Palm Beach<br>Gardens |

| KFLPALMB58 | Palm Beach Country Estates        | Palm Beach<br>Gardens |
|------------|-----------------------------------|-----------------------|
| KFLPALMC20 | Evergreen Club                    | Palm City             |
| KFLPALMC9  | Harbour Ridge                     | Palm City             |
| KFLPALMC17 | Werewolf's Den in Palm City Farms | Palm City             |
| KFLPALMC24 | Old Palm City                     | Palm City             |
| KFLPALMC25 | Hammock Creek                     | Palm City             |
| KFLPALMC34 | Cobblestone                       | Palm City             |
| KFLPALMC21 | Indian Trails                     | Palm Coast            |
| KFLPALMC26 | Hammock Dunes                     | Palm Coast            |
| KFLPALMC27 | Palm Coast C-Section on the water | Palm Coast            |
| KFLPALMC30 | fsection                          | Palm Coast            |
| KFLPALMC33 | Cypress Knoll                     | Palm Coast            |
| KFLPALMC32 | Lehigh Woods                      | Palm Coast            |
| KFLPALMH1  | The Hammocks - KI4CPZ             | Palm Harbor           |
| KFLPALMH2  | Ham Radio Station N4SEX           | Palm Harbor           |
| KFLTARPO3  | Westlake Village                  | Palm Harbor           |
| KFLPALMH13 | Baywood Village                   | Palm Harbor           |
| KFLPALMH18 | Grand Cypress                     | Palm Harbor           |
| KFLPALMH21 | South Cove - Lake Tarpon          | Palm Harbor           |
| KFLPALMV2  | ·                                 | Palm Valley           |
| KFLPALME4  | Coach House MHP                   | Palmetto              |
| KFLPALME6  |                                   | Palmetto              |
| KFLPALME8  | Bay Colony                        | Palmetto              |
| KFLPALME10 | •                                 | Palmetto              |
| KFLPALME5  | Palmetto Bay - Franjo             | Palmetto Bay          |
| KFLPANAM2  | Forest Park                       | Panama City           |
| KFLPANAM19 | Cherokee Heights                  | Panama City           |
| KFLPANAM21 | South Callaway                    | Panama City           |
| KFLPANAM25 | King's Harbor                     | Panama City           |
| KFLPANAM34 | Southport                         | Panama City           |
| KFLPANAM37 | No Worries Condos                 | Panama City           |
| KFLPANAM13 | Bayside West Bay                  | Panama City<br>Beach  |
| KFLPANAM23 | Oakwood Court                     | Panama City<br>Beach  |
| KFLPANAM35 | North Lagoon                      | Panama City<br>Beach  |
| KFLCORAL5  | Galloways Farm in Country Acres   | Parkland              |
| KFLPARKL6  | Cypresshead                       | Parkland              |
| KFLPARRI4  | Foxbrook                          | Parrish               |
| KFLPARRI5  | River Wilderness                  | Parrish               |
|            |                                   |                       |

| KFLPARRI6  |                                   | Parrish          |
|------------|-----------------------------------|------------------|
| KFLPEMBR7  | Residential                       | Pembrok Pines    |
| KFLPEMBR9  | Pembroke Falls                    | Pembroke Pines   |
| KFLPEMBR10 | Lido Isles                        | Pembroke Pines   |
| KFLPEMBR11 | Chapel Trail                      | Pembroke Pines   |
| KFLPENSA17 | Saufley Field                     | Pensacola        |
| KFLPENSA24 | Peppermill                        | Pensacola        |
| KFLPENSA29 | Cordova Park                      | Pensacola        |
| KFLPENSA33 | North Hill                        | Pensacola        |
| KFLPENSA35 | Ensley - KFLPENSA35               | Pensacola        |
| KFLPENSA37 | I-10/Pine Forest                  | Pensacola        |
| KFLPENSA38 | Eastgate                          | Pensacola        |
| KFLPENSA43 | Coral Creek                       | Pensacola        |
| KFLPENSA44 | Northeast Pensacola               | Pensacola        |
| KFLPINER1  | Pine Ridge Estates                | Pine Ridge       |
| KFPINECR2  | Gulliver Prep                     | Pinecrest        |
| KFLPINEL1  | Pinellas Park                     | Pinellas Park    |
| KFLPINEL7  | Bonnie Glynn                      | Pinellas Park    |
| KFLPINEL8  | Pinellas Park                     | Pinellas Park    |
| KFLPINEL10 | Skyview Terrace                   | Pinellas Park    |
| KFLPLANT15 | Avondale Groves                   | Plant City       |
| KFLPLANT17 | Cypress Reserve                   | Plant City       |
| KFLPLANT21 | South Plant City                  | Plant City       |
| KFLPLANT23 | Plant City, fla.                  | Plant City       |
| KFLPLANT14 | Westport                          | Plantation       |
| KFLPLANT24 | Plantation, FL just off Commadore | Plantation       |
| KFLPLANT27 | Plantation Isles                  | Plantation       |
| KFLTAVER3  | Brown and Crebbin Design Studio   | Plantation Key   |
| KFLPOLKC2  | MOSN NORTH                        | Polk City        |
| KFLPOLKC3  |                                   | Polk City        |
| KFLPOLKC4  | Mount Olive Shores                | Polk City        |
| KFLPOMPA5  | Cypress Lake Estates 908 Club     | Pompano Beach    |
| KFLPOMPA16 | HARBOR VILLAGE                    | POMPANO<br>BEACH |
| KFLPOMPA19 | Hillsboro Pines                   | Pompano Beach    |
| KFLPALMV1  | Palm Valley                       | Ponte Vedra      |
| KFLPONTE7  | Coastal Oaks                      | Ponte Vedra      |
| KFLPORTC17 | South of Peachland @ Sheehan      | Port Charlotte   |
| KFLPORTC21 |                                   | Port Charlotte   |
| KFLPORTC25 | 41 @ MIDWAY                       | Port Charlotte   |
| KFLPORTC26 | Maple Leaf                        | Port Charlotte   |
| KFLPORTC27 | Port Charlotte Arlington Ct Canal | Port Charlotte   |
| KFLPORTO18 | Dunlawton / Yorktowne             | Port Orange      |

| KFLPORTR7 KFLPORTS20 KFLPORTS25 KFLPORTS46 KFLPORTS23 KFLPORTS1              | By the River River Park N Fork St Lucie River Crosstown South Cape San Blas Covina St Floresta, The Original PSL | Port Richey Port Saint Lucie Port Saint Lucie Port Saint Lucie Port St Joe Port St John Port St Lucie           |
|--|--|---|
|  | Weather  |   |
| KFLPORTS24 KFLPORTS25 KFLPORTS41 KFLPORTS52 KFLPORTS57 KFLPORTS58 KFLPORTS40 | South Bend Mansfield Sandpiper Bay Crosstown Rosser- Gatlin Area Gulf County EOC                                 | Port St Lucie |
| KFLPORTS53   | Jasmine Ave, Port St John Just South of St. Lucie  | Port St. John   |
| KFLPORTS11   | Westhometownweather.net  | Port St. Lucie  |
| KFLPUNTA13   | Deep Creek   | Punta Gorda   |
| KFLPUNTA9  | Isles Observatory  | Punta Gorda   |
| KFLPUNTA17   | Punta Gorda Isles  | Punta Gorda   |
| KFLPUNTA18   | Punta Gorda Isles  | Punta Gorda   |
| KFLPUNTA24   | Burnt Store Village  | Punta Gorda   |
| KFLPUNTA25   | Prairie Creek  | Punta Gorda   |
| KFLRAMRO2  | Breezeswept Estates - Bird Lake - Ramrod   | Ramrod Key  |
| KFLRIVER11   | Lake Fantasia  | Riverview   |
| KFLRIVER15   | Boyette Springs  | Riverview   |
| KFLRIVER18   | Riverglen  | Riverview   |
| KFLROCKL5  | Chelsea Park   | Rockledge   |
| KFLROCKL7  | Viera Golf Club East   | Rockledge   |
| KFLROCKL10   | Pineland Park  | Rockledge   |
| KFLROCKL11   | Indian River Club  | Rockledge   |
| KFLROCKL12   | Chelsea Park   | Rockledge   |
| KFLROCKL13   | Plantation Point   | Rockledge   |
| KFLROTON3  | Rotonda West   | Rotonda West  |
| KFLROYAL7  | La Mancha  | ROYAL PALM<br>BEACH   |
| KFLRUSKI4  |  | Ruskin  |
| KFLSAFET6  | Safety Harbor  | Safety Harbor   |
| KFLSAINT32   | Wildwood Pines   | Saint Augustine   |
| KFLSAINT17   | Bay Lake Ranch   | Saint Cloud   |
| KFLSAINT13   | SAINT LEO UNIVERSITY   | SAINT LEO   |

| KFLSAINT24 KFLSAINT26 KFLSAINT18 KFLSAINT25 KFLSAINT30 KFLSAINT33 KFLSAINT5 | Saint Pete Beach Lido DNS Guns at WoodLawn Euclid Place Disston Heights KI4TWQ Disston Heights KI4TWQ-2 Bella Vista | Saint Pete Beach<br>Saint Pete Beach<br>Saint Petersburg<br>Saint Petersburg<br>Saint Petersburg<br>Saint Petersburg<br>Saint Petersburg<br>Beach |
|---|---|---|
| KFLSALTS2   | North Shore Little Lake Kerr -  | Salt Springs  |
| KFLSALTS3   | Ocala National Forest Kerr Shores   | Salt Springs  |
| KFLSANFO10  | Ravenna Park Sanford, FL  | Sanford   |
| KFLSANFO12  | Preserve at Astor Farms   | Sanford   |
| KFLSANFO15  | Sanford EOC   | Sanford   |
| KFLSANFO16  | Kaywood Subdivision   | Sanford   |
| KFLSANFO18  | Timmmay Celery Estates  | Sanford   |
| KFLSANIB3   | IWA on Sanibel Island   | Sanibel   |
| KFLSANIB5   | West Rocks  | Sanibel   |
| KFLSANTA4   | Point Washington  | Santa Rosa Beach  |
| KFLSANTA5   | Dune Allen Beach, FL  | Santa Rosa Beach  |
| KFLSARAS13  | Myakka Valley   | Sarasota  |
| KFLSARAS37  |   | Sarasota  |
| KFLSARAS30  | Terrace Gardens   | Sarasota  |
| KFLSARAS33  | Los Lomas   | Sarasota  |
| KFLSARAS38  | GULF GATE EAST  | SARASOTA  |
| KFLSARAS42  | Sarabay Woods - Whitfield   | Sarasota  |
| KFLSARAS44  | Granada Park  | Sarasota  |
| KFLSARAS49  | Oak Shores  | Sarasota  |
| KFLSARAS50  |   | Sarasota  |
| KFLSARAS51  | Reef Ball Central   | Sarasota  |
| KFLSARAS54  | Old Myakka  | Sarasota  |
| KFLSARAS56  | Sarasota Springs (Belmont)  | Sarasota  |
| KFLSATEL2   | Satellite Beach   | Satellite Beach   |
| KFLSATEL5   | South Patrick Shores  | Satellite Beach   |
| KFLSEBAS1   | KFLSEBAS1-CW7841  | Sebastian   |
| KFLSEBAS5   | OZWORLD   | Sebastian   |
| KFLSEBAS6   | KFLSEBAS6 - DW4010 Spirals<br>Wx  | Sebastian   |
| KFLSEBRI6   | Cormorant Point   | Sebring   |
| KFLSEBRI7   | Sun N Lake Sebring  | Sebring   |
| KFLSEBRI12  | North Lake Jackson  | Sebring   |
| KFLSEFFN5   | Seffner   | Seffner   |
| KFLSEMIN11  | Suncoast Comm   | Seminole  |

| KFLSEMIN19<br>KFLSEMIN20<br>KFLSEMIN22<br>KFLCRAWF5 | Country Estates Bardmoor Wakulla Springs | Seminole<br>Seminole<br>Seminole<br>Shadeville |
|---|--|--|
| KFLSILVE3   | Yancey Blueberry                         | Silver Springs                                 |
| KFLSINGE2   | Singer Ialand                            | Singer Island<br>Sorrento                      |
| KFLAPOPK15<br>KFLSORRE4                             | Sorrento - Sorrento Springs              | Sorrento                                       |
| KFLSOUTH17  | Mt. Plymouth South Area Sec 13 South Bay | South Bay                                      |
| KFLSOUTH16  | South Daytona UBBB.us                    | South Daytona                                  |
|   | South Daytona OBBB.us                    | South of High                                  |
| KWFLHIGH2   |  | Springs  |
| KELCOLITUM  |  | South Ponte Vedra                              |
| KFLSOUTH11  |  | Beach  |
| KFLSOUTH12  | White Western Lake                       | Southport                                      |
| KFLSPRIN9   | Residental                               | Spring Hill                                    |
| KFLSPRIN14  |  | Spring Hill                                    |
| KFLSPRIN15  | Center of Spring Hill                    | Spring Hill                                    |
| KFLSTJOH3   | Switzerland Fl                           | St Johns                                       |
| KFLSTPET1   | At northeast NP3R                        | St Petersburg                                  |
| KFLSTPER1   | NorthEast, KI4UIP                        | St Petersburg                                  |
| KFLSTPET25  | Disston Heights Neighborhood             | St Petersburg                                  |
| KFLSTPET22  | NE St Pete KF4NS                         | St Petersburg                                  |
| KFLSTPET32  | Pasadena on the Gulf-Mango Ave           | St Petersburg                                  |
| KFLSTPET43  | LongBayouWay                             | St Petersburg                                  |
| KFLSTAUG16  | O. II. D.                                | St. Augustine                                  |
| KFLSTAUG19  | Salt Run                                 | St. Augustine                                  |
| KFLSTAUG21  | Solano Cove                              | St. Augustine                                  |
| KFLSTCLO2   | Dainhawa End in Transuura Cava           | St. Cloud                                      |
| KFLSTGEO2   | Rainbows End in Treasure Cove            | St. George Island                              |
| KFLST.JA1<br>KFLSTPET33                             | Central Oak Park                         | St. James City                                 |
| KFLSTPET34  | Jungle Cove                              | St. Petersburg                                 |
| KFLSTPET34<br>KFLSTPET42                            | Municipal Marina                         | St. Petersburg St. Petersburg                  |
| KFLSTPET44  | Buttonwood Townhomes                     | St. Petersburg                                 |
| KFLST.PE7   | Meadowlawn                               | St. Petersburg                                 |
| KFLSTPET26  | Eagle Crest                              | St.Petersburg                                  |
| KFLSTUAR4   | Willoughby Creek                         | Stuart   |
| KFLSTUAR7   | St. Lucie Inlet                          | Stuart   |
| KFLSTUAR16  | Parkwood                                 | Stuart   |
| KFLSTUAR10  | Rocky Point                              | Stuart   |
| KFLSTUAR11  | Port Sewall                              | Stuart   |
| KFLSTUAR15  | Southwest Stuart                         | Stuart   |
|   |  |  |

| KFLSTUAR17  | Stuart Composites                             | Stuart          |
|-------------|---|-----------------|
| KFLSUMTE2   | Rands Compound                                | Sumterville     |
| KFLGREAT2   | Renaissance                                   | Sun City Center |
| KFLSUNRI1   | Landings Of Welleby                           | Sunrise         |
| KFLFORTL40  | New River Estates                             | Sunrise         |
| KFLSUNRI5   | Nob Hill Rd. and Sunset Strip,<br>Sunrise, FL | Sunrise         |
| KFLMELBO12  | Sawgrass Key                                  | Suntree         |
| KFLSWRAN2   | Southwest Ranches, FL                         | SW Ranches      |
| KFLTALLA21  | North Tallahassee                             | Tallahassee     |
| KFLTALLA27  | Frontier Estates, 7.4mi E of town             | Tallahassee     |
| KFLTALLA28  | TLH Citizens Centre                           | Tallahassee     |
| KFLTALLA32  | Maclay Road                                   | Tallahassee     |
| KFLTALLA33  | Avondale                                      | Tallahassee     |
| KFLTALLA36  | Ox Bottom Manor                               | Tallahassee     |
| KFLTALLA38  | FSUS / Southwood                              | Tallahassee     |
| KFLTALLA42  | Killearn Estates, NE Tallahassee              | Tallahassee     |
| KFLTALLA45  | Lake Talquin                                  | Tallahassee     |
| KFLTALLA46  | Old Dirt                                      | Tallahassee     |
| KFLTALLA47  | Moore Pond                                    | Tallahassee     |
| KFLTALLA48  | Betton Hills                                  | Tallahassee     |
| KFLTALLA49  | Tallahassee Nurseries                         | Tallahassee     |
| KFLTALLA50  | Northwest Lake Jackson                        | Tallahassee     |
| KFLTALLA51  | Pine Tip Hills                                | Tallahassee     |
| KFLTALLA52  | Chaires Elementary                            | Tallahassee     |
| NI LIALLAJZ | WeatherSTEM                                   | Taliariassee    |
| KFLTALLA53  | DeSoto Trail Elementary WeatherSTEM           | Tallahassee     |
| KFLTALLA54  | Rickards High School<br>WeatherSTEM           | Tallahassee     |
| KFLTALLA55  | Deerlake Middle WeatherSTEM                   | Tallahassee     |
| KFLTALLA56  | Hawks Rise WeatherSTEM                        | Tallahassee     |
| KFLTALLA57  | Canopy Oaks WeatherSTEM                       | Tallahassee     |
| KFLTALLA58  | Montford Middle WeatherSTEM                   | Tallahassee     |
| KFLTALLA59  | Leon High WeatherSTEM                         | Tallahassee     |
| KFLTALLA60  | Gilchrist Elementary WeatherSTEM              | Tallahassee     |
| KFLTALLA61  | SAIL High WeatherSTEM                         | Tallahassee     |
| KFLTALLA65  | Kate Sullivan WeatherSTEM                     | Tallahassee     |
| KFLTALLA62  | Fort Braden School WeatherSTEM                | Tallahassee     |
| KFLTALLA63  | Godby High WeatherSTEM                        | Tallahassee     |
| KFLTALLA64  | Lincoln High WeatherSTEM                      | Tallahassee     |
| KFLTAMPA16  | University Village                            | Tampa           |
|             | , ,   | •               |

| KFLTAMPA19             | Fawnridge                               | Tampa          |
|------------------------|---|----------------|
| KFLTAMPA42             | Twin Lakes                              | Tampa          |
| KFLTAMPA46             | The University of Tampa                 | Tampa          |
| KFLTAMPA48             | New Tampa                               | Tampa          |
| KFLTAMPA55             | Lake Magdalene                          | Tampa          |
| KFLTAMPA57             | Ballard Park                            | Tampa          |
| KFLTAMPA70             | Countryway - Southview                  | Tampa          |
| KFLTAMPA71             | Citrus Park                             | Tampa          |
| KFLTAMPA77             | Radio Station W9DKC                     | Tampa          |
| KFLTAMPA79             | Original Carrollwood                    | Tampa          |
| KFLTAMPA80             | HCC Brandon Campus                      | Tampa          |
| KFLTAMPA82             | KP4CEL Plantation of Carrollwood        | Tampa          |
| KFLTAMPA83             | Grand Hampton                           | Tampa          |
| KFLTAMPA84             | The Babe                                | Tampa          |
| KFLTAMPA86             | Cumberland Manors                       | Tampa          |
| KFLTAMPA88             | West Meadows - New Tampa                | Tampa          |
| KFLTAMPA89             | Forest Hiils                            | Tampa          |
| KFLTAMPA90             | Bayport Community                       | Tampa          |
| KFLTAMPA91             | Temple Terrace                          | Tampa          |
| KFLTAMPA92             | Ashington Estates; Tampa Palms<br>North | Tampa          |
| KFLTAVAR2              | Tavares-Squirrel Point                  | Tavares        |
| KFLTAVARZ<br>KFLTAVER7 | Tavernier Creek                         | Tavares        |
| KFLTEMPL2              | Pleasant Terrace                        | Temple Terrace |
| KFLTEQUE4              | r leasant refrace                       | Tequesta       |
| KFLTHEVI3              | La Zamora                               | The Villages   |
| KFLTHEVI7              | Village of Polo Ridge                   | The Villages   |
| KFLTHEVI11             | Santo Domingo                           | The Villages   |
| KFLTHEVI13             | W3GQJ - Virginia Trace                  | The Villages   |
| KFLTHEVI15             | KF4CQ-Silver Lake                       | The Villages   |
| KFLTHEVI17             | Caroline on Lake Sumter                 | The Villages   |
| KFLTHEVI18             | Village of Hadley-Hillcrest Villas      | The Villages   |
| KFLTHEVI19             | Castano Place                           | The Villages   |
| KFLTHEVI20             | Gatsby Lane - Hadley                    | The Villages   |
| KFLTHONO2              | Catoby Lane Tradicy                     | Thonotosassa   |
| KFLTHONO3              | Clarkwild                               | Thonotosassa   |
| KFLFORTM14             | Tice Fire Department                    | Tice           |
| KFLTITUS11             | Hickory Hills                           | Titusville     |
| KFLTITUS13             | Imperial Estates                        | Titusville     |
| KFLTITUS15             | Beacon Hills                            | Titusville     |
| KFLTITUS19             | Ivanhoe MotorYacht                      | Titusville     |
| KFLTITUS23             | Titusville @ Mims                       | Titusville     |
| KFLTITUS25             | Southern Comfort Estates                | Titusville     |
| 111 2020               | Journal Common Lotatoo                  |                |

| IVEL TITUO00 | D' ' APIL                               | T' . 'U.             |
|--------------|---|----------------------|
| KFLTITUS26   | Dixie Village                           | Titusville           |
| KFLTITUS27   |   | Titusville           |
| KFLTITUS28   | TITUSLIGHT_ZONE                         | Titusville           |
| KFLTOWNN2    | Town and Country Hospital Area - KJ4LCL | Town 'n' Country     |
| KFLTREAS3    |   | Treasure Island      |
| KFLTRENT3    | Near Rudy's                             | Trenton              |
| KFLTRINI2    | Trinity - Heritage Springs              | Trinity              |
| KFLTRINI3    | Trinity, FL                             | Trinity              |
| KFLVALPA4    | Pear Tree Observatory                   | Valparaiso           |
| KFLVALPA5    | LaRoux Point Boggy Bayou                | Valparaiso           |
| KFLVALRI4    | Bloomingdale Somerset                   | Valrico              |
| KFLVALRI5    | Bloomingdale Cove                       | Valrico              |
| KFLVALRI6    | Buckhorn Ridge                          | Valrico              |
| KFLVENIC11   | Golden Beach                            | Venice               |
| KFLVENIC3    | Venice High School                      | Venice               |
| KFLVENIC12   | South Venice                            | Venice               |
| KFLVEROB1    | Oslo Road,S.County                      | Vero Beach           |
| KFLVEROB8    | Windsor                                 | Vero Beach           |
| KFLVEROB11   | Ocean Drive                             | Vero Beach           |
| KFLVEROB15   | Oak Chase                               | Vero Beach           |
| KFLVEROB16   | Gifford                                 | Vero Beach           |
| KFLVEROB17   | SeaQuay-jacks1                          | Vero Beach           |
| KFLVEROB19   | Falcon Trace                            | Vero Beach           |
| KFLVEROB20   | OLD RIOMAR BEACH                        | Vero Beach           |
| KFLVEROB21   | 4th Lane Vero Beach                     | Vero Beach           |
| KFLVEROB22   | Grove Park Manor                        | Vero Beach           |
| KFLVEROB31   | Bynum Farm West                         | Vero Beach           |
| KFLVIERA4    | Magnolia Springs                        | Viera East           |
| KFLMIAMI43   | Village of Pinecrest                    | Village of Pinecrest |
|              | village of i filecrest                  | / Miami              |
| KFLWAHNE4    | Wahneta                                 | Wahneta              |
| KFLCRAWF6    | ABYC at Shell Point                     | Wakulla County       |
| KFLWEEKI2    | Lake in the woods                       | Weeki Wachee         |
| KFLWESTP22   | Aster Weather                           | Wellington           |
| KFLWELLI6    | Greenview Shores/Amesbury               | WELLINGTON           |
| KFLWELLI7    | SOUTH SHORE                             | Wellington           |
| KFLWELLI8    | Indigo Weather                          | Wellington           |
| KFLWESLE4    | Brookforest at Seven Oaks               | Wesley Chapel        |
| KFLWESTM2    | Crystal Lakes West                      | West Melbourne       |
| KFLPALMB13   | The Acreage                             | West Palm Beach      |
| KFLWESTP14   | The Acreage II                          | West Palm Beach      |
| KFLWESTP21   | Solid Waste Authority                   | West Palm Beach      |

| KFLWESTP26 |                             | West Palm Beach   |
|------------|-----------------------------|-------------------|
| KFLWESTP32 | RiverWalk                   | West Palm Beach   |
| KFLWESTP34 | Okeeheelee Ski Site         | West Palm Beach   |
| KFLWESTP36 | foxhall                     | West Palm Beach   |
| KFLWEWAH2  | West Arm Creek              | Wewahitchka       |
| KFLWHITE1  | White City                  | White City        |
| KFLWILLI6  | Montbrook                   | Williston         |
| KFLWILTO2  | Mills Pond Park Area        | Wilton Manors     |
| KFLWILTO3  | Wilton Manors Weather       | Wilton Manors     |
| KFLWIMAU2  | Wimauma-Balm OS WMR100      | Wimauma           |
| KFLWIMAU4  | Wimauma-Balm Davis 6163     | Wimauma           |
| KFLWIMAU5  | Ayersworth Glen             | Wimauma           |
| KFLWINDE3  | Monteferrante Residence     | Windermere        |
| KFLWINDE5  | The Manors                  | Windermere        |
| KFLWINDE6  | Windermere Terrace          | Windermere        |
| KFLWINTE23 | Stoneybrook West            | Winter Garden     |
| KFLWINTE33 | Independence                | Winter Garden     |
| KFLWINTE42 | Winter Garden               | Winter Garden     |
| KFLWINTE26 | Lonesome Oak Farms          | Winter Haven      |
| KFLWINTE29 | Polk County EOC             | Winter Haven      |
| KFLWINTE34 | Summit East                 | Winter Haven      |
| KFLWINTE38 | Carlton Arms-Winter Haven   | Winter Haven      |
| KFLWINTE45 | Winter Park                 | Winter Park       |
| KFLWINTE25 | Oak Forest                  | Winter Springs    |
| KFLWINTE28 | Oak Forest WS               | Winter Springs    |
| KFLWOODV2  | Woodville Elementary        | Woodville         |
| KFLWUUDV2  | WeatherSTEM                 | vvoodville        |
| KFLYANKE2  | Withlacoochee Gulf Preserve | Yankeetown        |
| KFLZEPHY12 | Southern Charm              | Zephyrhills       |
| KFLZEPHY14 | Heather Park                | Zephyrhills       |
| KFLZOLFO3  | Crewsville                  | Zolfo Springs     |
| KFLZOLFO5  | Crewsville                  | Zolfo Springs     |
| MC4262     | Orlando FL US               | Alafaya           |
| MAS659     | Altamonte Springs FL US     | Altamonte Springs |
| ME3461     | Alturas FL US               | Alturas           |
| M42570     |                             | Anna Maria        |
| MWDF2728   |                             | Anna Maria        |
| MSGOF1     |                             | Apalachicola      |
| MAPCF1     | Apalachicola, FL NWLON      | Apalachicola      |
| MC8103     | Eastpointe FL US            | Apalachicola      |
| MWDF9316   |                             | Apalachicola      |
| MPOPF1     | Apopka FAWN                 | Apopka            |
| MD5163     | Apopka FL US                | Apopka            |
|            |                             |                   |

| MARCAD<br>M058AX | Arcadia FAWN<br>058A Arcadia FL US USARRAY    | Arcadia<br>Arcadia |
|------------------|---|--------------------|
| MCRAF1           | CENTRAL FL US                                 | Astor              |
| MKS058           | CENTRAL I E 05                                | Atlantic Beach     |
| MC2098           | Jacksonville FL US                            | Atlantic Beach     |
| MNWS0020         | Jacksonville i L OS                           | Atlantic Beach     |
| MAP566           | Winter Haven FL US                            | Auburndale         |
| MIMKF1           | Immokalee FAWN                                | Ave Maria          |
| MTT235           | HONEYMOON RAWS FL US                          | Ave Maria          |
| M059ZX           | 059Z Ave Maria FL US USARRAY                  | Ave Maria          |
| MAR828           | Sebring FL US                                 | Avon Park          |
| MZAKX2           | Avon Park FL US                               | Avon Park          |
| MZAKX1           | Avon Park FL US                               | Avon Park          |
| MC4183           | Hillcrest Heights FL US                       | Babson Park        |
| MAU238           | Milton FL US                                  | Bagdad             |
| MKS026           | Williter 1 E 66                               | Bal Harbour        |
| MD5199           | Surfside FL US                                | Bal Harbour        |
|                  | PEACE RIVER NEAR BARTOW                       |                    |
| MBARF1           | FL US USGS                                    | Bartow             |
| MDVDAA           | RIVER ROAD FARMS AL US                        | 5                  |
| MRVRA1           | SCAN  | Bascom             |
| MOSOAY           | 959A Okeechobee FL US                         | Racingar           |
| <u>M959AX</u>    | USARRAY                                       | Basinger           |
| <u>MBELLW</u>    | BELLW   | Belle Glade        |
| MBLDF1           | Belle Glade FAWN                              | Belle Glade        |
| MAS321           | Largo FL US                                   | Belleair Bluffs    |
| <u>MD1404</u>    | Big Pine Key FL US                            | Big Pine Key       |
| MC8644           | Boca Raton FL US                              | Boca Raton         |
| M42526           |   | Boca Raton         |
| MAU578           | Boca Raton FL US                              | Boca Raton         |
| MD9997           | Bonita Springs FL US                          | Bonita Springs     |
| MC6378           | Boynton Beach FL US                           | Boynton Beach      |
| MC9962           | West Palm Beach FL US                         | Boynton Beach      |
| MFRUF1           | BRADEN RVR AT LAKEWOOD<br>RANCH NR FL US USGS | Bradenton          |
| MD5627           | Bradenton FL US                               | Bradenton          |
| MAR663           | Welcome FL US                                 | Bradley            |
| MD6203           | Brandon FL US                                 | Brandon            |
| M555AX           | 555A McAlpin FL US USARRAY                    | Branford           |
| MC3962           | Bristol FL US                                 | Bristol            |
| MBRZF1           | Bronson FAWN                                  | Bronson            |
| M658AX           | 658A Bunnell FL US USARRAY                    | Bunnell            |
| MMNOF1           | ESCAMBIA RIVER NEAR                           | Cantonment         |
| MINITOL I        | MOLINO 6SE FL US USGS                         | Jantonnont         |
|                  |   |                    |

| MDGNB M41113 MKCGH MKS098 MC6925 MD0626 M15919 MD3622 M3FPQ9 M42023 MD5BR6  | Cape Coral FL US<br>Cape Coral FL US<br>Cape Coral FL US  | Cape Canaveral Cape Canaveral Cape Canaveral Cape Canaveral Cape Coral Captiva Captiva Captiva |
|---|---|--|
| <u>M758AX</u>   | 758A Lake Helen FL US<br>USARRAY  | Cassadaga  |
| MC2052  | Casselberry FL US   | Casselberry  |
| MCTYF1  | ESCAMBIA RVR AT STATE<br>HIGHWAY 4 FL US USGS   | Century  |
| MC3235<br>MAU483<br>ME2433<br>MAR543<br>MCFSW<br>MAIRGL<br>MC2306<br>MAP602<br>ME0598<br>M062ZX<br>MAS155<br>MC6345<br>MTS869 | Pinellas Co FL US Clearwater FL US Clearwater FL US Clearwater FL US Clermont FL US CFSW Airglades Airport FAWN Rockledge FL US Port St John FL US Viera FL US 062Z Marathon FL US USARRAY Davie FL US Davie FL US WAKULLA PORTABLE FL US USARRAY | Clearwater Clearwater Clearwater Clermont Clewiston Clewiston Cocoa Cocoa Cocoa Conch Key Cooper City Cooper City Crawfordville Crawfordville                    |
| MD0696  | Crestview FL US   | Crestview  |
| MCRVF1  | SHOAL RIVER NEAR<br>CRESTVIEW 4S FL US USGS   | Crestview  |
| M450AX<br>ME2528<br>MAS549<br>MPMSFL<br>MD1717<br>MD1929<br>M7FL6<br>MAT313<br>MC9268   | 450A Crestview FL US USARRAY Crystal Beach FL US Dade City FL US Dade City FL US Dade City FL US Daytona Beach FL US SPRUCECREEK FL US SUPERAWOS DeBary FL US Pompano Beach FL US   | Crestview Crystal Beach Dade City Dade City Dade City Daytona Beach Daytona Beach Debary Deerfield Beach   |
|   |   |  |

| MTS737 LAKE WOODRUFF QD FL US Deland MC5156 Delray Beach FL US Delray Beach MLXWS LXWS Delray Beach MLOHF1 LOXAHATCHEE FL US Delray Beach MD2683 Miramar Beach FL US Destin MD1561 Middleburg FL US Doctors Inlet MD8274 Orange Park FL US Doctors Inlet MD0VF1 Dover FAWN Dover MLIOF1 Live Oak FAWN Dowling Park MAR666 Dundee FL US Dundee MAR610 Dunedin FL US Dunedin MD1923 Lithia FL US Durant | ) |
|---|---|
| MC5156Delray Beach FL USDelray BeachMLXWSLXWSDelray BeachMLOHF1LOXAHATCHEE FL USDelray BeachMD2683Miramar Beach FL USDestinMD1561Middleburg FL USDoctors InletMD8274Orange Park FL USDoctors InletMDOVF1Dover FAWNDoverMLIOF1Live Oak FAWNDowling ParkMAR666Dundee FL USDundeeMAR610Dunedin FL USDunedinMD1923Lithia FL USDurant  |   |
| MLXWSLXWSDelray BeachMLOHF1LOXAHATCHEE FL USDelray BeachMD2683Miramar Beach FL USDestinMD1561Middleburg FL USDoctors InletMD8274Orange Park FL USDoctors InletMDOVF1Dover FAWNDoverMLIOF1Live Oak FAWNDowling ParkMAR666Dundee FL USDundeeMAR610Dunedin FL USDunedinMD1923Lithia FL USDurant  |   |
| MLOHF1LOXAHATCHEE FL USDelray BeachMD2683Miramar Beach FL USDestinMD1561Middleburg FL USDoctors InletMD8274Orange Park FL USDoctors InletMDOVF1Dover FAWNDoverMLIOF1Live Oak FAWNDowling ParkMAR666Dundee FL USDundeeMAR610Dunedin FL USDunedinMD1923Lithia FL USDurant   |   |
| MD2683Miramar Beach FL USDestinMD1561Middleburg FL USDoctors InletMD8274Orange Park FL USDoctors InletMDOVF1Dover FAWNDoverMLIOF1Live Oak FAWNDowling ParkMAR666Dundee FL USDundeeMAR610Dunedin FL USDunedinMD1923Lithia FL USDurant  |   |
| MD1561Middleburg FL USDoctors InletMD8274Orange Park FL USDoctors InletMDOVF1Dover FAWNDoverMLIOF1Live Oak FAWNDowling ParkMAR666Dundee FL USDundeeMAR610Dunedin FL USDunedinMD1923Lithia FL USDurant   |   |
| MD8274Orange Park FL USDoctors InletMDOVF1Dover FAWNDoverMLIOF1Live Oak FAWNDowling ParkMAR666Dundee FL USDundeeMAR610Dunedin FL USDunedinMD1923Lithia FL USDurant  |   |
| MDOVF1Dover FAWNDoverMLIOF1Live Oak FAWNDowling ParkMAR666Dundee FL USDundeeMAR610Dunedin FL USDunedinMD1923Lithia FL USDurant  |   |
| MLIOF1Live Oak FAWNDowling ParkMAR666Dundee FL USDundeeMAR610Dunedin FL USDunedinMD1923Lithia FL USDurant   |   |
| MAR666Dundee FL USDundeeMAR610Dunedin FL USDunedinMD1923Lithia FL USDurant  |   |
| MAR610Dunedin FL USDunedinMD1923Lithia FL USDurant  |   |
| MD1923 Lithia FL US Durant  |   |
|   |   |
|   |   |
| MLITF1 ALAFIA RIVER NEAR LITHIA 4W Durant   |   |
| FL 05 05G5  |   |
| MAPQF1 NERRS WATER QUALITY SITE Eastpoint   |   |
| NEAR APALACHI   |   |
| MC4416 Bradenton FL US Ellenton   |   |
| MAP370 Manasota FL US Englewood   |   |
| M41112 Fernandina   |   |
| MA8IU8 Fernandina   |   |
| MD2673 Fleming Island FL US Fleming Island  |   |
| MD7837 Fleming Island FL US Fleming Island  |   |
| MAU516 Labelle FL US Fort Denaud  |   |
| MD2359 Fort Lauderdale FL US Fort Lauderdale  | ! |
| MKS071 Fort Lauderdale  | ! |
| MAT199 Ft Lauderdale FL US Fort Lauderdale  | ! |
| M15654 Fort Lauderdale  |   |
| MPVGF1 Fort Lauderdale  |   |
| MKS091 Fort Lauderdale  |   |
| MAU497 Fort Lauderdale FL US Fort Lauderdale  |   |
| MAU508 Lauderhill FL US Fort Lauderdale   |   |
| ME3054 Ft. Meade FL US Fort Meade   |   |
| MC0445 N. Ft. Myers FL US Fort Myers  |   |
| MAR648 Fort Myers FL US Fort Myers  |   |
| PrivateSky (R) Aviation Fort  |   |
| MFRTPS Myers, FL Fort Myers   |   |
| MC1407 Vero Beach FL US Fort Pierce   |   |
| MPCEF1 Fort Pierce FAWN Fort Pierce   |   |
| MFROST Frostproof FAWN Frostproof   |   |
| MAR664 Frostproof FL US Frostproof  |   |
| MAP573 Gainesville FL US Gainesville  |   |
| •   |   |

| MC9837          | Gainesville FL US                       | Gainesville       |
|-----------------|---|-------------------|
| ME3041          | Gainesville FL US                       | Gainesville       |
| MMAIF1          | Marianna FAWN                           | Greenwood         |
| M452AX          | 452A Marianna FL US USARRAY             | Greenwood         |
|                 | NAVAL LIVE OAKS FL US                   | Gulf Breeze       |
| MTR992          | NAVAL LIVE OAKS FL US                   |                   |
| MYJSW5          |   | Gulf Breeze       |
| MAS209          | Haines City FL US                       | Haines City       |
| MSTNF1          | Hastings FAWN                           | Hastings          |
| MC8379          | Lakeland FL US                          | Highland City     |
| MTR970          | IRAWS 6 (HILLIARD) FL US                | Hilliard          |
| M456AX          | 456A Hilliard FL US USARRAY             | Hilliard          |
| <u>MJDWX</u>    | JDWX                                    | Hobe Sound        |
| MANCF1          |   | Holiday           |
| M42021          |   | Holiday           |
| MD0225          | Hollywood FL US                         | Hollywood         |
| MKS080          | , | Hollywood         |
| ME2664          | Davie FL US                             | Hollywood         |
| MD5052          | Floridale FL US                         | Holt              |
| MC3842          | Homeland FL US                          | Homeland          |
| MC9418          | Homeland FL US                          | Homeland          |
| MLPIF1          | CACHE FL US                             | Homestead         |
| MENPF1          | TENRAW FL US                            | Homestead         |
| MSTDF1          | Homestead FAWN                          | Homestead         |
| MHSSF1          | Tiomestead i / wiv                      | Homosassa         |
| MD7434          | Homosassa FL US                         | Homosassa         |
| MC6650          | Bird Island FL US                       | Horseshoe Beach   |
| <u>IVIC0030</u> | 655A Horseshoe Beach FL US              | Tiorsestive Deach |
| M655AX          | USARRAY                                 | Horseshoe Beach   |
| MWHSF1          | WILMA FL US                             | Hosford           |
| MD0473          | Hudson FL US                            | Hudson            |
| MBCSI           | BCSI                                    | Immokalee         |
| MRKIF1          | MILES CITY RAWS FL US                   | Immokalee         |
| MACRAW          | ACRAWX                                  | Indiantown        |
|                 | 060A Indiantown FL US                   |                   |
| <u>M060AX</u>   | USARRAY                                 | Indiantown        |
| MCEZAV          | 657A Interlachen FL US                  | المعاممات ما      |
| M657AX          | USARRAY                                 | Interlachen       |
| MD1872          | Islamorada FL US                        | Islamorada        |
| MC4840          | Jacksonville FL US                      | Jacksonville      |
| MAS289          | Jacksonville Beach FL US                | Jacksonville      |
| MC2742          | Jacksonville FL US                      | Jacksonville      |
| MC7381          | Fruit Cove FL US                        | Jacksonville      |
| MC4513          | Jacksonville FL US                      | Jacksonville      |
|                 |   |                   |

| MA8IO4<br>MD2737<br>MAT592<br>MPCQL<br>MWBN4382 | St. Augustine FL US Jacksonville FL US      | Jacksonville Jacksonville Jacksonville Jensen Beach Jensen Beach |
|---|---|--|
| MOASF1  | OASIS FL US                                 | Jerome   |
| MOCOF1  | OCHOPEE RAWS FL US RACCOON POINT RAWS FL US | Jerome<br>Jerome   |
| MRACF1  | BIG CYPRESS NR EVERGLADES                   | Jerome   |
| MCFNF1  | CITY 5NFL US                                | Jerome   |
| M061ZX  | 061Z Ochoppi FL US USARRAY                  | Jerome   |
| MAS574  | Jupiter FL US                               | Jupiter  |
| <u>MWVDG</u>                                    |   | Jupiter  |
| MD1163  | Jupiter FL US                               | Jupiter  |
| MD1582  | Jupiter FL US                               | Jupiter  |
| MD7481  | Jupiter FL US                               | Jupiter  |
| MAU495  | Lakeland FL US                              | Kathleen   |
| MMRFF1  | MERRITT ISLAND FL US                        | Kennedy Space  |
| IVIIVII XI I                                    |   | Center   |
| MCTKF1  | SITE AT KENNEDY SPACE                       | Kennedy Space  |
|   | CENTER FL US                                | Center   |
| MMIA3   | Miami, FL                                   | Key Biscayne   |
| MC6PT7  |   | Key Colony Beach   |
| <u>MPHPO</u>                                    |   | Key Largo  |
| MC8858  | Key West FL US                              | Key West   |
| MPLSF1  |   | Key West   |
| MSANF1  |   | Key West   |
| MJ8NY   |   | Key West   |
| <u>MWJBJ</u>                                    |   | Key West   |
| MV3WW6  |   | Key West   |
| <u>MPHFV</u>                                    |   | Key West   |
| <u>MWBVZ</u>                                    |   | Key West   |
| MC9999  | WFO Key West FL US                          | Key West   |
| MD0617  | Clermont FL US                              | Killarney  |
| MAS292  | Davenport FL US                             | Kissimmee  |
| MAS314  | Kissimmee FL US                             | Kissimmee  |
| MD5167  | Davenport FL US                             | Kissimmee  |
| MALHF1  | Alachua FAWN                                | La Crosse  |
| MKX14   | LA BELLE FL US SUPERAWOS                    | Labelle  |
| MC2067  | Lady Lake FL US                             | Lady Lake  |
| ME0161  | The Villages FL US                          | Lady Lake  |
| MKALF1  | Lake Alfred FAWN                            | Lake Alfred  |
| MD8243  | Lake Alfred FL US                           | Lake Alfred  |

| <u>M556AX</u> | 556A Lake Butler FL US<br>USARRAY              | Lake Butler    |
|---------------|--|----------------|
| MC8965        | Keystone Heights FL US                         | Lake Geneva    |
| MD2481        | Sanford FL US                                  | Lake Monroe    |
| MS75WX        | S75WX  | Lake Placid    |
| MAR665        | Indian Lake Estates FL US                      | Lake Wales     |
| ME3873        | Lake Wales FL US                               | Lake Wales     |
| MLKWF1        | Lake Worth Pier, FL NWLON                      | Lake Worth     |
| ME1119        | Palm Beach FL US                               | Lake Worth     |
| MC7718        | Lakeland FL US                                 | Lakeland       |
| MAS901        | Lakeland FL US                                 | Lakeland       |
| MC5838        | Lakeland FL US                                 | Lakeland       |
| ME1377        | Lakeland FL US                                 | Lakeland       |
| MC4103        | St. Teresa FL US                               | Lanark Village |
| MCARF1        | Carrabelle FAWN                                | Lanark Village |
| MC6385        | Pinellas Park FL US                            | Largo          |
| MLONF1        | T ITIONAS T ATK T E GG                         | Layton         |
| MC4679        | Lehigh Acres FL US                             | Lehigh Acres   |
| MBALM         | Balm FAWN                                      | Lithia         |
|               | Falmouth (I-10 and US-90) FL US                |                |
| MFL001        | FLDOT  | Live Oak       |
| M42013        |  | Longboat Key   |
| MD3393        | Longwood FL US                                 | Longwood       |
| MS65CW        | S65CW  | Lorida         |
| MENR30        | ENR308   | Loxahatchee    |
| MD8107        | Land O Lakes FL US                             | Lutz           |
| MMACF1        | Macclenny FAWN                                 | Macclenny      |
| MKX59         | VALKARIA FL US SUPERAWOS                       | Malabar        |
| MC0923        | Duck Key FL US                                 | Marathon       |
| MNFBF1        |  | Marathon       |
| MAT427        | Marathon FL US                                 | Marathon       |
| MD4003        | Pigeon Key FL US                               | Marathon       |
| MD5073        | Curry Hammock State Park FL US                 | Marathon       |
| MC3966        | Mariana FL US                                  | Marianna       |
|               | CHIPOLA RIVER NEAR                             |                |
| MMALF1        | MARIANNA 1E FL US USGS                         | Marianna       |
| MAP150        | Spring Hill FL US                              | Masaryktown    |
| MLURF1        | SUWANNEE RIVER NEAR<br>LURAVILLE 2S FL US USGS | Mayo           |
| MAP724        | Rockledge FL US                                | Melbourne      |
| MC8596        | Melbourne FL US                                | Melbourne      |
| MC8291        | Melbourne Beach FL US                          | Melbourne      |
| MD1073        | Melbourne FL US                                | Melbourne      |
| IVIDIOIO      | MICHOCATTIC I L CC                             | MCDOUTTE       |

| MAU006        | Palm Bay FL US                         | Melbourne       |
|---------------|--|-----------------|
| <u>MD7688</u> | Melbourne FL US                        | Melbourne       |
| ME2304        | Melbourne FL US                        | Melbourne       |
| MAU726        | West Melbourne FL US                   | Melbourne       |
| MC2693        | Melbourne Beach FL US                  | Melbourne Beach |
| MC2965        | Merritt Island FL US                   | Merritt Island  |
| MD5281        | Port St. Joe FL US                     | Mexico Beach    |
| MS331W        | S331W                                  | Miami           |
| MCHKF1        | CHEKIKA FL US                          | Miami           |
| MAP491        | Miami FL US                            | Miami           |
| MC0915        | Coral Gables FL US                     | Miami           |
| MKS049        |  | Miami           |
| MCCES         |  | Miami           |
| MTS751        | NP205 FL US                            | Miami           |
| MTS643        | BICY PORTABLE FL US                    | Miami           |
| MC3984        | Miami FL US                            | Miami           |
| M42505        |  | Miami           |
| MAT361        | Miami-Dade FL US                       | Miami           |
| MD5458        | Miami FL US                            | Miami           |
| MD7546        | Palmetto Bay FL US                     | Miami           |
| MC6FR5        |  | Miami           |
| MAR174        | Miami FL US                            | Miami           |
| MC6PZ8        |  | Miami Beach     |
| MD7882        | Lake Mary FL US                        | Mid Florida     |
| MTS820        | DOF PORT 2 FL US                       | Midway          |
| MTS819        | DOF PORT 1 FL US                       | Midway          |
| MTS821        | DOF PORT 3 FL US                       | Midway          |
| MTS824        | DOF PORT 6 FL US                       | Midway          |
| MC8662        | Crestview FL US                        | Milligan        |
| MD3070        | Mims FL US                             | Mims            |
| M449AX        | 449A Pace FL US USARRAY                | Molino          |
| <u>MMONTI</u> | Monticello FAWN                        | Monticello      |
| MPMLF1        | PALMER MILL BRANCH AT MONTICELLO FL US | Monticello      |
| <u>ML005</u>  | Lake Oke West End                      | Moore Haven     |
| <u>M059AX</u> | 059A Moore Haven FL US<br>USARRAY      | Moore Haven     |
| MAU494        | Mulberry FL US                         | Mulberry        |
| MAS257        | Verna FL US                            | Myakka City     |
| MMKHF1        | MANATEE RVR AT HWY 64 NR               | Myakka City     |
| MAT742        | MYAKKA FL US USGS<br>Ruskin FL US      | Myakka City     |
| MAR916        | Naples FL US                           | Naples          |
| INIVITATO     | Napico i L UO                          | ιναρισο         |

| MC5783<br>MSGGEW<br>MNPSF1<br>MAP022<br>MTS787<br>MTS786<br>MPHWF1<br>MAT817<br>MPSTF1<br>MKS099 | Naples FL US SGGEWX Naples, FL NWLON Naples FL US PANTHER WEST FL US PANTHER EAST FL US PANTHER WEST FL US Golden Gate FL US PANTHER EAST FL US | Naples |
|--|---|--|
| MMLYF1   | YELLOW RIVER NEAR MILTON<br>7ESE FL US USGS   | Navarre  |
| MC8133   | New Smyrna Beach FL US  | New Smyrna<br>Beach  |
| MNWS0008   |   | New Smyrna<br>Beach  |
| MC3968   | Niceville FL US   | Niceville  |
| MD5195   | Ft. Walton Beach FL US  | Niceville  |
| MAP769   | Bartow FL US  | Nichols  |
| MKSLF1   | Brooksville FAWN  | Nobleton   |
| MAT316   | Bonifay FL US   | Noma   |
| <u>MNPORT</u>  | North Port FAWN   | North Port   |
| MC2763   | North Port FL US  | North Port   |
| MAS749   | Ocala FL US   | Ocala  |
| MCKHF1   | Ocklawaha FAWN  | Ocklawaha  |
| MKHPF1   | Okahumpka FAWN  | Okahumpka  |
| ML001  | Lake Oke North End  | Okeechobee   |
| MS65DW   | S65DWX  | Okeechobee   |
| MD4258   | Buckhead Ridge FL US  | Okeechobee   |
| MTS896   | BRIGHTON FL US  | Okeechobee   |
| MC2932   | Oldsmar FL US   | Oldsmar  |
| ME0135   | Oldsmar FL US   | Oldsmar  |
| MNNAF1   | Ona FAWN  | Ona  |
| MC8437   | Oneco FL US   | Oneco  |
| MTRAF1   | Citra FAWN  | Orange Lake  |
| <u>M557AX</u>  | 557A Orange Park FL US<br>USARRAY   | Orange Park  |
| MAP008   | Orlando FL US   | Orlando  |
| <u>MAP063</u>  | Orlando FL US   | Orlando  |
| <u>MAP723</u>  | Orlando FL US   | Orlando  |
| MC6860   | Orlando FL US   | Orlando  |
| MA8GU6   |   | Orlando  |
| MC9347   | Orlando FL US   | Orlando  |

| MBLAF1                                 | BAY LAKE DEEP WELL NEAR<br>WINDERME FL US USGS | Orlando                                       |
|--|--|---|
| MAT236<br>MWBO3345<br>M3FMI5<br>MA8NH4 | Orlando FL US                                  | Orlando<br>Orlando<br>Orlando<br>Ormond Beach |
| MD7073                                 | Oviedo FL US                                   | Oviedo  |
| MC2319                                 | The Villages FL US                             | Oxford  |
| M757AX                                 | 757A Oxford FL US USARRAY                      | Oxford  |
| MAS759                                 | Dunedin FL US                                  | Ozona   |
| MJAYF1                                 | Jay FAWN                                       | Pace  |
| ML006                                  | Lake Oke South End                             | Pahokee                                       |
| <u>MLZ40</u>                           | Lake Oke Center                                | Pahokee                                       |
| MTS959                                 | PAISLEY FL US                                  | Paisley                                       |
| MAR488                                 | Palm Bay FL US                                 | Palm Bay                                      |
| MC7246                                 | Palm Beach Gardens FL US                       | Palm Beach<br>Gardens                         |
| MC2613                                 | Palm City FL US                                | Palm City                                     |
| MC6502                                 | Palm City FL US                                | Palm City                                     |
| MD4635                                 | Palm City FL US                                | Palm City                                     |
| MC5072                                 | Palm Harbor FL US                              | Palm Harbor                                   |
| MPALF1                                 | Palmdale FAWN                                  | Palmdale                                      |
| MC3320                                 | Bradenton FL US                                | Palmetto                                      |
| MPRWF1                                 | ST. MARKS (WEST) FL US                         | Panacea                                       |
| MC0694                                 | Alligator Point FL US                          | Panacea                                       |
| MSHPF1                                 |  | Panacea                                       |
| MC3961                                 | Panama City FL US                              | Panama City                                   |
| MFL097                                 | Panama City, FL                                | Panama City                                   |
| MPCBF1                                 | Panama City Beach, FL NWLON                    | Panama City<br>Beach<br>Panama City           |
| MKS087                                 |  | Beach   |
| <u>M060ZX</u>                          | 060Z West Palm Beach FL US<br>USARRAY          | Parkland                                      |
| MAP373                                 | Cocoa Beach FL US                              | Patrick Air Force Base                        |
| MC8720                                 | Merritt Island FL US                           | Patrick Air Force<br>Base                     |
| MWDD6704                               |  | Patrick Air Force<br>Base                     |
| MAU235                                 | Miramar FL US                                  | Pembroke Pines                                |
| MAP483                                 | Pensacola FL US                                | Pensacola                                     |
| MC1141                                 | Pensacola FL US                                | Pensacola                                     |
| MAP499                                 | Pensacola FL US                                | Pensacola                                     |

| MAS263        | Pensacola FL US          | Pensacola        |
|---------------|--------------------------|------------------|
| MC3964        | Cantonment FL US         | Pensacola        |
| MPCLF1        | Pensacola, FL NWLON      | Pensacola        |
| MAR226        | Pensacola FL US          | Pensacola        |
| MD5209        | Pensacola FL US          | Pensacola        |
| MD8185        | Pensacola FL US          | Pensacola        |
| MAU335        | Pensacola FL US          | Pensacola        |
| MAU755        | Pensacola FL US          | Pensacola        |
| M554AX        | 554A Perry FL US USARRAY | Perry            |
| MEPRF1        | Pierson FAWN             | Pierson          |
| MD2928        | Bokeelia FL US           | Pineland         |
| MC4013        | Plant City FL US         | Plant City       |
| MAS995        | Plant City FL US         | Plant City       |
| MD5003        | Plant City FL US         | Plant City       |
| MC1989        | Ft.Lauderdale FL US      | Plantation       |
| MFDLF1        | Fort Lauderdale FAWN     | Plantation       |
| MC5389        | Plantation FL US         | Plantation       |
| <u>MWRWX</u>  | WRWX                     | Poinciana        |
| MAS291        | Polk City FL US          | Polk City        |
| ME3331        | Polk City FL US          | Polk City        |
| MD0732        | Coral Springs FL US      | Pompano Beach    |
| ME2945        | Port Orange FL US        | Ponce Inlet      |
| MC9188        | Ponce Inlet FL US        | Port Orange      |
| MC9863        | Port Richey FL US        | Port Richey      |
| MPTRF1        |                          | Port Richey      |
| MD3726        | Tampa FL US              | Port Richey      |
| MC2515        | Port St. Joe FL US       | Port Saint Joe   |
| M42540        |                          | Port Saint Joe   |
| MWDC9491      |                          | Port Saint Joe   |
| MWAA2245      |                          | Port Saint Joe   |
| <u>MSVWX</u>  | SVWX                     | Port Saint Lucie |
| MC7883        | Poer St Lucie FL US      | Port Saint Lucie |
| MC5990        | Port Saint Lucie FL US   | Port Saint Lucie |
| <u>MAT860</u> | Port St Lucie FL US      | Port Saint Lucie |
| MD8693        | Port Saint Lucie FL US   | Port Saint Lucie |
| <u>MKNJD</u>  |                          | Port St. Joe     |
| MAR747        | Punta Gorda FL US        | Punta Gorda      |
| MD3636        | Saint James City FL US   | Punta Gorda      |
| MPHAF1        | Putnam Hall FAWN         | Putnam Hall      |
| MQUIF1        | Quincy FAWN              | Quincy           |
| MC3302        | Lithia FL US             | Riverview        |
| <u>MAT744</u> | Riverview FL US          | Riverview        |
| <u>MAT743</u> | Riverview FL US          | Riverview        |

| MKS076        |  | Riviera Beach    |
|---------------|--|------------------|
| MC6107        | Rockledge FL US<br>SEBASTIAN FL US         | Rockledge        |
| <u>MKX26</u>  | SUPERAWOS                                  | Roseland         |
| MC8579        | Safety Harbor FL US                        | Safety Harbor    |
| MSAUF1        |  | Saint Augustine  |
| MGTQF1        | NERRS WATER QUALITY SITE                   | Saint Augustine  |
|               | AT MATANZAS                                | G                |
| MC9628        | Palm Coast FL US                           | Saint Augustine  |
| MWBN3019      |  | Saint Augustine  |
| MKS078        |  | Saint Augustine  |
| MPBLI         |  | Saint Augustine  |
| MWJBJ9        |  | Saint Augustine  |
| MKENF1        | Kenansville FAWN                           | Saint Cloud      |
| MC6436        | Saint Cloud FL US                          | Saint Cloud      |
| M858AX        | 858A St. Cloud FL US USARRAY               | Saint Cloud      |
| <u>M859AX</u> | 859A St. Cloud FL US USARRAY               | Saint Cloud      |
| MC3181        | St. James City FL US                       | Saint James City |
| MD0628        | St James FL US                             | Saint James City |
| MSAMF1        | ST. MARKS (EAST) FL US                     | Saint Marks      |
| MAR886        | St. Pete Beach FL US                       | Saint Petersburg |
| MSAPF1        | St. Petersburg, FL NWLON                   | Saint Petersburg |
| MNP165        | Ccut, FL                                   | Saint Petersburg |
| MAP037        | St. Petersburg FL US                       | Saint Petersburg |
| MC8991        | St Petersburg FL US                        | Saint Petersburg |
| MC1965        | St.Petersburg FL US                        | Saint Petersburg |
| MSJOF1        | ST JOE CREEK AT PINELLAS                   | Saint Petersburg |
|               | PARK FL US USGS                            | •                |
| MCCUF1        | Saint Petersburg, FL                       | Saint Petersburg |
| M42513        |  | Saint Petersburg |
| MD7624        | Saint Petersburg FL US                     | Saint Petersburg |
| MCAMF1        |  | Saint Petersburg |
| MD9294        | Saint Petersburg FL US                     | Saint Petersburg |
| MD9933        | St Petersburg FL US                        | Saint Petersburg |
| MKTNF1        |  | Salem            |
| MC6095        | Sanibel FL US                              | Sanibel          |
| MTS755        | DING DARLING NWR FL US                     | Sanibel          |
| MC2976        | Sarasota FL US                             | Sarasota         |
| MC7439        | Sarasota FL US                             | Sarasota         |
| MD0683        | Sarasota FL US                             | Sarasota         |
| MMKCF1        | MYAKKA RVR AT MYAKKA ST<br>PARK FL US USGS | Sarasota         |
| MD3408        | Sarasota FL US                             | Sarasota         |

| MAU351<br>MAS064<br>MSEBF1<br>MLWEF1<br>MD4946<br>MAS052<br>MD5540 | Sarasota FL US Sebring FL US Sebring FAWN LAKE WALES FL US Seffner FL US Seminole FL US Shalimar FL US | Sarasota Sebring Sebring Sebring Seffner Seminole Shalimar |
|--|--|--|
| MC5909   | Port St. John FL US  | Sharpes  |
| MAR243   | Donalsonville GA US  | Sneads   |
| MSNDF1   | SANBORN FL US  | Sopchoppy  |
| <u>MFPWX</u>   | FPWX   | South Bay  |
| MC1733   | S. Miami FL US   | South Miami  |
| MKS032   |  | South Miami  |
| MAR272   | Hudson FL US   | Spring Hill  |
| MTS868   | APALACH PORTABLE FL US   | Sumatra  |
| MC0924   | FKAA-Ramrod FL US  | Summerland Key   |
| MC0925   | Cudjoe Key FL US   | Summerland Key   |
| MTS607   | NATIONAL KEY DEER NWR FL<br>US   | Summerland Key   |
| MAP002   | Cudjoe Key FL US   | Summerland Key   |
| MC3358   | Sun City Center FL US  | Sun City Center  |
| MSWNF1   | LOWER SUWANNEE FL US   | Suwannee   |
| MC0900   | Tallahassee FL US  | Tallahassee  |
| MC3951   | Tallahassee FL US  | Tallahassee  |
| MC3952   | Tallahassee FL US  | Tallahassee  |
| MC2284   | Tallahassee FL US  | Tallahassee  |
| MD4251   | Tallahassee FL US  | Tallahassee  |
| MD7294   | Tallahassee FL US  | Tallahassee  |
| MD7314   | Tallahassee - PineyZ FL US   | Tallahassee  |
| MD7877   | Tallahassee FL US  | Tallahassee  |
| MU2LV1   | Tallahassee FL US  | Tallahassee  |
| MAR871   | Tampa FL US  | Tampa  |
| MNP164   | Port of Tampa  | Tampa  |
| MSBLF1   | Seabulk, FL  | Tampa  |
| MERTF1   | Berth 223, FL  | Tampa  |
| MMCYF1   | Mckay Bay Entrance, FL   | Tampa  |
| MNP194   | Tpa Cruise Terminal 2, FL  | Tampa  |
| MTPAF1   | TPA Cruise Terminal 2, FL  | Tampa  |
| MTSHF1   | East Bay Causeway, FL  | Tampa  |
| MD5439   | Tampa FL US  | Tampa  |
| ME0737   | Tampa FL US  | Tampa  |
| MC3793   | Tarpon Springs FL US   | Tarpon Springs   |
| MTARF1   |  | Tarpon Springs   |

| MFHPF1        |  | Tarpon Springs  |
|---------------|--|-----------------|
| MC4828        | Tavares FL US                                  | Tavares         |
| MC0921        | Plantation Key FL US                           | Tavernier       |
| MWOAG         |  | Tavernier       |
| MBFSF1        | BLOXHAM FL US                                  | Telogia         |
| MBLXF1        | OCHLOCKONEE RIVER NEAR<br>BLOXHAM 1 FL US USGS | Telogia         |
| MD7756        | Titusville FL US                               | Titusville      |
| MUMLF1        | Umatilla FAWN                                  | Umatilla        |
| MC1912        | Valrico FL US                                  | Valrico         |
| MVENF1        |  | Venice          |
|               | 8 mi S/Lk Placid, FL S/SR70 on                 |                 |
| MABS01        | Old SR8 Archbold                               | Venus           |
|               | ARCHBOLD BIO STN SEBRING                       | . ,             |
| MABDF1        | 23 SSE FL US                                   | Venus           |
| MC5924        | Vero Beach FL US                               | Vero Beach      |
| M41114        |  | Vero Beach      |
| MD2040        | Vero Beach FL US                               | Vero Beach      |
| M41663        | 10.0 2000 200                                  | Vero Beach      |
| MINDRV        | Indian River FAWN                              | Vero Beach      |
| M958AX        | 958A Wauchula FL US USARRAY                    | Wauchula        |
| M451AX        | 451A Vernon FL US USARRAY                      | Wausau          |
|               |  | Wellborn        |
| MAS720        | Lake City FL US                                |                 |
| MFHCHS        | FHCHSX   | West Palm Beach |
| MS78W         | S78W   | West Palm Beach |
| MKS011        | W . D . D . L EL LIO                           | West Palm Beach |
| MD4888        | West Palm Beach FL US                          | West Palm Beach |
| MS140W        | S140W  | Weston          |
| MC0294        | Weston FL US                                   | Weston          |
| <u>M552AX</u> | 552A Lynn Haven FL US<br>USARRAY               | Wewahitchka     |
| MAT874        | The Villages FL US                             | Wildwood        |
| MAS970        | Williston FL US                                | Williston       |
| M656AX        | 656A Willston FL US USARRAY                    | Williston       |
| MC6511        | Wimauma FL US                                  | Wimauma         |
| <u>M957AX</u> | 957A Wimauma FL US<br>USARRAY                  | Wimauma         |
| MAR157        | Orlando FL US                                  | Windermere      |
| MVLNF1        | Avalon FAWN                                    | Winter Garden   |
| ME1632        | Windermere FL US                               | Winter Garden   |
| MAP837        | Bartow Airport FL US                           | Winter Haven    |
| MD0919        | Winter Haven FL US                             | Winter Haven    |
| MAT019        | Winter Haven FL US                             | Winter Haven    |
|               |  | Winter Park     |
| MC0927        | Apopka FL US                                   | vviillei Faik   |

| MAS140 | Winter Park FL US                 | Winter Park   |
|--------|-----------------------------------|---------------|
| MAP505 | Yulee FL US                       | Yulee         |
| M457AX | 457A Yulee FL US USARRAY          | Yulee         |
| MD7812 | Zephyrhills FL US                 | Zephyrhills   |
| M857AX | 857A Zephyrhills FL US<br>USARRAY | Zephyrhills   |
| MC3266 | Zolfo Springs FL US               | Zolfo Springs |