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

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"SMALL-SCALE WIND POWER IN FPL SERVICE TERRITORIES: *Assessment of Wind Resource and Selection of Wind Turbine Designs"*

Y.I. Sharaf-Eldeen, PhD, PE

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 wind-turbine 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:

1. National Data Buoy Center (NDBC), National Oceanic and Atmospheric Administration (NOAA): http://www.ndbc.noaa.gov/maps/florida_hist.shtml
2. Center for Operational Oceanographic Products and Services, (CO-OPS): http://www.co-ops.nos.noaa.gov/
3. City-Data: http://www.city-data.com/city/Florida.html
4. FirstLook Wind: http://firstlook.3tiergroup.com/wind/

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

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

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 $1/7^{th}$ 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.

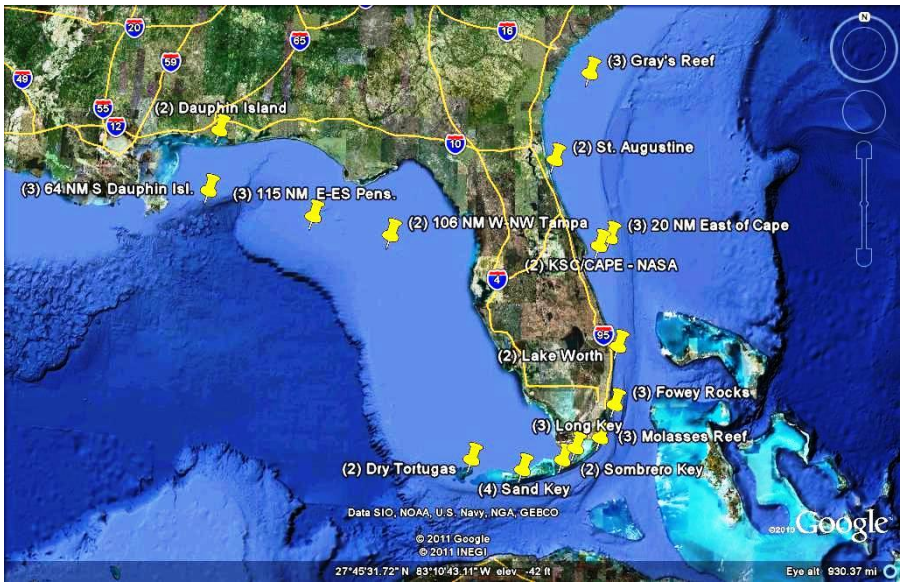
5. Levy County Site:

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 AWS Truewind for NREL, 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^2 (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

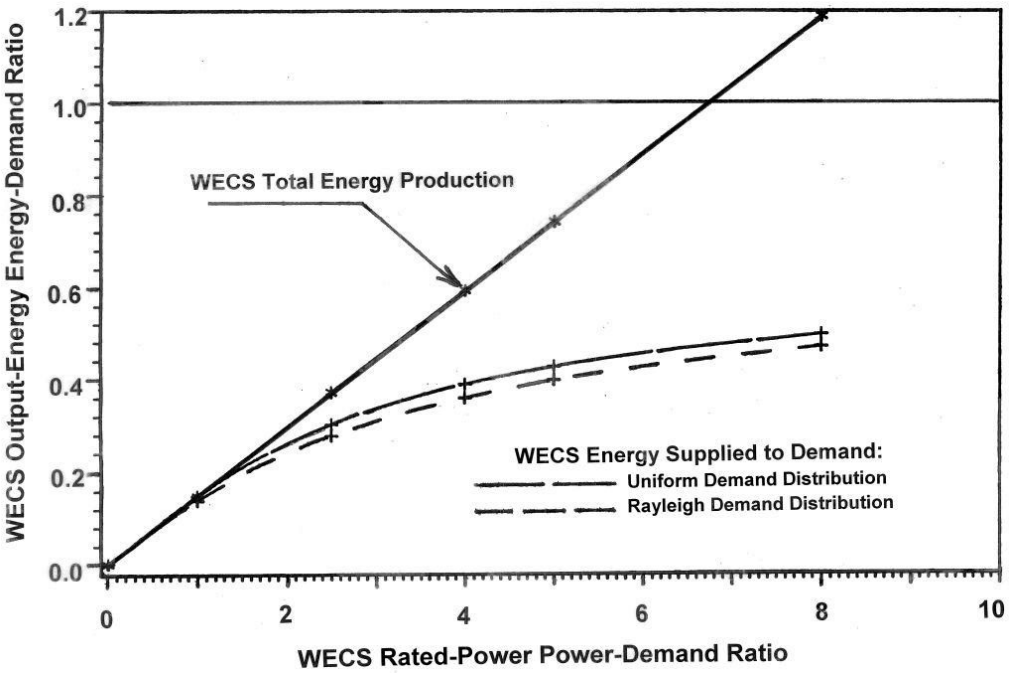
selection of the wind turbine design, and for making estimates of its potential energy production. Based upon performance output curves of a large number of small wind systems, the ReDriven Power, Inc.'s 10 kW, Ventera Energy's VT10-240 (10 kW), Gaia-Wind 11-kW, and the ARE 442 10 kW wind systems were 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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Y.I. Sharaf-Eldeen, PhD, PE

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:

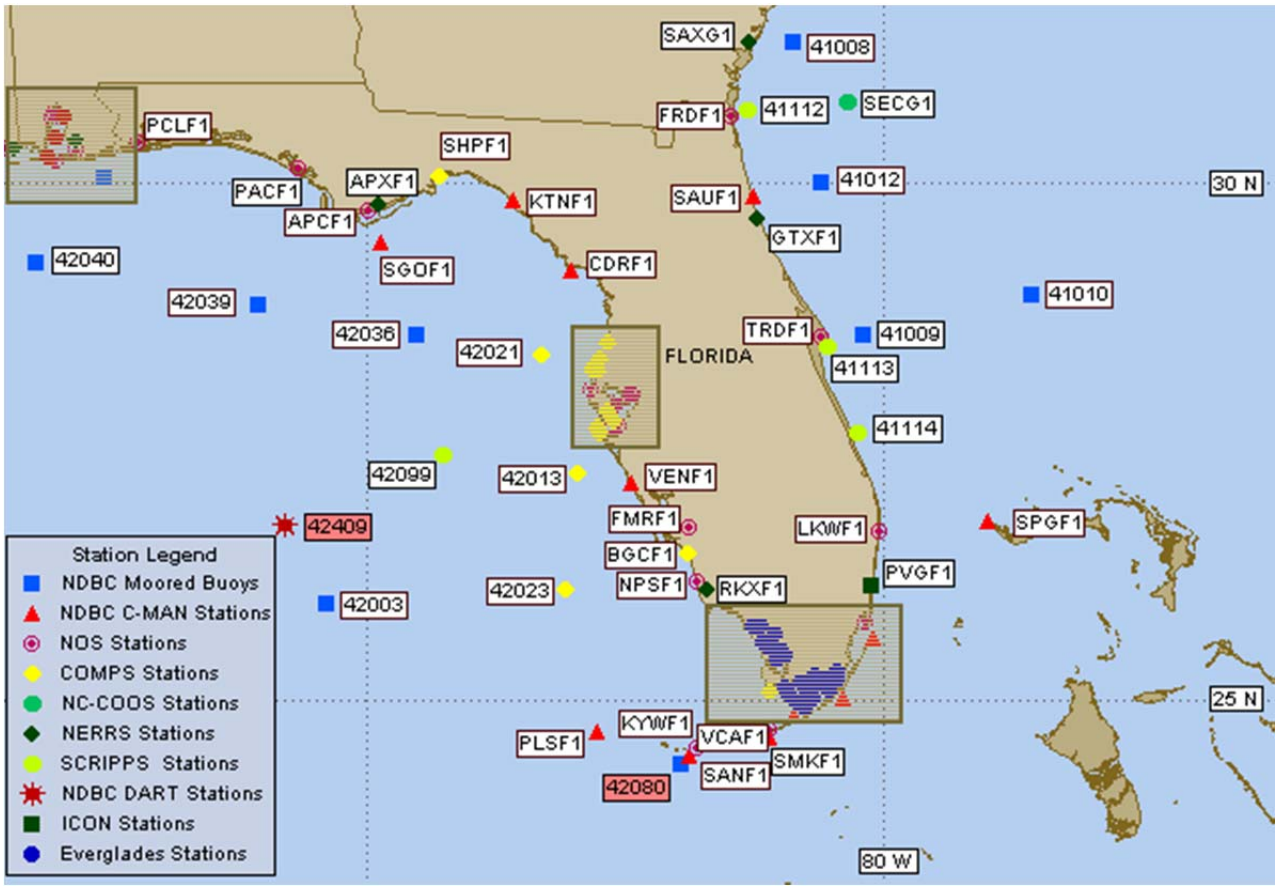
1. National Data Buoy Center (NDBC),

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

Historical data (*data descriptions*):

Standard meteorological data: 1984 1985 1986 1987 1988 1989 1990 1991 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2006 2007 2008 2009 2010 2011 2012

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:

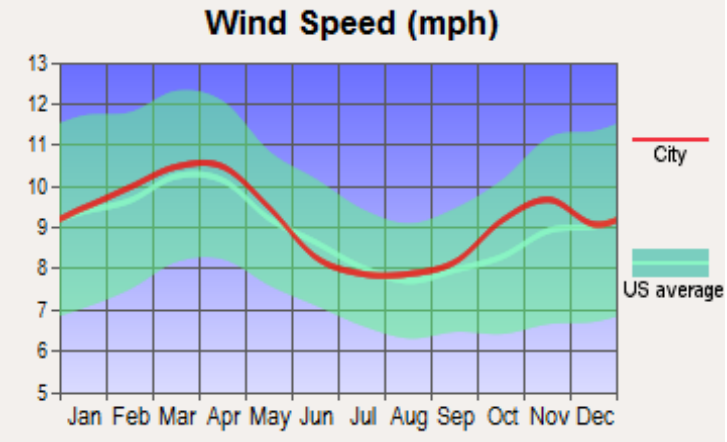
Florida

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

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

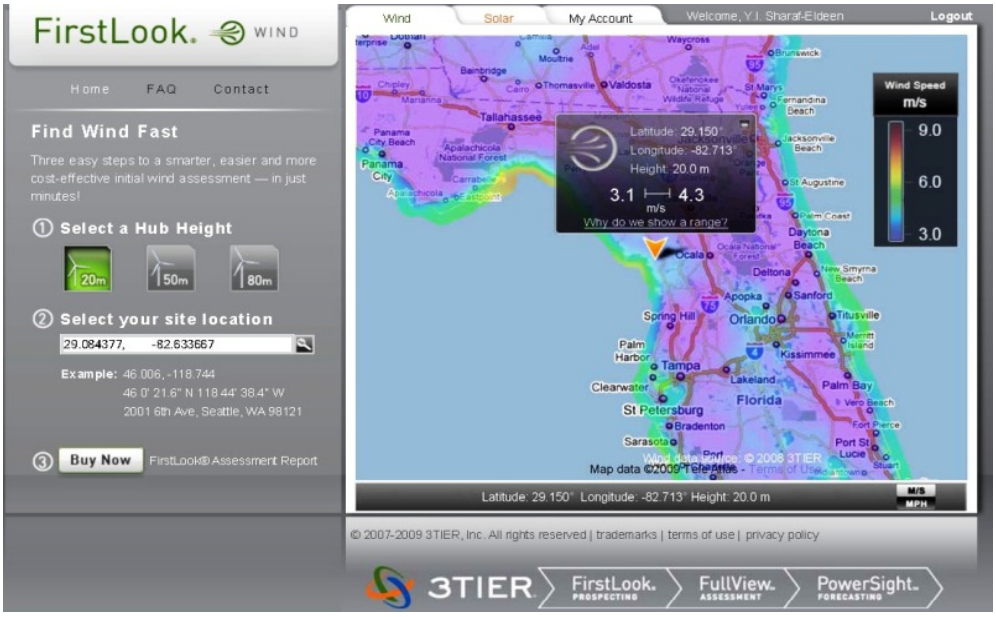
Long-term wind speed data charts are given for most cities in the State of Florida. For the city of Miami, Florida (Latitude: 25.79 N, Longitude: 80.22 W), the long-term record of wind speed data, based on observations reported by over 4,000 weather stations, is given below:

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:**

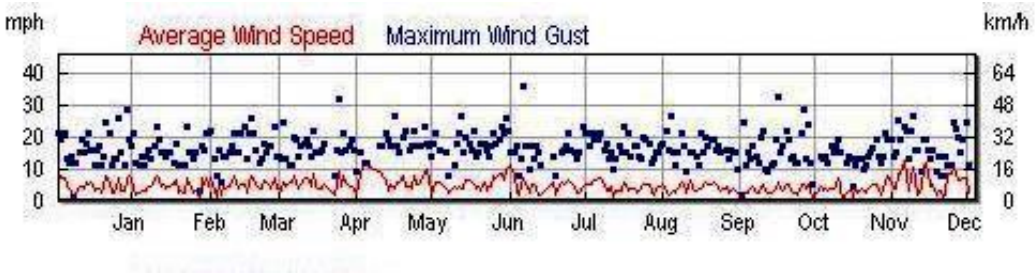
http://www.wunderground.com/history/airport/KMCO/2009/3/16/DailyHistory.html

- **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: http://www.wunderground.com/weatherstation/ListStations.asp?selectedState=FL&selectedCountry=United+States&MR=1.

Weather History for KFLWESTP36, foxhall, West Palm Beach, FL, 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.

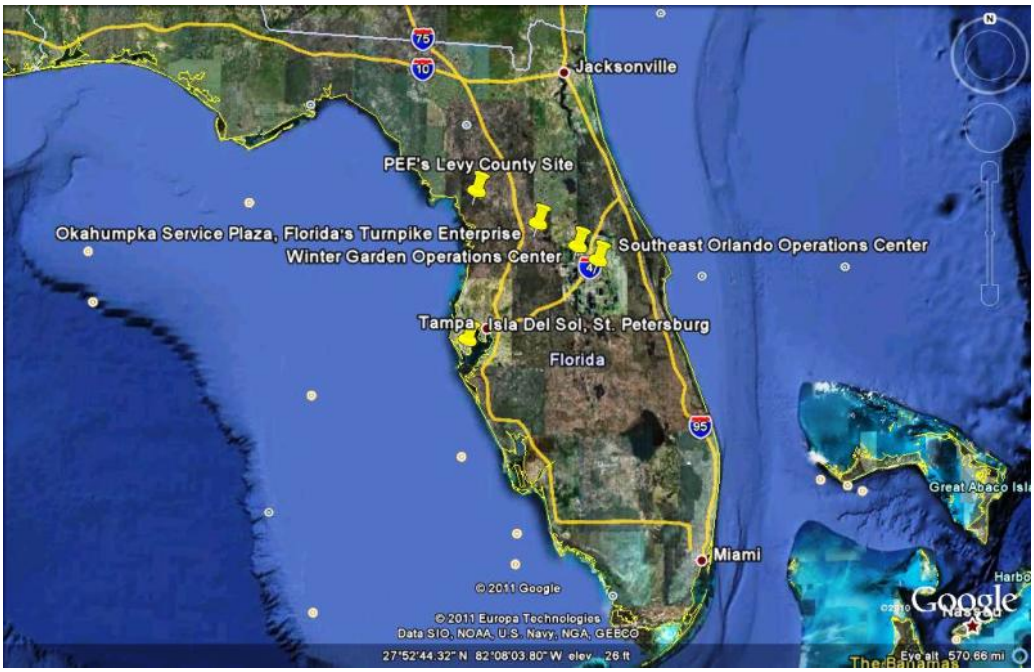
II. Wind Resource Assessment For Selected Sites in Florida

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:

1. **Okahumpka Service Plaza, Florida's Turnpike Enterprise**
   Sumter County, FL (28.78694 N, 81.98194 W),
2. **Isla Del Sol, St. Petersburg, Florida**
   St. Petersburg, FL (27.709 N, 82.715 W),
3. **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
5. **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,

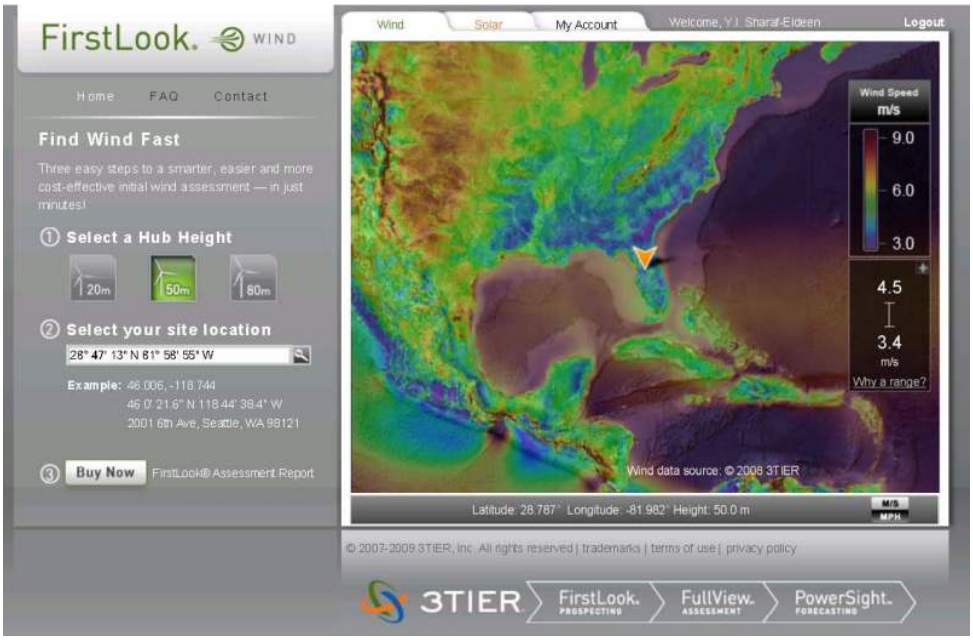
Wind Resource Data:

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)

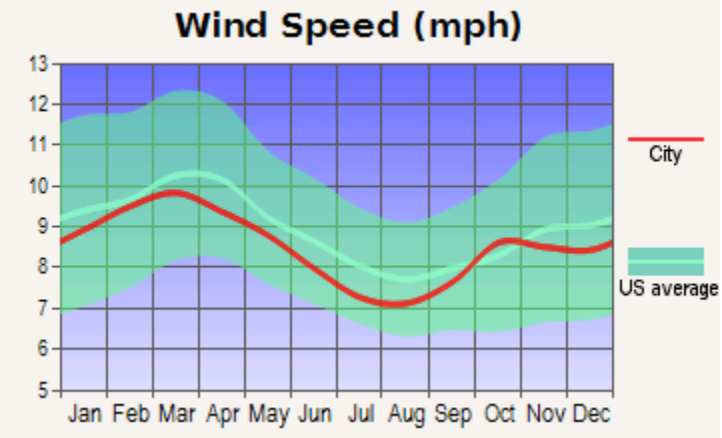
The results obtained are tabulated below:

Hub Height:	**Wind Speed:**	**Average:**
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



- **City-Data: http://www.city-data.com/city/Okahumpka-Florida.html**

  Latitude: 28.75 N, Longitude: 81.90 W, Elevation: 87 ft.



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

- **Weather Underground – Okahumpka, Florida:**

  http://www.wunderground.com/weatherstation/ListStations.asp?selectedState=FL&selectedCountry=United+States

- **MKHPF1** Okahumpka **FAWN (**http://fawn.ifas.ufl.edu/), Okahumpka FL:

  Latitude: N 28 ° 40 ' 55 " (28.682), Longitude: 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.

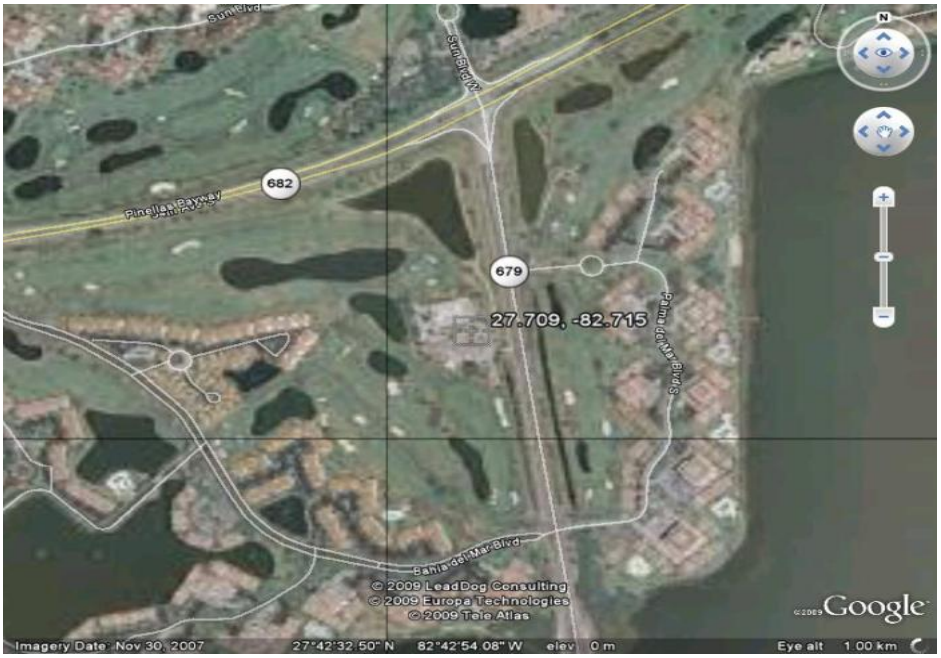
Using the power law, the estimated annual, mean wind speeds at heights of 20-, 30-, 40-, and 50-m above the ground level would be about 4.25-, 4.50-, 4.70-, and 4.85-m/sec, respectively. For a hub height of 80-m above ground, the annual mean wind speed estimate would be about 7.20-m/sec.

2. Wind Resource Assessment for:

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

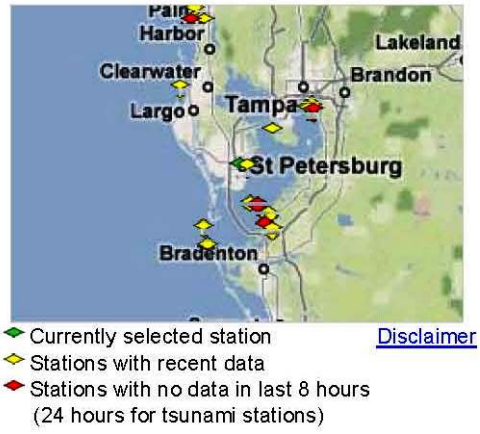
  1. Station CAMF1 – Campbell Park, FL:

  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:
  University of South Florida:
  http://comps.marine.usf.edu/

  Historical data (data descriptions)
  Standard meteorological data:
  2008



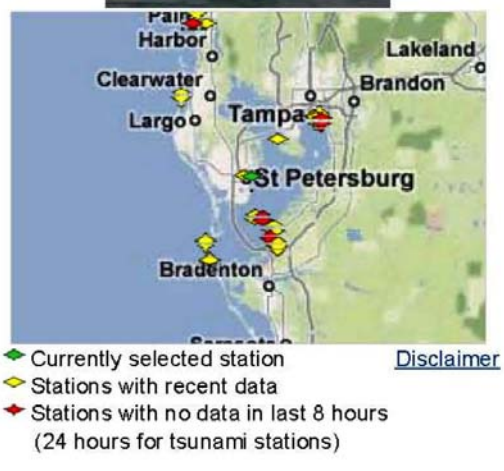
  2. Station SAPF1 – 8726520 – St. Petersburg, FL:

  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

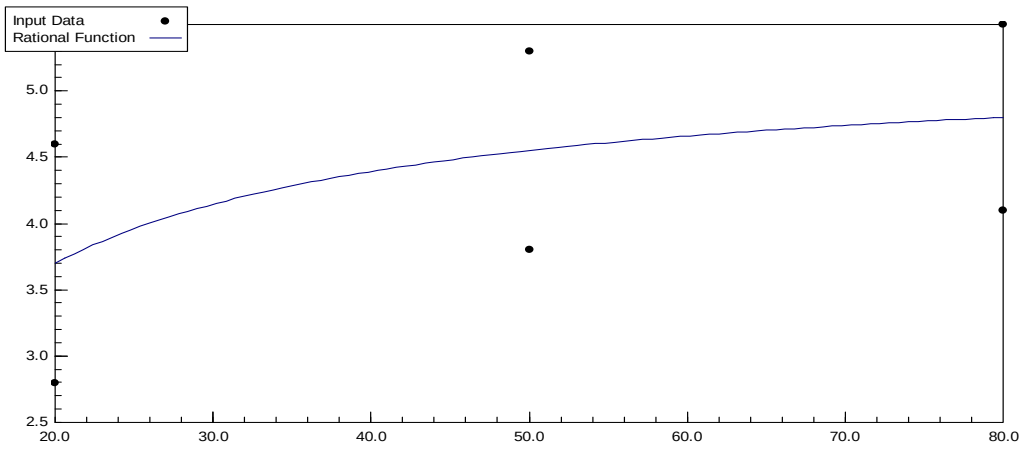


A summary of the results obtained is given below:

Mean Wind Speed, m/sec		
	Station CAMF1	**Station SAPF1**
2005		3.1
2006		3.05
2007		2.96
2008	1.62	3.18
Average		**3.07**

- **FirstLook Wind: http://firstlook.3tiergroup.com/wind/**
  (27.709 N - 82.715 W)

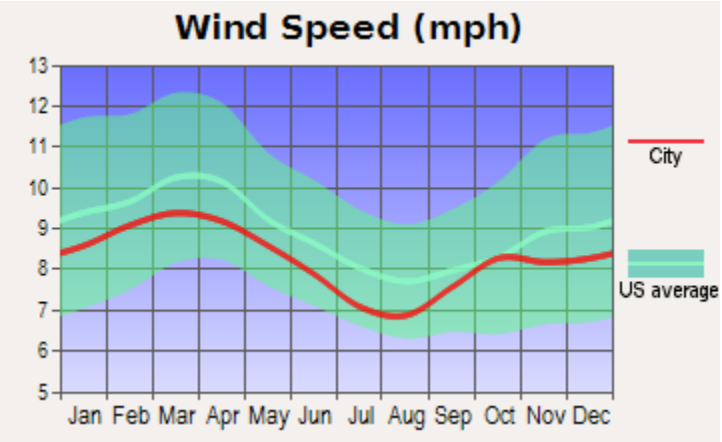
A rational function fitting of the data was used to determine the annual means at different heights and the results are shown in the following table.



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

- **City-Data:** **http://www.city-data.com/city/St.-Petersburg-Florida.html**

  Latitude: 27.78 N, Longitude: 82.67 W, Elevation: 0 to 60 ft.

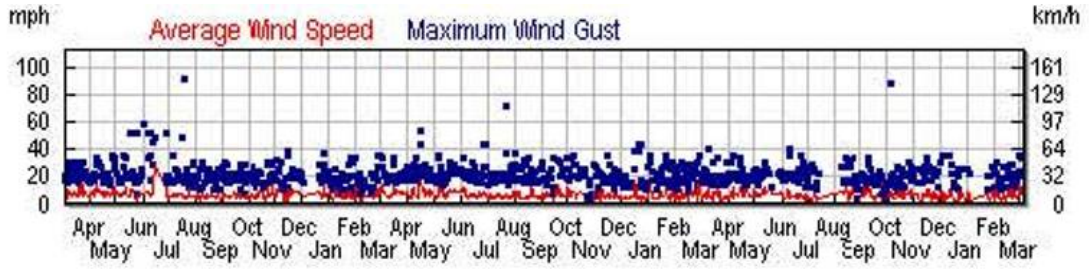


Annual Mean Wind Speed: ~ 3.67 m/sec (8.2 mph)

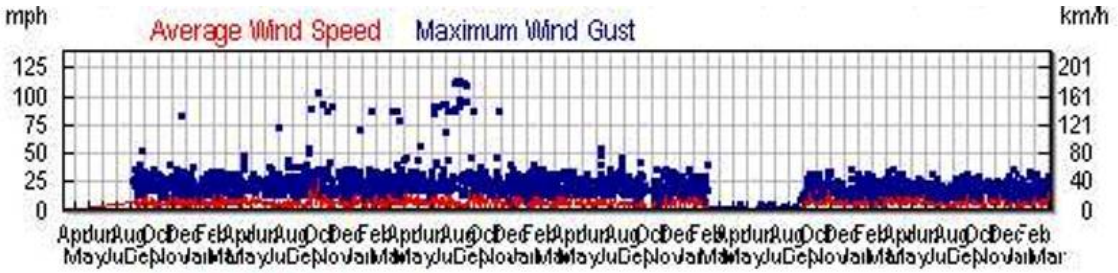
- **Weather Underground – Saint Petersburg, Florida:**

  http://www.wunderground.com/cgi-bin/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, 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: 28.56, -81.27	1.8	2
MAP063 Orlando: 28.57, -81.35	0.6	2
MAP723 Orlando: 28.60, -81.17	1.85	2
MC6860 Orlando: 28.56, -81.28	1.3	2
MC9347 Orlando: 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)

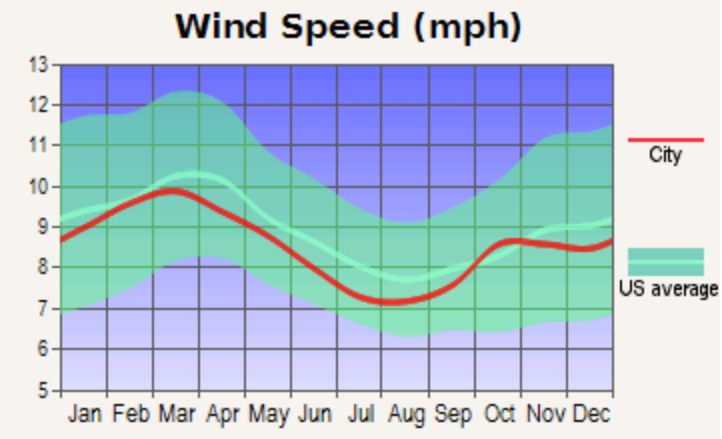
- **KMCO – Orlando International Airport:** 15 years of data

  http://www.wunderground.com/history/airport/KMCO/2009/3/16/DailyHistory.html: Latitude**:** 28.43 N, Longitude**:** 81.32 W, Elevation**:** 95 ft.

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

- **City-Data: http://www.city-data.com/city/Orlando-Florida.html**

  Latitude: 28.53 N, Longitude: 81.38 W, Elevation: 106 ft.

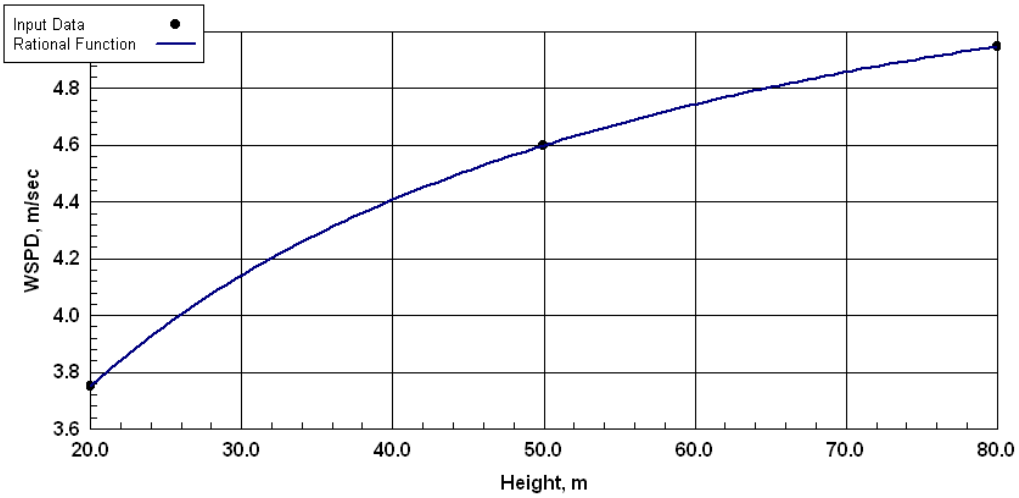


Annual Mean Wind Speed: ~ 3.8 m/sec (8.5 mph)

- **FirstLook Wind: http://firstlook.3tiergroup.com/wind/**

  (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 WSPD, m/sec		**3.10 - 4.40**			**4.00 - 5.20**			**4.30 - 5.60**
Fitted Mean WSPD, m/sec	2.96	**3.75**	4.16	4.42	**4.60**	4.75	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:

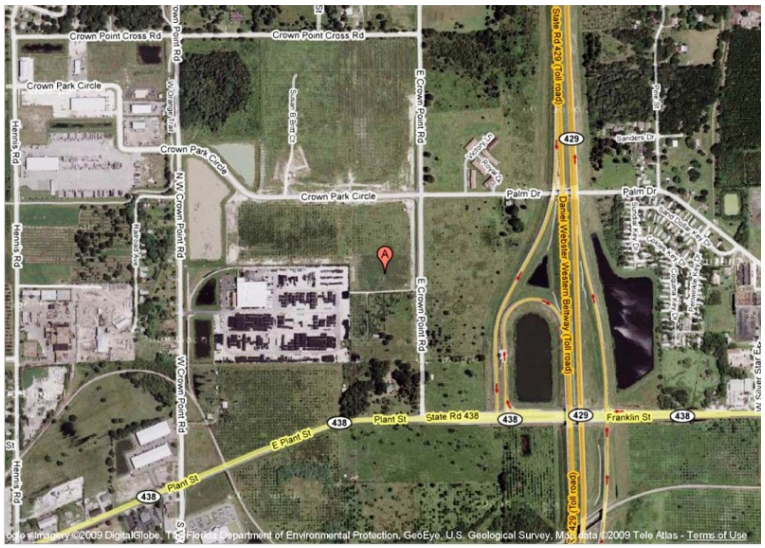
Estimates of the annual, mean wind speed at various heights, for the Southeast Orlando Operation Center site (28.44615 N – 81.34893 W) and the surrounding area in Orange County, FL, have been made using data records available from various sources. The results of the analysis point out to an annual, mean 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:

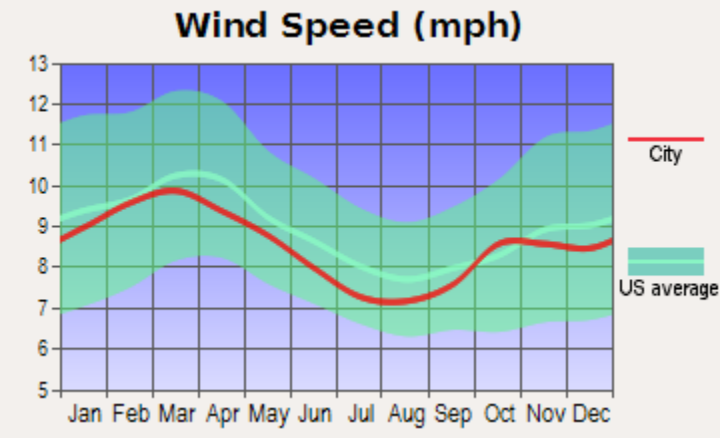
Place	Station	Lat., N	Lon., W	Elev., ft	WSPD, mph
Apopka **FAWN**, Apopka	(MADIS)MPOPF1	28.642	81.550	91	**6.05**
Avalon **FAWN**, Winter Garden	(MADIS)MVLNF1	28.477	81.640	134	**6.2**
Clermont FL US, Killarney	(MADIS)MD0617	28.500	81.700	190	**1.6****
Clermont FL US, Clermont	(MADIS)MAR543	28.518	81.715	186	**0.8****
East Clermont, Clermont	KFLCLERM13	28.557	81.725	220	**2.25**
Hartwood Marsh Rd - Southern 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, Clarcona	KFLORLAN44	28.600	81.490	89	**3.1**
Stoneybrook West, Winter Garden	KFLWINTE23	28.521	81.608	123	**3.9**

Place	Station	Lat., N	Lon., W	Elev., ft	WSPD, 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: http://www.city-data.com/city/Winter-Garden-Florida.html**

  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**

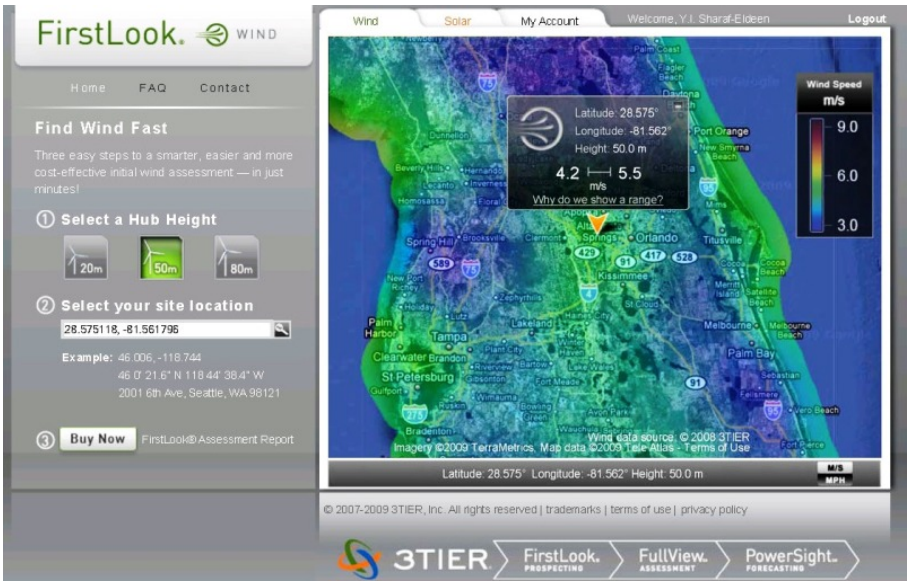
  http://www.wunderground.com/history/airport/KMCO/2009/3/16/DailyHistory.html: Latitude: 28.43 N, Longitude: 81.32 W, Elevation: 95 ft.

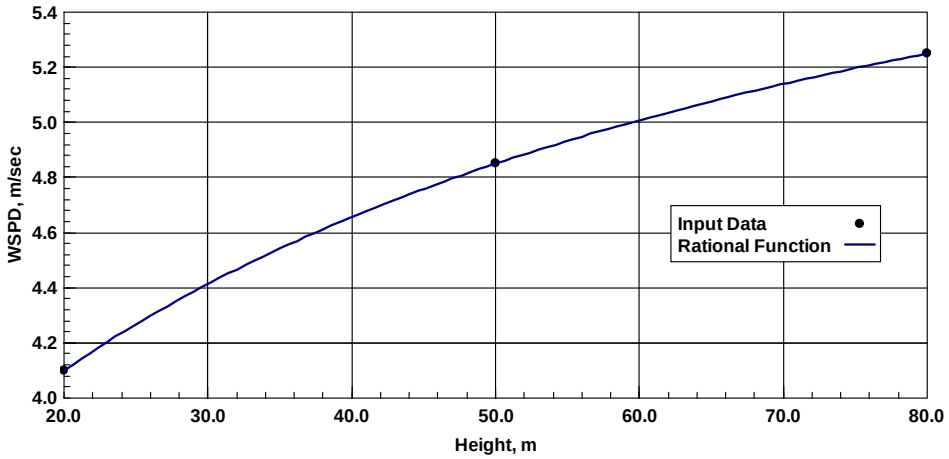
  Annual Mean Wind Speed: 2.92 m/sec (6.53 mph)

- **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:





Height, m	10	**20**	30	40	**50**	60	70	**80**
FirstLook WSPD, m/sec		**3.40 - 4.80**			**4.20 - 5.50**			**4.60 - 5.90**
Fitted Mean WSPD, m/sec	3.52	**4.10**	4.43	4.67	**4.85**	5.01	5.13	**5.25**

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

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

Year	WSPD, m/sec
2008	4.089
2007	4.065
2006	4.022
2005	4.116
2004	4.068
Mean	**4.072**

  2. Station HSSF1 – Homosassa, FL:

  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

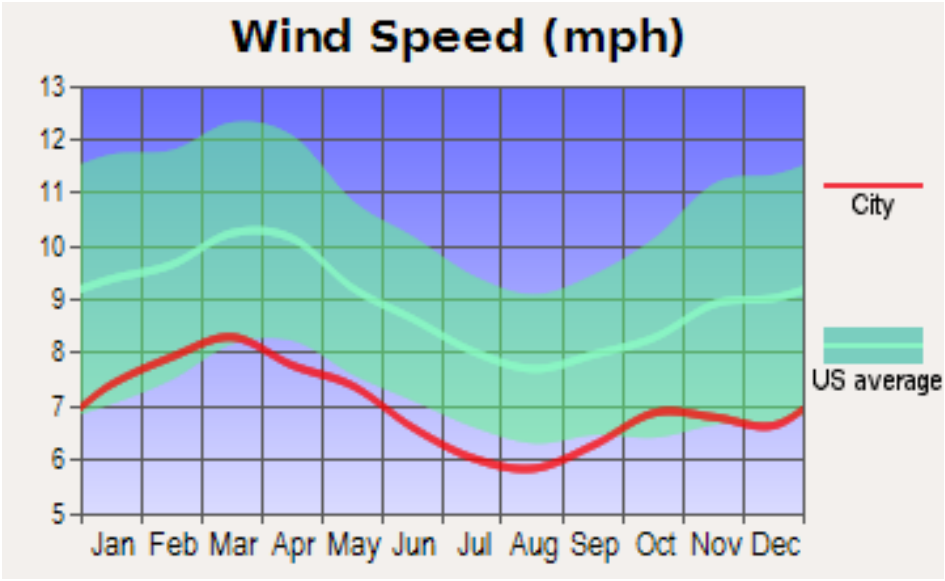
Standard Meteorological Data:

2004 2005 2006 2007 2008

Year	WSPD, m/sec
2008	4.886
2007	4.644
2006	4.801
2005	4.746
2004	5.039
Mean	**4.823**

- **City-Data: http://www.city-data.com/city/Inglis-Florida.html**

  Latitude: 29.03 N, Longitude: 82.67 W, Elevation: 15 ft.



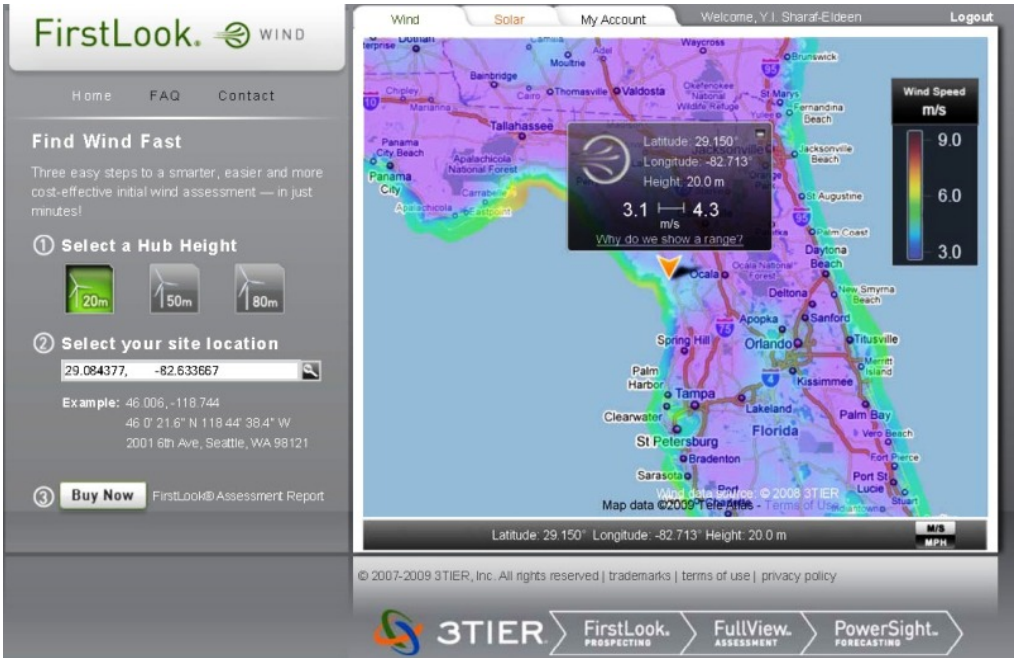
Annual Mean Wind Speed: 3.13 m/sec (7.0 mph)

- **Weather Underground, PEF's Levy County Site, Florida:**

Place	Station	Lat., N	Lon., W	Elev., ft	WSPD, 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.

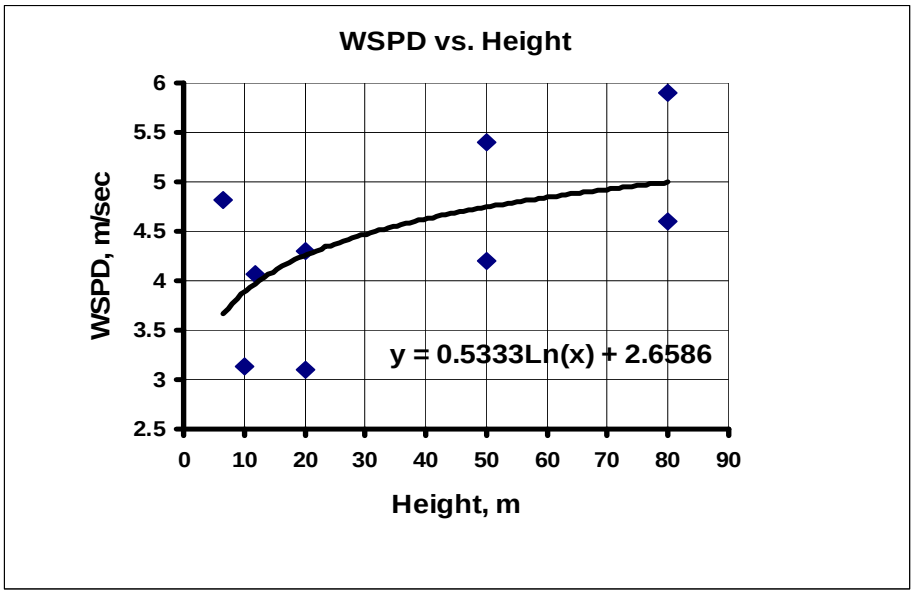
- **FirstLook Wind**: **http://firstlook.3tiergroup.com/wind/**
  (29.084377 N, 82.633667 W)



Height, m	20	50	80
FirstLook WSPD, m/sec	3.1 – 4.3	4.2 – 5.4	4.6 – 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.

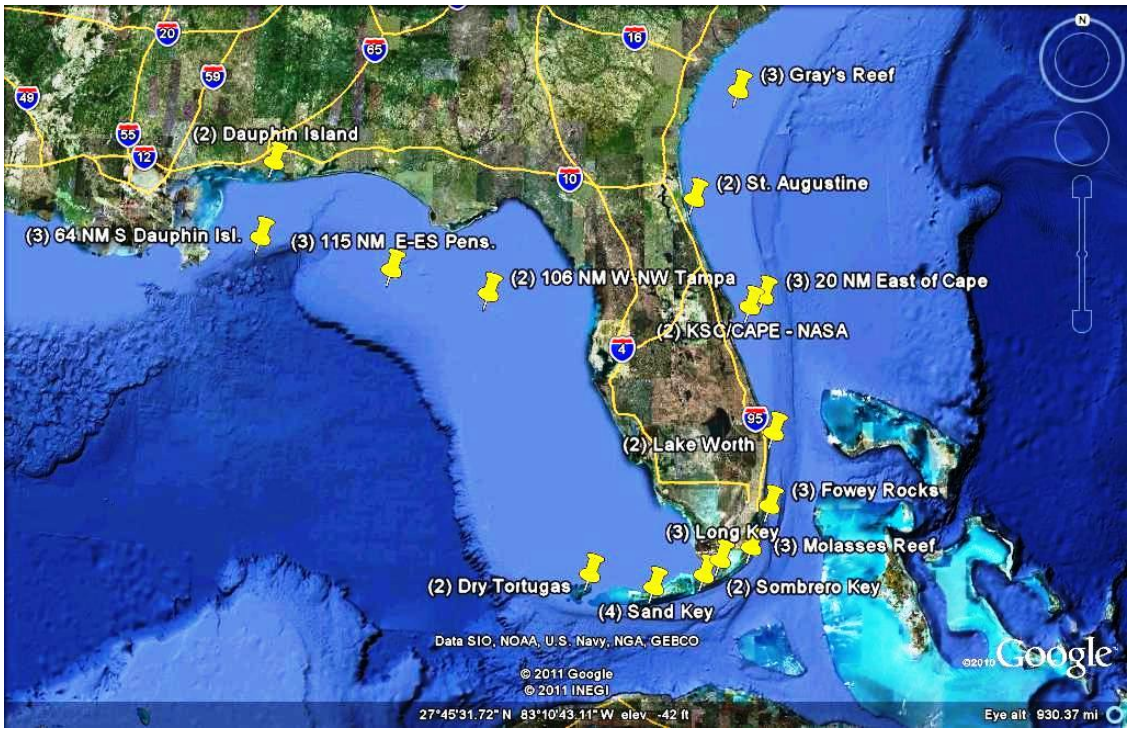
Extensive effort was devoted to acquiring accurate, historical wind speed records and in the analysis of the data collected. Wind speed records from various sources were obtained and used in this work, including:

- **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):** http://www.co-ops.nos.noaa.gov/gmap3/index.shtml?type=MeteorologicalObservations&region=Florida
- **FirstLook© Global Renewable Resource Ranking, 3Tier, Inc:** http://firstlook.3tiergroup.com/wind/
- **City-Data.com:** http://www.city-data.com/city/Florida.html
- **Weather Underground (http://www.wunderground.com/):** http://www.wunderground.com/weatherstation/ListStations.asp?selectedState=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:

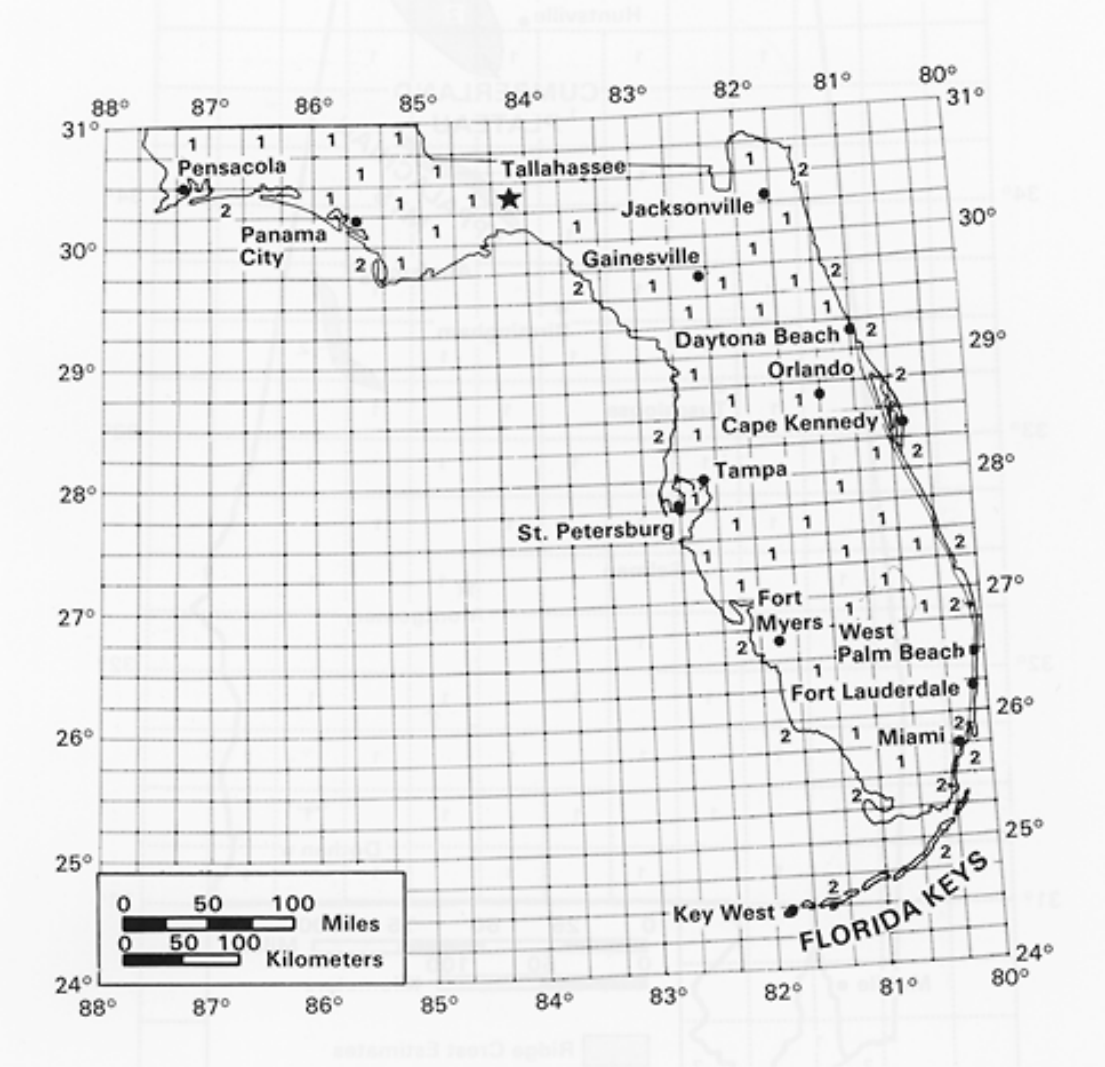
Wind Speeds Corresponding to Different Power Classes

At 10-, 50- and 80-m Heights Above Ground Level*

Class	Wind Speed at Various Heights					
	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

***** 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: http://rredc.nrel.gov/wind/pubs/atlas/). 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

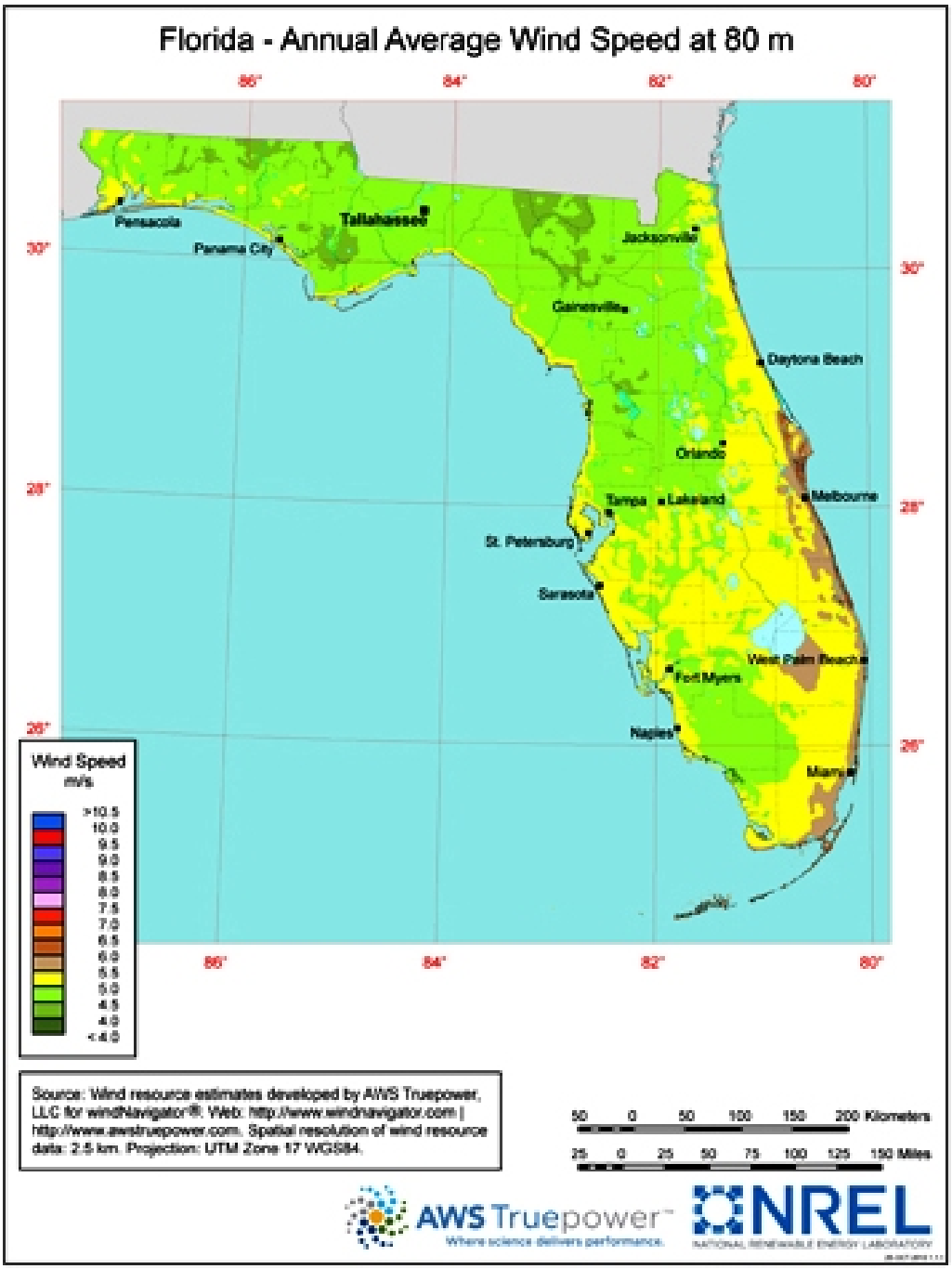
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Apalachicola	8	9	9	9	8	7	6	6	8	8	8	8	8
Daytona Bch	9	10	10	10	9	8	7	7	8	9	9	9	9
Cocoa Beach/Patrick AFB	8	9	9	9	8	7	6	6	7	9	8	8	8
Fort Myers	8	9	9	9	8	7	7	7	7	8	8	8	8
Gainesville	7	8	8	8	7	6	6	6	6	7	7	6	7
Jacksonville	8	9	9	9	8	8	7	7	8	8	8	8	8
Key West	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

The National Renewable Energy Laboratory (NREL) and AWS Truewind (AWS 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 km^2 (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. Technology Survey and Performance Outputs 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

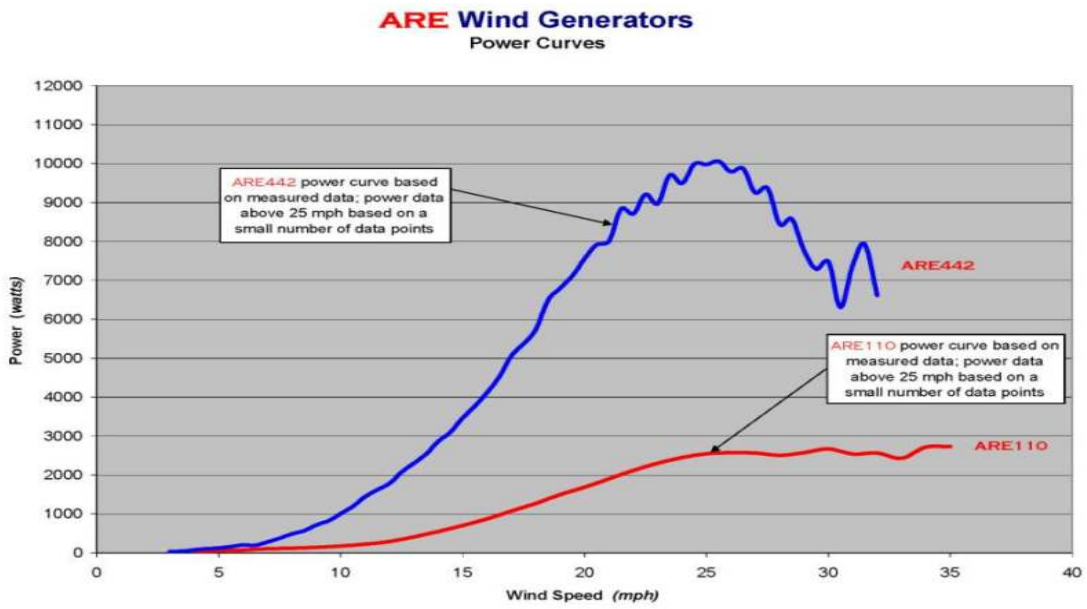
Rated Output Power:	2.4 kW
Rated Wind Speed:	13.0 m/sec
Cut-in Wind Speed:	3.5 m/sec
Rotor Diameter:	3.72 meters

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

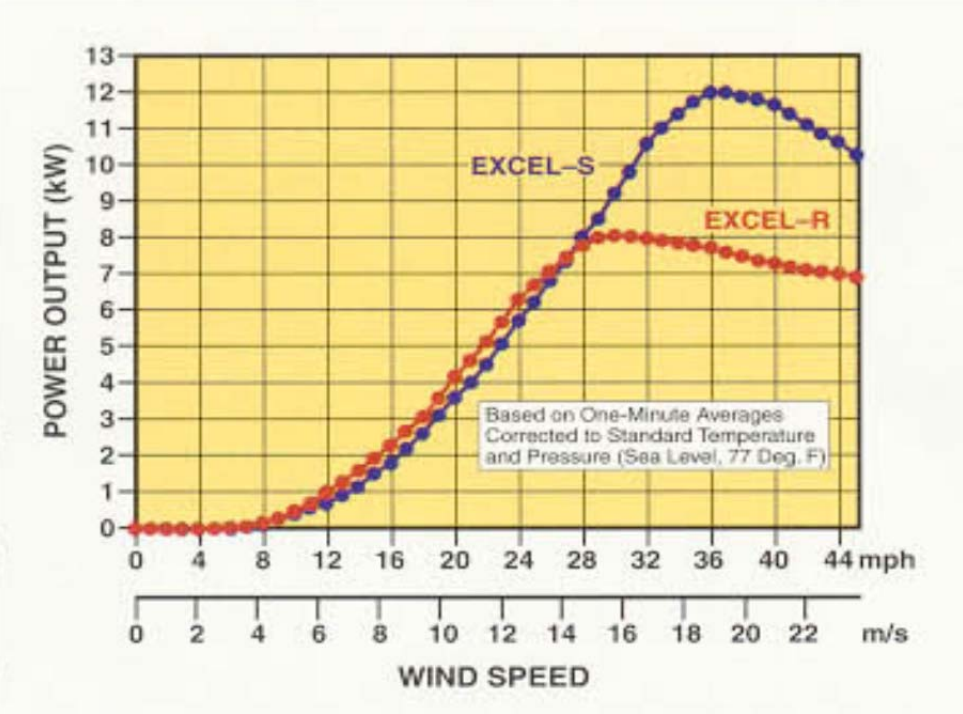
http://www.abundantre.com/actual_power_curve_11-1-07.pdf



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

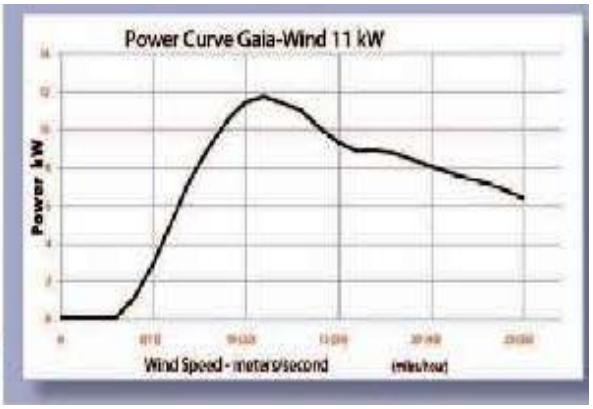
   The ARE 442 is a 10-kilowatt (kW), three-bladed, horizontal-axis upwind small wind turbine. It has a hub height of 30.9 meters and a rotor diameter of 7.2 meters. Testing results are outlined in the following report:
   http://www.nrel.gov/wind/smallwind/abundant_renewable_energy.html

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

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



7. **Mariah Power's Windspire (1.2 kW)**: http://www.mariahpower.com/

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 wind-turbine systems with relatively low cut-in wind speeds were considered, including:

8. **AEROSTAR WIND TURBINES (AEROSTAR® 6 METER, 10 kW):**
   http://www.aerostarwind.com/specifications.html, **V_{in} = 3.58 m/sec**

9. **Ventera Energy (VT10-240, 10 kW):**
   http://venteraenergy.com/product-specs/, **V_{in} = 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, **V_{in} = 2 m/sec**

11. **Wind Turbine Industries Corp. (10, 12.5, 15, 17.5, and 20 kW):**
    http://www.windturbine.net/products.htm, **V_{in} = 3.58 m/sec**

12. **Proven Energy: (The Proven 2.5 kW, 6.0 kW, and 15 kW):**
    http://urlm.co.uk/g/sw/p/1007326/dl2, **V_{Avg} = 5 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™,**

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.

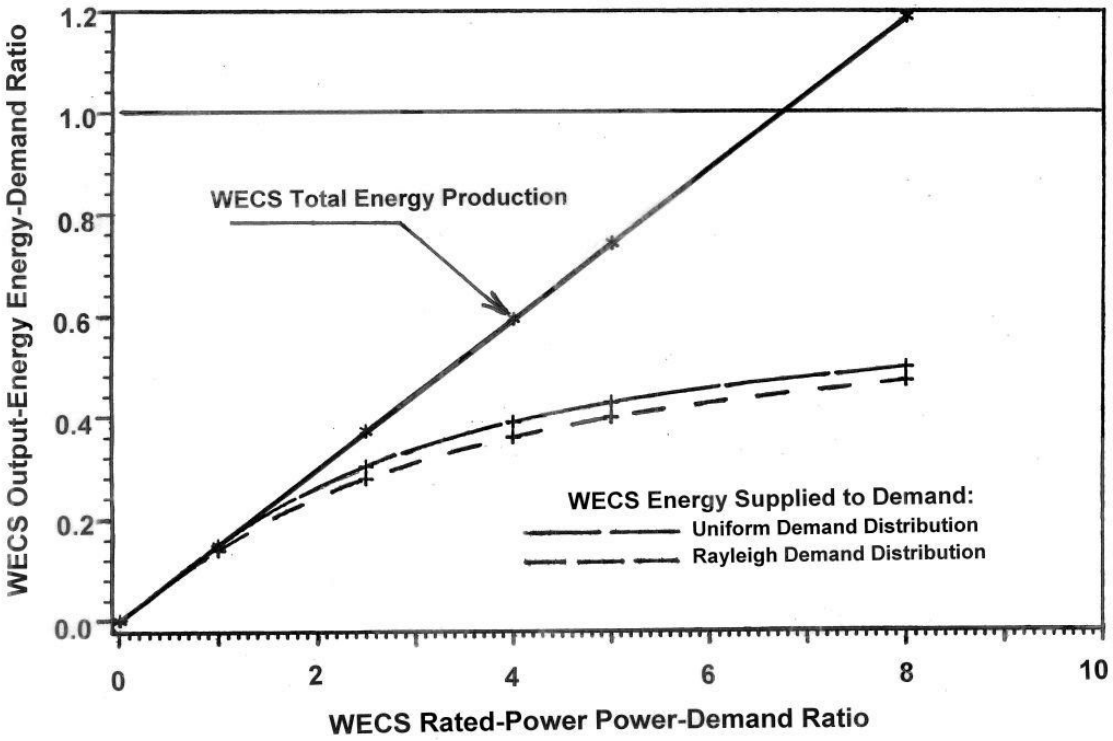
Closure:

"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. Energy Productions and Divisions of 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
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Principal Investigator:

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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 fed-back 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:**
  http://www.wunderground.com/cgi-bin/findweather/hdfForecast?query=FLorida&MR=1

- **City-data/Florida.html:**
  http://www.city-data.com/city/Florida.html

- **FirstLook – Global Renewable Resource Ranking:**
  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:

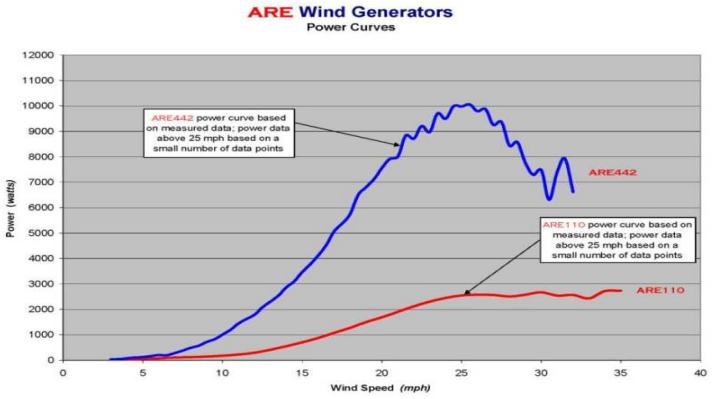
17. **Southwest Windpower Skystream 3.7:**
http://www.windenergy.com/documents/spec_sheets/3-CMLT-1338-01_Skystream_spec.pdf

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

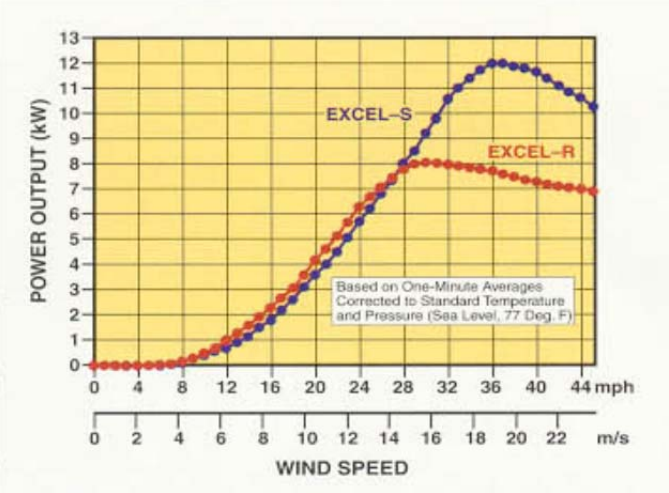
Rated Output Power:	2.5 kW
Rated Wind Speed:	11 m/sec
Cut-in Wind Speed:	**2.5 m/sec**
Rotor Diameter:	3.6 meters

http://www.abundantre.com/actual_power_curve_11-1-07.pdf



- **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:**

1. Abundant Renewable Energy's ARE 442 (10 kW):
   http://www.abundantre.com/ARE_Wind_Turbines.htm#ARE110
2. 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 **3 m/sec** 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:

- **AEROSTAR WIND TURBINES (AEROSTAR® 6 METER, 10 kW):** http://www.aerostarwind.com/specifications.html, V_{in} = 3.58 m/sec

- **Ventera Energy (VT10-240, 10 kW):** http://venteraenergy.com/product-specs/, **V_{in} = 2.7 m/sec**

- **ReDriven Power, Inc. (2, 5, 10, & 20 kW Wind Turbines):** http://www.redriven.net/products.html, **V_{in} = 2 m/sec**

- **Wind Turbine Industries Corp. (10, 12.5, 15, 17.5, and 20 kW):** http://www.windturbine.net/products.htm, V_{in} = 3.58 m/sec

- **PROVEN ENERGY (The Proven 2.5 kW, 6.0 kW, and 15 kW):** http://www.provenenergy.co.uk/windturbines_buy_our_products.php, V_{Avg} = 5 m/sec

- **Wind Energy Solutions (WES^5 Tulips (2.5 kW):** http://www.windenergysolutions.ca/documents/WES5Tulipo_001.pdf, **V_{in} = 3 m/sec**

- **Urban/Architecture Wind Turbines:**

  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:	
• Principal Investigators’ Salaries *	15,000
• Graduate Students’ Stipends	8,000
• Undergraduate Students’ Stipends *	4,000
• Graduate students Tuitions	10,107
3. TRAVEL *	2,000
4. MISCELLANEOUS SUPPLIES *	3,000
5. INDIRECT COST	12,000
TOTAL BUDGET REQUESTED:	**54,107**

APPENDIX B

Weather Underground

Stations in Florida

APPENDIX B:

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

Weather Stations in FL, United States:

Station ID	Neighborhood	City
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 Ave	Clearwater
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	Coral Springs
KFLCORAL23	Wyndham Lakes	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
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		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
KFLDEFUN2	WZEP AM 1460 DeFuniak 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	Delray Beach
KFLDELRA18	Four Seasons	Delray Beach
KFLDELRA19	Lake Ida - Garden House	Delray Beach
KFLDELTO8	SW Deltona	Deltona
KFLDELTO9	Galveston Boulevard	Deltona
KFLDELTO12	Deltona Weather	Deltona
KFLDELTO14	Providence Blvd. & Fisher Dr.	Deltona
KFLDELTO15		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		Fort Myers
KFLFORTM50	Heritage Cove	Fort Myers
KFLFORTM51	Carriedale	Fort Myers
KFLFORTM53	Tice	Fort Myers
KFLFORTM55	Orangewood	Fort Myers
KFLFORTM59	Fleamasters Fleamarket	Fort Myers
KFLFORTM60	OCP-5 North	Fort Myers
KFLFORTM48	FMB Golf Club	Fort Myers Beach
KFLFORTM57	Pearl Street	Fort Myers Beach
KFLWHITE2	White City - Citrus Ranchlands	Fort Pierce
KFLFORTP10	Indian River Drive Dock	Fort Pierce
KFLFORTP8	Wynne Ranch	Fort Pierce/Okeechobee
KFLFORTW12	Cinco Bayou - Pocahontas Dr.	Fort Walton Beach
KFLFORTW19	Willow Bend	Fort Walton Beach
KFLFORTM58	Unger Ave	Fortmyers
KFLFOUNT2	Silver Lake Road	Fountain
KFLFREEP3	Portland	Freeport
KFLFRUIT7	Executive Cove	Fruit Cove
KFLFRUIT9	Bunker Fruit Cove	Fruit Cove
KFLFRUIT8	The Glen	Fruitland Park
KFLFTLAU7	Coretti Home	Ft Lauderdale
KFLFTLAU4	ICW @ Oakland Park Bridge	Ft. Lauderdale
KFLFTLAU10	Ft. Lauderdale Executive Airport	Ft. Lauderdale
KFLWINTE43	Star Grove II	Ft. Pierce
KFLWINTE44	Star Grove	Ft. Pierce
KFLFTPIE3	Kirchman South	Ft. Pierce
KFLFTPIE4	Kirchman North	Ft. Pierce
KFLGAINE9	Stillwind Community	Gainesville
KFLGAINE14	KC4MHH	Gainesville
KFLGAINE1	The Duckpond	Gainesville
KFLGAINE17	Suburban Heights	Gainesville
KFLGAINE20	Haile Plantation	Gainesville
KFLGAINE21	Monteocha Farms	Gainesville
KFLGAINE24	USGS	Gainesville
KFLGAINE25	Hague	Gainesville
KFLGENEV3		Geneva
KFLGOTHA4	Oaks of Windermere	Gotha
KFLGOULD2	Black Point SDWWTP	Goulds
KFLGRAND2	Sunlake Estates	Grand Island
KFLGREEN6	Magnolia Point	Green Cove Springs
KFLGREEN10		Green Cove

		Springs
KFLGREEN11	Battery Bluff	Green Cove 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 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
KFLISLAM5	Keith & Patty's Islamorada 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 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 Heights	Keystone Heights
KFLKISSI10	Southport Bay	Kissimmee
KFLKISSI15	Celebration, FL	Kissimmee
KFLKISSI17	OHP	Kissimmee
KFLKISSI19	Kissimmee	Kissimmee
KFLPOINC2	Kissimmee-Poinciana	Kissimmee-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

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
KFLLAKEP6	Placid Lakes Weather Station	Lake Placid (33852) Courtesy of 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
KFLLAKEW23	Thoroughbred Lakes	Lake Worth
KFLLAKEW27	D A N E T S	Lake Worth
KFLLAKEW29	College Park	Lake Worth
KFLLAKEW35	Park Vista High School	Lake Worth
KFLLAKEL6	SOUTHWEST LAKELAND	Lakeland
KFLLAKEL8	Grandview @ Eaglebrooke	Lakeland
KFLLAKEL9	Hawks Ridge	Lakeland
KFLLAKEL35	Lake Bonny Heights	Lakeland
KFLLAKEL38	Itchepackesassa	Lakeland
KFLLAKEL40	Lakeland Highlands	Lakeland
KFLLAKEL42	Lake Deeson	Lakeland
KFLLAKEL43	Bridgewater	Lakeland
KFLLAKEL44	Summerland Hills	Lakeland
KFLLAKEL45	Clubhouse Heritage	Lakeland
KFLLAKEL50	Lake Hancock-Circle B, FL	Lakeland
KFLLAKEL39		Lakeland Highlands
KFLLAKEW21	LWR Greenbrook	Lakewood Ranch
KFLLAKEW28	LWR - Summerfield	Lakewood Ranch
KFLLAMON2	Cabbage Grove	Lamont
KFLLANDO7	Plantation Palms Neighborhood	Land O Lakes
KFLLANDO8	Pine Glen	Land O Lakes
KFLLANDO9	Lake Padgett Estates	Land O Lakes
KFLLANTA2	Lantana	Lantana
KFLLANTA5	Island Estates	Lantana
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
KFLLUTZ5	Pickert Lane, US 41/Pasco/Hillsborough County Line	Lutz
KFLLUTZ7	Turtle Lakes	Lutz
KFLLUTZ8	Alan Archer Weather just north of Tampa, FL	LUTZ
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 Company	Merritt Island
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		Miami
KFLMIAMI79	North Miami	Miami
KFLMIAMI83	Tamiami-Imperial Lake	Miami
KFLMIAMI88	FIU MMC PG5	Miami
KFLMIAMI90	Metrozoo	Miami
KFLMIAMI92	Coconut Grove	Miami
KFLMIAMI60	FARRBETTER	Miami Beach
KFLMIAMI65	Nikki Beach Miami	Miami Beach
KFLMIAMI89	Malhotra Observatory	Miami Beach

KFLMIAMI91	Maimi Shores	Miami Shores
KFLMICAN2	Micanopy BadLands	Micanopy
KFLMIDDL9	Pine Ridge	Middleburg
KFLMILTO11		Milton
KFLMILTO12		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 Beach
KFLNEWSM11	New Smyrna RV Park	New Smyrna Beach
KFLNEWSM13	Venetian Bay-Savona North	New Smyrna Beach
KFLNEWSM14	S. Timberlane Drive	New Smyrna 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 - North	Ormond Beach

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 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 Gardens
KFLPALMB17	Palm Beach Counrty Estates	Palm Beach Gardens
KFLPALMB26	Palm Bch Cntry Estates	Palm Beach Gardens
KFLPALMB42	Palm Beach Gardens / Acreage	Palm Beach Gardens

KFLPALMB58	Palm Beach Country Estates	Palm Beach 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 Beach
KFLPANAM23	Oakwood Court	Panama City Beach
KFLPANAM35	North Lagoon	Panama City 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 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	By the River	Port Richey
KFLPORTS20	River Park	Port Saint Lucie
KFLPORTS22	N Fork St Lucie River	Port Saint Lucie
KFLPORTS55	Crosstown	Port Saint Lucie
KFLPORTS46	South Cape San Blas	Port St Joe
KFLPORTS23	Covina St	Port St John
KFLPORTS1	Floresta, The Original PSL Weather	Port St Lucie
KFLPORTS24		Port St Lucie
KFLPORTS25	South Bend	Port St Lucie
KFLPORTS41	Mansfield	Port St Lucie
KFLPORTS52	Sandpiper Bay	Port St Lucie
KFLPORTS57	Crosstown	Port St Lucie
KFLPORTS58	Rosser- Gatlin Area	Port St Lucie
KFLPORTS40	Gulf County EOC	Port St. Joe
KFLPORTS53	Jasmine Ave, Port St John	Port St. John
KFLPORTS11	Just South of St. Lucie West...hometownweather.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 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	Saint Pete Beach	Saint Pete Beach
KFLSAINT26	Lido	Saint Pete Beach
KFLSAINT18	DNS Guns at WoodLawn	Saint Petersburg
KFLSAINT25	Euclid Place	Saint Petersburg
KFLSAINT30	Disston Heights KI4TWQ	Saint Petersburg
KFLSAINT33	Disston Heights KI4TWQ-2	Saint Petersburg
KFLSAINT5	Bella Vista	Saint Petersburg Beach
KFLSALTS2	North Shore Little Lake Kerr - Ocala National Forest	Salt Springs
KFLSALTS3	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 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		Seminole
KFLSEMIN20	Country Estates	Seminole
KFLSEMIN22	Bardmoor	Seminole
KFLCRAWF5	Wakulla Springs	Shadeville
KFLSILVE3	Yancey Blueberry	Silver Springs
KFLSINGE2	Singer Ialand	Singer Island
KFLAPOPK15	Sorrento - Sorrento Springs	Sorrento
KFLSORRE4	Mt. Plymouth	Sorrento
KFLSOUTH17	South Area Sec 13 South Bay	South Bay
KFLSOUTH16	South Daytona UBBB.us	South Daytona
KWFLHIGH2		South of High Springs
KFLSOUTH11		South Ponte Vedra 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		St. Augustine
KFLSTAUG19	Salt Run	St. Augustine
KFLSTAUG21	Solano Cove	St. Augustine
KFLSTCLO2		St. Cloud
KFLSTGEO2	Rainbows End in Treasure Cove	St. George Island
KFLST.JA1		St. James City
KFLSTPET33	Central Oak Park	St. Petersburg
KFLSTPET34	Jungle Cove	St. Petersburg
KFLSTPET42	Municipal Marina	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, 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 WeatherSTEM	Tallahassee
KFLTALLA53	DeSoto Trail Elementary WeatherSTEM	Tallahassee
KFLTALLA54	Rickards High School 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 North	Tampa
KFLTAVAR2	Tavares-Squirrel Point	Tavares
KFLTAVER7	Tavernier Creek	Tavernier
KFLTEMPL2	Pleasant Terrace	Temple Terrace
KFLTEQUE4		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		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

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 / 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 WeatherSTEM	Woodville
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	Arcadia FAWN	Arcadia
M058AX	058A Arcadia FL US USARRAY	Arcadia
MCRAF1	CENTRAL FL US	Astor
MKS058		Atlantic Beach
MC2098	Jacksonville FL US	Atlantic Beach
MNWS0020		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		Bal Harbour
MD5199	Surfside FL US	Bal Harbour
MBARF1	PEACE RIVER NEAR BARTOW FL US USGS	Bartow
MRVRA1	RIVER ROAD FARMS AL US SCAN	Bascom
M959AX	959A Okeechobee FL US USARRAY	Basinger
MBELLW	BELLW	Belle Glade
MBLDF1	Belle Glade FAWN	Belle Glade
MAS321	Largo FL US	Belleair Bluffs
MD1404	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 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 MOLINO 6SE FL US USGS	Cantonment

MDGNB		Cape Canaveral
M41113		Cape Canaveral
MKCGH		Cape Canaveral
MKS098		Cape Canaveral
MC6925	Cape Coral FL US	Cape Coral
MD0626	Cape Coral FL US	Cape Coral
M15919		Cape Coral
MD3622	Cape Coral FL US	Cape Coral
M3FPQ9		Captiva
M42023		Captiva
MD5BR6		Captiva
M758AX	758A Lake Helen FL US USARRAY	Cassadaga
MC2052	Casselberry FL US	Casselberry
MCTYF1	ESCAMBIA RVR AT STATE HIGHWAY 4 FL US USGS	Century
MC3235	Pinellas Co FL US	Clearwater
MAU483	Clearwater FL US	Clearwater
ME2433	Clearwater FL US	Clearwater
MAR543	Clermont FL US	Clermont
MCFSW	CFSW	Clewiston
MAIRGL	Airglades Airport FAWN	Clewiston
MC2306	Rockledge FL US	Cocoa
MAP602	Port St John FL US	Cocoa
ME0598	Viera FL US	Cocoa
M062ZX	062Z Marathon FL US USARRAY	Conch Key
MAS155	Davie FL US	Cooper City
MC6345	Davie FL US	Cooper City
MTS869	WAKULLA PORTABLE FL US	Crawfordville
M553AX	553A Crawfordville FL US USARRAY	Crawfordville
MD0696	Crestview FL US	Crestview
MCRVF1	SHOAL RIVER NEAR CRESTVIEW 4S FL US USGS	Crestview
M450AX	450A Crestview FL US USARRAY	Crestview
ME2528	Crystal Beach FL US	Crystal Beach
MAS549	Dade City FL US	Dade City
MPMSFL	Dade City FL US	Dade City
MD1717	Dade City FL US	Dade City
MD1929	Daytona Beach FL US	Daytona Beach
M7FL6	SPRUCECREEK FL US SUPERAWOS	Daytona Beach
MAT313	DeBary FL US	Debary
MC9268	Pompano Beach FL US	Deerfield Beach

MAN124	POMPANO_BEACH FL BROWCAQD	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
MDOVF1	Dover FAWN	Dover
MLIOF1	Live Oak FAWN	Dowling Park
MAR666	Dundee FL US	Dundee
MAR610	Dunedin FL US	Dunedin
MD1923	Lithia FL US	Durant
MLITF1	ALAFIA RIVER NEAR LITHIA 4W FL US USGS	Durant
MAPQF1	NERRS WATER QUALITY SITE NEAR APALACHI	Eastpoint
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
MFRTPS	PrivateSky (R) Aviation Fort 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
MTR992	NAVAL LIVE OAKS FL US	Gulf Breeze
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
MJDWX	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		Homosassa
MD7434	Homosassa FL US	Homosassa
MC6650	Bird Island FL US	Horseshoe Beach
M655AX	655A Horseshoe Beach FL US 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
M060AX	060A Indiantown FL US USARRAY	Indiantown
M657AX	657A Interlachen FL US 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		Jacksonville
MD2737	St. Augustine FL US	Jacksonville
MAT592	Jacksonville FL US	Jacksonville
MPCQL		Jensen Beach
MWBN4382		Jensen Beach
MOASF1	OASIS FL US	Jerome
MOCOF1	OCHOPEE RAWS FL US	Jerome
MRACF1	RACCOON POINT RAWS FL US	Jerome
MCFNF1	BIG CYPRESS NR EVERGLADES CITY 5NFL US	Jerome
M061ZX	061Z Ochoppi FL US USARRAY	Jerome
MAS574	Jupiter FL US	Jupiter
MWVDG		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 Center
MCTKF1	SITE AT KENNEDY SPACE CENTER FL US	Kennedy Space Center
MMIA3	Miami, FL	Key Biscayne
MC6PT7		Key Colony Beach
MPHPO		Key Largo
MC8858	Key West FL US	Key West
MPLSF1		Key West
MSANF1		Key West
MJ8NY		Key West
MWJBJ		Key West
MV3WW6		Key West
MPHFV		Key West
MWBVZ		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

M556AX	556A Lake Butler FL US 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		Layton
MC4679	Lehigh Acres FL US	Lehigh Acres
MBALM	Balm FAWN	Lithia
MFL001	Falmouth (I-10 and US-90) FL US 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
MMALF1	CHIPOLA RIVER NEAR MARIANNA 1E FL US USGS	Marianna
MAP150	Spring Hill FL US	Masaryktown
MLURF1	SUWANNEE RIVER NEAR 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

MAU006	Palm Bay FL US	Melbourne
MD7688	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
MMONTI	Monticello FAWN	Monticello
MPMLF1	PALMER MILL BRANCH AT MONTICELLO FL US	Monticello
ML005	Lake Oke West End	Moore Haven
M059AX	059A Moore Haven FL US USARRAY	Moore Haven
MAU494	Mulberry FL US	Mulberry
MAS257	Verna FL US	Myakka City
MMKHF1	MANATEE RVR AT HWY 64 NR MYAKKA FL US USGS	Myakka City
MAT742	Ruskin FL US	Myakka City
MAR916	Naples FL US	Naples

MC5783	Naples FL US	Naples
MSGGEW	SGGEWX	Naples
MNPSF1	Naples, FL NWLON	Naples
MAP022	Naples FL US	Naples
MTS787	PANTHER WEST FL US	Naples
MTS786	PANTHER EAST FL US	Naples
MPHWF1	PANTHER WEST FL US	Naples
MAT817	Golden Gate FL US	Naples
MPSTF1	PANTHER EAST FL US	Naples
MKS099		Naples
MMLYF1	YELLOW RIVER NEAR MILTON 7ESE FL US USGS	Navarre
MC8133	New Smyrna Beach FL US	New Smyrna Beach
MNWS0008		New Smyrna 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
MNPORT	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
M557AX	557A Orange Park FL US USARRAY	Orange Park
MAP008	Orlando FL US	Orlando
MAP063	Orlando FL US	Orlando
MAP723	Orlando FL US	Orlando
MC6860	Orlando FL US	Orlando
MA8GU6		Orlando
MC9347	Orlando FL US	Orlando

MBLAF1	BAY LAKE DEEP WELL NEAR WINDERME FL US USGS	Orlando
MAT236	Orlando FL US	Orlando
MWBO3345		Orlando
M3FMI5		Orlando
MA8NH4		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
MLZ40	Lake Oke Center	Pahokee
MTS959	PAISLEY FL US	Paisley
MAR488	Palm Bay FL US	Palm Bay
MC7246	Palm Beach Gardens FL US	Palm Beach 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 Beach
MKS087		Panama City Beach
M060ZX	060Z West Palm Beach FL US USARRAY	Parkland
MAP373	Cocoa Beach FL US	Patrick Air Force Base
MC8720	Merritt Island FL US	Patrick Air Force Base
MWDD6704		Patrick Air Force 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
MWRWX	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
MSVWX	SVWX	Port Saint Lucie
MC7883	Poer St Lucie FL US	Port Saint Lucie
MC5990	Port Saint Lucie FL US	Port Saint Lucie
MAT860	Port St Lucie FL US	Port Saint Lucie
MD8693	Port Saint Lucie FL US	Port Saint Lucie
MKNJD		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
MAT744	Riverview FL US	Riverview
MAT743	Riverview FL US	Riverview

MKS076		Riviera Beach
MC6107	Rockledge FL US	Rockledge
MKX26	SEBASTIAN FL US SUPERAWOS	Roseland
MC8579	Safety Harbor FL US	Safety Harbor
MSAUF1		Saint Augustine
MGTQF1	NERRS WATER QUALITY SITE AT MATANZAS	Saint Augustine
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
M859AX	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 PARK FL US USGS	Saint Petersburg
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 PARK FL US USGS	Sarasota
MD3408	Sarasota FL US	Sarasota

MAU351	Sarasota FL US	Sarasota
MAS064	Sebring FL US	Sebring
MSEBF1	Sebring FAWN	Sebring
MLWEF1	LAKE WALES FL US	Sebring
MD4946	Seffner FL US	Seffner
MAS052	Seminole FL US	Seminole
MD5540	Shalimar FL US	Shalimar
MC5909	Port St. John FL US	Sharpes
MAR243	Donalsonville GA US	Sneads
MSNDF1	SANBORN FL US	Sopchoppy
MFPWX	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 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 BLOXHAM 1 FL US USGS	Telogia
MD7756	Titusville FL US	Titusville
MUMLF1	Umatilla FAWN	Umatilla
MC1912	Valrico FL US	Valrico
MVENF1		Venice
MABS01	8 mi S/Lk Placid, FL S/SR70 on Old SR8 Archbold	Venus
MABDF1	ARCHBOLD BIO STN SEBRING 23 SSE FL US	Venus
MC5924	Vero Beach FL US	Vero Beach
M41114		Vero Beach
MD2040	Vero Beach FL US	Vero Beach
M41663		Vero Beach
MINDRV	Indian River FAWN	Vero Beach
M958AX	958A Wauchula FL US USARRAY	Wauchula
M451AX	451A Vernon FL US USARRAY	Wausau
MAS720	Lake City FL US	Wellborn
MFHCHS	FHCHSX	West Palm Beach
MS78W	S78W	West Palm Beach
MKS011		West Palm Beach
MD4888	West Palm Beach FL US	West Palm Beach
MS140W	S140W	Weston
MC0294	Weston FL US	Weston
M552AX	552A Lynn Haven FL US 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
M957AX	957A Wimauma FL US 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
MC0927	Apopka FL US	Winter Park

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 USARRAY	Zephyrhills
MC3266	Zolfo Springs FL US	Zolfo Springs