

# Florida Aviation & Aerospace Industry

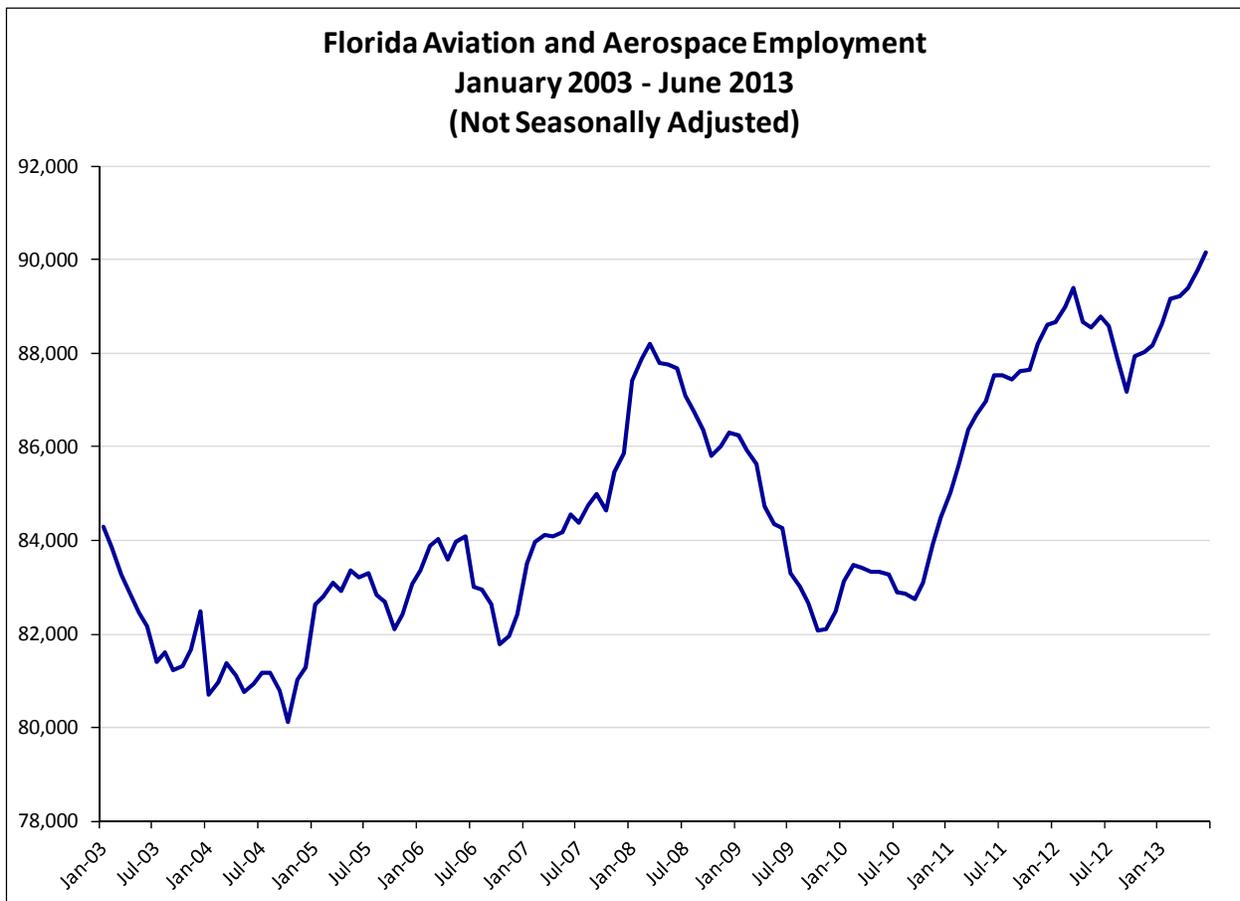


## Florida Aviation and Aerospace Industry Cluster

Florida's aviation and aerospace industry cluster is comprised of the aviation industry (Part I) and the aerospace industry (Part II).

Some of the largest industry sectors by employment within the aviation and aerospace industry include: scheduled passenger air transportation; other support activities for air transportation; other airport operations; and search, detection, and navigation instruments manufacturing.

- The aviation and aerospace industry had 2,192 establishments in June 2013, with employment of 90,148. Employment was up 1,365 jobs (+1.5 percent) from June 2012. Aviation and Aerospace employment reached a low of 80,120 jobs in October 2004 and has increased since that time. From its trough in October 2004, this industry has gained 10,028 jobs (+12.5 percent).

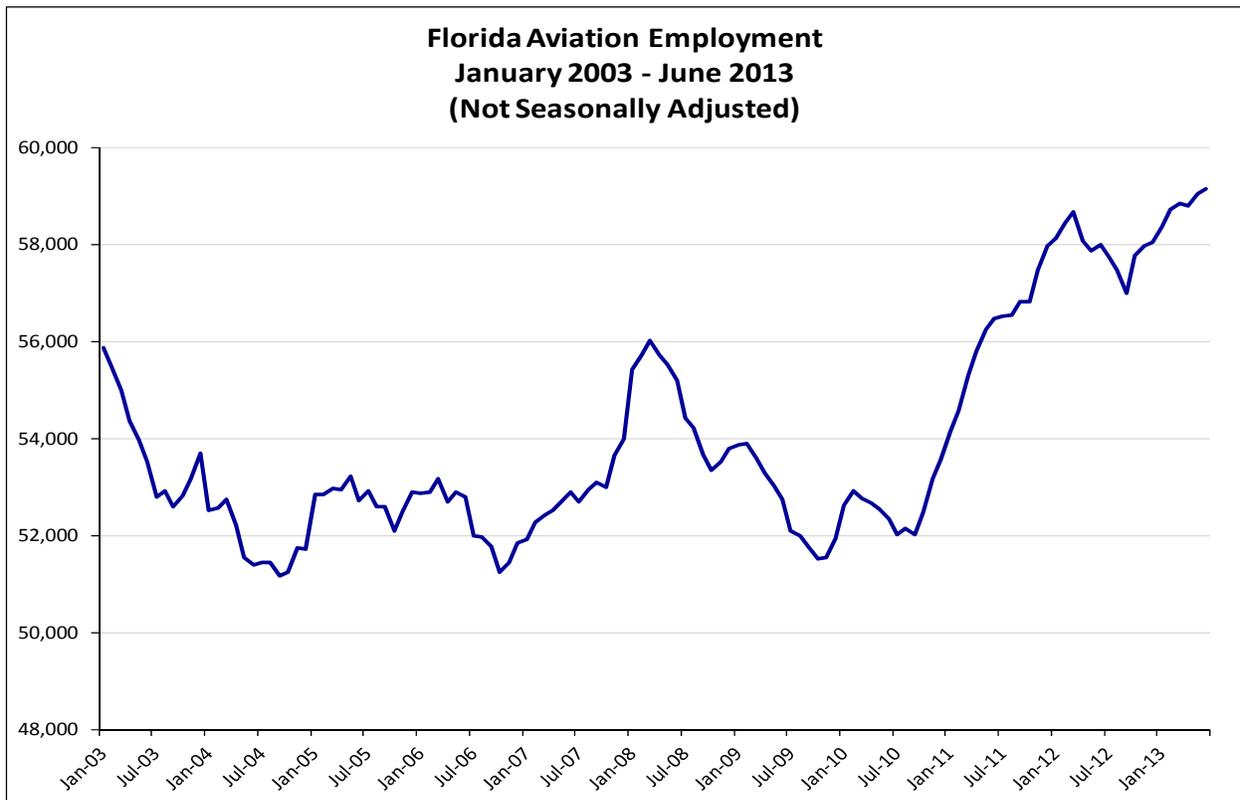


Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Quarterly Census of Employment and Wages program (QCEW).

## Florida Aviation Industry, Part I

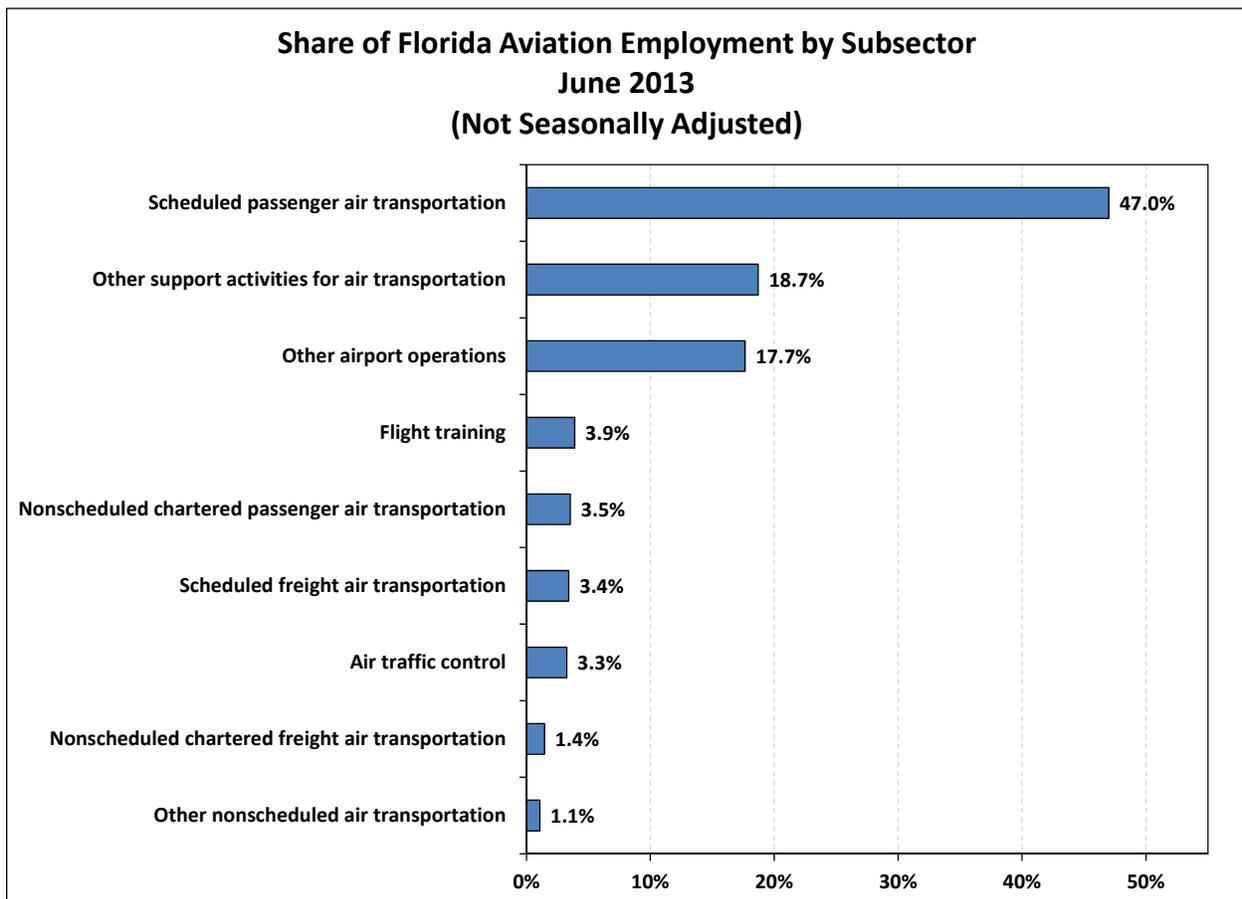
Florida has a rich history of aviation firsts, being the site of the first night flight in aviation history (Tampa, 1911) and having the world's first scheduled airline service (St. Petersburg to Tampa, 1914). Florida is the birthplace of commercial aviation and the air transportation hub of the Western Hemisphere, according to Enterprise Florida, Inc. Florida commercial airports accommodate more than 143.5 million passengers annually and Florida airports enplane 8.0 percent of the air cargo for the nation. The aviation industry in Florida includes air transportation, support activities for air transportation, and flight training.

- The aviation industry includes the following detailed subsectors: scheduled passenger and freight air transportation; nonscheduled chartered passenger and freight air transportation; other nonscheduled air transportation; air traffic control; other airport operations; other support activities for air transportation; and flight training.
- The aviation industry had 1,709 establishments and employment of 59,153 in June 2013, up 1,161 jobs (+2.0 percent) from June 2012. Total jobs for all industries increased by 2.4 percent during the same time period.



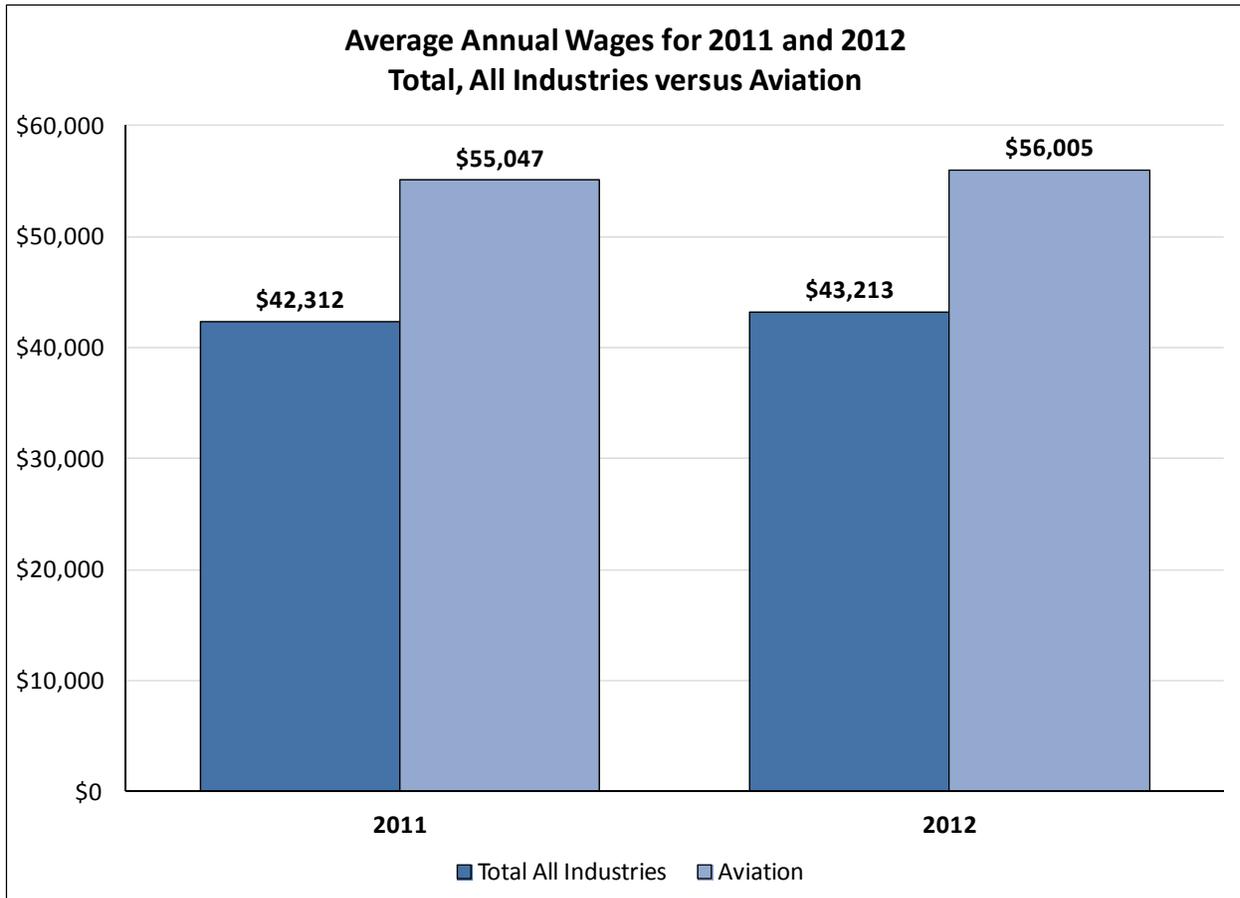
Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Quarterly Census of Employment and Wages program (QCEW).

- Florida aviation employment was on a downward trend from March 2008 to October 2009, but it has shown an upward trend since its October 2009 trough. Employment increased by 7,628 jobs (+14.8 percent) from October 2009 to June 2013. Total employment for all industries increased by 4.3 percent over the same time period, a modest growth rate in comparison to aviation.
- The largest subsectors in aviation in June 2013 were scheduled passenger air transportation (27,802 jobs); other support activities for air transportation (11,064 jobs); and other airport operations (10,441 jobs). These three subsectors made up 83.4 percent of aviation employment in June 2013 and 54.7 percent of the aviation and aerospace cluster's employment. Employment in scheduled passenger air transportation alone represents 47 percent of total aviation employment and 30.8 percent of the aviation and aerospace cluster's employment.



Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Quarterly Census of Employment and Wages program (QCEW).

- Within the aviation industry, other support activities for air transportation gained the most jobs over the year in June 2013 (+690 jobs, +6.7 percent). The subsector losing the most jobs over the year in aviation was nonscheduled chartered passenger air transportation (-257 jobs, -10.9 percent).



Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Quarterly Census of Employment and Wages Program.

- Aviation's 2012 average annual wage increased more than the average wage for all industries over the year, but it grew at a slower rate. The 2012 average annual wage for workers in the aviation industry was \$56,005, an increase of \$958 (+1.7 percent) from 2011. The average annual wage for all industries grew by \$901 (+2.1 percent) over the year.
- The aviation industry's 2012 average annual wage exceeded the average annual wage for all industries by \$12,792 (+29.6 percent). This difference was only slightly changed from 2011 when it was \$12,735 (+30.1 percent).

- The air traffic control subsector had an average annual wage of \$92,751 in 2012, the highest in aviation. Other airport operations had the lowest average annual wage in 2012 (\$32,577). Eight of the nine subsectors in aviation had 2012 average annual wages exceeding \$50,000. Compared to the average annual wage for all industries in 2012 (\$43,213), most aviation subsectors had relatively high average annual wages.

## All Education and Training Levels

Top Occupations in the Aviation Industry for All Training Levels							
Occupation Title	Employment		Change		% of Industry Total	2013 Average Hourly Wage	Training Requirement
	2013	2021	Total	Percent			
<b>Total, All Aviation Occupations</b>	<b>64,320</b>	<b>70,466</b>	<b>6,146</b>	<b>9.56</b>			
Reservation and Transportation Ticket Agents and Travel Clerks	7,064	7,535	471	6.67	11.0	\$15.40	High school
Flight Attendants	6,550	6,985	435	6.64	10.2	\$22.63	High school
Aircraft Mechanics and Service Technicians	6,077	6,348	271	4.46	9.4	\$25.51	PSAV Certificate
Airline Pilots, Copilots, and Flight Engineers	4,167	4,610	443	10.63	6.5	\$66.34	Associate degree
Laborers and Freight, Stock, and Material Movers, Hand	3,990	4,214	224	5.61	6.2	\$12.29	Less than high school
Baggage Porters and Bellhops	2,999	3,376	377	12.57	4.7	\$10.97	Less than high school
Cargo and Freight Agents	2,383	2,657	274	11.50	3.7	\$20.78	PSAV Certificate
Commercial Pilots	2,299	2,468	169	7.35	3.6	\$47.81	PSAV Certificate
Avionics Technicians	672	707	35	5.21	1.0	\$25.14	PSAV Certificate
Maintenance Workers, Machinery	648	732	84	12.96	1.0	\$17.60	PSAV Certificate
Transportation Workers, All Other	586	627	41	7.00	0.9	\$15.62	Less than high school
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	220	261	41	18.64	0.3	\$21.53	PSAV Certificate
Airfield Operations Specialists	182	197	15	8.24	0.3	\$25.69	Associate degree
Aircraft Cargo Handling Supervisors	113	120	7	6.19	0.2	\$23.13	Associate degree
Transportation Inspectors	97	116	19	19.59	0.2	\$44.83	High school

Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Long Term Projections Program, forecast to 2021. Projections to the year 2021 assume continued economic recovery.

- The top 15 aviation-specific occupations account for 59.2 percent of total occupational employment in aviation.
- Transportation inspectors (+19.59 percent) and aircraft structure, surfaces, rigging, and systems assemblers (+18.64 percent) are projected to grow the fastest from 2013 to 2021. Aircraft mechanics and service technicians (+4.46 percent) and avionics technicians (+5.21 percent) are projected to grow the slowest.
- Reservation and transportation ticket agents and travel clerks are projected to gain the most jobs (+471 jobs) among the top fifteen aviation-specific occupations. None of the top 15 occupations are projected to have declining employment from 2013 to 2021.

- Average hourly wages for the top 15 aviation-specific occupations range from a high of \$66.34 for airline pilots, copilots, and flight engineers to a low of \$10.97 for baggage porters and bellhops.
- None of the top fifteen occupations require a bachelor's degree, but 9 require training beyond high school.

## Bachelor's Degree or Higher

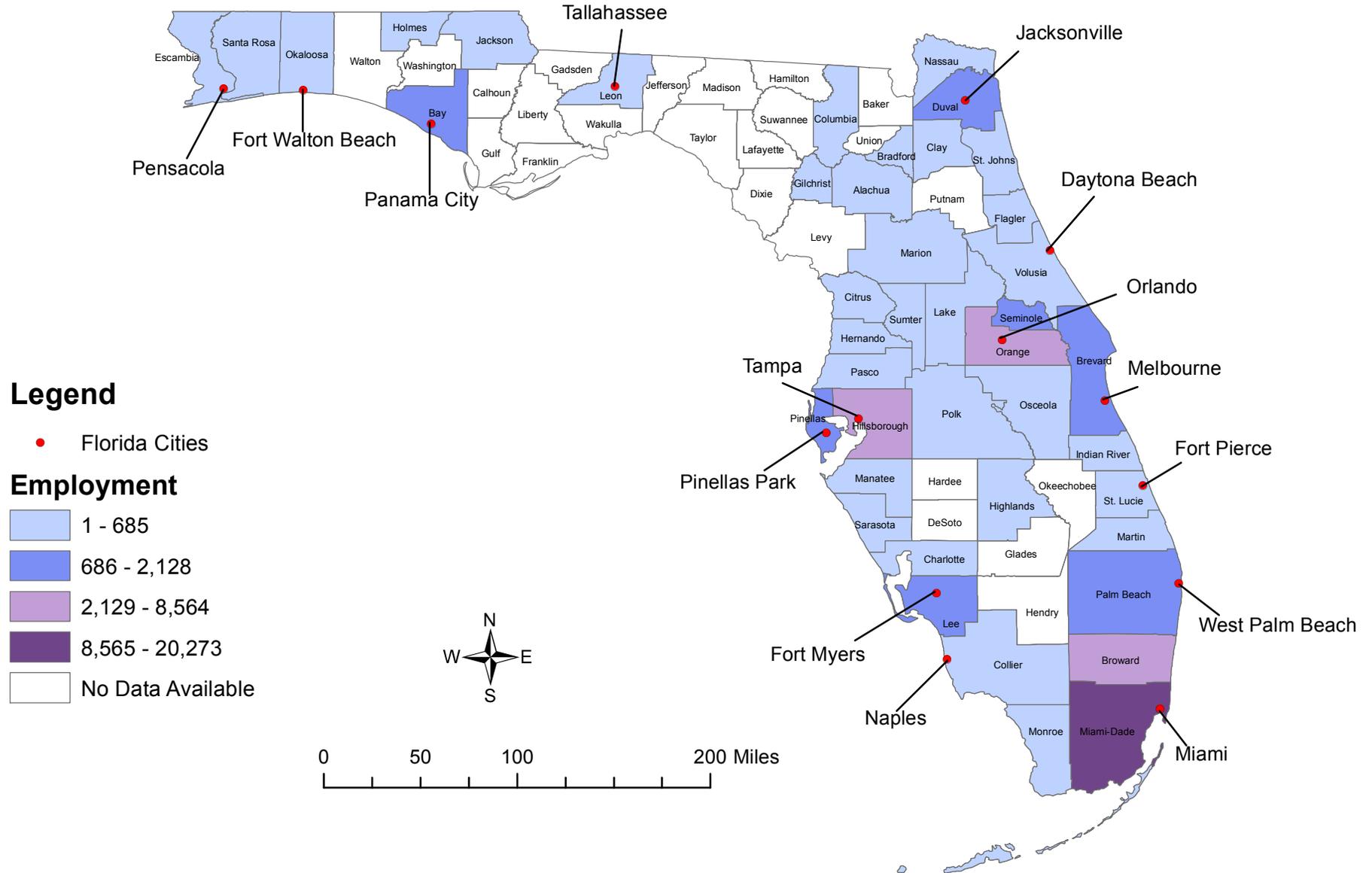
Top Occupations in the Aviation Industry that Require a 4-Year Degree or Higher							
Occupation Title	Employment		Change		% of Industry Total	2013 Average Hourly Wage	Training Requirement
	2013	2021	Total	Percent			
<b>Total, All Aviation Occupations</b>	<b>64,320</b>	<b>70,466</b>	<b>6,146</b>	<b>9.56</b>			
Accountants and Auditors	489	533	44	9.00	0.8	\$32.41	Bachelor's degree
Management Analysts	108	117	9	8.33	0.2	\$37.43	Bachelor's degree
Chief Executives	103	102	-1	-0.97	0.2	\$95.77	Bachelor's degree
Training and Development Specialists	89	106	17	19.10	0.1	\$26.75	Bachelor's degree
Public Relations Specialists	87	95	8	9.20	0.1	\$29.36	Bachelor's degree
Logisticians	69	87	18	26.09	0.1	\$33.65	Bachelor's degree
Financial Analysts	63	68	5	7.94	0.1	\$35.46	Bachelor's degree
Financial Managers	61	66	5	8.20	0.1	\$61.23	Bachelor's degree
Industrial Engineers	60	62	2	3.33	0.1	\$34.37	Bachelor's degree
Aerospace Engineers	58	66	8	13.79	0.1	\$43.03	Bachelor's degree
Sales Managers	41	45	4	9.76	0.1	\$62.75	Bachelor's degree
Operations Research Analysts	38	44	6	15.79	0.1	\$27.78	Master's degree and above
Market Research Analysts and Marketing Specialists	36	48	12	33.33	0.1	\$28.45	Bachelor's degree
Computer and Information Systems Managers	19	20	1	5.26	0.0	\$64.20	Bachelor's degree
Engineering Managers	18	20	2	11.11	0.0	\$57.65	Bachelor's degree

Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Long Term Projections Program, forecast to 2021. Projections to the year 2021 assume continued economic recovery.

- The top 15 high skill aviation occupations make up 2.1 percent of the total occupational employment in the industry.
- Market research analysts (+33.33 percent) and logisticians (+26.09 percent) have the highest projected growth rates from 2013 to 2021, while chief executives is the only occupation in the 15 that is projected to lose employment (-0.97 percent).
- Accountants and auditors are projected to gain the most jobs among top high skill aviation occupations (+44 jobs). Chief executives is the only occupation in the top 15 projected to decline from 2013 to 2021. Thirteen of the high skill occupations are projected to have employment gains of less than 20 jobs.

- Average hourly wages for the top 15 high skill aviation occupations range from a high of \$95.77 for chief executives to a low of \$26.75 for training and development specialists.
- Only one of the top 15 high skill aviation occupations, operations research analysts, requires a master's degree or higher.
- Aviation employment is concentrated along the coast in south, south-central, northeastern and northwestern Florida with the largest number of jobs found in Miami-Dade, Broward, Hillsborough, and Orange Counties.

# Concentration of Aviation Employment



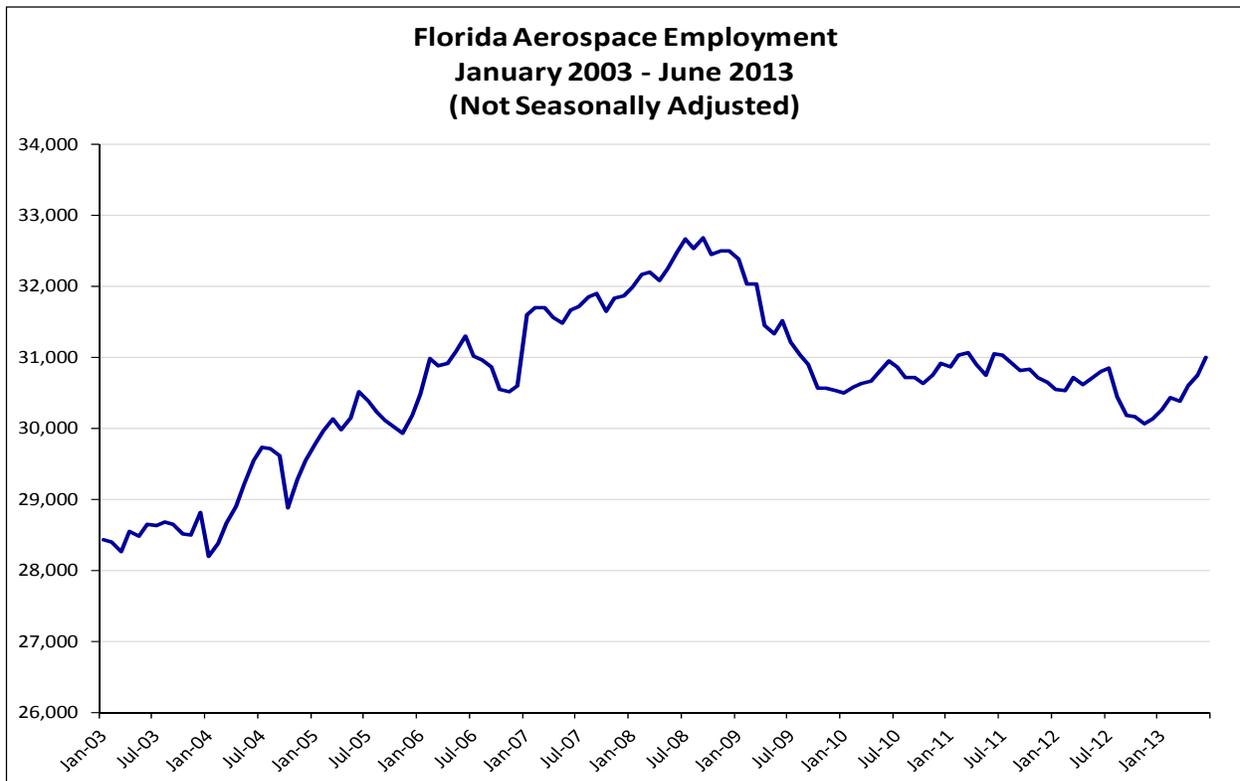
Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Quarterly Census of Employment and Wages Program, 2013, Q2, Prepared February 2014.



## Florida Aerospace Industry, Part II

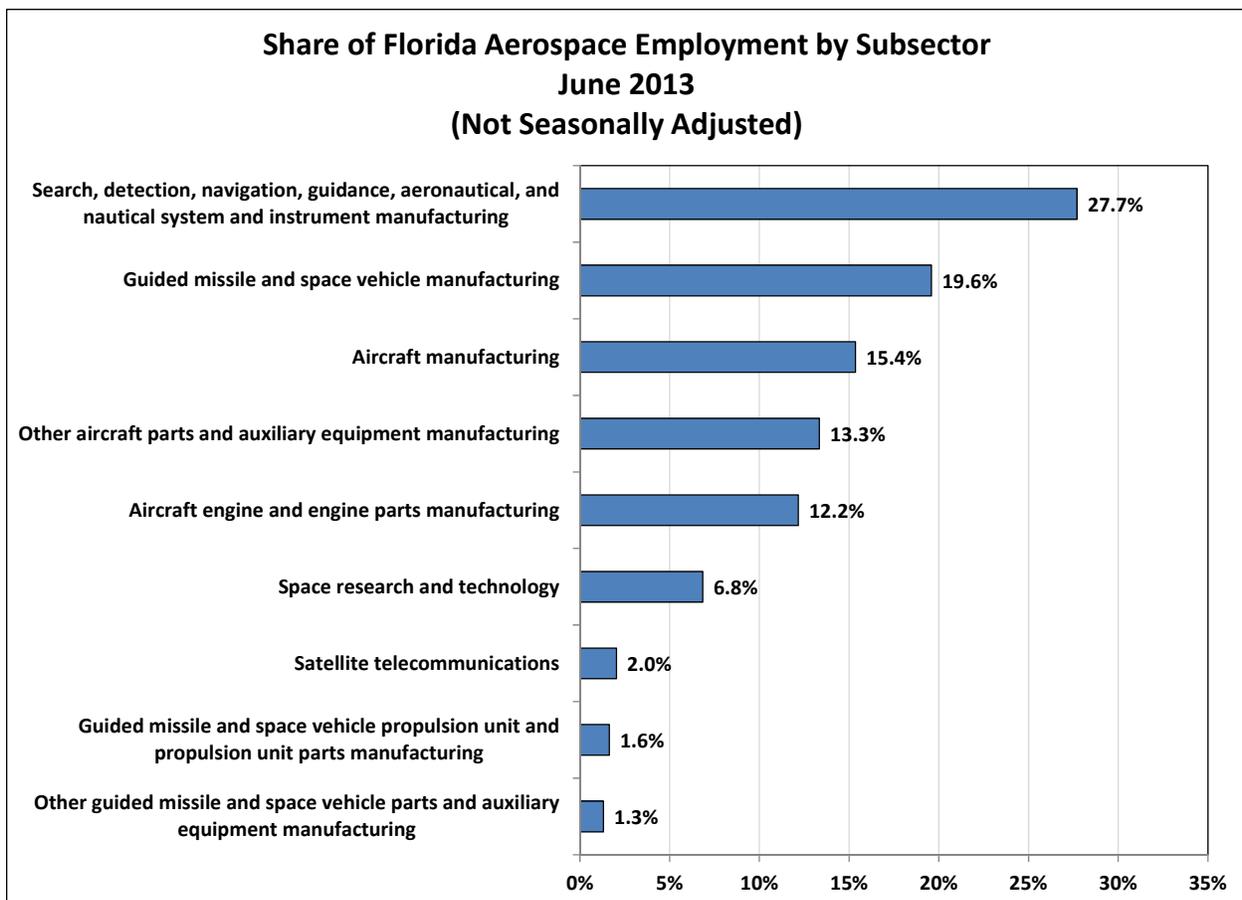
Florida is known as the premier location in the world for space technologies. Virtually every major aerospace company and defense contractor from the U.S. and abroad has operations in Florida. The state has been a center for aerospace research and testing since 1946. Florida's aerospace industry includes search, detection, and navigation instrument manufacturing, aerospace product and parts manufacturing, satellite communications, and space research and technology.

- The aerospace industry includes the following detailed subsectors: search, detection, and navigation instruments manufacturing; aircraft manufacturing; aircraft engine and engine parts manufacturing; other aircraft parts and auxiliary equipment manufacturing; guided missile and space vehicle manufacturing; guided missile and space vehicle propulsion unit and other parts manufacturing; other guided missile and space vehicle parts and auxiliary equipment manufacturing; satellite telecommunications; and space research and technology.
- The aerospace industry had 483 establishments in June 2013 with employment of 30,995, up 204 jobs (+0.7 percent) from June 2012. Total jobs for all industries increased by 2.4 percent during the same time period.



Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Quarterly Census of Employment and Wages program (QCEW).

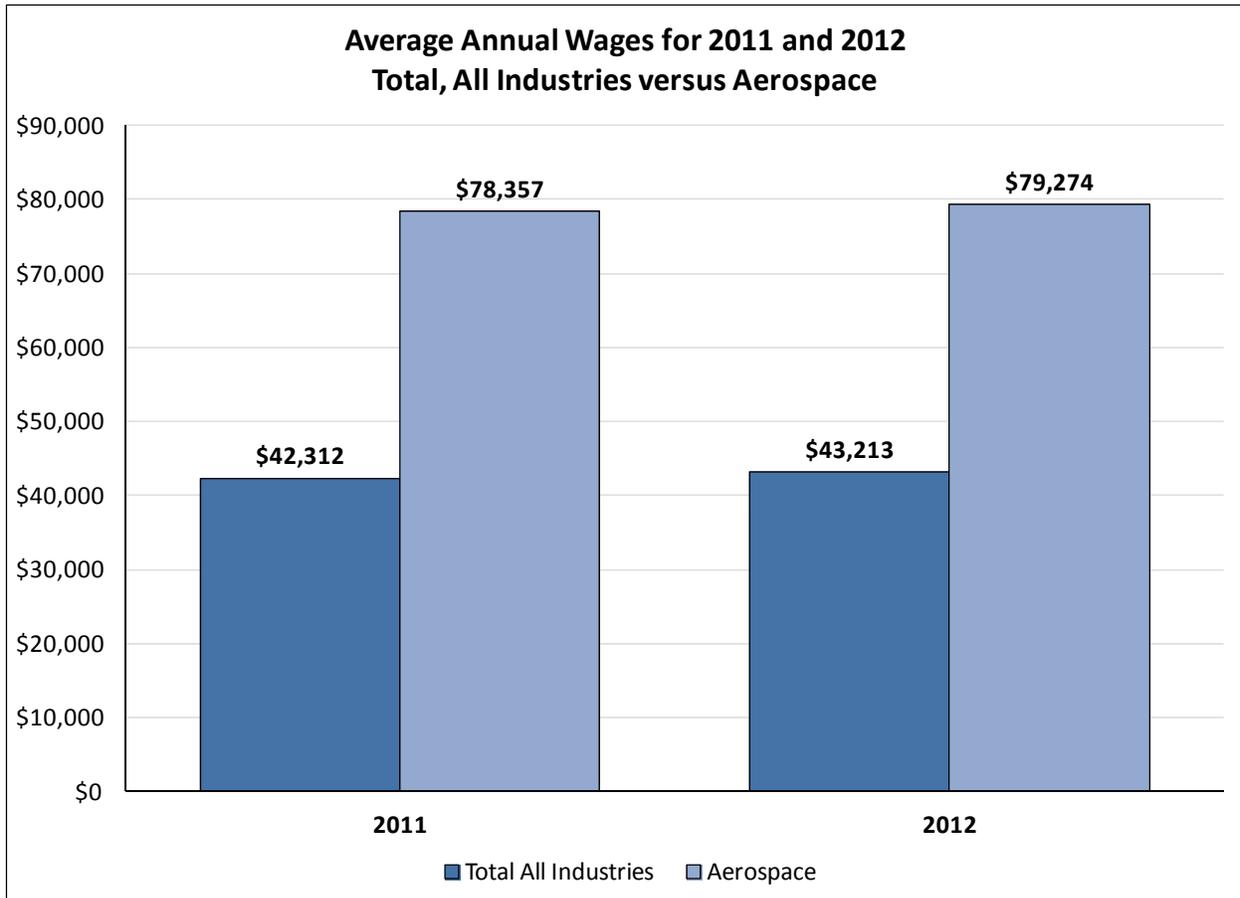
- Aerospace employment was on an upward trend from January 2003 to September 2008, peaking at 32,681 jobs in September 2008. From September 2008 to January 2010 the industry followed a negative trend, losing 2,180 jobs (-6.7 percent). Employment stabilized from January 2010 to July 2012, before dropping to the most recent low of 30,057 jobs in November 2012. From this low, aerospace employment has shown some improvement, gaining 938 jobs (+3.1 percent) by June 2013. Compared to the peak level, June 2013 employment is still down 1,686 jobs (-5.2 percent).



Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Quarterly Census of Employment and Wages program (QCEW).

- The largest subsectors in aerospace in June 2013 were search, detection, and navigation instruments manufacturing (8,586 jobs); guided missile and space vehicle manufacturing (confidential); and aircraft manufacturing (4,760 jobs). These three subsectors made up 62.6 percent of aerospace employment in June 2013 and 21.5 percent of the aviation and aerospace cluster's employment.

- Within the aerospace industry, other aircraft parts and auxiliary equipment manufacturing gained the most jobs over the year in June 2013 (+550 jobs, +15.3 percent). The subsector losing the most jobs over the year in aerospace was aircraft engine and engine parts manufacturing (-344 jobs, -8.4 percent).



Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Quarterly Census of Employment and Wages program (QCEW).

- Aerospace's 2012 average annual wage increased more than the average wage for all industries over the year, but it grew at a slower rate. The 2012 average annual wage for workers in the aerospace industry was \$79,274, an increase of \$917 (+1.2 percent) from 2011. The average annual wage for all industries grew by \$901 (+2.1 percent) over the year.
- The aerospace industry's 2012 average annual wage exceeded the average annual wage for all industries by \$36,061 (+83.4 percent). This difference was only slightly changed from 2011 when it was \$36,045 (+85.2 percent).

- The 2012 average annual wages for aerospace subsectors range from \$55,458 to over \$100,000. Space research and technology had the highest 2012 average annual wage of all aerospace subsectors (confidential). Other aircraft parts and auxiliary equipment manufacturing had the lowest average annual wage in 2012 (\$55,458). All of the nine subsectors in aerospace had 2012 average annual wages exceeding \$50,000, and seven exceeded \$70,000. Compared to the average annual wage for all industries in 2012 (\$43,213), aerospace subsectors had relatively high average annual wages.

## All Education and Training Levels

<b>Top Occupations in the Aerospace Industry for All Training Levels</b>							
Occupation Title	Employment		Change		% of Industry Total	2013 Average Hourly Wage	Training Requirement
	2013	2021	Total	Percent			
<b>Total, All Aerospace Occupations</b>	<b>34,951</b>	<b>35,523</b>	<b>572</b>	<b>1.64</b>			
Industrial Engineers	2,454	2,677	223	9.09	7.02	\$34.37	Bachelor's degree
Team Assemblers	2,253	2,229	-24	-1.07	6.45	\$12.89	High school
Electrical and Electronic Equipment Assemblers	2,128	2,064	-64	-3.01	6.09	\$15.03	PSAV Certificate
Aerospace Engineers	1,536	1,506	-30	-1.95	4.39	\$43.03	Bachelor's degree
Mechanical Engineers	1,258	1,243	-15	-1.19	3.60	\$39.16	Bachelor's degree
Inspectors, Testers, Sorters, Samplers, and Weighers	1,182	1,236	54	4.57	3.38	\$16.97	High school
Aircraft Mechanics and Service Technicians	1,112	1,163	51	4.59	3.18	\$25.51	PSAV Certificate
First-Line Supervisors/Managers of Production and Operating Workers	970	957	-13	-1.34	2.78	\$27.02	PSAV Certificate
Software Developers, Systems Software	962	1,005	43	4.47	2.75	\$45.21	Bachelor's degree
Industrial Engineering Technicians	956	1,114	158	16.53	2.74	\$22.52	PSAV Certificate
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	955	1,128	173	18.12	2.73	\$21.53	PSAV Certificate
Electrical Engineers	890	881	-9	-1.01	2.55	\$42.31	Bachelor's degree
Machinists	786	916	130	16.54	2.25	\$18.60	PSAV Certificate
Engineering Managers	699	687	-12	-1.72	2.00	\$57.65	Bachelor's degree
Aerospace Engineering and Operations Technicians	455	424	-31	-6.81	1.30	\$32.53	Associate degree

Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Long Term Projections Program, forecast to 2021. Projections to the year 2021 assume continued economic recovery.

- The top 15 aerospace-specific occupations account for 53.2 percent of total occupational employment in aerospace.
- Aircraft structure, surfaces, rigging, and systems assemblers (+18.12 percent) are projected to grow the fastest from 2013 to 2021, followed by machinists (+16.54 percent) and industrial engineering technicians (+16.53 percent). Eight of the top 15 occupations are projected to have declining employment from 2013 to 2021, with aerospace engineering and operations technicians projected to have the largest rate of decline (-6.81 percent).

- Industrial engineers (+223 jobs); aircraft structure, surfaces, rigging, and systems assemblers (+173 jobs); industrial engineering technicians (+158 jobs); and machinists (+130 jobs) are projected to gain the most jobs among the top fifteen aerospace-specific occupations. Electrical and electronic equipment assemblers are projected to lose the most jobs (-64 jobs).
- Average hourly wages for the top 15 aerospace-specific occupations range from a high of \$57.65 for engineering managers to a low of \$12.89 for team assemblers.
- Six of the top fifteen occupations require a bachelor's degree and 13 require training beyond high school.

## Bachelor's Degree

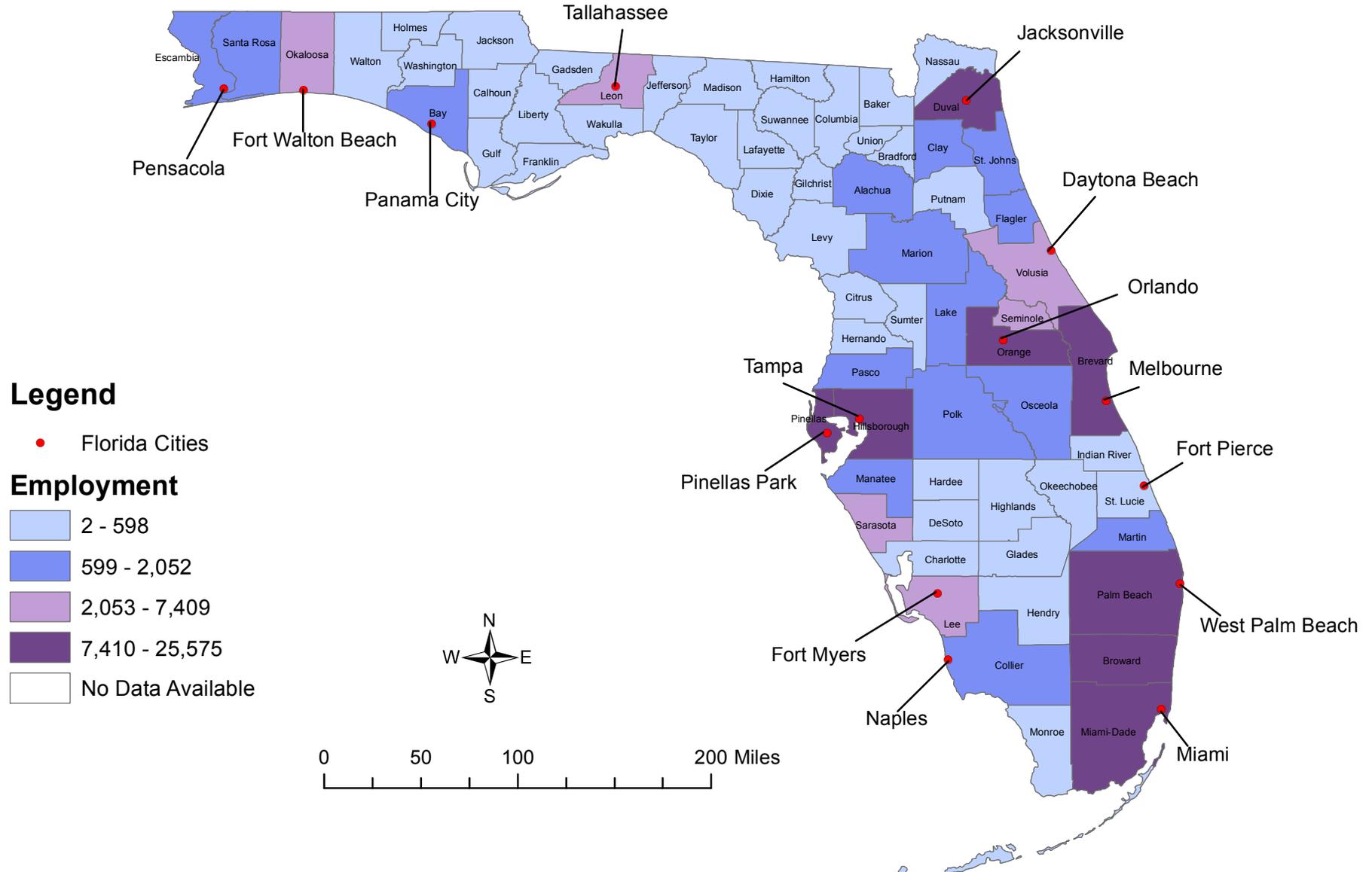
Top Occupations in the Aerospace Industry that Require a 4-Year Degree or Higher							
Occupation Title	Employment		Change		% of Industry Total	2013 Average Hourly Wage	Training Requirement
	2013	2021	Total	Percent			
<b>Total, All Aerospace Occupations</b>	<b>34,951</b>	<b>35,523</b>	<b>572</b>	<b>1.64</b>			
Industrial Engineers	2,454	2,677	223	9.09	7.02	\$34.37	Bachelor's degree
Aerospace Engineers	1,536	1,506	-30	-1.95	4.39	\$43.03	Bachelor's degree
Mechanical Engineers	1,258	1,243	-15	-1.19	3.60	\$39.16	Bachelor's degree
Software Developers, Systems Software	962	1,005	43	4.47	2.75	\$45.21	Bachelor's degree
Electrical Engineers	890	881	-9	-1.01	2.55	\$42.31	Bachelor's degree
Engineering Managers	699	687	-12	-1.72	2.00	\$57.65	Bachelor's degree
Accountants and Auditors	633	626	-7	-1.11	1.81	\$32.41	Bachelor's degree
Electronics Engineers, Except Computer	297	287	-10	-3.37	0.85	\$41.75	Bachelor's degree
Materials Engineers	223	276	53	23.77	0.64	\$41.69	Bachelor's degree
Management Analysts	223	221	-2	-0.90	0.64	\$37.43	Bachelor's degree
Financial Analysts	174	170	-4	-2.30	0.50	\$35.46	Bachelor's degree
Computer and Information Systems Managers	173	169	-4	-2.31	0.49	\$64.20	Bachelor's degree
Logisticians	156	179	23	14.74	0.45	\$33.65	Bachelor's degree
Technical Writers	138	136	-2	-1.45	0.39	\$29.79	Bachelor's degree
Sales Managers	115	113	-2	-1.74	0.33	\$62.75	Bachelor's degree

Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Long Term Projections Program, forecast to 2021. Projections to the year 2021 assume continued economic recovery.

- The top 15 high skill aerospace occupations make up 28.4 percent of the total occupational employment in the industry.
- Materials engineers (+23.77 percent) and logisticians (+14.74 percent) have the highest projected growth rates from 2013 to 2021. Eleven of the top 15 high skill occupations are projected to have declining employment from 2013 to 2021, with electronics engineers, except computer projected to have the largest rate of decline (-3.37 percent).

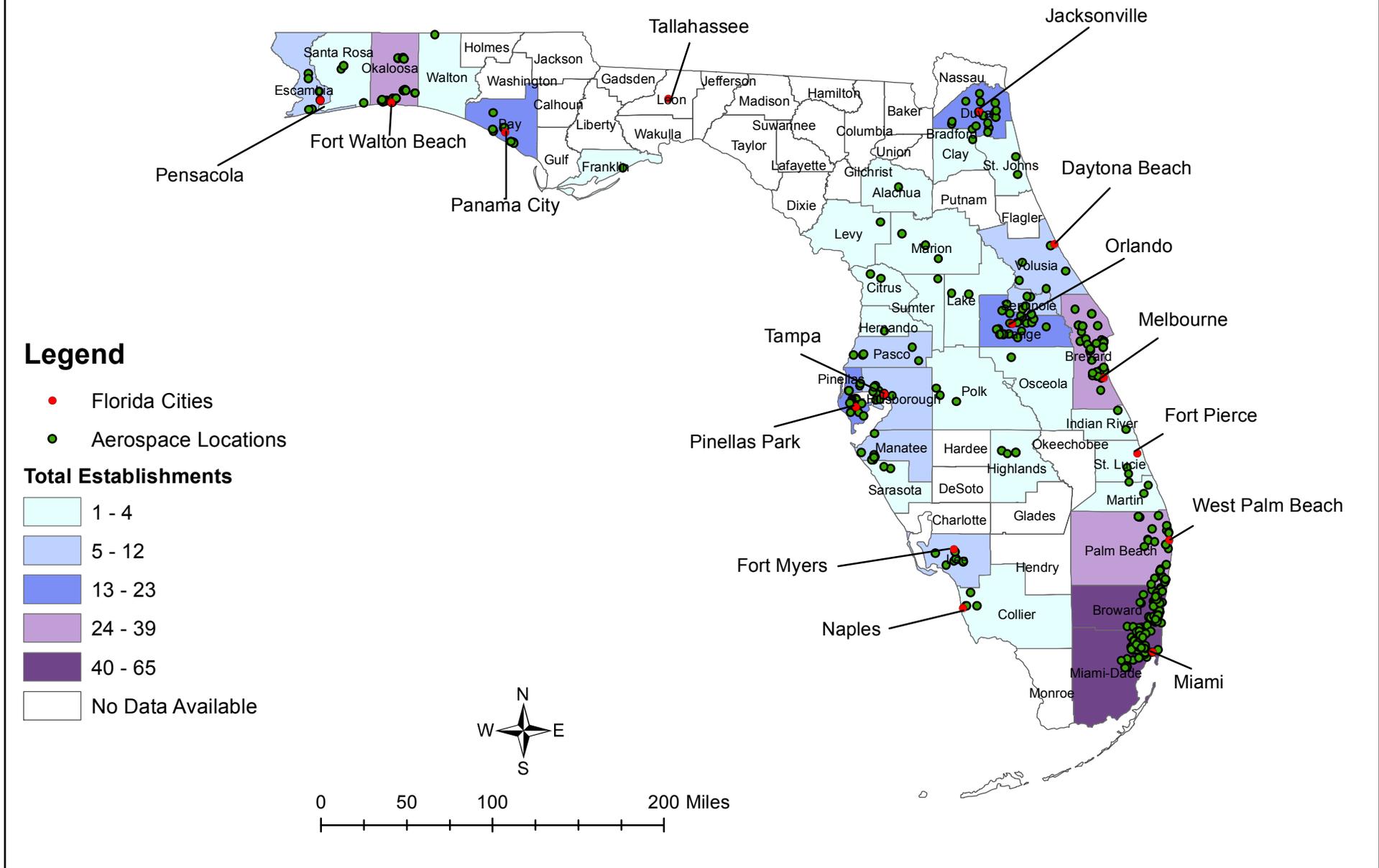
- Industrial engineers are projected to gain the most jobs among top high skill aerospace occupations (+223 jobs). Aerospace engineers (-30 jobs) are projected to lose the most jobs from 2013 to 2021. Eight of the eleven declining occupations are projected to lose ten jobs or less.
- Average hourly wages for the top 15 high skill aerospace occupations range from a high of \$64.20 for computer and information systems managers to a low of \$29.79 for technical writers.
- All of the top 15 high skill aerospace occupations require a bachelor's degree.
- Aerospace employment is concentrated along the coast in south, south-central, northeastern and northwestern Florida with the largest number of jobs found in Brevard, Broward, Duval, Hillsborough, Miami-Dade, Orange, Palm Beach, and Pinellas Counties.

# Concentration of Aerospace Employment



Source: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Quarterly Census of Employment and Wages Program, 2013, Q2, Prepared February 2014.

# Concentration of Aerospace Establishments by Location



Source: Infogroup Inc., Employer Database 2014-1st Edition.

Prepared by: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics, Prepared February 2014.