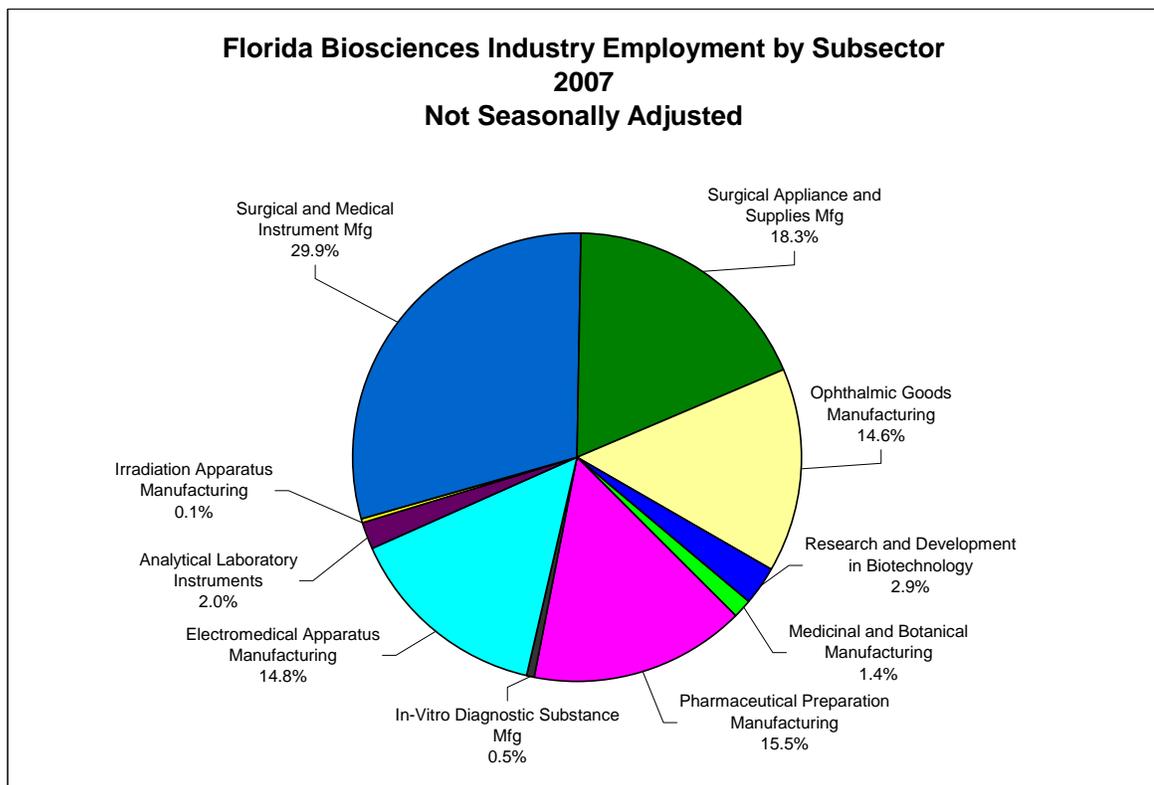


*Florida*  
**Biotechnology**  
Industry



## Florida Biosciences Industry

- The biosciences industry includes the following sectors: medicinal and botanical manufacturing, pharmaceutical preparation manufacturing, in-vitro diagnostic substance manufacturing, other biological product manufacturing; electromedical and electrotherapeutic apparatus manufacturing, analytical laboratory instrument manufacturing, irradiation apparatus manufacturing; surgical and medical instrument manufacturing, surgical appliance and supplies manufacturing, and ophthalmic goods manufacturing. Research and development in biotechnology was added to the 2007 definition of the biosciences industry<sup>1</sup>.
- The biosciences industry sector had 660 establishments in 2007 with employment of 25,754. The largest industries in biosciences in 2007 were surgical and medical instrument manufacturing (7,691 jobs), surgical appliance and supplies manufacturing (4,698 jobs), and pharmaceutical preparation manufacturing (3,990 jobs). These three industries made up 63.6 percent of the biosciences employment. The 2007 employment total included 738 jobs in research and development in biotechnology as a result of the addition of this subsector to the biosciences industry.
- Surgical appliance and supplies manufacturing gained the most jobs (+520 jobs, +12.5 percent) over the year. Ophthalmic goods manufacturing lost the most jobs (-283 jobs, -7.0 percent) over the year.

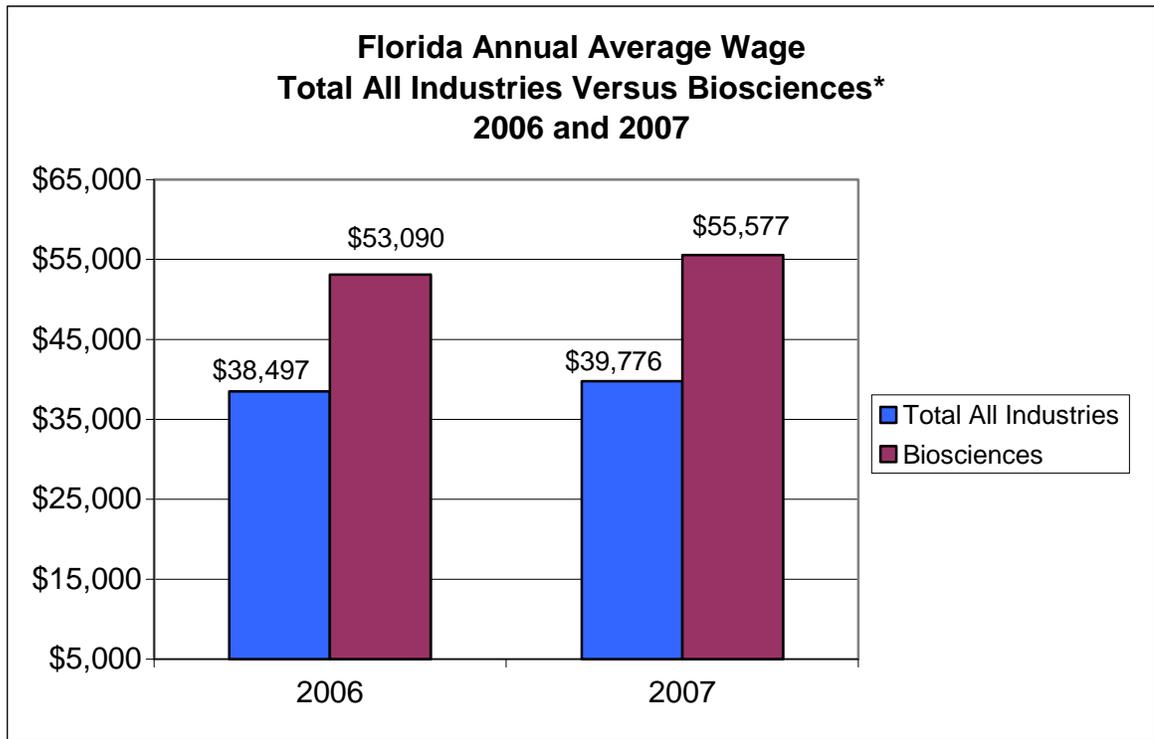


Note: Confidential industries are excluded.

Source: Florida Agency for Workforce Innovation, Labor Market Statistics Center, Quarterly Census of Employment and Wages Program (QCEW), released November 2008.

<sup>1</sup> Research and Development in Biotechnology was differentiated from other R&D activities and was separated in a new NAICS code in the 2007 NAICS edition.

- The 2007 annual average wage for workers in the biosciences industry was \$55,677, exceeding the state's total annual average wage of \$39,776 by almost 40 percent. Irradiation apparatus manufacturing had an annual average wage of \$68,659, the highest in biosciences and 72 percent higher than the state wage.
- To preserve wage comparability year over year, research and development in biotechnology was excluded from the 2006/2007 wage data comparison chart below. The average wage of this industry was \$59,075 in 2007.



Note: 2006 and 2007 biosciences wages exclude NAICS industry research and development in biotechnology.

Source: Florida Agency for Workforce Innovation, Labor Market Statistics Center, Quarterly Census of Employment and Wages Program (QCEW), released November 2008.

- Because the primary function of the biosciences industry is to manufacture pharmaceutical and medical instruments, nine of the fifteen largest occupations employed by this industry are production-related.
- Employment in the biosciences industry is concentrated in the southeast, central, and northeast parts of the state.
- The 15 largest biosciences occupations comprise about 51 percent of the total employment in this industry.
- Electrical and electronic equipment assembler is the largest occupation within the biosciences industry, with an average wage of \$26,915 annually or \$12.94 per hour.
- Among the 15 largest occupations, hourly wages ranged from a high of \$37.76 for electrical engineers to a low of \$11.14 for laborers and freight, stock, and material movers.

- Five of the fifteen largest occupations in this industry cluster have an average wage greater than \$16.00 per hour.
- The highest paying occupations in the biosciences industry are engineers and include: electrical engineers (\$37.76 per hour) and industrial engineers (\$33.19 per hour).
- Higher wages are found in occupations with greater training requirements. Nine of the top fifteen occupations in the biosciences industry require some type of postsecondary training.

Occupation Title	Employment		Annual Change		% of Industry Total	2008 Average Wage	Training Requirement
	2008	2016	Total	Percent			
<b>Total, All Occupations</b>	30,662	33,377	339	1.11		\$20.91	
Electrical and Electronic Equipment Assemblers	1,754	1,499	-32	-1.82	5.72	\$12.94	PSAV Certificate*
Team Assemblers	1,637	1,847	26	1.60	5.34	\$11.78	High School Diploma
Inspectors, Testers, Sorters, Samplers, and Weighers	1,552	1,617	8	0.52	5.06	\$14.82	High School Diploma
Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	1,498	1,720	28	1.85	4.89	\$13.67	High School Diploma
Industrial Engineers	1,204	1,476	34	2.82	3.93	\$33.19	Bachelor's Degree
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific	1,140	1,262	15	1.34	3.72	\$33.78	PSAV Certificate
First-Line Supervisors/Managers of Production and Operating Workers	989	1,085	12	1.21	3.23	\$25.55	PSAV Certificate
Electromechanical Equipment Assemblers	980	988	1	0.10	3.20	\$12.34	PSAV Certificate
Customer Service Representatives	817	957	18	2.14	2.66	\$14.05	PSAV Certificate
Machinists	756	869	14	1.87	2.47	\$16.42	PSAV Certificate
Ophthalmic Laboratory Technicians	742	852	14	1.85	2.42	\$13.58	PSAV Certificate
Office Clerks, General	693	752	7	1.06	2.26	\$11.92	High School Diploma
Packaging and Filling Machine Operators and Tenders	629	675	6	0.91	2.05	\$12.22	Less Than High School
Laborers and Freight, Stock, and Material Movers, Hand	614	630	2	0.33	2.00	\$11.14	Less Than High School
Electrical Engineers	605	592	-2	-0.27	1.97	\$37.76	Bachelor's Degree

\* Post Secondary Adult Vocational Certificate

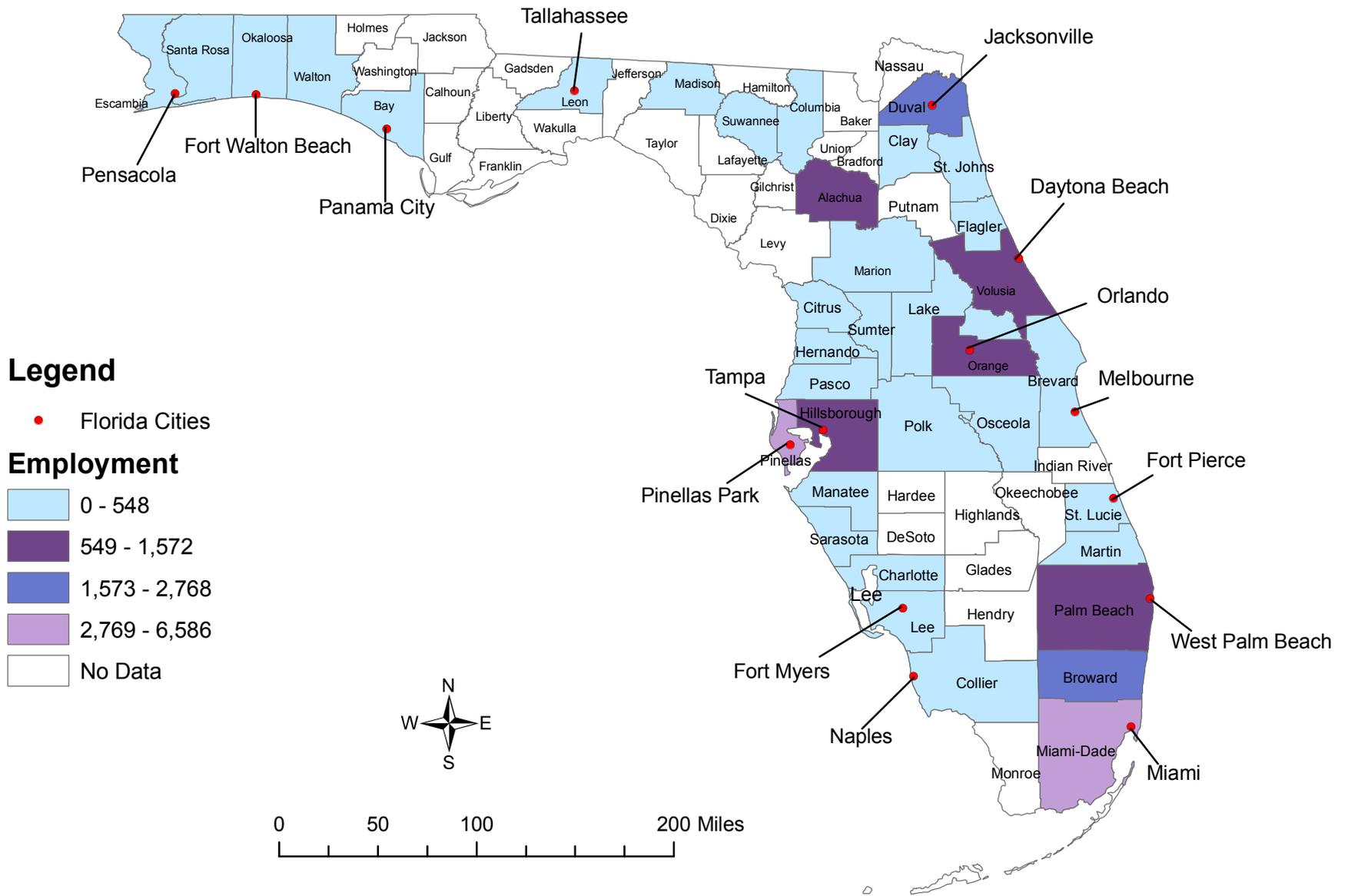
Source: Florida Agency for Workforce Innovation, Labor Market Statistics Center, Long Term Projections Program, Forecast to 2016.

- Among the top fifteen occupations in biosciences, 13 are expected to record job gains over the next seven years (2008-2016). Two of the largest fifteen biosciences occupations, electrical and electronic equipment assemblers and electrical engineers, are expected to lose jobs over the same period.
- Industrial engineers and customer service representatives have been predicted to be two of the fastest growing occupations in the biosciences industry with projected annual growth rates of 2.82 percent and 2.14 percent, respectively.

**CAUTIONARY NOTE**

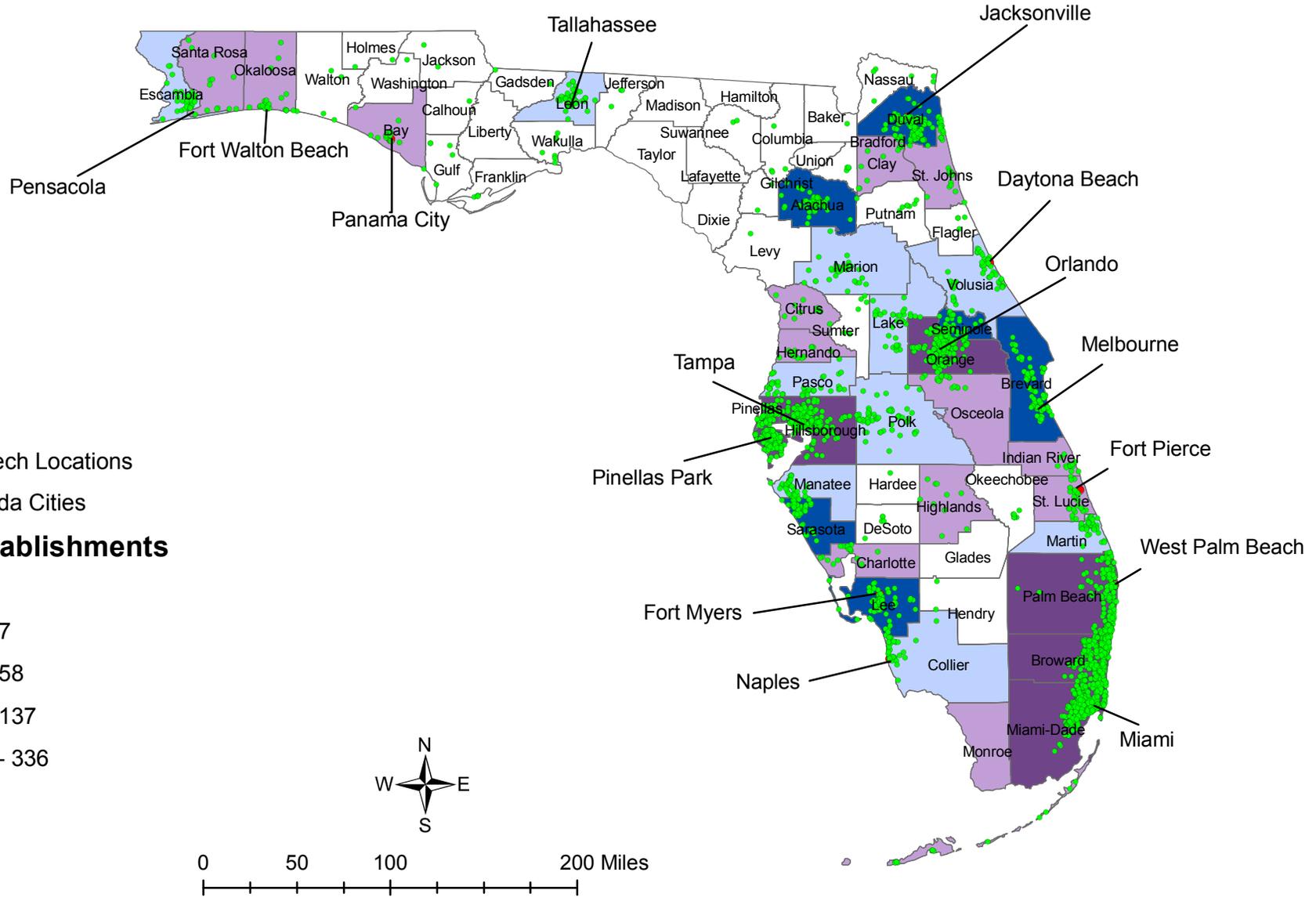
*Year over year data comparability may not be possible at the detailed NAICS code level or at an aggregated industry cluster level due to noneconomic code changes in the data from the Quarterly Census of Employment and Wages Program (QCEW) and due to revised NAICS codes in effect from January 2007. These revisions added NAICS code 541711, Research and Development in Biotechnology, which was added to the Biosciences cluster.*

# Concentration of Biotech Employment



Source: Florida Agency for Workforce Innovation, Quarterly Census of Employment and Wages, 2008, Q1  
 Prepared by: Florida Agency for Workforce Innovation, Labor Market Statistics Center, November 2008

# Concentration of Biotech Establishments by Location



Source: InfoUSA Inc., Employer Database, 2009-1st Edition

Prepared by: Florida Agency for Workforce Innovation, Labor Market Statistics Center, November 2008