



Item: AS: I-2

COMMITTEE ON ACADEMIC AND STUDENT AFFAIRS

Tuesday, February 20, 2018

SUBJECT: REPORT ON RESEARCH

PROPOSED COMMITTEE ACTION

No action is necessary. This item is only informational.

BACKGROUND INFORMATION

Dr. Daniel Flynn, Vice President for Research, will give a general update on the Division of Research, with a focus on opportunities for expanded federal engagement.

IMPLEMENTATION PLAN/DATE

N/A

FISCAL IMPLICATIONS

N/A

Supporting Documentation: PowerPoint Presentation

Presented by: Dr. Daniel Flynn, VP for Research

Phone: 561-297-0268

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BE *bold.*

Division of Research FY17 Activity Report

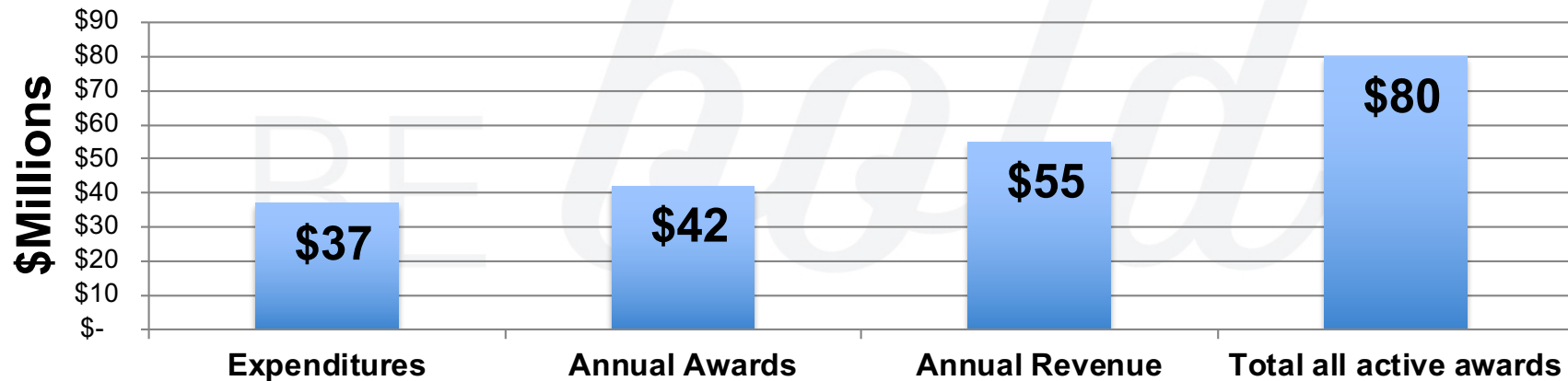
Presented by Dr. Daniel Flynn, Vice President for Research
Board of Trustees Committee on Academic and Student Affairs
February 20, 2018





Research Funding

FY17 Grants & Contracts Activity



Organized Research – Research Expenditures reported to the NSF (NSF HERD report) are a combination of Extramural grants and Institutional research support.

Unaccounted Research Expenditures

Organized Research = Institutional + Extramural

Institutional Research Expenditures:

- Startups, bridge funding, seed funding
- Departmental funds to support research
- Unrecovered F&A (in specific cases)
- Equipment purchased by E&G funds
- Tuition remission
- Cost sharing (specific cases)
- State funds appropriated for a research purpose
- Core facility costs not recovered through charge-back
- Unit research-support administrator salaries
- This could be \$10M-\$15M per year
- We need to develop a way to code for these expenditures

Survey Definitions and Instructions

Fiscal year (FY)

Please report data for your institution's 2016 fiscal year.

Research and development (R&D)

R&D is creative and systematic work undertaken in order to increase the stock of knowledge — including knowledge of humankind, culture, and society — and to devise new applications of available knowledge. R&D covers three activities defined below — basic research, applied research, and experimental development.

- **Basic research** is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.
- **Applied research** is original investigation undertaken in order to acquire new knowledge. It is directed primarily towards a specific, practical aim or objective.
- **Experimental development** is systematic work, drawing on knowledge gained from research and practical experience and producing additional knowledge, which is directed to producing new products or processes or to improving existing products or processes.

R&D expenditures

Include all R&D expenditures from your institution's current operating funds that are separately accounted for. For purposes of this survey, R&D includes expenditures for organized research as defined by 2 CFR Part 200 Appendix III and expenditures from funds designated for research.

R&D *includes*:

- Sponsored research (federal and nonfederal)
- University research (institutional funds that are separately budgeted for individual R&D projects)
- Startup, bridge, or seed funding provided to researchers within your institution
- Other departmental funds designated for research
- Recovered and unrecovered indirect costs (see definitions in Question 1)
- Equipment purchased from R&D project accounts
- R&D funds passed through to a subrecipient organization, educational or other
- Clinical trials, Phases I, II, or III (see definition in Question 5)
- Research training grants funding work on organized research projects
- Tuition remission provided to students working on research

R&D does *not* include:

- Public service grants or outreach programs
- Curriculum development (unless included as part of an overall research project)
- R&D conducted by university faculty or staff at outside institutions that is not accounted for in your financial records
- Estimates of the proportion of time budgeted for instruction that is spent on research
- Capital projects (i.e., construction or renovation of research facilities)
- Non-research training grants
- Unrecovered indirect costs that exceed your institution's federally negotiated Facilities and Administrative (F&A) rate

Research Expenditures – ‘Organized Research’

FYE 2017 - NSF HERD Survey Information
Internally Funded Research Funds (IFR)



Colleges / Units	NSF Code	Administrative Start Up (Provost)	Departmental E&G	Undergraduate Research	Tuition Remission (Graduate Waivers)	State Appropriations *Internal Pilot Projects	State Appropriations *Start Up	FAU Foundation (non-Awards)	Non-Sponsored Reinvestment Expenses	Unrecovered F&A	Cost Sharing E&G	Total	
Administration	1416	-	-	3,100.00	-	6,882.02	-	-	60,442.30	657,990.65	315,988.11	1,044,403.08	5%
Arts & Letters	1580	64,471.00	-	24,273.00	-	-	-	426,754.46	1,120.00	21,381.72	41,497.30	579,497.48	3%
Business	1550	-	-	3,050.00	-	-	-	-	4,653.64	2,218.61	-	9,922.25	0%
CDSI	1580	-	-	10,700.00	-	-	-	-	2,987.75	158,131.35	68,629.93	240,449.03	1%
Education	1510	52,621.00	-	11,100.00	-	-	-	-	311,611.48	300,940.40	67,328.47	743,601.35	4%
Engineering	1416	532,302.00	-	36,900.00	1,152,119.32	31,973.32	72,776.14	147,579.25	239,898.72	1,017,098.98	183,442.30	3,414,090.03	17%
HBOI	14XX	-	-	-	-	-	-	90,192.03	1,708,985.93	1,432,178.69	122,245.64	3,353,602.29	17%
Honors	1452	87,418.00	-	15,600.00	-	-	-	-	12,340.94	181,191.92	-	296,550.86	1%
Library	N/A	-	-	-	-	-	-	-	-	-	-	-	0%
Medicine	1453	259,429.00	346,705.00	2,400.00	104,160.71	7,315.16	578,304.07	336,601.16	219,583.56	1,478,616.70	45,049.76	3,378,165.12	17%
Nursing	1453	83,307.00	-	6,217.50	90,493.33	-	-	50,701.80	62,982.57	354,829.24	17,467.43	665,998.87	3%
Science	1460	882,883.00	-	92,900.00	2,833,913.57	-	212,499.38	146,392.04	355,670.49	1,710,809.74	36,309.84	6,271,378.06	31%
Total		1,962,431.00	346,705.00	206,240.50	4,180,686.93	46,170.50	863,579.59	1,198,220.74	2,980,277.38	7,315,388.00	897,958.78	19,997,658.42	100%

10% 2% 1% 21% 0% 4% 6% 15% 37% 4% 100%

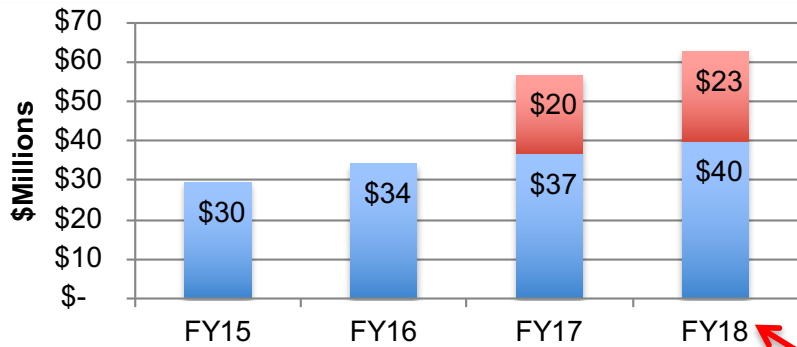
Sponsored Research 36,815,705.19
Internally Funded Research 19,997,658.42
Total Research FYE 2017 56,813,363.61

Sponsored Research "Organized" 26,026,497.53
Internally Funded Research 19,997,658.42
NSF HERD Survey FYE 2017 46,024,155.95

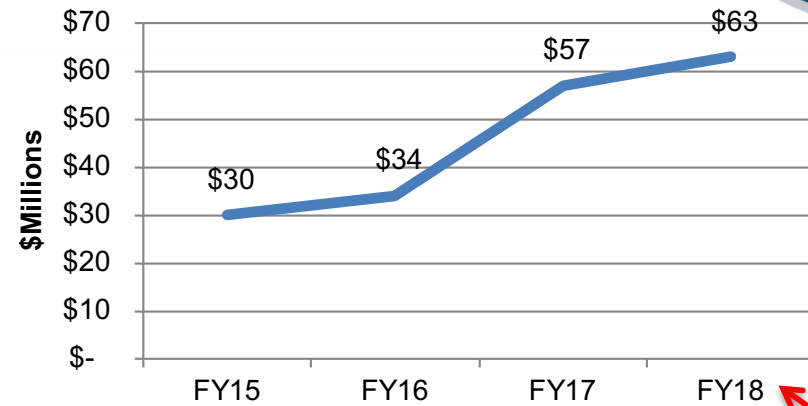
Total Research Expenditures (Organized Research)



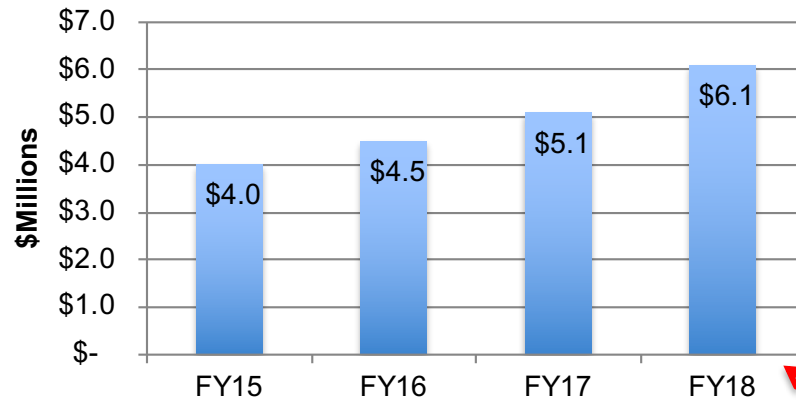
Total Research Expenditures



Research Expenditures



F&A collected



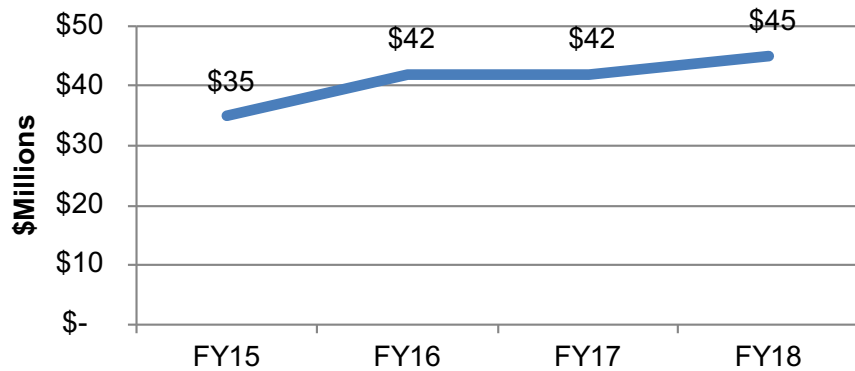
Funding by College



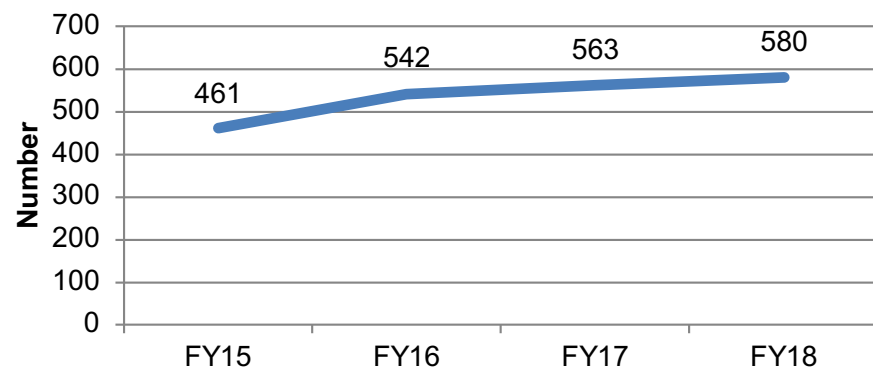
Awards Received

College	Department	Fiscal Year 2013 (7/1/12-06/30/13)		Fiscal Year 2014 (7/1/13-06/30/14)		Fiscal Year 2015 (7/1/14-06/30/15)		Fiscal Year 2016 (7/1/15-06/30/16)		Fiscal Year 2017 (7/1/2016 - 6/30/17)	
		#	\$	#	\$	#	\$	#	\$	#	\$
Dorothy F. Schmidt College of Arts and Letters		3	181,820	4	397,898	1	9,836	4	388,936	7	436,398
Charles E. Schmidt College of Medicine		28	433,729	25	3,412,835	14	1,254,910	31	5,133,601	40	3,767,118
College of Business		1	20,000	1	20,000	1	20,000	2	155,000	4	105,000
College for Design and Social Inquiry		8	554,233	5	39,278	7	246,198	15	940,889	9	619,776
College of Education		24	3,225,297	26	4,579,474	22	6,035,939	25	5,730,888	31	7,879,128
College of Engineering and Computer Science		55	3,572,688	48	3,612,791	46	4,294,516	53	5,394,070	58	7,815,054
Harriet L. Wilkes Honors College		0	160,391	3	760,475	3	260,723	3	414,230	5	397,873
Christine E. Lynn College of Nursing		19	2,150,500	18	2,571,395	12	2,031,596	18	3,632,006	20	2,494,633
Charles E. Schmidt College of Science		72	4,427,099	64	5,839,184	43	3,937,764	67	6,502,178	67	5,502,732
Harbor Branch Oceanographic Institute		49	57,795,128	50	5,542,226	62	8,915,405	64	903,5015	72	9,752,470
Other		22	8,880,100	23	6,614,914	20	8,161,063	20	4,495,985	8	2,952,099
Total		281	81,400,985	267	33,390,470	231	35,167,950	302	41,822,798	321	41,722,281

FAU Grant Award Notices

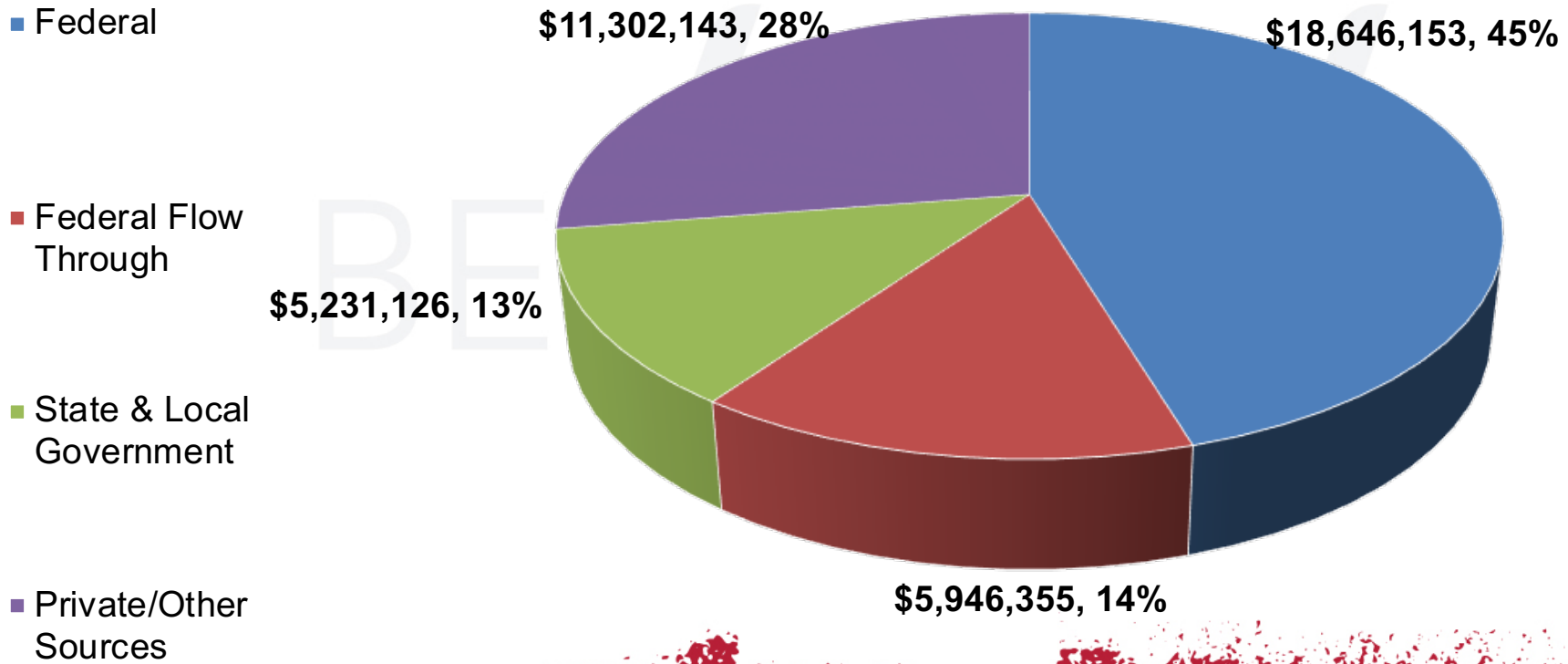


Applications Submitted





FY17 Funding by Source

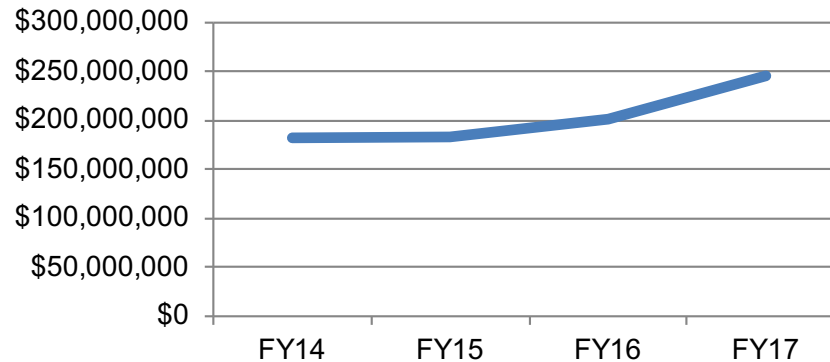


Proposal submission/requests



College	Department	Fiscal Year 2013 (7/1/12-06/30/13)		Fiscal Year 2014 (7/1/13-06/30/14)		Fiscal Year 2015 (7/1/14-06/30/15)		Fiscal Year 2016 (7/1/15-6/30/16)		Fiscal Year 2017 (7/1/16-6/30/17)	
		#	\$	#	\$	#	\$	#	\$	#	\$
Dorothy F. Schmidt College of Arts and Letters		4	214,338	4	\$561,977	3	\$494,220	12	\$826,809	7	\$1,982,774
Charles E. Schmidt College of Medicine		45	17,436,235	35	\$14,370,560	43	\$29,969,014	56	\$19,604,540	62	\$22,287,090
College of Business		1	20,000	1	\$20,000	1	\$20,000	3	\$179,000	1	\$20,000
College for Design & Social Inquiry		13	2,235,046	10	\$841,121	13	\$996,618	24	\$5,762,380	13	\$3,555,204
College of Education		37	18,966,798	37	\$21,040,994	35	\$25,591,232	32	\$19,538,509	37	\$34,871,861
College of Engineering and Computer Science		80	20,840,877	75	\$36,565,539	101	\$40,079,223	148	\$56,672,233	144	\$67,125,516
Hariet L. Wilkes Honors College		1	613,850	6	\$3,765,380	3	\$692,177	1	\$10,000	6	\$3,920,796
Christine E. Lynn College of Nursing		23	9,540,715	17	\$4,661,992	18	\$4,522,039	24	\$11,429,943	25	\$9,409,931
Charles E. Schmidt College of Science		109	44,389,260	41	\$46,521,323	125	\$50,469,071	119	\$39,706,087	146	\$49,196,386
Harbor Branch Oceanographic Inst.		54	16,644,259	57	\$48,204,287	97	\$21,735,289	89	\$25,571,298	109	\$42,337,641
Other		18	6,520,273	18	\$5,754,101	22	\$7,984,810	34	\$21,237,246	13	\$10,945,380
Total		385	137,421,651	301	\$182,307,274	461	\$182,553,693	542	\$200,538,045	563	\$245,652,579
Average Request			356,939.35		\$605,672		\$395,995		\$369,996		\$436,327

Grants Dollars Requested



FAU Activities on Capitol Hill



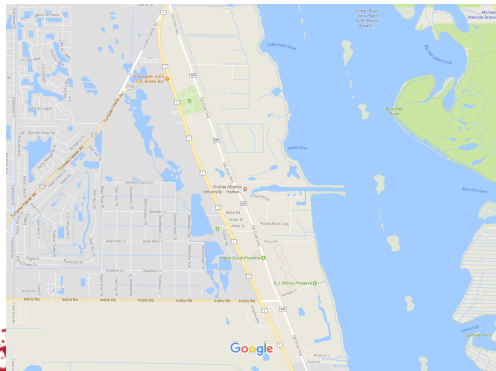
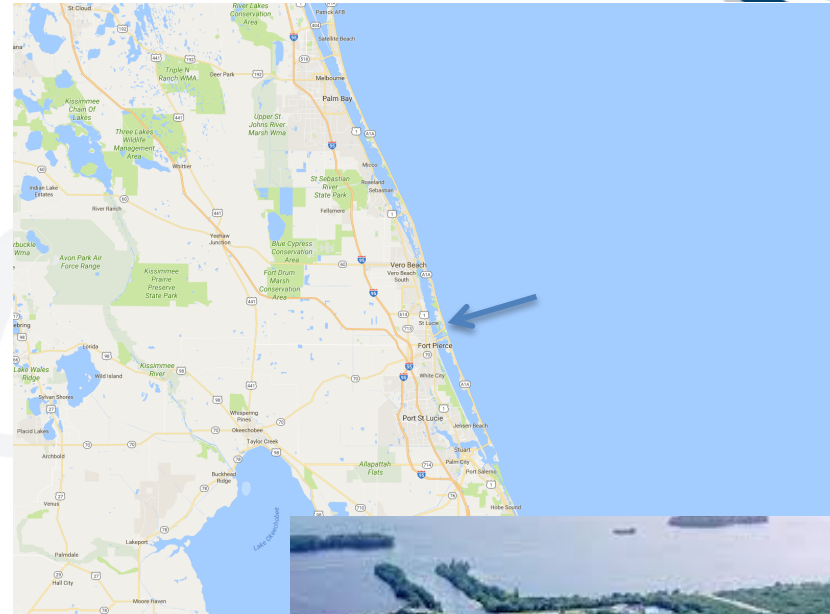
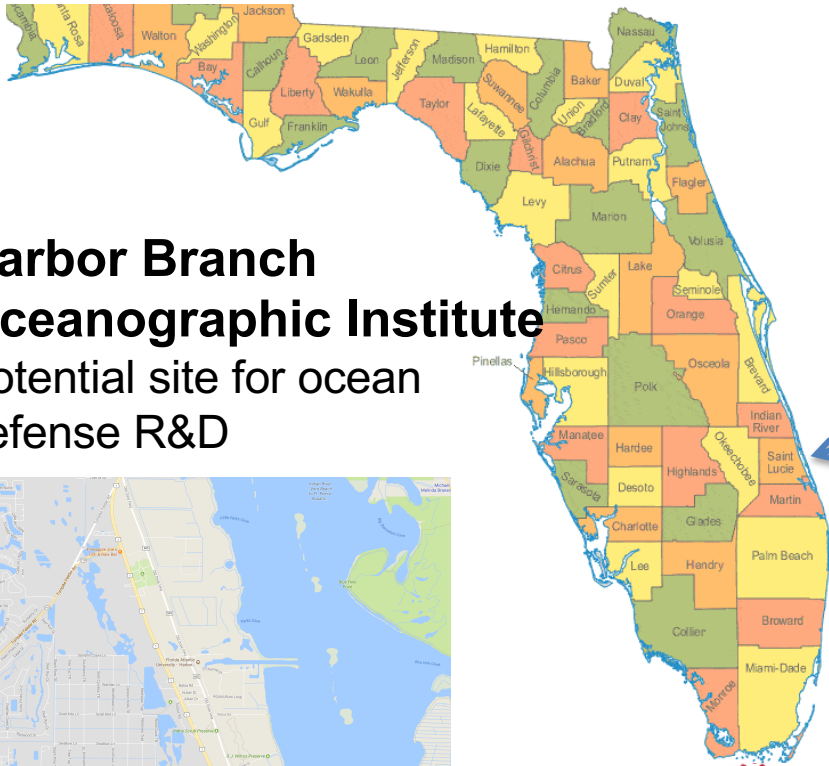
- Pillars represent Research focus areas
 - A sensitive environment
 - Ocean sciences (oceanography, environment, food, national security)
 - Sensor Technology (engineering, health)
 - Aging patient population
 - Neuroscience (basic research),
 - Healthy Aging (clinical research)





Ocean Sciences – Coastal Defense

**Harbor Branch
Oceanographic Institute**
Potential site for ocean
defense R&D





Ocean Sciences – Defense, Food Security, Energy

Pillar	Research Focus	Purpose	Federal Opportunity	Long term goal
Ocean Sciences	Military - Coastal Defense	Detect stealth vehicles that operate under the ocean; encrypt underwater communications	ONR plus-up w/UW (UARCC); Navy (AUTECC)	Center of excellence to Conduct Classified and unclassified research with Navy/Corps/Univ



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Ocean Sciences – Warm Water, Marine Aquaculture



- Center of Excellence
- Food source – Food Security
- Business Models – Best Practices
- Export products and International partnerships



Ocean Sciences – Defense, Food Security, Energy

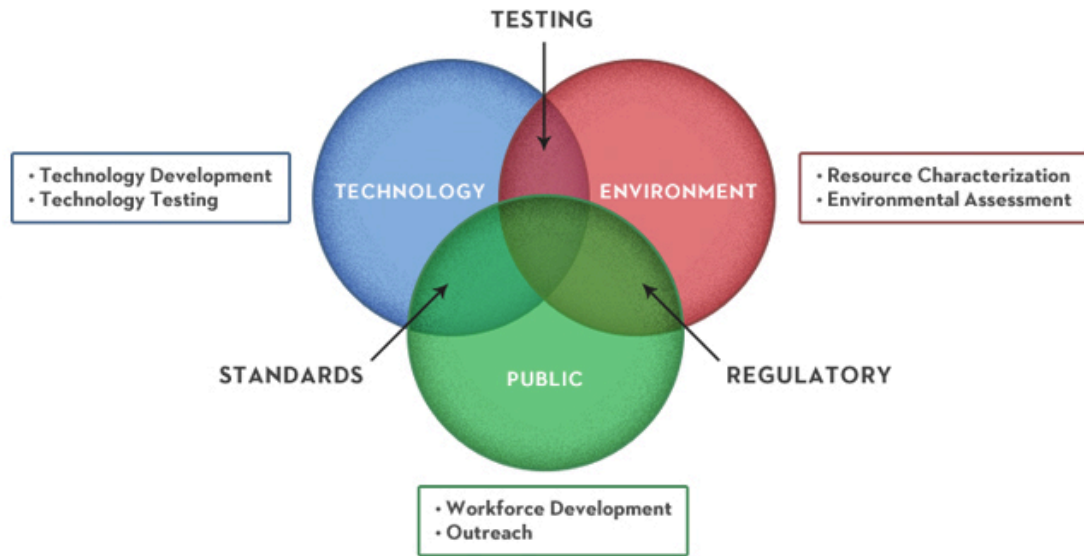


Pillar	Research Focus	Purpose	Federal Opportunity	Long term goal
Ocean Sciences	Food security, export	Develop new ways to farm fish, provide a secure food source, new export markets	USDA/NIFA warm water, marine aquaculture center of excellence	U.S. first center of excellence in warm water, marine aquaculture



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SNMREC – renewable energy from Ocean Currents





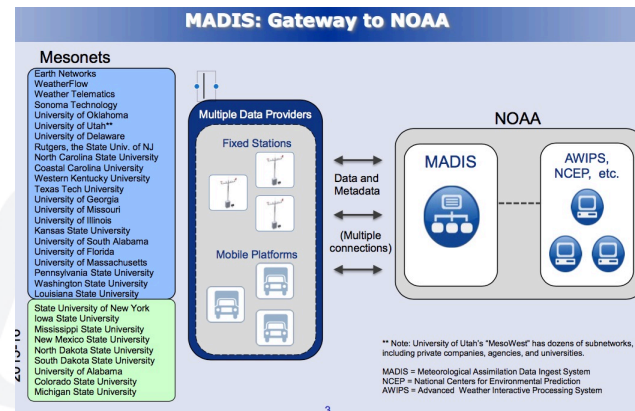
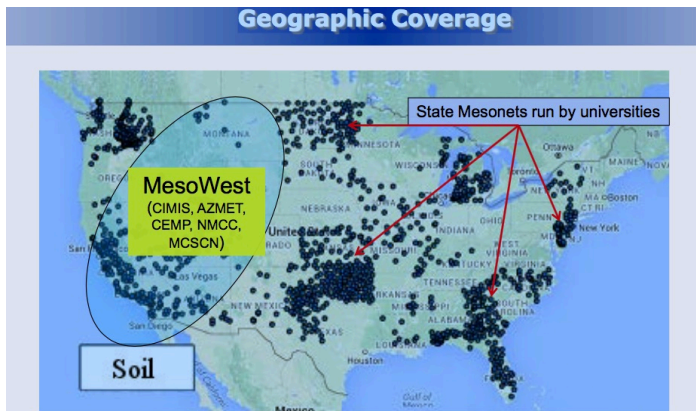
Ocean Sciences – Defense, Food Security, Energy

Pillar	Research Focus	Purpose	Federal Opportunity	Long term goal
Ocean Sciences	Energy, military	Ocean Current Renewable energy; power source for AUV's	DOE Water Power Technology Office (Energy & Water Appropriations Subcommittee), NAVFAC	SNMREC as a leader in ocean current renewable energy research and testing

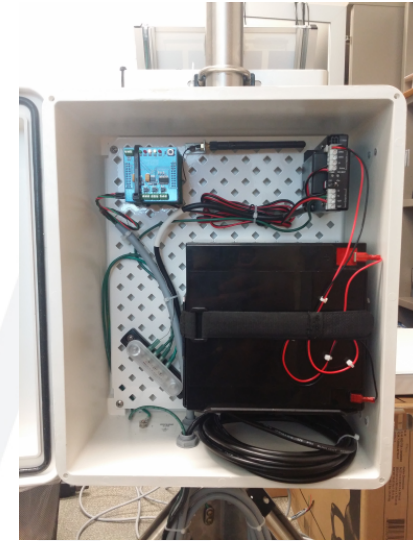


Accurate Weather Forecasting

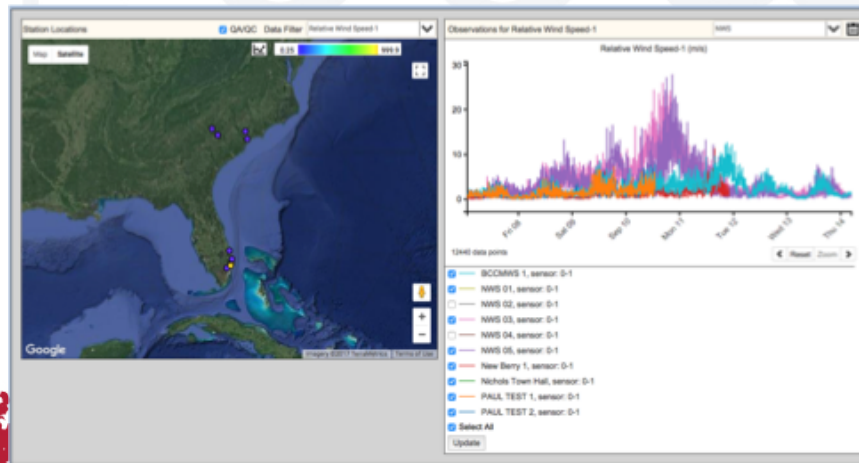
The National Mesonet acquires meteorological and environmental data from networks nationwide of fixed sites in order to help NOAA meet its objective to improve the forecasting of high-impact weather events



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FAU is a participating university in the national mesonet project

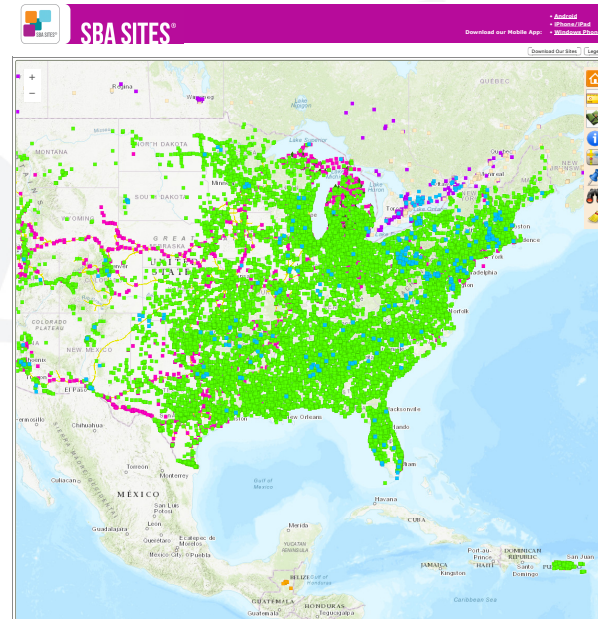


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SBA Communication is an FAU partner



The screenshot shows the SBA Communication website homepage. At the top left is the SBA logo with the tagline "Building Better Wireless". Below it is a large banner image of a lake with kayakers and a text box that reads "Meeting the needs of wireless demand. Offering seamless integration in our communities." To the right of the banner are several navigation buttons: "ABOUT SBA", "OUR SMALL BUSINESS PARTNERS SERVICES", "SUBMIT AN APPLICATION", "SITE LEASING", "LAND OWNERS", "SBA SITES", and "TOWER ACQUISITIONS". At the bottom left, there is a stock quote for SBA: "Current Price 142.62 Change -2.39". At the bottom right, it says "2007 - 2017 © Copyright SBA Communications Corporation."





Sensor Technology

Pillar	Research Focus	Purpose	Federal Opportunity	Long Term Goal
Sensor Technology	Weather Forecasting	Develop large datasets that improve weather forecasting	Public Law 115-25 (04/17); National Mesonet Program; Army Corp of Engineers plus-ups (Military Engineering Advanced Technology Account)	Establish 'Southeastern Mesonet Program Coalition', with University and corporate partnerships (SBA, Inc).





Research Focus of Pillars

Opportunities for Federal Programmatic Support

Pillar	Research Focus	Federal Opportunity	Purpose
Neuroscience	Opioid Addiction	Pain management 'white paper', DOD plus up funding that encourages USAMRID to make further investments in opioid research	To develop research teams that address ways to monitor and end opioid addition.



Healthy Aging – Dementia, Alzheimer’s and TBI



How do Clinical Trials work?



Most trials involve patients but screening and prevention trials often recruit healthy volunteers.

Phase I



This stage checks that the treatment is safe and finds the best dose to use.
(15 - 30 volunteers)

Phase II



This stage tests how well a test or treatment works.
(20 - 150 volunteers)

Phase III



This stage compares the new treatment with the current treatment.
Large-scale trials
(100s or 1000s volunteers)





Addressing Dementia and TBI

Pillar	Research Focus	Federal Opportunity	Purpose
Healthy Aging	Clinical Trials in Dementia, TBI and Alzheimer's	VA, DOD, NIH, corporate partners	To develop a clinical trials center that tests new ways to treat patients

