

UNIT REPORT

**Water Resources Center -
Institutional Effectiveness Final
Annual Report 2019**

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Definition of Unit

Center for the Management, Utilization and Protection of Water Resources

Reporting Year: 2018-2019

Providing Department: Water Resources Center

Department/Unit Contact: Justin Murdock/Amy Hill

Mission/Vision/Goal Statement:

Mission:

The mission of the Center for the Management, Utilization, and Protection of Water Resources is to support state and federal agencies, communities, and industry in solving water quality, biodiversity, and water security problems and advancing scientific understanding of all aspects of water science and engineering through basic and applied research. Center researchers study aquatic biodiversity and ecology from genes to ecosystems; address water quality challenges and develop better treatment technologies; and implement state-of-the-art technologies and tools for watershed sciences, modeling & simulation, data acquisition and geospatial analysis. The Center provides a strong water resources research infrastructure at Tennessee Tech by supporting faculty research, training and mentoring of future water professionals, and serving the citizens of the state of Tennessee.

Goal/Objective/Outcome

Goal 1

Define Goal:

Increase recognition of the Center and its faculty through invited presentations, refereed publications, and other promotion initiatives. Produce a minimum of eight refereed publications per year and present at a minimum of 10 professional, regional, national or international meetings per year.

Intended Outcomes / Objectives:

Objective 1.1. Produce a minimum of eight refereed publications per year.

Objective 1.2. Produce a minimum of 10 professional regional, national or international meetings per year.

Action Plan: Through refereed publications, continued external funding, focused research, and participation in professional organizations, faculty obtain state, regional and national recognition.

Goal 2

Define Goal:

Increase externally funded research.

Intended Outcomes / Objectives:

Objective 2: Increase externally funded research, which addresses the diverse water-related problems in Tennessee, the nation and the world. Toward this goal, the Center strives to increase external funding to 75% of state appropriations.

Action Plan: Strategic focus areas have been established by Center faculty and faculty associates. A portion of Center funds is being invested in selected high-return, research focus areas. Priority for the remaining research funds will be given to projects with potential to secure additional related external funds. The Center annually supports faculty who seek external research funds by: reviewing proposals prior to their being sent off campus; providing travel funds to support PIs meeting with agency program directors to discuss research opportunities; keeping faculty informed about research opportunities; bringing faculty together to develop interdisciplinary research proposals; and providing essential matching funds and student research support. The Center is working with the university administration to keep Tennessee's Congressional delegation informed about research findings and new emerging areas of research.

Goal 3

Define Goal:

Increase the number of graduate students supported by the Center.

Intended Outcomes / Objectives:

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Assessment Tools

Assessment: Tracking Number of Graduate Students Supported

Goal/ Outcome/ Objective: Goal 3

Type of Tool: Tracking Spreadsheet

Frequency of Assessment: Annually

Rationale:

The Center will continue to increase its initiative to support graduate students in their environmental science/engineering related research. Annually, the Center will assess how many students have been supported.

Assessment: Collaborating with External Partners

Goal/ Outcome/ Objective: Goal 2

Type of Tool: Other

Frequency of Assessment: Every Five Years

Rationale:

The Center will assess its goal of increasing external funding through the expansion of external collaborations. These collaborations will extend into all aspects of improving water quality including expanding initiatives in projects specifically identified as regional priorities, and sensors and other information technology tools to help society and the

community. Collaborative relationships and intellectual capital will also be developed to support the Tennessee Department of Environment and Conservation and the Tennessee Department of Transportation in their environmental efforts throughout the state.

Assessment: External Funds

Goal/ Outcome/ Objective: Goal 2, Objective 2.1

Type of Tool: Other

Frequency of Assessment: Annually

Rationale:

The Center annually assesses the external funds received during the state's fiscal year. The Center conducts trend analyses to determine progress toward achieving goals and asserts correction action when needed.

Assessment: Faculty Evaluations and Annual Reports

Goal/ Outcome/ Objective: Goal 1, Objective 1.1

Type of Tool: Other

Frequency of Assessment: Annually

Rationale:

Annual faculty achievement reports contain information on scholarly works. This information is compiled and analyzed annually.

Results

Results Goal 1

Goal/Objective/Outcome Number: Goal 1

Results:

This fiscal year, Center researchers produced 11 refereed publications and made 47 presentations.

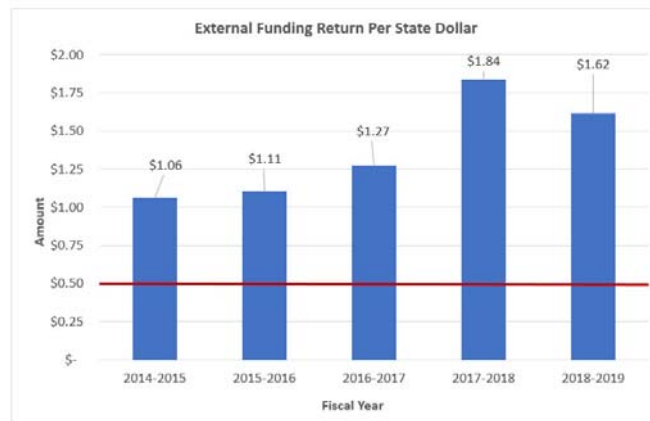
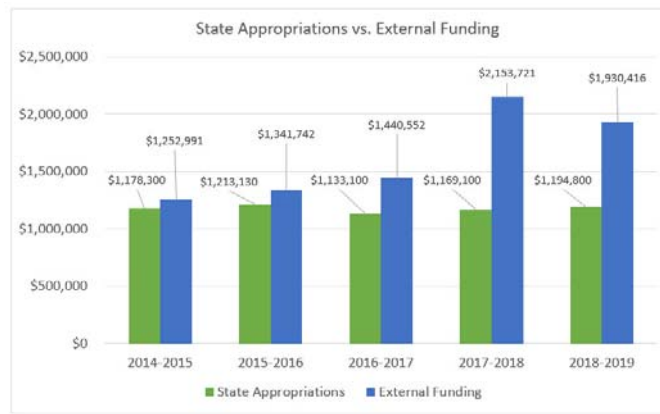
Attachments:

Results Goal 2

Goal/Objective/Outcome Number: Goal 2

Results:

To meet the Center's goal of increasing external funding to 75% of the state appropriation of \$1,194,800, the Center would had to have earned \$896,100. Water Center faculty and associate faculty secured more than \$1.9 million (including indirect costs) from local, state and federal agencies to seek solutions to that state's environmental problems. The direct monetary return on the State's investment is \$1.62/State-allocated dollar. This is a 54% increase from just five years ago. Our current external funding level trend emphasizes the growing research productivity of our faculty. Center external research funding has shown a steady growth during the last five years with a five-year running average of \$1,623,884, and a three-year running average of \$1,841,563.



The Center also partnered with the following agencies through externally funded research projects:

1. Authority of Dickson County
2. City of Cookeville
3. Missouri Department of Conservation
4. National Science Foundation
5. Oak Ridge National Lab
6. Tennessee Wildlife Resources Agency
7. The Nature Conservancy
8. U.S. Department of Agriculture
9. U.S. Fish and Wildlife Service
10. U.S. Geological Survey

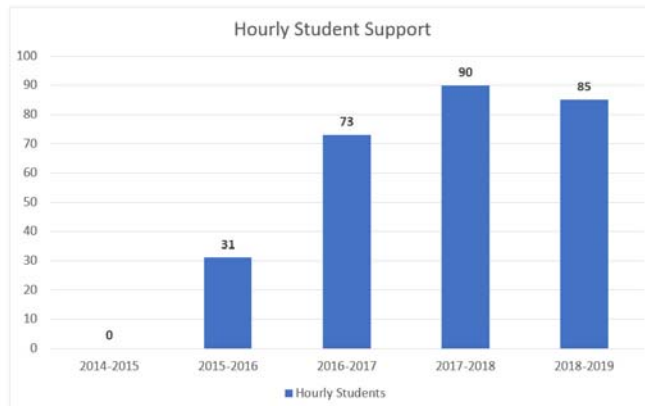
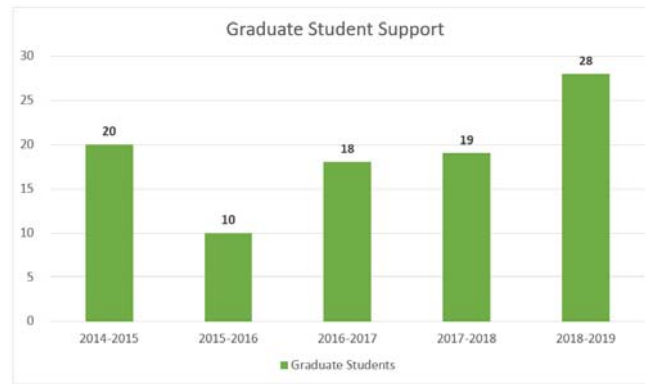
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Results Goal 3

Goal/Objective/Outcome Number: Goal 3

Results:

The Center supported 28 graduate students this year, a 37% increase from the previous year, as well as 85 hourly students, a 5% decrease.



Attachments:

Modifications and Continuing Improvement to Goals/Objectives/Outcomes

Modifications and Continuing Improvement to Goals/Objectives/Outcomes

Goal/Objective/Outcome Number:

Program Changes and Actions due to Results:

The targets for Goal 1 will change from 10 presentations to 20 presentations as the current target has been easy for the faculty to achieve. Also, the term "faculty" will be changed to "associated faculty."

The target for Goal 2 will change from 75% of state appropriations to 100% of appropriations.

Link to Assessment:

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Link to 'Tech Tomorrow' Strategic Plan: Research, Scholar, Intellect, and Creativity

Improvement to Assessment Plan

Improvement to Assessment Plan

Improvements to Assessment Plan:

The Center has decided to keep its current assessment methods for the next fiscal year, with only the slight modifications noted in the Modifications and Continuous Improvement section.