



DATASPIRESM
inspiring data + science literacy

***Dataspire* Program**
Rutgers Cooperative Extension
Strategic Plan 2016-2021 (Year 1-5)

State of Data/Science Literacy and Science Communication

There is a growing quantity of data that surrounds our lives. Concurrently, many of our daily decisions are influenced by science, whether we realize it or not. Therefore, it is imperative for every citizen, as informed members of our society and our democracy, to be data and science literate. Unfortunately, that is not the reality within the United States. For many, there is a gap in how to critically and effectively engage with the data in their lives and understand the complexities and nuances of timely science topics.

Many states have shown interest in adopting the Next Generation Science Standards, which have the potential to turn science education on its head in two fundamental ways: 1) by having students engage in the practices of science to learn the content, and 2) by focusing on science education for all students, regardless of their aptitude and/or interest in pursuing STEM careers later in life. Effective implementation of the NGSS could dramatically improve the data and science literacy skills of students and citizens in our country. However, the majority of current science educators are ill prepared to make the transition, and there is a gap in professional development offerings as well as educational resources to support teachers in making the transition.

To successfully create a data and science literate society, we need to approach the problem from multiple angles. The Rutgers Cooperative Extension *Dataspire* program is working towards a more data and science literate society by providing educator professional development trainings, development of data-based educational resources, and support for current and future scientists in their communication of the process and results of science.

What does *Dataspire* aim to achieve?

Vision: Everyone is empowered to engage with data and science in their lives.

Mission: *Dataspire* inspires and excites youth and stakeholders to be active citizens by enhancing data and science literacy.

Goals:

- A. Enhance ability to read and interpret data.
- B. Build confidence in manipulating data in models and visualizations.
- C. Inspire critical thinking and ability to ask scientific questions.
- D. Enhance science communication skills.

With and for whom does *Dataspire* work?

Through *Dataspire* offerings and projects, as well as collaborative projects with others, we work with the following Target Audiences to see future change in these Decision Makers.

Target Audience (we work with)	Decision Makers (to see change in)
Educators ¹	Youth/Students ²
Scientists ³	Stakeholders ⁴
Undergraduate students	

¹ Educators refer to middle and high school formal science teachers, informal science educators, and undergraduate professors.

² Youth/Students refers to 4-H youth, middle school students, and high school students.

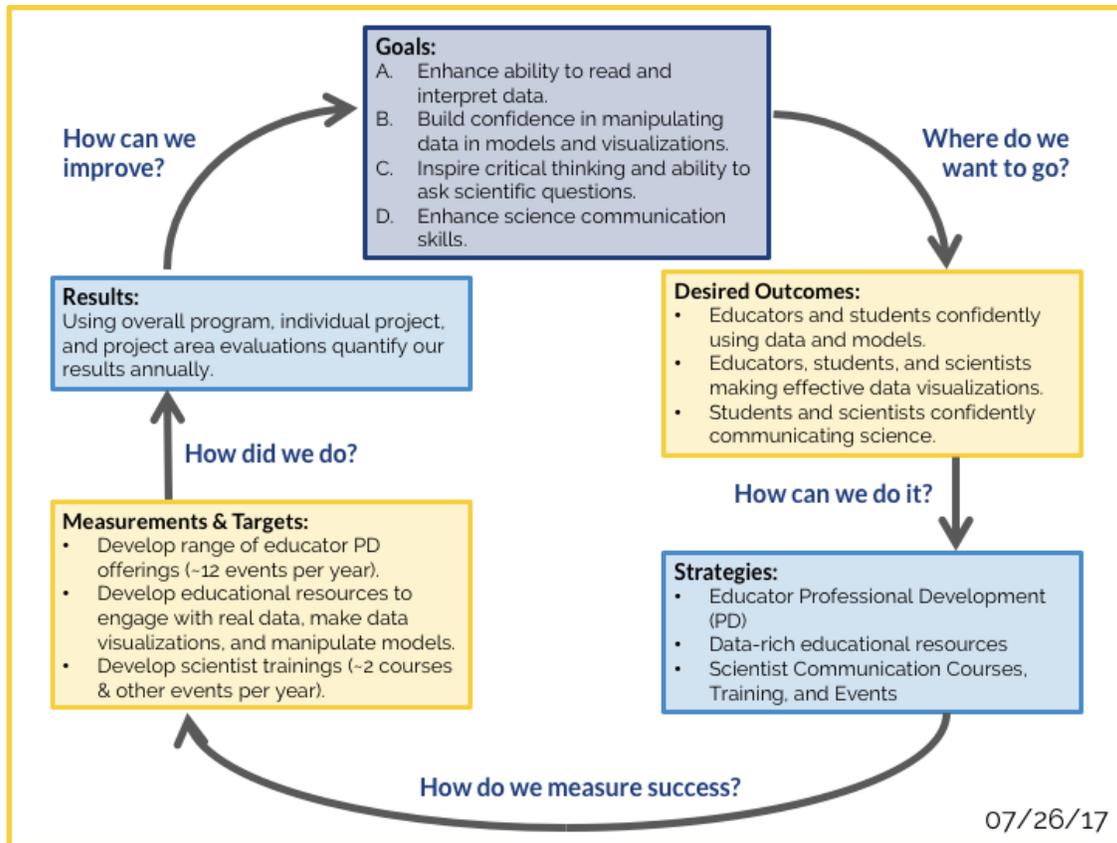
³ Scientists refers to graduate students, postdoctoral researchers, professors, RCE Extension Specialists, and other RCE staff.

⁴ Stakeholders refer to communities of people the scientists and RCE staff and faculty communicate with (e.g., farmers, fishermen).

How does *Dataspire* work to achieve these goals?

Organizational Focus Areas:

1. Develop educator professional development to enhance and effectively incorporate data and science literacy skills into teaching.
2. Develop educational resources that are focused around data to build data and science literacy skills in context.
3. Develop scientist skills in communicating their science through making effective visuals and presentations for formal and informal audiences.
4. Develop *Dataspire* evaluation plan to assess strengths, weaknesses, and ways to improve all aspects of *Dataspire*'s efforts overall.



Objectives (After engaging with *Dataspire*...):

- A.1: Educators will have an increased ability to read and interpret data.
- A.2: Educators will have an increased confidence in teaching with data.
- A.3: Scientists will better understand how to present data in their communications for their audience to read and interpret.
- B.1: Educators will better be able to use scientific models in their instruction.
- B.2: Educators will use a wider range of data visualizations in their teaching.
- B.3: Educators will provide more opportunities and ways for students to interpret and develop their own data visualizations.
- B.4: Scientists will develop effective data visualizations to tell their story.
- C.1: Educators will have an increased confidence in helping students develop testable science question to answer using data.
- C.3: Educators will be able to help students ask pertinent and critical questions of how the data relates to their lives and/or content area.
- D.1: Educators will have increased confidence in helping students communicate scientific results as scientists do.
- D.2: Scientists will have increased confidence in and skills to give effective presentations of their work to different audiences.

When and how will *Dataspire* be reviewed?

This document serves as the Strategic Plan 2016-2021 (Year 1-5) of the program. The success of *Dataspire* will depend upon the ability of this document to guide decision making in the future and to support the program to develop in a strategic manner. However, as the program is new it will also be imperative to view this as a living document that will be revisited and reassessed in light of current and changing environments. *Dataspire* needs to be strategic but also adaptable to best serve its intended audiences and provide its proposed services.

The *Dataspire* Director will write and submit an annual report to the RCE director and Human Ecology chair by September 1st each year. An in-person meeting will occur among the *Dataspire* Director, RCE Director, and Human Ecology Chair following the annual report submission to discuss progress to date, annual goal review and setting, and potential opportunities in the coming year. Additionally, the Strategic Plan 2016-2021 will be reassessed in year 3 to explore if larger revisions are necessary prior to the planned revision in year 5.