



AgTech or AgSciTech

Drs. Jacobs, Jazaei and Waldron

Agriculture industry is a broad sector

1. **Farming:** Cultivation of crops, Raising of livestock
2. **Forestry:** Management of forests and woodlands
3. **Fishing and Aquaculture:** Harvesting of fish and other aquatic organisms
4. **Agricultural Processing:** Processing and packaging of agricultural products
5. **Agricultural Distribution:** Transportation and distribution
6. **Agricultural Research and Development:** Development of new technologies and practices
7. **Agricultural Services:** Support services to the industry



The keyword is
“modern
agriculture”

Use of technology and scientific advancements
to address emerging agricultural issues.



Soil Microplastic Pollution

Funding source:



Lead:

Dr. Farhad Jazaei





Increasing the Resilience of Agricultural Production in the Tennessee and Cumberland River Basins through More Efficient Water Resource Use

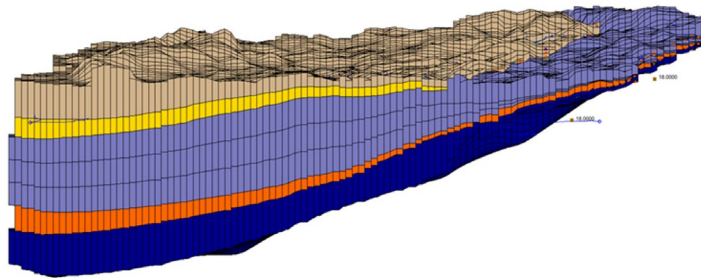
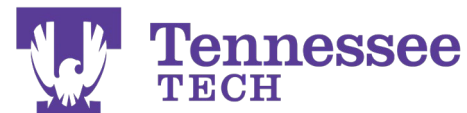
Funding source:



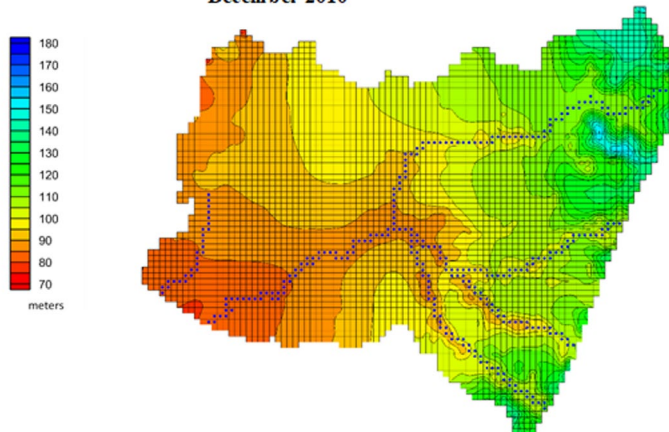
Lead:



Collaborators:



December 2010





Continuation of EQIP Conservation Initiatives Among Historically Underrepresented Farmers

Funding source:



Lead:





United States Department of Agriculture
National Institute of Food and Agriculture

Funding opportunities

NIFA provides funding for agricultural research, education, and extension programs.

- Agriculture and Food Research Initiative (AFRI)
- Capacity Building Grants
- Specialty Crop Research Initiative (SCRI)
- Organic Agriculture Research and Extension Initiative (OREI)

Others:

Natural Resources Conservation Service (NRCS)

Sustainable Agriculture Research and Education (SARE) Program

Your chances of getting a grant is best when you collaborate with multiple institutions including a land grant university



Groundwater Availability and Recharge Processes in Agricultural Areas of West Tennessee

Funding source:

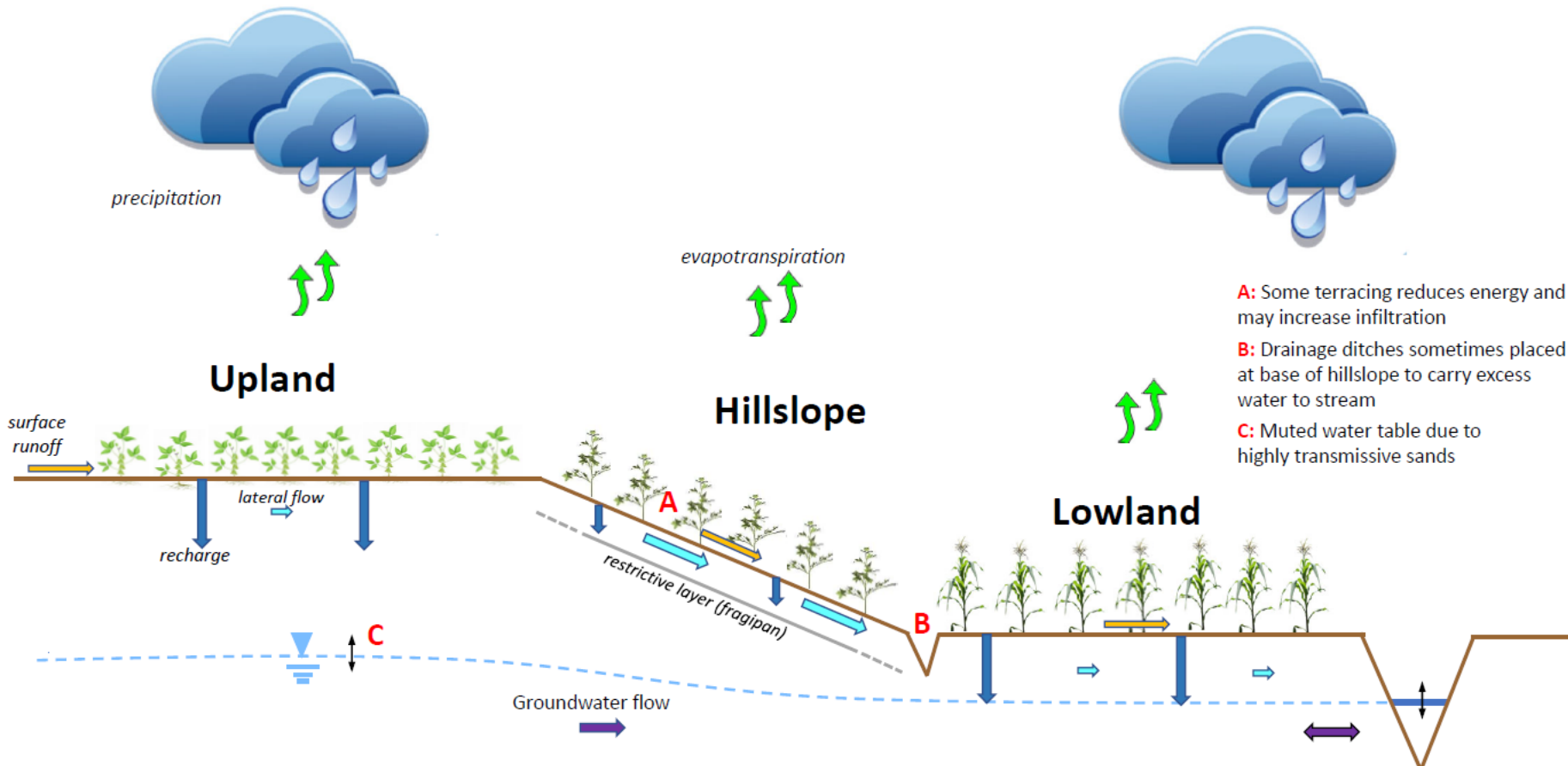


Lead:



Collaborators:





- A:** Some terracing reduces energy and may increase infiltration
- B:** Drainage ditches sometimes placed at base of hillslope to carry excess water to stream
- C:** Muted water table due to highly transmissive sands



Funding opportunities

<https://www.tn.gov/agriculture/department/business-development-division/funding-opportunities.html>

Agricultural Enterprise Fund (AEF): An incentive program that awards grants to new or existing organizations that are undertaking projects that will have a positive impact on the agricultural economy in their area

Tennessee Ag Enhancement Fund (TAEP): provide cost share dollars to **agricultural producers** for the purpose of making long-term investments in Tennessee farms and communities.

Specialty Crop Block Grant (SCBG): Purpose is to solely enhance the competitiveness of specialty crops.

•Specialty crops are defined as “fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture).”



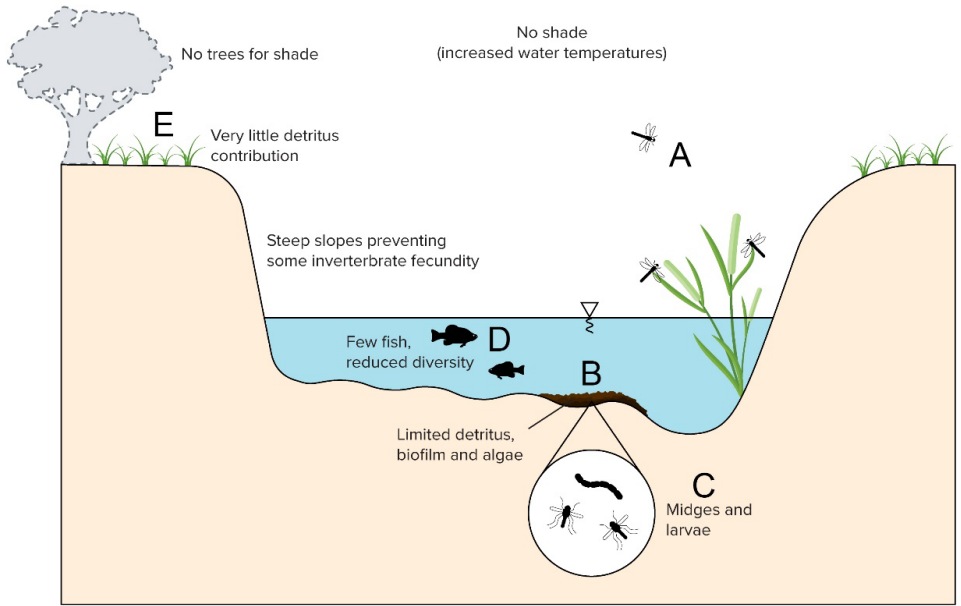
Hydrologic Monitoring of the Cub Creek Lone Oaks Mitigation Project: System Characterization

Funding source:



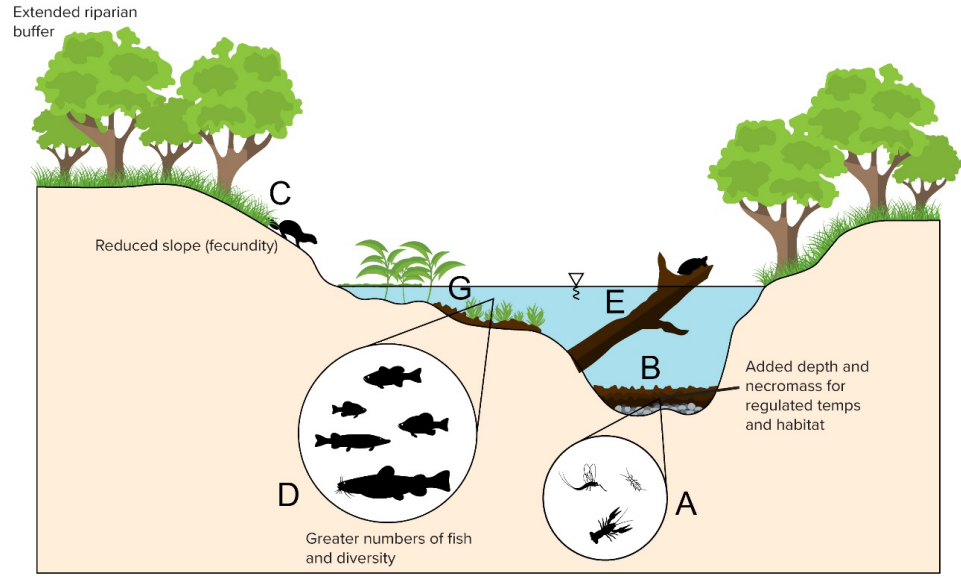
Lead:





Biological/Ecological Characterization of Big Muddy Creek (BlueOval) under Pre- and Post-Restoration

Funding source:



Lead:



Collaborators:



Funding opportunities

Funding opportunities **are not offered** through any official announcement mechanism. Research is developed through conversations with WTRBA executive director, David Blackwood PE, and must tie into a community identified need with WTRBA.



Multi-UAS Multi-Sensor Intelligence, Surveillance, and Reconnaissance (ISR)

and

Vision-based autonomous navigation using ML/AI

Funding source:



Lead:



Collaborators:



This funding type will often require an application that benefits society, here Dr. Jacobs chose agriculture.



*Fixed wing (12-ft span) takeoff on a runway constructed at
ArgiCenter International*



Funding opportunities

Issued as a BAA (Broad Agency Announcement) through the DoD (Department of Defense).

<https://www.arl.army.mil/collaborate-with-us/opportunity/broad-agency-announcement/>

Best to contact **Cody Behles** in OSP with your interest which may also involve **Katie VanLandingham**, Director of Government Relations



Planning Assistance to States (PAS)

and

Silver Jackets

Funding source:

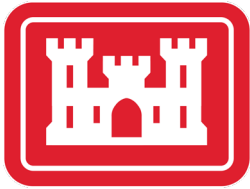


**US Army Corps
of Engineers®**



Lead:





US Army Corps of Engineers®

Funding opportunities

PAS

<https://www.nae.usace.army.mil/missions/public-services/planning-assistance-to-states/>

Silver Jackets

<https://www.lrn.usace.army.mil/Missions/Corps-of-Engineers-Assistance-and-Outreach/Silver-Jackets-Program/>

PAS requires 1:1 match where Silver Jackets does not. No USACE money flows to the UoM. Only possible chance is through USGS or Corps District A&E firm.



Private Industry

Microplastic Transport in
Agriculture Runoff

and

Microplastic in
Wastewater Treatment
Biosolids

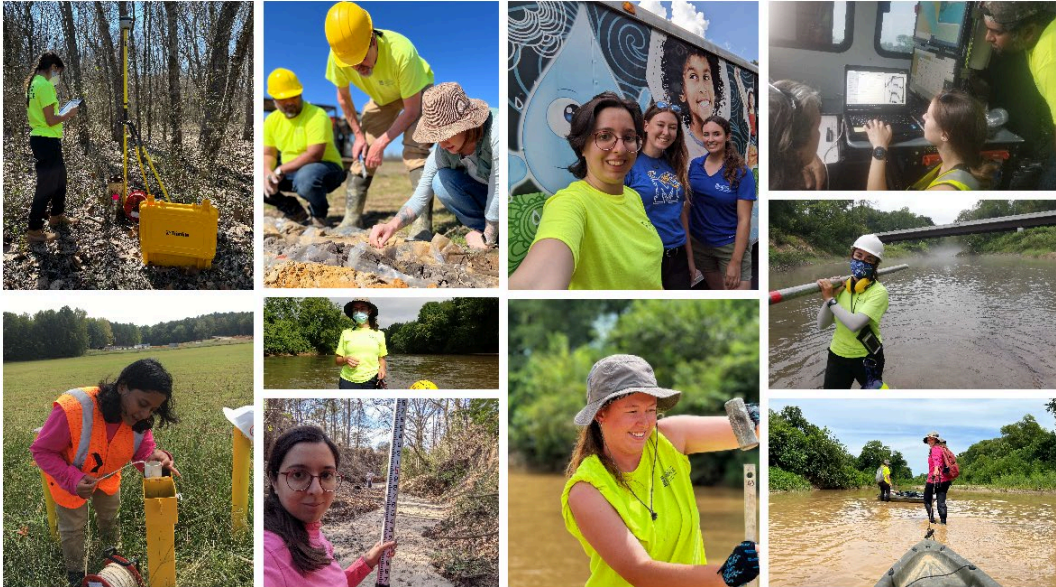
Funding source:



Lead:

Dr. Farhad Jazaei





Private Industry

*Gifts focused on recharge
and education outreach*

Funding source:



Lead:

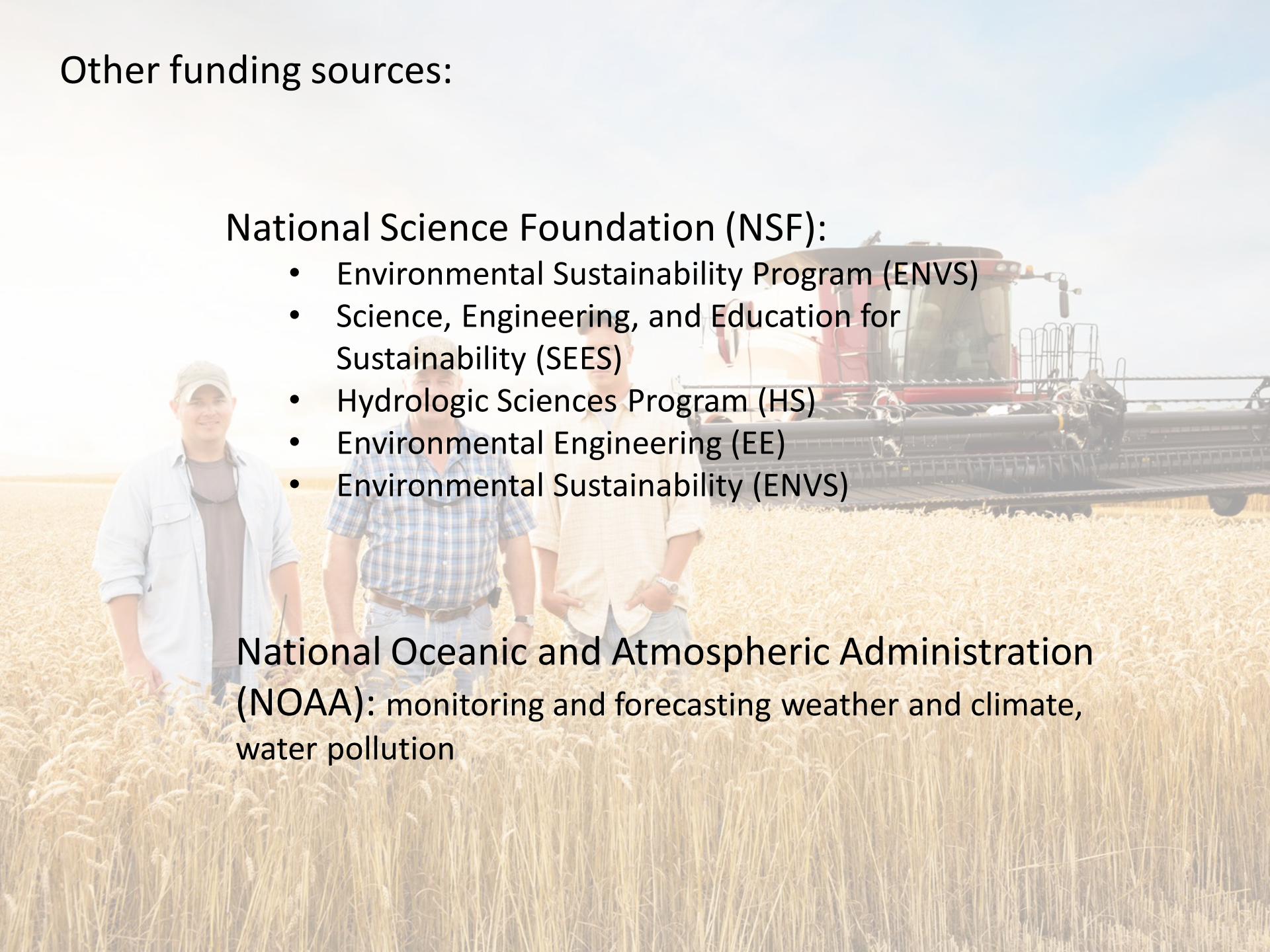


Other funding sources:

National Science Foundation (NSF):

- Environmental Sustainability Program (ENVS)
- Science, Engineering, and Education for Sustainability (SEES)
- Hydrologic Sciences Program (HS)
- Environmental Engineering (EE)
- Environmental Sustainability (ENVS)

National Oceanic and Atmospheric Administration (NOAA): monitoring and forecasting weather and climate, water pollution



Challenges and opportunities

1. Encourage and persuade collaboration, specifically tenure-track assistant professors:
Solution:?
2. Only a few faculty members are not known as Ag Fellows in the local industry.
Solution:?
3. Proposal reviewers expect to see a more solid background in Ag-related projects or related fields (e.g., soil physicists).
Solution: Publication, recruit faculty members with integrative expertise, collaborate with land grant university
4. External resources and internal incentives
Solution: Find funds specifically for Ag research, reward collaboration (specifically for assistant professors), cost shares
5. Develop partnerships with industry, government agencies, and non-profit organizations