

Northwest Region Agricultural Project (NW REAP): Building on the REACCH foundation to sustain a long-term effort to ensure Idaho's cereal systems are sustainable and resilient to changing climates

Foundation REACCH

Goals of REACCH

- Identify and implement management approaches and technology that
 - impart resilience to climate change
 - reduce greenhouse gas emissions
- Extend project information to producers and others
- Educate next generations: K-20
- 9 disciplinary and integrating objectives



Approach

- Coordinated effort involving biologists, agronomists, climate modelers, economists, entomologists, sociologists, educators, extension educators
- Regional, with 3 universities and ARS
- >200 participants (PIs, students, others)
- Stakeholder input from inception

Impacts

- Farmers and stakeholders more prepared to manage wheat under a variable climate
- New professionals prepared to serve agriculture in the public and private sector
- Capacity for continuing efforts to improve sustainability of Idaho wheat production
- Curricula for high school teachers on project themes

Foundations for NW REAP

- Established methods for promoting transdisciplinary integration across a large regional project
- Protocols for integrated graduate and undergraduate education
- University-wide collaborations
- A data management system and platform to accommodate all anticipated NW REAP data types
- Web site, grower education platforms, on-line handbook for cereal producers.
- Regional networks and partnerships

Vision NW REAP

Problem

- Need to reinforce adaptive capacity of Idaho's and PNW cereal production systems.
- Challenges include changing climates, water availability for rainfed and irrigated systems and associated changes in pests, weeds, diseases.
- These challenges are complex requiring integrated, transdisciplinary research, extension and education to address them.
- Cereal systems are an economic and cultural mainstay of Idaho and surrounding states.

Opportunities

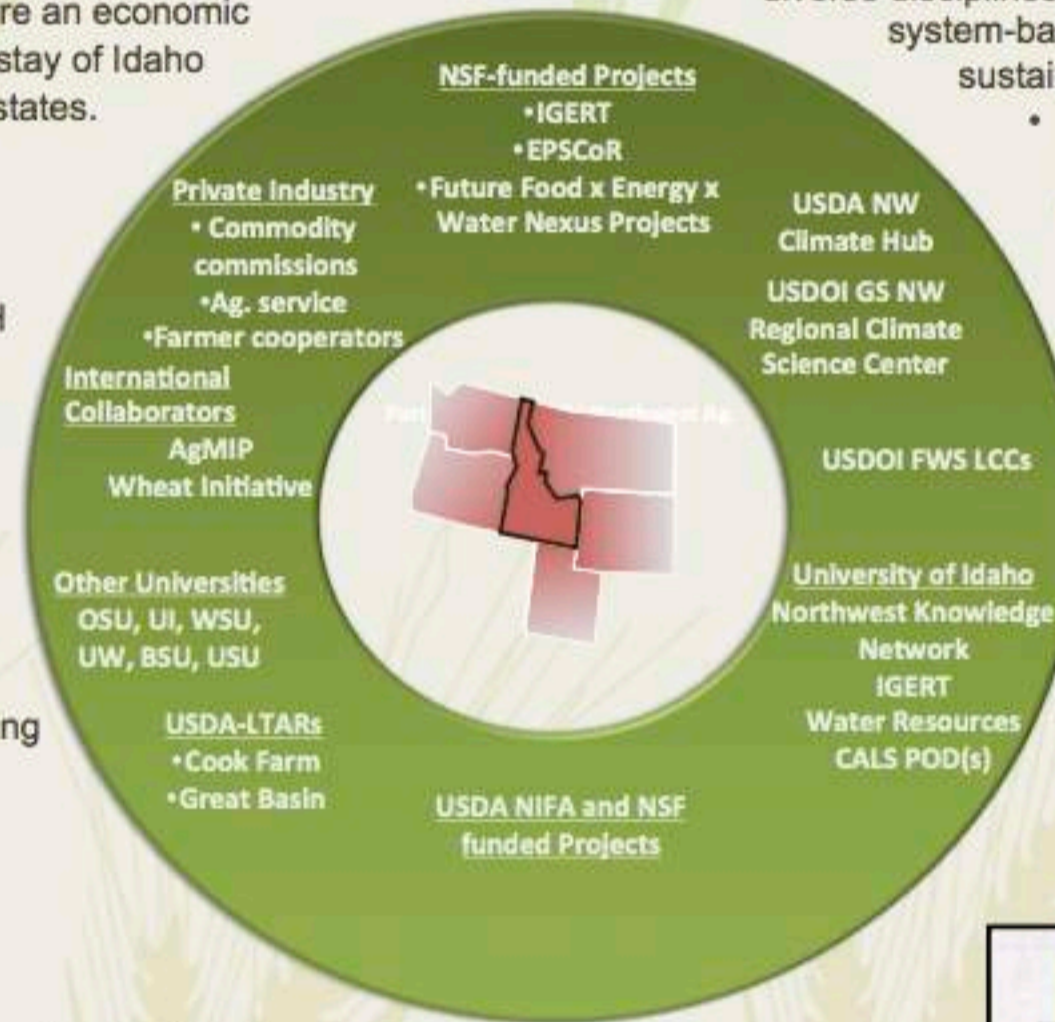
- Build on REACCH
- Extend the model across the state
- Involve more UI faculty members
- Involve R & E centers
- Utilize NKN
- Pursue new funding opportunities

Approach

- Establish new or sustain existing long-term experiments in cereal systems at all UI IAES R&E Centers to evaluate current and innovative cropping systems using common protocols.
- Develop new collaborative networks to involve faculty across CALS and with key partners in other colleges.
- Create a system for grant development.
- Adopt the REACCH data management framework and infrastructure.
- Partnerships with regional institutions and entities.
- Work with the membership and leadership of the CALS cereals POD.

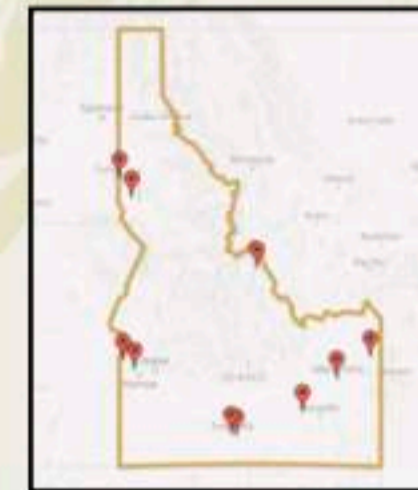
Goals

- Identify and implement management approaches for all cereal producing regions in Idaho to:
 - Impart resilience to climate change
 - Develop adaptive capacity to address changes in water availability for irrigation.
 - Reduce greenhouse gas emissions
 - Increase N and H₂O efficiency
- Develop working relationships among researchers diverse disciplines to leverage funding and find system-based approaches to sustainable food production
 - Educate next generations (K-20) about agriculture, climate, water and society



Questions?
Continue the conversation in CALS In CALS with:

- Jodi-Johnson Maynard
- Sanford Eigenbrode
- Katt Wolf
- J.D. Wulffhorst



Long-term experiments at R & E Centers

University of Idaho

Execution NW REAP

Support from VIP

- Faculty release time for grant and concept development
- Funds for data management
- Funds to support ongoing long-term experiments
- Funds to establish new long-term experiments at designated R&E centers

Participants

- CALS faculty in cereal production-related research, extension and education
- COS faculty in climate and atmospheric sciences
- CNR faculty in remote sensing, data management
- NKN within Libraries and ORED
- Partner universities, agencies

Sustainability Plan

- Seek major sources of funding related to FEW (Food, Energy, Water) nexus initiatives
- Seek funding related to climate change and agriculture themes
- Coordinate efforts supported by existing industry and smaller federal grants.
- Augment UI Cereals POD
- Collaborate with partners for additional support (LTAR, OSU, WSU, INEL, others)

Some Outcomes

- Sustained, coordinated statewide center for the continual improvement of cereal-grain cropping systems involving faculty members university-wide
- Leadership in regional, national and international efforts to sustain cereal production
- Regional data management system for cereal-grain research, education and extension
- Long term viability of a critical agricultural sector for Idaho and region
- Long-term experiments throughout Idaho.
- Component of statewide outreach for R&E centers