



Develop and deliver <u>science-based, region-specific information and</u> <u>technologies</u> with USDA agencies and partners for hazard and adaptation planning in the agriculture and forest sectors

information and tools for land managers to build resilience to climate variability

## **USDA Hubs and Sub-hubs**



Assist producers in row and specialty crop production, pasture and range management, livestock, and forestry

Agriculture – interacting bio-physical and social-economic components

### **Agency Governance of USDA Climate Hubs**

#### • Executive Committee

- > NRCS, USFS, ARS, FSA, NIFA, RD, RMA, APHIS
- > OCE-Climate Change Program Office

#### Hub Leadership

- USFS Pacific NW, NE, SE, Northern Forest, Caribbean
- ARS SW, Northern Plains, Southern Plains, MW, Calif
- > NRCS



### Regional Focus- differences in soils, landscapes, hydrology, land use and impact of climate change



Regional Vulnerability Assessments are published: <u>http://climatehubs.oce.usda.g</u> <u>ov/content/regional-</u> <u>vulnerability-assessments</u>

### **USDA Climate Hubs**

## **Examples of Issues:**

- Climate smart practices for food and water security
- Pests insects, diseases, invasive species
- C accumulation, water quality, and erosion control
- Adaptation Adaptive management strategies for ag and forestry
- Mitigation USDA Building Blocks for Climate-Smart Agriculture and Forestry

>Use of USDA programs to provide incentives

### USDA Building Blocks for Climate Smart Agriculture and Forestry

### **Projected Greenhouse Gas Benefits**

Building Block	NPCS Load /Mombor	Estimated Annual GHG Reduction by 2025
Soil Health	Bianca Moebius-Clune	4 – 18
Nitrogen Stewardship	Norm Widman. Chris Gross	7
Livestock Partnerships	Glenn Carpenter	21
Conservation of Sensitive Lands	Mike Wilson	0.8
Grazing and Pasture Lands	Joel Brown, Sid Brantly, Dana Larsen	1.6
Private Forest Growth and Retention	Eunice Padley	4.8
Stewardship of Federal Forests		1.8
Promotion of Wood Products		19.5
Urban Forests		0.1
Energy Generation and Efficiency	Rebecca MacLeod	60.2
Total		~126

Equivalent of taking <u>25 million</u> <u>cars off the road</u>, or offsetting emissions produced by powering nearly <u>11</u> <u>million homes</u>

### **USDA Climate Hubs**

# Goal:

Climate is one part of the complex farm production process

Maintain Production and Profitability – proactive management strategies to climate-proof farms

Promote concepts of Soil Health Management Systems and Soil Stewardship Regional climate change and extreme weather

- temperature shifts (long-term and sudden)
  - extreme storms: excessive rain/snowfall
- Droughts: flash seasonal mega
- Soils are one of the primary components of the hydrologic cycle
- Timely in-situ moisture and temperature measurements important for ensuring a sustainable agricultural and forest system (operate in different timeframes)
- Essential for precision farming systems (maximize crop yields and nutrient management)

