USDA Climate Hubs:

NOAA Eastern Region Climate Services Webinar

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Translating Climate Science Into Action

Mission

To develop and deliver science-based, region-specific information and technologies to enable climate-informed *decision-making*…

Agricultural Research Service
NRCS Natural Resources Conservation Service
FSA FARM SERVICE AGENCY
RMA
APHIS

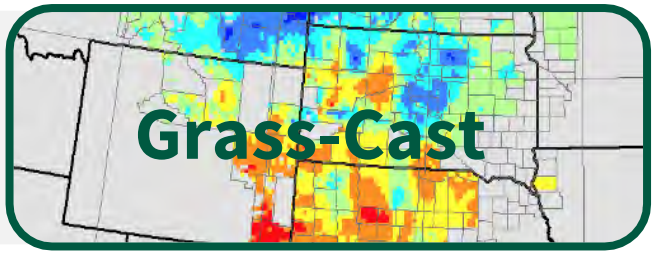
How We Work: Workstreams

Science and data syntheses

Translating and delivering relevant information

Tool/technology development and support

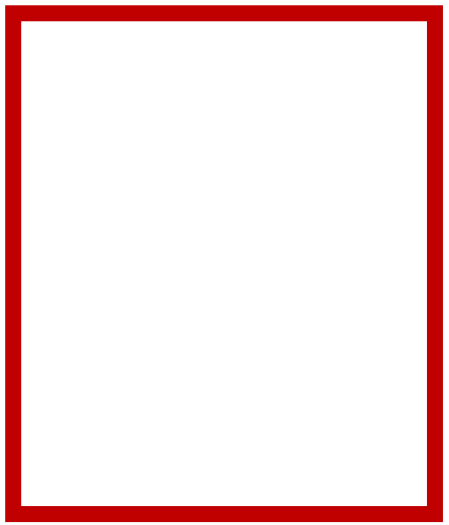
Supporting climate-informed planning and decision-making



Outreach, convening, and training

Facilitating engagement, discovery, and exchange

How We Work: Priority Areas



Who We Are

Force Multiplier for USDA service providers, leveraging the Department's joint capacity to have greater impact.

Model for developing and delivering climate information and services to agricultural and natural resource managers for USDA and its partners.

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Northeast Climate Hub

- 12 Northeast States + DC
- 16 Land Grant Universities
- Home to most densely populated and forested states
- Partnerships with FS, ARS, NRCS, LGUs, NGOs and others

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Northeast Climate Hub – By the Numbers

Priority Areas
18 adaptation and resilience projects
13 mitigation focused projects
12 climate literacy projects
8 climate smart ag and forestry projects
2 environmental justice projects

5 Co-leads from NRCS, ARS, and FS; 4 Fellows conducting research and implementing programs

20 projects currently underway

14 Agriculture focused projects
7 Forestry focused projects
5 Weather/climate projects
2 Agroforestry projects

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Northeast Climate Hub – Projects

Climate-Smart Agriculture and Forestry (CSAF)

Emerging Issue:
Drought in Unexpected Places and Unusual Times

- Drought in New England
- Drought in Alaska
- Flash Droughts
- Snow Droughts
- Mega-drought in the Colorado River Basin

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Science Synthesis - Example

Flash Drought in the Northeast

- ✓ Determine how the causes of drought have changed and are likely to continue to change in the Northeast
- ✓ Provide a regional synthesis of results in a format that can be utilized by key stakeholders
- ✓ Communicate results to researchers, decision-makers, extension personnel and producers via factsheets, webinars, and other outreach activities

Tools and New Technology - Example

Shallow Wells (with USGS, UMaine)

- ✓ Diversify access to water
- ✓ Capable of storing more water than a traditional dug well
- ✓ Possible addition to NRCS climate smart strategies
- ✓ May be cost-effective

Outreach, Convening and Training - Examples

Factsheets and summaries of scientific studies

Workshops and proceedings

Economic case studies

Quarterly e-newsletters

Archived webinars

360 virtual tours demonstrating climate adaptation practices

Northeast Climate Hub - advancing climate equity

A focus on facts, understanding, empathy, and action

Climate Equity Fellow (ORISE)

Tribal Climate Equity Fellow (NRS)

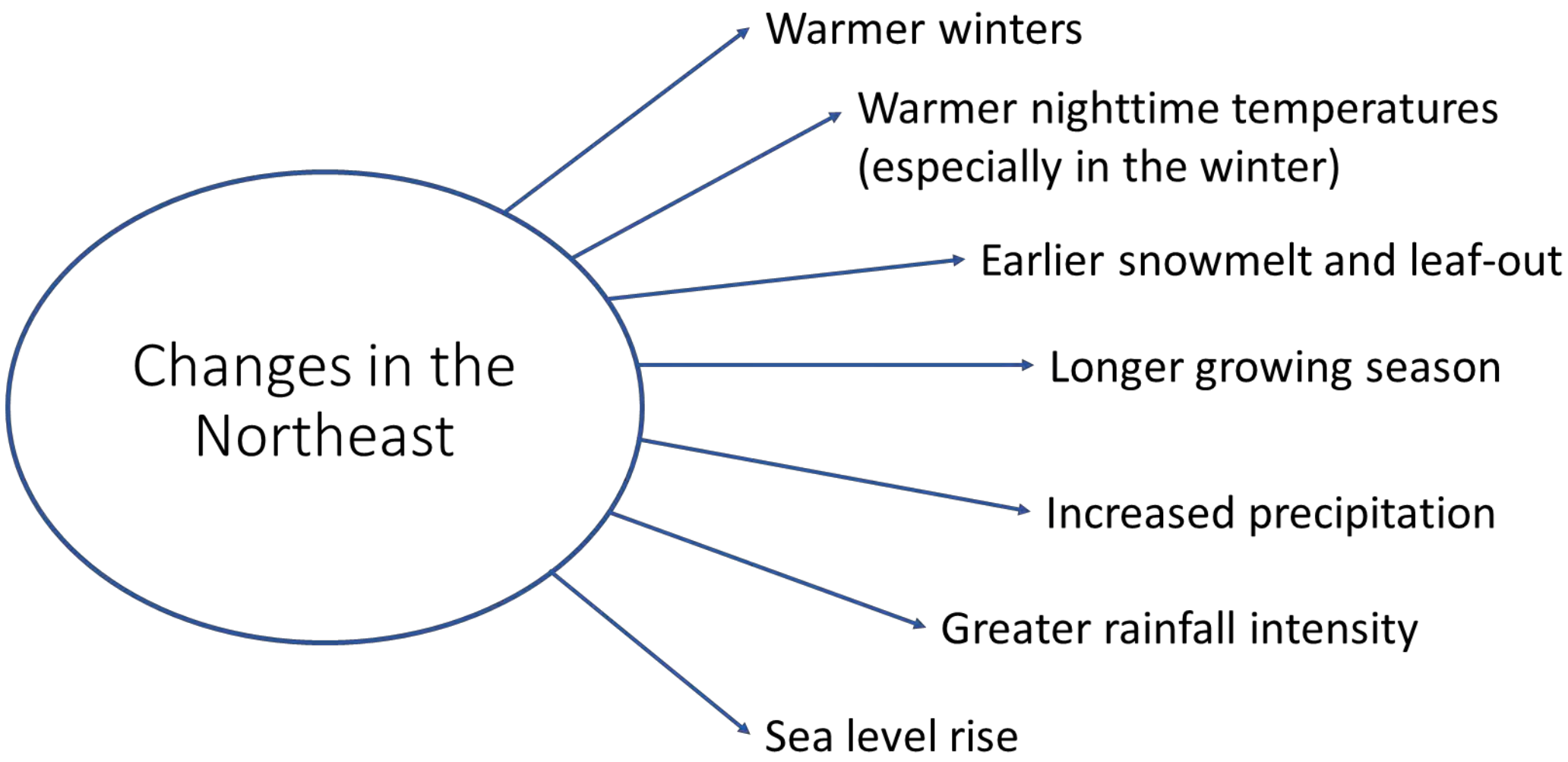
Climate Equity Webinars

Art + Climate Equity

Our goal is to integrate climate equity into all our projects as part of "This is who we are."

Application of Climate Science to Agriculture and Forestry

- ✓ Changes of Concern
- ✓ Impacts
- ✓ Opportunities
- ✓ Adaptation
- ✓ Mitigation


Changes in the Northeast
Warmer winters
Warmer nighttime temperatures (especially in the winter)
Earlier snowmelt and leaf-out
Longer growing season
Increased precipitation
Greater rainfall intensity
Sea level rise

Agricultural Impacts

damaged infrastructure after a wind event

spring flooding

Increased rainfall & precipitation intensity

Increased temperature

Sea level rise

Agricultural Opportunities

- Double cropping
- New varieties
- Longer growing season
- More growing degree days

Agricultural Adaptation Strategies

Promote soil health & reduce soil erosion

-
-

Decision support: better information faster

-
-
-
-

Protect from extremes

-
-
-
-
-

Agricultural Mitigation Strategies

Cover cropping to increase carbon inputs

Installing solar panels on a barn roof →

Increase on-farm carbon sequestration

-
-
-
-
-

Practices that increase soil carbon are also climate adaptive

Reduce on-farm emissions

-
-
-
-

Forestry Impacts

Increased rainfall & precipitation intensity

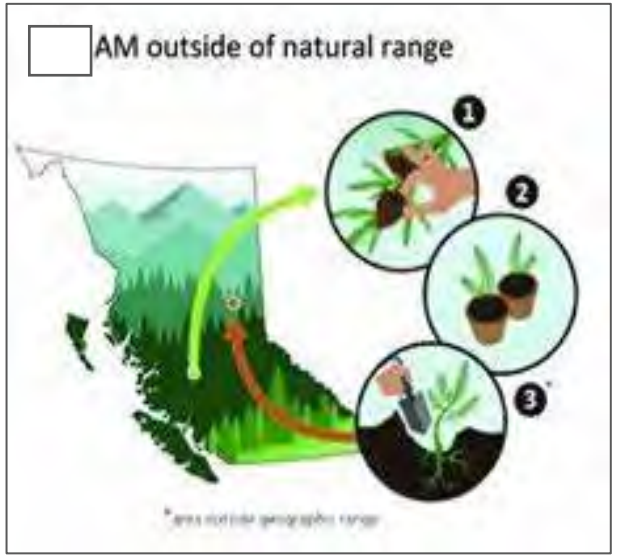
Increased temperature

Sea level rise

Forestry Opportunities

- Longer growing seasons
- More growing degree days
- New species and varieties
- Increased carbon sequestration

Forestry Adaptation Strategies



Avoid Forest Loss

Reduce Stressors

Assisted Migration

Forestry Mitigation Strategies

Sequester carbon in plants

Sequester carbon in soils

Avoid loss of carbon

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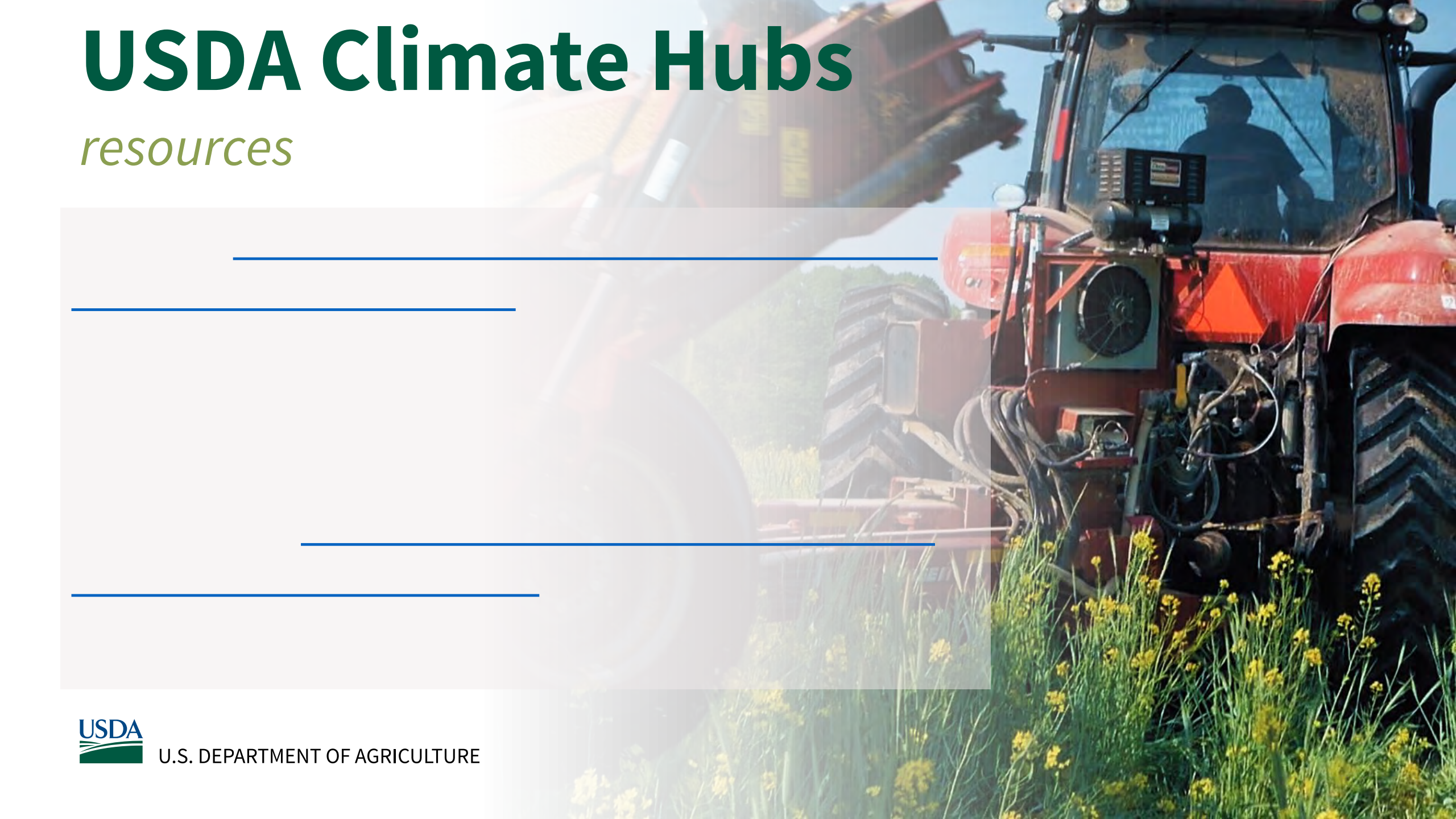
resources



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Questions?

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