Ogallala Aquifer
Funded by USDA ARS Research Initiative
Sustaining rural economies through new water management technologies.

OGALLALA AQUIFER PROGRAM 2018 ANNUAL WORKSHOP

U.S. SECRETARY OF AGRICULTURE AWARD RECIPIENT (2013)

"FOR SUSTAINING RURAL PROSPERITY ACROSS THE DROUGHT PRONE SOUTHERN HIGH PLANS BY FINDING SOLUTIONS TO PROBLEMS FROM DECLINING WATER AVAILABILITY FROM THE OGALLALA AQUIFER"

Ogallala Aquifer
Funded by USDA ARS Research Initiative
Sustaining rural economies through new water management technologies.

2003 AUTHORIZATION LANGUAGE

THE OVERALL GOALS OF THE COOPERATIVE EFFORT IS TO SEEK SOLUTIONS TO THE COMPLEX WATER PROBLEMS AND CHALLENGES BEING FACED IN WEST TEXAS AND WESTERN KANSAS.

THE BROAD OBJECTIVES FOR THE RESEARCH AND TECHNOLOGY TRANSFER ACTIVITIES ARE AS FOLLOWS:

1. DEVELOP, EVALUATE, AND DISSEMINATE INFORMATION AND TECHNOLOGIES FOR WATER USERS
2. PROVIDE SCIENTIFICALLY SOUND DATA AND KNOWLEDGE TO PLANNERS AND POLICYMAKERS TO ENABLE THEM TO DEVELOP EFFECTIVE WATER MANAGEMENT POLICIES

Ogallala Aquifer

Funded by USDA ARS Research Initiative

Sustaining rural economies through new water management technologies.

CURRENT OBJECTIVES

1. DEVELOP AND EVALUATE WATER MANAGEMENT STRATEGIES AND TECHNOLOGIES THAT COULD REDUCE WATER WITHDRAWALS FOR IRRIGATION BY 20% IN 2020 COMPARED TO 2012.
2. DEVELOP AND EVALUATE MANAGEMENT STRATEGIES AND TECHNOLOGIES THAT WOULD INCREASE THE PRODUCTIVITY AND PROFITABILITY OF DRYLAND CROPPING SYSTEMS.
3. IMPROVE THE UNDERSTANDING OF HYDROLOGICAL AND CLIMATIC FACTORS AFFECTING WATER USE AND ECONOMIC PROFITABILITY.
4. DETERMINE THE IMPACTS OF ALTERNATIVE WATER WITHDRAWAL/USE POLICIES ON THE ECONOMIC VIABILITY OF THE AGRICULTURE INDUSTRY AND THE VITALITY OF THE SOUTHERN OGALLALA AQUIFER REGION.
5. BEST MANAGEMENT PRACTICES FOR ALTERNATIVE CROPS THAT INCREASE THE SUSTAINABILITY OF DRYLAND FARMING OR HIGH VALUE CROPS THAT MAINTAIN FARM INCOME WITH DECREASING PUMPING FROM THE OGALLALA AQUIFER.

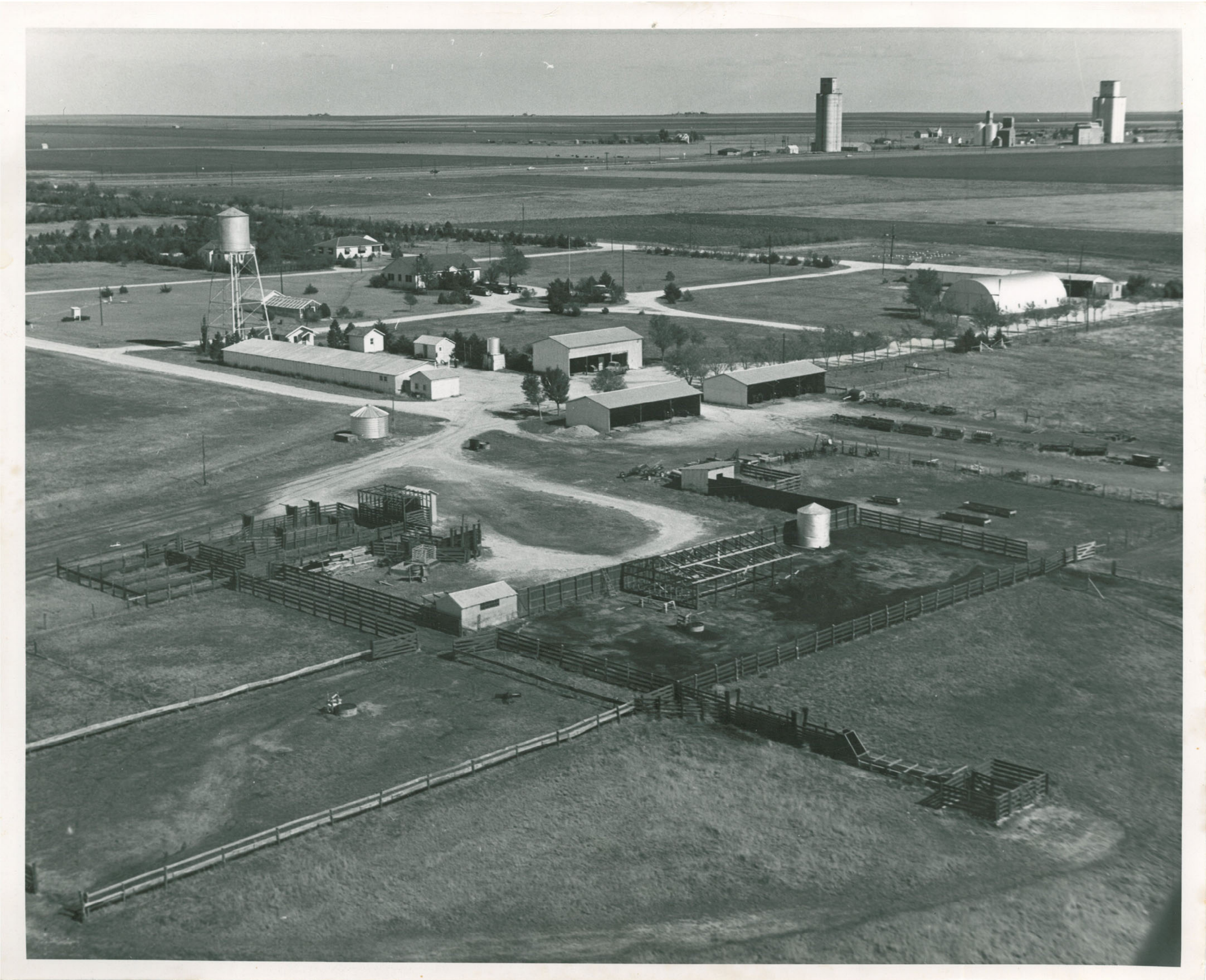
Ogallala Aquifer
Funded by USDA ARS Research Initiative
Sustaining rural economies through new water management technologies.

OAP:
$50 MILLION CATALYSIS FOR RESEARCH AND TECHNOLOGY TRANSFER FOR THE SOUTHERN HIGH PLAINS

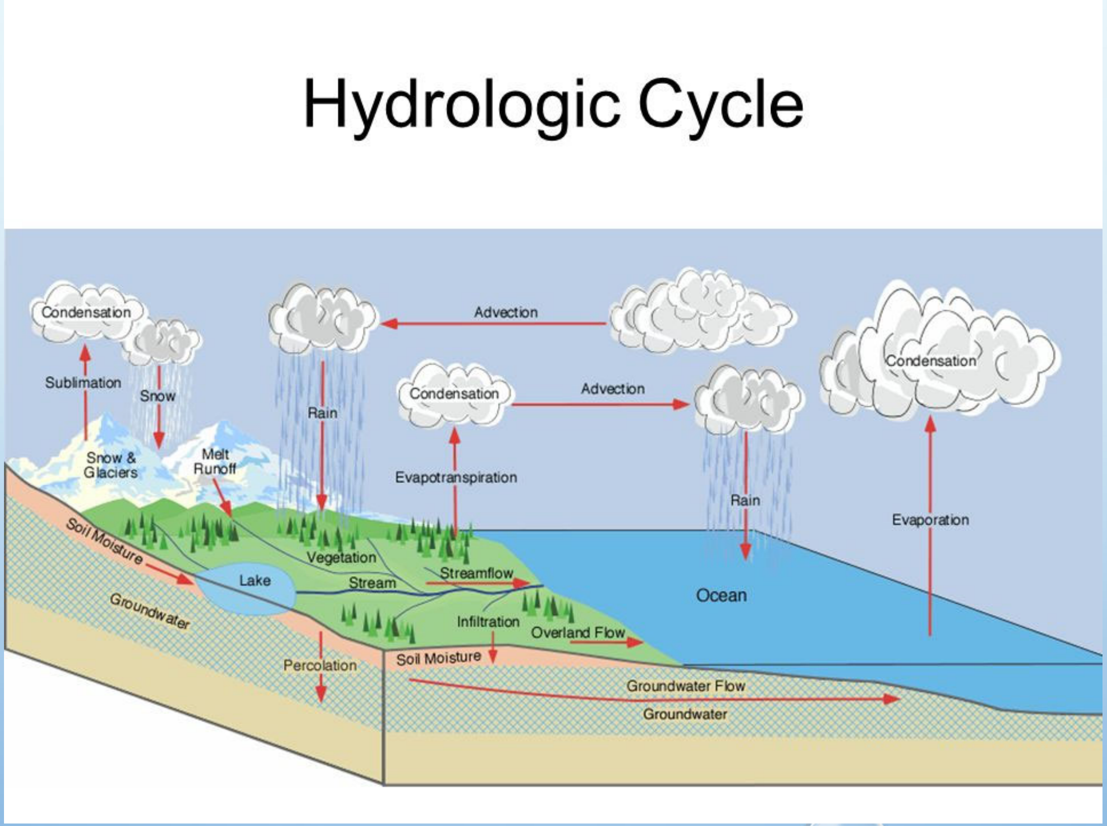
2018 WORKSHOP AGENDA

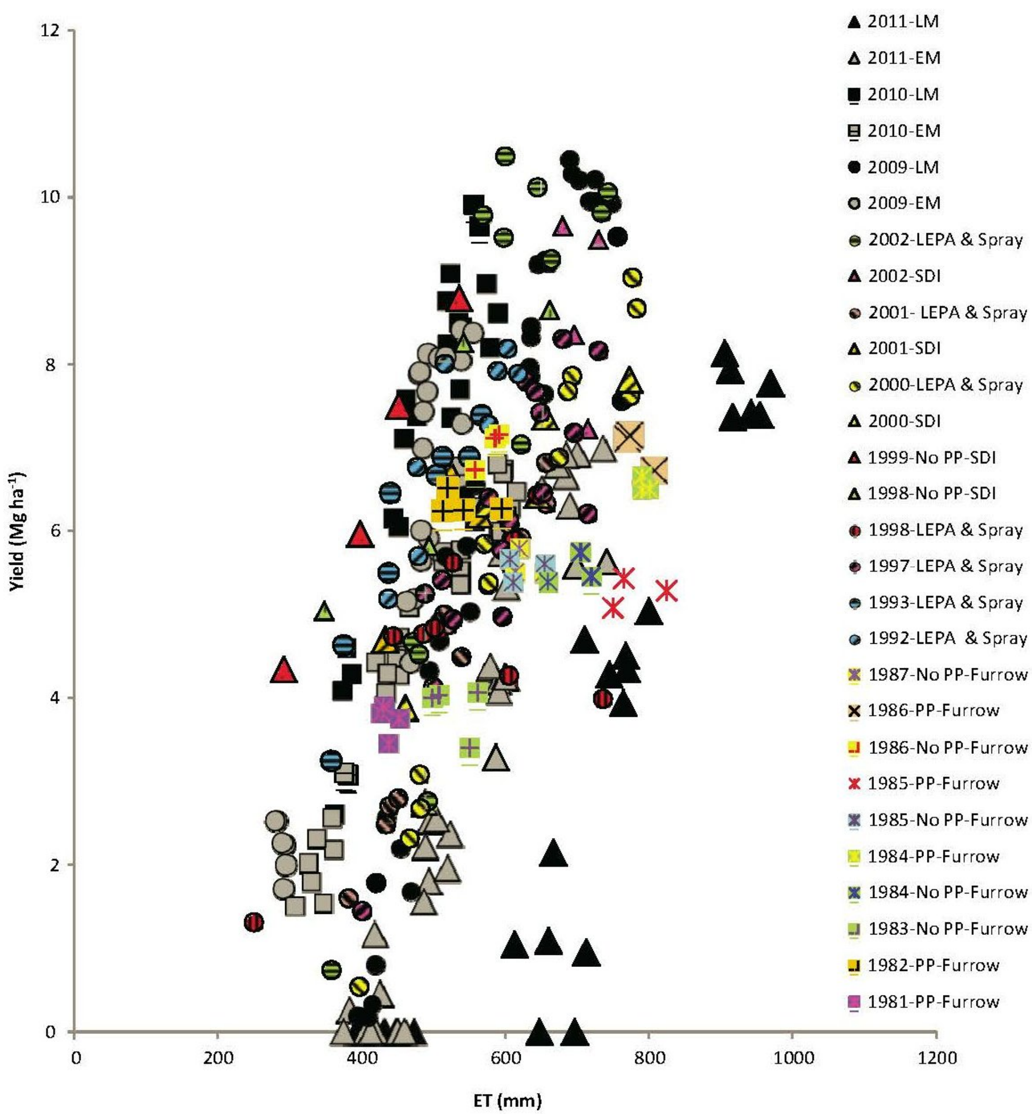
Ogallala Aquifer
Funded by USDA ARS Research Initiative
Sustaining rural economies through new water management technologies.

- TUESDAY AFTERNOON
  - FOCUS ON ET RESEARCH
- WEDNESDAY MORNING
  - WATER POLICY AND AG
- WEDNESDAY AFTERNOON
  - REPORTS AND POSTER
- THURSDAY MORNING
  - RESEARCH PLANNING



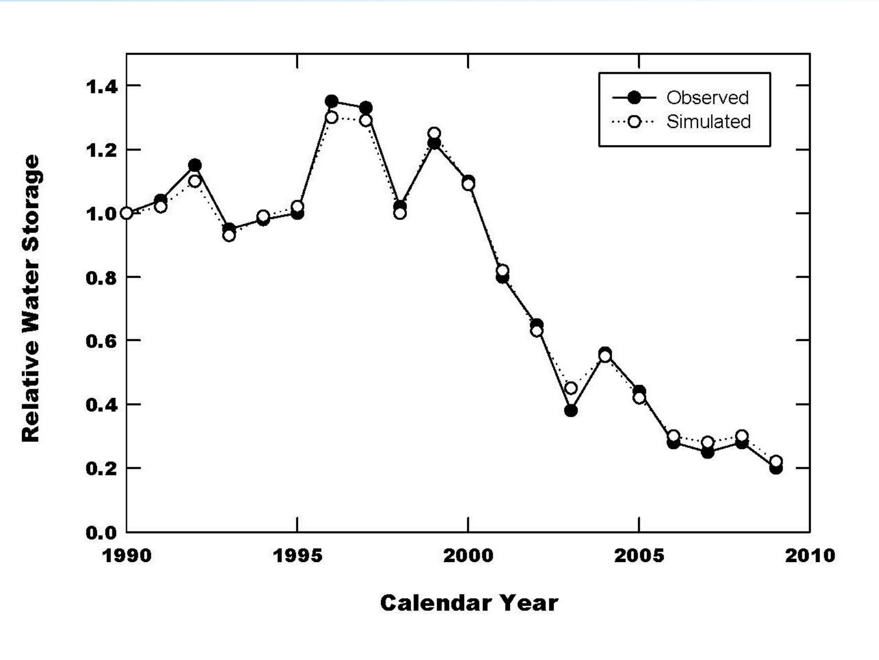
EVAPOTRANSPIRATION (ET)





12
10
8
6
4
2
0
Yield (Mg ha-1)
0
200
400
600
800
1000
1200
ET (mm)
2011-LM
2011-EM
2010-LM
2010-EM
2009-LM
2009-EM
2002-LEPA & Spray
2002-SDI
2001- LEPA & Spray
2001-SDI
2000-LEPA & Spray
2000-SDI
1999-No PP-SDI
1998-No PP-SDI
1998-LEPA & Spray
1997-LEPA & Spray
1993-LEPA & Spray
1992-LEPA & Spray
1987-No PP-Furrow
1986-PP-Furrow
1986-No PP-Furrow
1985-PP-Furrow
1985-No PP-Furrow
1984-PP-Furrow
1984-No PP-Furrow
1983-No PP-Furrow
1982-PP-Furrow
1981-PP-Furrow

ET AND HYDROLOGIC MODELS: EXAMPLES FROM ARCSWAT



- ECOSYSTEM PRODUCTIVITY
  - RANGELAND: 4,000 TO 5,000 KG DM/HA
  - DRYLAND CORN: 4,500 KG GRAIN/ HA