



Technology Transfer

“Across the Board”

USDA-ARS Ogallala Aquifer Program



A little background:

Why technology transfer?

How OAP technology transfer evolved

Audiences

Platforms and methods



"Evolution" of OAP Technology Transfer

Internal Website

The screenshot shows the internal website for the Ogallala Aquifer Program. The browser address bar displays <http://oap.tamu.edu/>. The header features the Ogallala Aquifer logo and the text "Ogallala Aquifer Program" with a sub-header "Funded by USDA ARS Research Initiative". Below the header, a green banner reads "Ogallala Aquifer Program" and lists the research consortium members: "A research consortium between USDA-Agricultural Research Service, Kansas State University, Texas Agricultural Experiment Station, Texas Cooperative Extension, Texas Tech University, and West Texas A&M University".

The main content area is divided into two columns. The left column, titled "Misc.", contains links for "Ogallala Logos", "Administrator", and "Correspondence". The right column, titled "Tools", contains six submission buttons:

- Technical Report Submission**: For Submitting Technical Reports
- News Article Submission**: For Submitting News Articles for Public Display
- Photograph Display**: For Submitting Photos for Public Display
- Photograph Exchange**: For Sharing Your Photos with Select People
- Presentation Exchange**: For Sharing Your Presentations with Select People
- Web Link Submission**: For Submitting Applicable Websites Useful to the Public
- Upcoming Events Submission**: For Submitting Upcoming Events for Public Display

Public Web Site

The screenshot shows the public website for the Ogallala Aquifer Program. The browser address bar displays <http://ogallala.tamu.edu/>. The header features the Ogallala Aquifer logo and the text "Ogallala Aquifer Program" with a sub-header "Funded by USDA ARS Research Initiative". A banner image shows a field of wheat with the text "Sustaining rural communities through new water management technologies."

The navigation menu includes: Home, Reports, Personnel, Resources, About, Contact Us, For Media.

The main content area is divided into several sections:

- PROJECT CATEGORIES**: A list of categories including Water Management, Irrigation Systems, Economics, CAFO and Processing Industry, Production Systems, Hydrology/Climatology, and Education Training.
- In the News**: A section with news articles. One article is titled "Preserving for Tomorrow" and discusses possible economic policies. Another article is titled "No-Till Practices Prove to Conserve Water" and discusses water conserving techniques.
- Photos**: A section with a photo of a body of water in Southwest Kansas. Below the photo is the caption "Body of water in Southwest Kansas" and a link "MORE PHOTOS >".
- Upcoming Events**: A section with the text "There are no upcoming events." and a link "MORE EVENTS >".
- Reports**: A section with a list of reports including "Budget Estimates for 2007", "Plans for Implementation", "Economics", "Forage Selection and Grazing Principles on Small Acreages (PDF)", "2005 Verticillium Wilt Trials (PDF)", "Suggestions for Small-Acreage Alfalfa Producers (PDF)", "Common Mistakes in West Texas Alfalfa Production (PDF)", and "Winter Survival, Fall Dormancy and Pest Resistance Ratings for Alfalfa Varieties (PDF)". Below the list is a search box labeled "Search the Reports" and a link "MORE REPORTS >".

The footer contains the navigation menu: Home | Reports | Personnel | Resources | About the Ogallala Program | Contact Us | For Media.

"Evolution" of OAP Technology Transfer

TT Evaluating Alternative Meteorological Data Sources

Porter, D.



**Ogallala Aquifer Program
2012 Final Report
1 January 2011 through 31 December 2012
Texas AgriLife Research and Texas AgriLife Extension Service**

Project Title: Evaluating Alternative Meteorological Data Sources for Potential Use in Irrigation Management

Investigator(s):

Principal Investigators: Dana Porter, Texas A&M AgriLife Research -Lubbock;
Thomas Marek, Texas A&M AgriLife Research - Amarillo;
Prasanna Gowda, USDA-ARS-Bushland

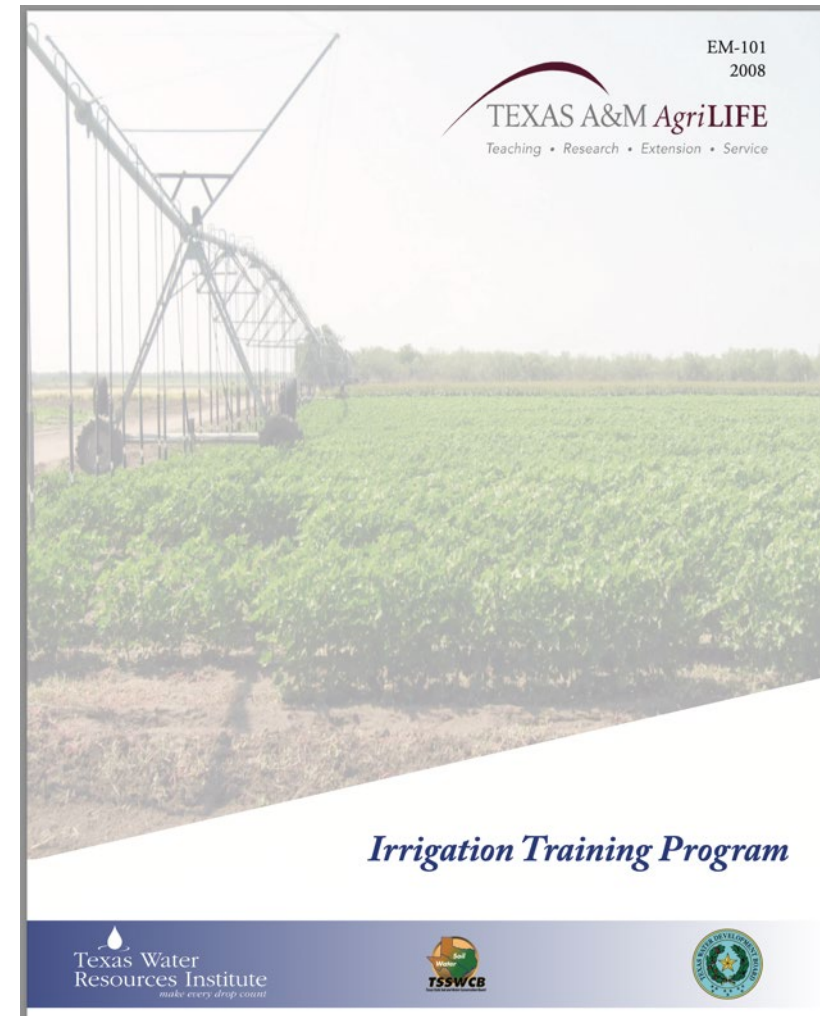
Co-Investigators:

Jerry Moorhead, USDA-ARS-Bushland;
Daniel Holman, Texas A&M AgriLife Research -Lubbock;
Dan Rogers, Kansas State University;
Terry Howell, USDA-ARS-Bushland

Significant Findings: Carefully selected alternative data sources can complement TXHPET and similar agricultural weather station networks, provided data quality and siting biases can be addressed adequately through calibration and associated data techniques. Because multiple factors affect applicability of data from individual stations from these alternate networks, selection and calibration of these sources should be approached with technical discernment. Machine learning methods developed through this project can be helpful in filling spatial data gaps.

Summary:

There is a great deal of interest in weather-based irrigation scheduling and in ground-truthing data for remote sensing tools used in water resources management and drought mitigation planning. Lack of stable funding sources and resultant difficulties in recruiting and retaining qualified technical support personnel make agriculturally based ET networks especially vulnerable. This study considered publicly available alternative data sources; identified data sources with greatest potential for use in ET calculation models; applied results of sensitivity analyses to identify critical weather data quality issues; compared data sets and resultant calculated reference ET values for co-located weather stations from these networks; applied calibration strategies for adapting promising data sources; and adapted new computer "machine learning" techniques to enhance the value of available data. It was determined that alternative data sources





ogallala.tamu.edu

Ogallala Aquifer Program



www.ars.usda.gov/plains-area/bushland-tx/

Bushland, Texas

[ARS Home](#) » [Plains Area](#) » Bushland, Texas

www.ksre.k-state.edu

Irrigation at K-State Research and Extension

- Home
- ET Information
- Let's Talk about Agricultural Irrigation
- Irrigation News
- Frequently Asked Questions (FAQ)
- K-State Reports
- Center Pivot Technology Transfer
- Photo and Drawing Gallery
- Irrigation Software
- K-State Irrigation Faculty
- Upcoming Events
- K-State MIL Website and KanSched
- K-State SDI Website
- Organizations and other Websites
- Contact Information
Jonathan P Aguilar

Irrigation at K-State Research and Extension

Kansas has nearly 3 million irrigated acres. State water law requires that water be used beneficially for the overall good of the citizens of Kansas. Approximately 85% of the water in Kansas that is diverted from groundwater and surface water supplies is used for irrigation. Although this irrigation water is utilized on only 14% of the cropland, it accounts for 33% of the state's crop production. K-State Research and Extension is committed to developing and promoting new irrigation technologies that will be environmentally and economically efficient while conserving and protecting limited water resources. This site is devoted to general irrigation information and practices.



Upcoming Events

Central Plains Irrigation Conference 2023
February 28- March 1, 2023 in Kearney, NE

milab.ksu.edu/resources



Welcome to the Mobile Irrigation Lab



Software Links

- Crop Water Allocator
- Crop Yield Predictor
- KanSched for Excel
- KanSched2
- SWREC ET Data
- NWREC ET Data
- FuelCost
- Subsurface Drip Irrigation
- Pocket PC Software
- Quiz Master

Online Tools

- Crop Water Allocator
- Crop Yield Predictor
- KanSched3
- Compare Energy Costs
- FuelCost Online

amarillo.tamu.edu

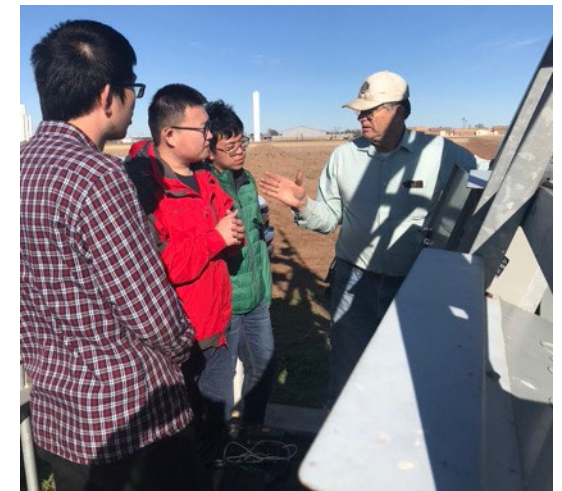
AMARILLO

On-farm demonstrations, virtual and in-person classes, field days.

Practical experience for undergraduate and graduate students, technical staff.

Professional development education for County Extension Agents

CEU Opportunities for crop consultants, irrigation professionals, pesticide applicators, Master Irrigators, etc.



Examples of OAP Tech Transfer

Using Existing Platforms

Irrigation and Crop Production Conferences:

- Central Plains Irrigation Conferences (NE, KS, CO)
- High Plains Irrigation Conferences (Amarillo)
- Other irrigation conferences and Extension meetings
- Technical sessions added onto other ag and professional conferences (Texas Plant Protection Conferences, Beltwide Cotton Conferences, etc.)

Field Days: Kansas and Texas



Examples of OAP Tech Transfer

Technical sessions at professional conferences:

- ASABE Annual International Meetings
- Irrigation Association Annual Conferences
- IA/ASABE Decennial Irrigation Conferences
- ASA, CSSA & SSSA International Annual Meeting

Regional Projects: Multistate Research Projects and Activities



Examples of OAP Tech Transfer

Special collections of publications

- *Journal of the ASABE (Transactions of the ASABE)*
- **New online, all open access journal at ASABE:**
Journal of Natural Resources and Agricultural Ecosystems
- **ASA, CSSA & SSSA Journals, AES Journals, etc.**
- **CD collections (credit to Freddie Lamm)**
- **Web-based resources (OAP and KState)**

Web pages: ogallala.tamu.edu &
www.ksre.k-state.edu/irrigate/



Examples of OAP Tech Transfer*

Celebrating 20 years+ of SDI research

- SDI Field Days at Colby, KS and Halfway, TX
- Technical sessions at ASABE and IA
- Special collections of papers
(ASABE journals, CD, and KState Irrigation website)

Low Pressure Center Pivot Irrigation (40 Years LEPA)

- Center Pivot Irrigation roundtable
- Sponsored technical sessions at ASABE and IA
- Field days at Garden City, KS and Bushland, TX
(ASABE journals, CD, and Kstate Irrigation website)

* Credit to Freddie Lamm

OAP Tech Transfer

- Target a variety of audiences (technical, non-technical)
- Build upon existing venues and platforms
- Engage OAP participants, students, stakeholders, and peers in active collaborations within and beyond OAP
- Interpret research and recommendations for increased impact
- Promote OAP program and affiliated programs: visibility and value of the research and programs to the stakeholders

