



- News
 - Articles
 - Videos
 - Images
 - Books
 - Reference
 - Search ...
- Health & Medicine
 - Mind & Brain
 - Plants & Animals
 - Earth & Climate
 - Space & Time
 - Matter & Energy
 - Computers & Math
 - Fossils & Ruins

Science News

... from universities, journals, and other research organizations

- Save
- Email
- Print
- Share

How Will North America's Largest Aquifer, The Ogallala Aquifer, Fare?

ScienceDaily (Apr. 10, 2008) — Are the tens of thousands of playa lakes that dot the Southern High Plains key to keeping the Ogallala Aquifer's dwindling waters clean? That's the question Agricultural Research Service (ARS) plant physiologist Dennis Gitz is asking about North America's largest aquifer.

Share This:

Like Send

Tweet

11

See Also:

- Plants & Animals**
- Soil Types
 - Drought
 - Organic
- Earth & Climate**
- Water
 - Geography
 - Drought Research

Reference

- Infiltration (hydrology)
- Groundwater
- Artesian aquifer
- Surface runoff

Playas are ephemeral lakes that form when rainwater fills natural clay depressions in the landscape. Gitz found that this water flows continually downward, if slowly, into the Ogallala, contributing to its recharge.

The recharge rate for cropland over the Ogallala is negligible, which is why there is so much concern for this practically finite source of water.

Part of the playas question is whether the recharge rate is significant enough for them to be protected with filtering borders of gamagrass or switchgrass. If so, the grass borders would ensure that playas continue to add significant amounts of clean water to the Ogallala and help extend its useful life.

To measure the recharge rate of the Ogallala for both cropland and playas, Gitz and colleagues from Texas Tech University are using soil thermometers to track rainwater's downward movement through soil. The thermometers track rainwater by detecting sudden changes in

temperature where rainwater stops seeping.

The scientists proved the thermometer idea works in a study that showed a good agreement between thermometer readings and actual water infiltration readings. Thermometers are much less expensive than other methods of tracking rainwater infiltration.

Gitz has installed a bank of instruments at 14 playas and is developing instruments for 16 more. These include instruments for weather stations, as well as for measuring water levels. He will use data from these instruments to calculate expected water evaporation rates for comparison to actual water losses. The difference shows the amount of water that has infiltrated the soil below the lakes.

If the recharge rate for playas turns out to be negligible, farmers could consider managing them for rangeland or recreational use.

Share this story on [Facebook](#), [Twitter](#), and [Google](#):

Like Send Tweet

Other social bookmarking and sharing tools:

| 11

Story Source:

The above story is reprinted from [materials](#) provided by [US Department of Agriculture](#).

Note: Materials may be edited for content and length. For further information, please contact the source cited above.



The Ogallala aquifer underlies parts of eight states. (Credit: Photo courtesy U.S. Geological Survey)

Ads by Google

Water Filtration System — Get Worry-Free Water Filtration. We Service Our Systems Every 6 Months. ... > www.myutopia.com/Water-Filtration

Boiler Water Treatment — ROI in as little as one year! Factories/Schools/Hotels ... > aaamobileboiler.com

Lowest cost wind power — New technology recently introduced OTCBB stock ticker MMMW ... > www.massmegawatts.com

Solar on Long Island — Experienced Solar & NABCEP Cert. Free Site Analysis-Great References ... > www.esipowercorp.com

Emerald Lawn Sprinklers — Lawn Sprinkler System Professionals New Customer Specials! ... > www.emeraldlawnsprinklers.com

Related Stories

Million-Year-Old Groundwater in Maryland Water Supply (June 18, 2012) — A portion of the groundwater in the upper Patapsco aquifer underlying Maryland is over a million years old. A new study suggests that this ancient groundwater, a vital source of freshwater supplies ... > [read more](#)

New Study to Look at Economics, Groundwater Use of Bioenergy Feedstocks (Mar. 3, 2011) — Biofuel feedstock production in the Texas High Plains could significantly change the crop mix, which could affect regional income and groundwater consumption, according to ... > [read more](#)

Drinking Recycled Water? Study Establishes Methods to Assess Recycled Aquifer Water (Jan. 6, 2011) — The Australian Government National

Just In:

Eating Egg Yolks as Bad as Smoking?

[▶ more breaking science news](#)

Social Networks

Recommend *ScienceDaily* on [Facebook](#), [Twitter](#), and [Google +1](#):

Like 29,967 people like this. [Sign Up](#) to see what your friends like.

Tweet Follow

+2384 Recommend this on Google

Other bookmarking and sharing tools:

32.5K

Last Call At the Oasis

We can solve the water crisis. Watch the film in theaters May 4!

lastcallattheoasis.com

Boiler Water Treatment

ROI in as little as one year!

Factories/Schools/Hotels

aaamobileboiler.com

Hand Pump Your Well Water

Goes Next to Existing Electric Pump Easy Install- \$399 and up- Free UPS

FloJak.com

AdChoices

Breaking News

... from [NewsDaily.com](#)

Parasites may get nastier with climate swings: study



After Curiosity, uncertainty lingers on NASA's Mars program

Mars rover flight engineer with the Mohawk becomes Internet hit

Nobel prize-winning crystals fell to earth in meteorites

NASA's Morpheus lander in fiery crash at Cape Canaveral

Sewage-munching microbes may generate electricity

World over-using underground water reserves for agriculture

Plane uses ice runway to evacuate American from Antarctic outpost

[more science news](#)

In Other News ...

- Deloitte CEO defends firm's Standard Chartered work
- Peregrine CEO

Need to cite this story in your essay, paper, or report? Use one of the following formats:

- APA US Department of Agriculture (2008, April 10). How Will North America's Largest Aquifer, The Ogallala Aquifer, Fare?. *ScienceDaily*. Retrieved August 14, 2012, from <http://www.sciencedaily.com/releases/2008/04/080405094350.htm>
- MLA

Note: If no author is given, the source is cited instead.

Disclaimer: Views expressed in this article do not necessarily reflect those of ScienceDaily or its staff.

Water Commission funded a study to establish an approach to assess the quality of water treated using managed aquifer recharge. Researchers at Australia's CSIRO ... > [read more](#)



Precision Irrigation Built Into Sprinkler Booms Controls Water Usage, Optimizes Crop Growth

(Apr. 24, 2008) — A system that turns irrigation water on and off automatically based on leaf temperature is being developed by Agricultural Research Service soil scientists. They are developing time-temperature ... > [read more](#)

Ads by Google

New England Dry Concrete — Cementitious Repair & Admixes Authorized Kryton Distributor ... > www.dryconcrete.com

#1 Rated Irrigation Co. — Affordable Sprinkler Systems Save 10% On New Installations ... > www.sprinkleroneservice.com

Emergency Hand Well Pump — Never Be Without Fresh Water. Starts at \$399. Buy Now-Ship Free! ... > www.Flojak.com/Hand-Well-Pump

Water Efficiency Experts — Innovative design & implementation of water conservation projects. ... > www.watermgt.com

Groundwater Imaging (NMR) — Advanced geophysics to locate and characterize groundwater aquifers ... > www.vista-clara.com

indicted for lying to regulators

Ex-Barclays trader Merchant, under Libor scrutiny, exits UBS

Three dead in shooting near Texas A&M University

Apple expert shines light on Samsung sales in U.S.

Insight: Mimicking al Qaeda, militant threat grows in Sinai

Iran government criticized over earthquake response

Al Qaeda claims Iraq attacks, Baghdad anti-terrorism HQ assault

[more top news](#)

AdChoices

Affordable Teeth Implants

What's It Like To Not Have Pain As You Eat? Get Implants & Find Out! 1999implant.net

Water Filtration System

Get Worry-Free Water Filtration. We Service Our Systems Every 6 Months. www.myutapia.com/Water..

Last Call At the Oasis

We can solve the water crisis. Watch the film in theaters May 4! lastcallattheoasis.com

Boiler Water Treatment

ROI in as little as one year! Factories/Schools/Hotel aaamobileboiler.com

Water Data Management

Integrated Water Treatment Performance Data. Free Demo CD. ChemTreat.com/WaterTr..

Search ScienceDaily

Number of stories in archives: 122,213

Find with keyword(s):

Enter a keyword or phrase to search ScienceDaily's archives for related news topics, the latest news stories, reference articles, science videos, images, and books.

Copyright Reuters 2008. See [Restrictions](#).

Free Subscriptions ... from ScienceDaily

Get the latest science news with our free email newsletters, updated daily and weekly. Or view hourly updated newsfeeds in your RSS reader:

[Email Newsletters](#)

[RSS Newsfeeds](#)

Feedback ... we want to hear from you!

Tell us what you think of ScienceDaily – we welcome both positive and negative comments. Have any problems using the site? Questions?

Your Name:

Your Email:

Comments:

Click button to submit feedback:

Save Email Print Share

About ScienceDaily® | Editorial Staff | Awards & Reviews | Contribute News | Advertise With Us | Privacy Policy | Terms of Use
Copyright © 1995-2012 ScienceDaily LLC — All rights reserved — Contact: editor@sciencedaily.com
Note: This web site is not intended to provide medical advice, diagnosis or treatment.
Part of the iVillage Your Total Health Network