

Texas Master Naturalists ROLLING PLAINS

NEWSLETTER

Vol. 7, No. 2

<http://txmn.org/rollingplains>

February 2015

Building a Better Weather Forecast? SMAP May Help

January 28, 2015 Source: NASA/Jet Propulsion Laboratory

If you were trying to forecast tomorrow's weather, you would probably look up at the sky rather than down at the ground. But if you live in the U.S. Midwest or someplace with a similar climate, one key to a better weather forecast may lie beneath your feet.

Precipitation and temperature are part of every weather forecast. Precipitation comes from clouds, clouds are formed of airborne water vapor, and

vapor comes from evaporating soil moisture -- so soil moisture governs precipitation. Evaporating soil moisture also makes air cooler, so it affects temperature. In certain kinds of climate, scientists believe, soil moisture is so influential that better

observations of it might improve weather forecasts. These climates are transitional: not too humid and not too dry. For example, the agriculturally productive states of the U.S. Midwest fall into that category.

"Better soil moisture observations lead to better land-atmosphere interaction in weather forecasting models and ultimately to a better prediction of temperature and precipitation," said Michael Ek, leader of the Land Hydrology Team at the Environmental Monitoring Center of the National Oceanic and Atmospheric Administration (NOAA). "Weather models need good initial observations of the land surface, or you're starting from the wrong place."

Better soil moisture observations are just what the Soil Moisture Active Passive (SMAP) mission will provide. Scheduled for launch on Jan. 29, SMAP will collect the most accurate and highest-resolution soil moisture measurements ever made from a satellite SMAP will cover the entire globe in two to three days. Ek is a member of one of five groups in SMAP's Early Adopter program that have been working for several years on the question of how best to incorporate the new data into national weather forecasting models. To read more about SMAP visit: <http://www.sciencedaily.com/releases/2015/01/150128185651.htm>

E LOCALS

FEBRUARY 3: Rolling Plains Chapter monthly meeting is at River Bend Nature Center. **Location:** 2200 3rd Street, Wichita Falls, Texas. **Time:** 7:00 PM. **Program:** Bryan Rupp will be our speaker. Bryan will be covering Severe Weather.

FEBRUARY 7: It's All About Raptors **Location:** Hackberry Flat **Time:** 9 am - noon Meet at Atwoods parking lot at 8:00 am to carpool to Hackberry Flat Center. Please let Terry or Larry know if you plan to attend so we can give an estimated number of attendees. *Advanced Training Opportunity*

FEBRUARY 14-15: Great Backyard Bird Count 2 **Location:** Lake Arrowhead Bird Walk on February 14 and Wild Bird Rescue on February 15 **Time:** 8 am - noon *This counts as Vol Time*

FEBRUARY 21-22: Arts Alive 2015 Home and Garden Festival **Location:** Ray Clymer Exhibit Hall **Time:** 9 am to 6 PM. *Volunteers are needed to man our booth.* Larry has seven Home & Garden tickets he would really like to get rid of. Those tickets are \$5 each. \$4 of that goes directly to *our treasury.*

MARCH 10: Master Naturalist Spring Training Begins **Location:** MSU Bolin Science Hall, room 213 **Time:** 7:00 to 9:00 PM

The New Wichita Valley Rail Trail is Now Up and Going

There was a time long ago when kids would lie in bed, bedroom window open, curtains fluttering in the breeze, and young minds would fall under the spell of distant sounds of a train passing in the night from the old Wichita Valley Railroad.

They'd wonder where the train came from and where it was going, all the while soaking up the image of a locomotive and boxcars reflecting light across miles of sagebrush and crooked trees.

Fast-forwarding from a railway charter from the late 1800s, a near 7-mile portion of the Wichita Valley Railway is being preserved as a walk, run and off-road biking path.

Named the Wichita Valley Rail Trail, the newly dedicated stretch of vintage railway runs between Wichita Falls and Holliday.

As a result, the Wichita Valley endeavor becomes a part of the perpetuation of rail trail systems nationwide. On Nov. 1, 2014 the Wichita Valley Rail Trail hosted its first 10K run, walk and off-road bike celebration.

A committee headed by Charles Oldham, Cyndi Schenk, Charles Finnell and Donna Adams dedicated time and energy to a stretch of real estate that appears to have promising growth opportunities. The land was acquired by the North Texas Rural Rail Transportation District in 1997 and became a trail reality through a Texas Parks & Wildlife Trail grant.

“This project will provide a venue for outdoor recreation and interaction with nature for citizens of



all ages in Archer and Wichita Counties,” Adams said. “There are designed fitness stations along the way, and the trail provides a wildlife corridor and habitat for birds and small animals in our native prairie setting.

“This is not only a preservation of a landmark but also a safeguard for the existence and study of wildlife and plants. We believe more and more people will become involved in the ongoing opportunities to grow the trail in areas of health, education and entertainment.”

The original Wichita Valley Railroad was chartered in 1890, and a line was constructed from Wichita Falls to Seymour. The following year the company owned two locomotives and four cars. According to the Texas Historical Association, the rail company earnings in 1891 included \$13,483 from passenger revenue and \$44,955 from freight. A train ride from Holliday to Wichita Falls was estimated to have cost 15 cents.

The railroad/railway eventu-

ally expanded lines to Stamford, Abilene and other small town stops, including a little-known spur in Mankins that led directly to the Sam Lazarus ranch for movement of cattle and grain. It became known as the Lazarus Switch, and eventually the township of Mankins was named after Lazarus ranch foreman, Tom Mankins.

Mankins, 19 miles southwest of Wichita Falls and 6 miles outside Holliday on U.S. highways 277 and 82, once had an estimated population of 120, a school, church and four businesses in 1950. Although the population dropped to

approximately 10 in 2000, Mankins is listed as a ghost town by several Texas travel handbooks and websites. Many lingering sights of a once small but vibrant community remain.

This is just one of the many stories connected to the Wichita Valley Railroad — one of several rail enterprises that played a key role in the development of the Wichita Falls area. Thanks to the Wichita Valley Rail Trail, its history will not be forgotten.



February 22-28, 2015
National Invasive Species Awareness week is February 22nd to 28th. Events will be taking place across the nation, to raise awareness and identify solutions to invasive species issues at the local, tribal, state, regional and national levels. Learn more about the National Invasive Species Awareness Week visit NISAW.org.

Snack Attack: Bears Munch on Ants and Help Plants Grow

January 22, 2015 Source: Florida State University

Tiny ants may seem like an odd food source for black bears, but the protein-packed bugs are a major part of some bears' diets and a crucial part of the food web that not only affects other bugs, but plants too.



In a paper published this week by Ecology Letters, Florida State University researcher Josh Grinath examines the close relationship among bears, ants and rabbitbrush — a golden-flowered shrub that grows in the meadows of Colorado and often serves as shelter for birds.



“Bears have an effect on everything else because they have an effect on this one important species — ants,” Grinath said.

Scientists have increasingly found that no plant or animal species exist in a vacuum, but tracing and understanding their complex interactions has been more of a challenge.

Grinath, who finished his doctorate in December working in the labs of Associate Professors Nora Underwood and Brian Inouye, had spent several years monitoring ant nests in a mountain meadow in Almont, Colo. On one visit, he discovered that bears disturbed the nests, which led him to wonder exactly how this disturbance might affect other plants and animals in



bugs such as beetles that typically prey on treehoppers.

In a situation where bears disturbed and ate ants, other bugs were free to prey on the treehoppers and other plant-feeding insects, and thus the

rabbitbrush thrived.

This study provides a reminder of how interconnected many species are in an ecosystem. But, it also provides a bit of a warning for the future.

Other studies have found that bears' diets are changing and many populations are now eating human trash regularly instead of ants and other traditional food sources.

“If bears are eating trash instead of ants, that could compromise the benefits the plants are receiving,” Grinath said. “These indirect effects are an important consideration in conservation.”

Grinath's work was funded by the Rocky Mountain Biological Laboratory and the STAR Fellowship from the Environmental Protection Agency. Additional funding was provided by the National Science Foundation.

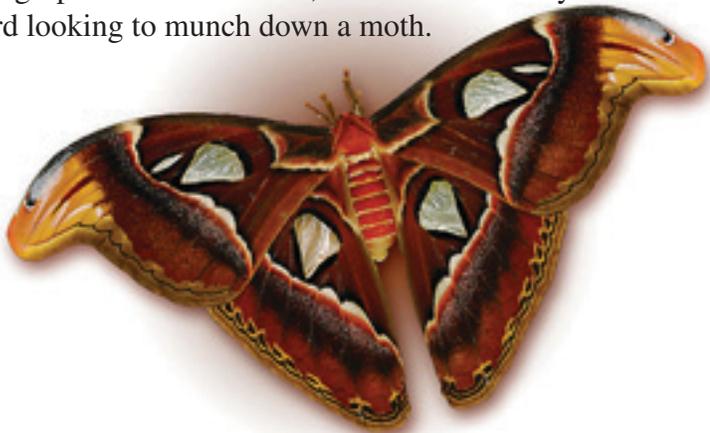
the meadow.

From 2009 to 2012, Grinath, Underwood and Inouye collected data on bear damage to ant nests. Simultaneously, the team realized that the nearby rabbitbrush, a dominant plant in the area, was growing better and reproducing more near damaged nests.

Eventually, they were able to figure out why.

The missing link was an insect

The Atlas moth’s wings have windows. This winged giant is 12 inches wide and is the biggest moth found across the globe. The wings have triangular ‘windows’, but researchers are stumped as to how they use them. The top corners of each wing serve a special purpose; helping the moth escape predators by mimicking a cobra. The colouration of each wing tip resembles a snake, which would easily scare off a bird looking to munch down a moth.



Rather than trying to blend in with their surroundings, chameleons change color to give others visual signals. By changing color a chameleon can communicate its mood, territory and desire to mate. When a male loses a conflict or is rejected by a particularly aggressive female, he will display submissive colors. When a female puts on an aggressive display she exhibits contrasting light and dark colouration to warn others to leave her alone.



**Invasive Spotlight:
Giant Reed (Arundo donax)**

Giant Reed is a tall, perennial grass that can grow to heights over 20 feet. It has fleshy, creeping rootstocks that form compact masses from which fibrous roots emerge to penetrate deeply into the soil. Leaves are elongate, 1-2 inches wide and can be over 1 foot long. Flowers are presented in 2-foot long dense, plume-like panicles during the late summer and fall.

The plant chokes riparian areas and stream channels, crowding



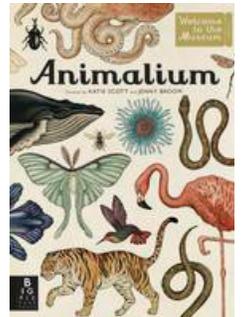
out native species, interfering with flood control, increasing fire potential and reducing habitat for wildlife. Fragments of Arundo can float miles downstream when broken apart, forming new infestations.

In recent years, this species has spread widely along the Rio Grande river in Texas. New proposed legislation calls for the eradication of the plants “to the greatest extent practicable.”

RESOURCE CORNER

Animalium
Curated by Katie Scott and Jenny Broom
Hardcover: 112 pages
ISBN-10: 0763675083
Price:\$26.27

Animalium presents the animal kingdom in glorious detail with illustrations from Katie Scott, an unparalleled new talent.



Welcome to the Museum is a series of books set on the “walls” of the printed page, showcasing the world’s finest collections of objects — from natural history to art. Open 365 days a year and unrestricted by the constraints of physical space, each title in this series is organized into galleries that display more than 200 full-color specimens accompanied by lively, informative text.



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