



# CRC's GREEN SCENE

*A bimonthly newsletter of the Sustainability Committee at Cosumnes River College*

## Did Climate Change Cause the Collapse of Mayan Civilization?

*Susan Scott reports...*

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UC Davis Professors Martha Macri and Bruce Winterhalder presented the Earth Day Keynote talk about their research into the role climate change played in the decline of the Mayan civilization. According to Dr. Winterhalder, theories concerning the decline of Mayan civilization abound, including overpopulation, overexploitation of the environment, peasant revolt, and disease and invasion by other people; however, recent work by a group of 18 researchers including Macri and Winterhalder suggests that climate change was a key factor.

The collapse of the Mayan civilization has been difficult to understand because it happened so rapidly and few written records have survived (the humid tropics are not kind to paper and those found by Europeans were mostly burned). However, the Mayans built many monuments, large and small, that they decorated with glyphs portraying much information, including the date a monument was built. Dr. Macri, the Director of the Center for Native American Studies, a professor of anthropology and linguistics, and an

expert in interpreting Mayan glyphs, has been able to accurately document the activity of the Mayan people by studying the monuments and their glyphs. A magnificent civilization existed in southern Mexico, Guatemala, and Belize from about 300 Christian Era (CE) to 900 CE, but this civilization collapsed within a period of about 60 years over a broad geographical area. After 500 years of cultural, political, and



technical florescence, the building of monuments ceased, and the political and social elite disappeared – and there is evidence of mass migrations and starvation among the common people.

Dr. Winterhalder, a professor of anthropology and Associate Dean of the Division of Social

Science, studies foraging ecology, which includes analyzing agricultural production, availability of food, and patterns of human settlement. He described a cave near their study site in southern Belize that contains numerous stalactites and stalagmites, which grow in proportion to temperature and moisture. By carefully slicing these stalactites and stalagmites, the researchers obtained a climate record of the Mayan region, accurate to single years. They learned that a period of

*(See Mayan Civilization, Page 2)*



## Mayans and Climate Change

*(From Page 1)*

moderate wet climate coincided with the expansion and apotheosis of Mayan cities and culture. Then the climate changed and became drier for the next 200 years. Mayan monuments have glyphs telling of warfare as civilization collapsed and was followed by depopulation. Today the Mayan people with their language and culture survive, but their cities



and monuments exist only as relics.

The work that Professors Macri and Winterhalder described to us was an excellent example of the value of interdisciplinary collaboration and provided a realistic example of the impacts of climate change on human societies. Their thought-provoking presentation closed with many interesting questions from among the 200-member audience. ♦

## Sustainable Destinations: Terminal B

*Editors' note: In this continuing series, we spotlight local outings, hikes, or bike rides with a sustainable theme.*

*Thomasina Turner reports...*

Several years ago I visited an amazing, tiny urban farm in Berkeley in the middle of a residential neighborhood. While it seemed to be just another pleasant-looking home from the street, a peek behind revealed a large fishpond, goats, chickens, bees, fruit-bearing trees, and vegetables of every imaginable kind. The bees were noisily buzzing around a bee-box loaded with honey, and the chickens were scratching up bugs from earth heavily composted with vegetable scraps and manure, natural by-products of the little operation. The back porch of the house had been converted into a busy cheese-making operation. It was what I would call the perfect sustainable destination.

Based on this pleasant memory, I recently began to look for what Sacramento had to offer in the way of such destinations and found one in the last place that I would have expected: our own small and very accessible Sacramento International Airport, the newly built Terminal B.



Terminal B has received LEED Silver certification from the U.S. Green Building Council for energy savings that are 25 percent above the benchmark set by the state building energy efficiency standards, enough to power 265 Sacramento homes with a greenhouse gas reduction of 793 metric tons of carbon dioxide annually, the equivalent of planting more than 33,000 trees or taking 165 cars off the road, according to SMUD.

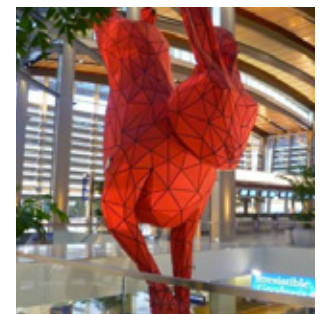
The design includes lots of glass with low-emissivity coating to take advantage of the natural light as well as exterior shades to protect from the summer heat. A combined heat and power plant works as a power source for electrical requirements and also

recycles exhaust heat to provide hot water for hand washing in the bathrooms, which feature low-flush toilets and automated water fixtures.

Vents in the high atrium in the middle of the building can be opened during the summer to let hot air escape. Air-conditioning vents are located close to the ground so that energy is not wasted by cooling air 20 to 30 feet above people's heads. The terminal also features a heat-reflective, stainless steel roof.

The green design replaced nine acres of asphalt with native and drought-tolerant landscaping, which is watered with groundwater rather than drinking water.

With the exception of the startlingly enormous red jack rabbit hanging from the ceiling



in what is supposed to be a paean to Sacramento, the elements of design in the new terminal are quite lovely and worth a visit—or at least your attention as you pass through on your next trip out of town. ♦

## Earth Day Features Tour of Winn Center

*Andi Salmi reports...*

During Earth Week, Architecture Professor John Ellis led a group of 50 students and staff on a tour around the outside of the new Winn Center for Construction and Architecture. John pointed out key features of this 'green' building, indicating the hope that it will earn LEED (Leadership in Energy and Environmental Design) Platinum certification. Faculty, staff, students, and industry contributed to the development of the building's concept.

The Winn Center will serve as a living laboratory, demonstrating

sustainable design elements, such as energy-efficient windows, an east-west orientation to reduce the energy used for cooling and heating, natural daylight, renewable materials, and chilled beams, along with educational displays explaining these and many other features. There are even showers, intended to encourage bicyclists.

A pathway will lead from the future light rail station directly to the Winn Center, which will serve as an inviting east entrance to CRC. Outside you will find a rain-harvesting barrel, a green wall (plants growing up a trellis-like structure) to shelter the west



side of the building from the sun, and appropriately shaded windows.

The community room will be a multipurpose space used by industry professionals, for competitions, meetings, and seminars. We all look forward to visiting the interior of the building when it opens in June. ♦

## Smart Grid Comes to CRC

*John Ellis reports...*

Los Rios is partnering with SMUD, CSUS, and the California Department of General Services to bring the Smart Grid technology to our District and CRC. At the conclusion of the Smart Grid project, Los Rios will have approximately 150 electric and Btu sub-meters installed in buildings across the District.



*A Prius dashboard displaying fuel consumption in real time motivates drivers to change their driving behavior to get better gas mileage – this has become known as the 'Prius Effect.' Similarly, a building 'dashboard' that displays energy consumption will motivate occupants to change their activities to save energy.*

This means CRC will be able to build its own hosted website (called a 'building dashboard') which can display these metered readings and provide tips about how to operate its buildings more sustainably. The goal is to encourage conservation efforts through education and what is often referred to as the 'Prius Effect'—the ability to operate more efficiently by visually monitoring the energy consumption of each building on an hourly and daily basis.

The Winn Center Lobby will have a touch-screen Dashboard Kiosk where students and staff can view measurements of the building's hourly use of electricity and Btu consumption—and peruse some of the sustainability features. You will also be able to visit the CRC Dashboard from any computer on or off campus. To see some of the possibilities (like campus competitions, green tips, weather, green initiatives, etc.), check these links to other campus sites. They're worth exploring! ♦

Colorado College

<http://buildingdashboard.com/clients/coloradocollege/>

University of Richmond

<http://buildingdashboard.net/richmond/>

American University

<http://buildingdashboard.net/american/#/american/>



# CRC's Earth Day Story



**Left:** Prof. Lesley Gayle, English, tells an Earth Day story, "Sedna and the Sea Animals," at the storytelling corner on the quad.

**Below:** Students from Prof. Colette Harris-Matthews' Communications 331 class demonstrated solar cookers, making a tasty stew and batches of Rice Krispies treats for Earth Day participants.



Students from Prof. Colette Harris-Matthews' Communications 331 course (led by student Caitlin Scott) strung plastic bags across the quad to share this bag's message, asking us to reconsider whether using them is worth the environmental cost.

Prof. Ryan Connally, Construction Management, explains solar panels that were made by Solar Club students and used to power a Wii console.



## Learning through Song, Art, and Demonstration

Students Fuechi Yang and Henry Lee, from Prof. Debra Sharkey's World Regional Geography class, demonstrate a trash audit to discover to what degree cafeteria patrons have deposited their trash, compostables, and recyclable waste in the appropriate containers.



Students from Prof. Margaret Woodcock's class display art constructed from recycled objects.



Continuing an Earth Day tradition begun in 2010, students and faculty join in singing John Lennon's "Imagine."

ESL students from Prof. Lisa Marchand's class created and displayed posters on environmental topics, including "The Life Cycle of a Plastic Water Bottle" (yellow poster, bottom left) and "The History of Earth Day" (pink poster, center top).





## Sustainability Committee Hosts Three-Part Field Trip on May 3



First stop was a waste audit on the CRC campus organized by Prof. Debra Sharkey. Here, participants learned how to sort compostables and recyclables that had been wrongly dropped into the landfill can in the cafeteria.



Prof. Maureen Moore weighs compostable materials rescued from the landfill container. The waste audit revealed that 75% (by weight) of what had been thrown in the landfill container could have been composted. Participants agreed that more education is needed about how to dispose of waste properly.



After visiting the Waste Management recycling facility on Fruitridge Road, field trip participants traveled on to the Biodigester nearby. Andrea Stephenson, Sustainability Director from Atlas Disposal, explains how the biodigesting process works while faculty members Steven Coughran and Carol Olsen and sustainability students listen.

The 'Doda' awaits next feeding time: pallets of Campbell's soup can rejects (in background) will be added to other compostables from local restaurants and grocery stores and crushed to separate the recyclable from the digestible contents, which will then be pumped through a series of holding tanks and eventually converted to compressed natural gas (see the Green Scene, February/March 2013 issue, for more details).



Cosumnes River College  
Sustainability Committee

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Photos on pages 4, 5, and 6  
by Andi Salmi  
and Cath Hooper



We're on the web!

Look for archived issues  
of the

**GREEN SCENE**

on the CRC Homepage



TREE Tip ~ by Ann Rothschild

## Clotheslines and Handprints



*Editor's Note: English Prof. Emeritus Ann Rothschild shares tips for living sustainably, originally printed in her church's e-newsletter. TREE, Trinity Respecting Earth and Environment, is Trinity Episcopal Cathedral's environmental ministry group. The following TREE tip was first published in May 2012 while Ann visited family in Nashville.*

I'm in Nashville at my daughter's house with two small children and four adults in the house and oh my, the laundry! Two working parents who don't have time to hang out clothes and who roll their eyes when I start in about electricity, fueled by coal-fired power plants supplied with coal from mountain top removal! But they have a large back garden with trees and I strung up a clothesline and begged them to let me hang out laundry at least while here. So maybe I score a Green Handprint.

The Handprint is the idea of Professor Gregory Norris at the Harvard School of Public Health.

We learn about our impact on the planet from life-cycle assessments (LCAs), which show us our carbon footprint. If everyone on the planet lived as most of us do, we would need four planets to support us. Check your footprint on [www.myfootprint.org](http://www.myfootprint.org) or any of the ecological footprint sites.

But this knowledge can be depressing, so Norris decided to emphasize our positive actions with the notion of the Handprint. His website is [www.handprinter.org](http://www.handprinter.org)

A note on his site: if 25 % of U.S. households used just 10 fewer plastic bags per month, we would save 2.5 billion bags a year. That's just one of every four people...tell your friends...and use 10 fewer bags every month.

**What is your Handprint?**



## News In Brief

### Paper Use Decreases

Julie Elliott reports...

I am happy to report that this year, from July 2012 to April 8, 2013, duplicating ran just 5.5 million copies (27 pallets of paper, equal to 27 tons) – down from last year's 6 million. I am still encouraging faculty to use D2L whenever possible and to always use the back side of the paper. ♦