FEATURE II Sarah Barber, *University of Central Florida*



December 22, 2012: It Happened

In November, NASA launched a web site entitled, "Beyond 2012: Why the World Won't End," to dispel widespread urban legends of an ancient Maya prophecy that the winter solstice of 2012 (December 21, 2012) marks the end of the world. NASA is not alone: the Russian and French governments have also taken action to dismiss end-of-days panic. So did you lose sleep over the impending end of the world? Planned a blow-out party for that night, which conveniently landed on a Friday? Hopefully you had your painkiller of choice ready for the hangover you suffered on December 22nd. People who actually know something about ancient Maya prophecies—namely archaeologists, art historians, anthropologists, and living Maya people themselves—enjoyed the day, like any other.

Apocalyptic predictions aside, there is actually an interesting and rare event occurring in the ancient Maya calendar on December 21st. It's called a Baktun ending date, a calendrical moment roughly analogous to the beginning of a century in our own calendar. Baktuns, however, end every 394.52 years rather than every 100 years. Given that the last time anyone gave a flying leap about a Baktun ending was A.D. 830, it would probably startle the Maya kings of old to know that their long-dead calendar system has found new life among the foreigners from across the sea.

The December 21, 2012, Baktun ending date wasn't just any Baktun ending date. It was special and for this reason has been merged with a modern example of the apocalyptic frenzies that have recurred in Western literature and philosophy since the dawn of Christianity.³ To understand this unlikely convergence of an ancient Native American calendar system with apocalyptic views ultimately derived from Near Eastern religions, it is necessary to delve into the esoteric realms of epigraphy (the study of ancient writing systems), mathematics, and calendrics (the reckoning of time). The fact that urban mythologizers have done exactly that is almost as surprising as the fact that the two traditions have been melded together at all.

The Maya calendar isn't technically Maya. It is more accurately known as the Mesoamerican Long Count Calendar, and it was just one of several calendars used by the Maya and their neighbors in ancient Mexico and Central America. The Long Count was used largely by rulers to record historical and astronomical events, kind of like putting Roman numerals on a building cornerstone. The Long Count operates something

like our own annual calendar in that it represents a continual count of days from a fixed point in the past. Our A.D./B.C. system was developed in the A.D. 500's and perpetually counts forward from a hypothetical date for the birth of Jesus Christ: January 1, 1.⁴ The Maya Long Count counts forward from a similarly important moment known to scholars as the Era Day, which falls on August 13, 3114 B.C., in our own system.

On precisely December 21, 2012, a total of 1,872,000 days (5,128.77 years) will have passed since the Era Day: a long time, but it doesn't immediately stand out as unusual until you consider Maya mathematics. The Maya counted in increments of 20 (vigesimal system) rather than our morefamiliar increments of 10 (decimal system). So while we get excited about units of 100 (10 x 10) and 1000 (10 x 100), the Maya thought units of 400 (20 x 20) and 8000 (20 x 400) were pretty neat. The problem we and the Maya both face is that our solar system doesn't operate in increments of either 10 or 20: the earth revolves around the sun in 365.242375 days. That is an inconvenient number for anyone trying to count on 10 fingers and/or 10 toes. Our extraordinarily unwieldy solution merges a 12-month lunar calendar and a repeating count of numbered days that are inconveniently not divisible by 10 and a continuous count of individual 365-day solar years (the A.D. year count). To get to an exact date in our system, you have to know the lunar month and day as well as the individual year.

While the Maya used repeating weeks and months like ours in addition to the Long Count, that information wasn't (continued on page 13)









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Mike Werth







necessary to get to an exact date. The Long Count is literally a count of days, divided up into units conveniently divisible by 20. There are days (*kin* in Maya), units of 20 days (*uinal*, effectively a "month"), units of 360 days (*tun*, an imperfect but divisible-by-20 "year"), units of 7200 days (*katun*, 360 x 20), and finally units of 144,000 days (*baktun*, 7200 x 20). Anyone who has ever tried to subtract one date from another to figure out how many days have passed will appreciate the elegance of the Maya system.

The Maya wrote their Long Count dates using hieroglyphs that a handful of trained epigraphers can read. To make it easier for the 7 billion people who cannot read Maya hieroglyphs, Long Count dates are written as numbers separated by periods in this order: "baktun.katun.tun.uinal.kin." So the date 9.14.6.7.19 would mean (9x144,00 + 14x7,200)+6x360 + 7x20 + 19). Do the math and you get 1,399,119 days since the Era Day, or April 9, 718. The Long Count calendar works like a base-20 odometer. When you reach the number 19 in any slot, that slot flips to 0 and the next slot over goes up one number. So our example date of 9.14.6.7.19 would become 9.14.6.8.0 on April 10, 718. A more extreme example would be the date 9.19.19.19, which converts to 10.0.0.0.0 on the following day. That momentous change, which occurred between March 12 and March 13, 830, exemplifies a Baktun ending date.

Now let's return to December 21, 2012. Between about A.D. 200 and 900, Maya kings used the Long Count widely to record their exploits. The last major Baktun ending date they celebrated was the aforementioned 10.0.0.0.0 date from A.D. 830. In the subsequent century, their cities were abandoned and reclaimed by the rainforests. There have been two Baktun endings since that time: 11.0.0.0.0 in 1224 and 12.0.0.0 in 1618. December 21, 2012, is 13.0.0.0.0, the next Baktun ending. Experience would suggest that since the world didn't end in 1224 or 1618 that Baktun endings aren't that important.

The generators of urban legend aren't so easily defeated, however. The 13.0.0.0.0 Baktun ending is unique because the Long Count calendar also *begins* on the date 13.0.0.0.0. That's right: August 13, 3114 B.C., was 13.0.0.0.0 in the Long Count calendar. That coincidence of date has led some scholars, without any other evidence, to suggest that time, for the Maya, could not continue after 13.0.0.0.0. In other

words, their calendrical odometer was going to run out and revert back to zero—just like the odometer in that piece of crap car you drove in high school. If such thinkers are correct, December 22, 2012, would have to take the Long Count date of 0.0.0.0.1 rather than 13.0.0.0.1. That is rather apocalypticsounding. Fortunately the future of humanity, the ancient Maya actually wrote down dates in the far distant future. A famous example is the date 13.13.13.13.13.13.13.13. .13.13.13.13.13.13.13.13.13.0.0.0.0, which counts a number so high it can only be rendered here as 20²¹ years long—or, far longer than the history of the universe.6 It also guite clearly exceeds the 13.0.0.0.0 date that people are getting so worked up about right now and frankly bodes very well for the future of our species if correct. There are several other future dates available to us from ancient Maya writing that we would have to ignore to assume that there can be no other baktuns after the 13th.

The take-away from all of this: the ancient Maya had plans for the year 20-bijillion. If they were looking past December 21, 2012, so should you.

[ed note: Dr. Barber wrote this article for *On Course* and goes to show you, life goes on – even when deadlines aren't met – we enjoyed the history lesson and felt compelled to still publish it for you].

Endnotes

- 1 http://www.nasa.gov/topics/earth/features/2012.html
- 2 http://www.nytimes.com/2012/12/02/world/europe/mayan-end-of-world-stirs-panic-in-russia-and-elsewhere.html?adxnnl=1&smid=tw-share&adxnnlx=1354892906-F1X5f+B0X77m4yUGfedLvQ&_r=0
- 3 For example, see Dobroruka, "Hesiodic Reminiscences in Zoroastrian-Hellenic Apocalypses," Bulletin of the School of Oriental and African Studies. June 2012.
- 4 Van Stone, "The Maya Long Count Calendar: an Overview," Archaeoastronomy. June 2011.
- 5 Using the very accurate astronomical observations that the Maya made of eclipses and other impressive celestial phenomena, we can correlate Long Count dates with our own calendar to within about 3 days.
- 6 Van Stone, ibid.

THE BULL SHEET John Gurke, CGCS, Associate Editor



JANUARY 2013

DATES TO REMEMBER

January 16-18 – Annual Mid-Am (Mid-American Horticultural Trade Show) at Navy Pier in Chicago, IL. Phone 800-300-6103 or go to www.midam.org.

January 21-24 – The 2013 Michigan Turfgrass Conference at the Kellogg Hotel and Conference Center in East Lansing, MI. Go to www.mtfconference.org for details.

January 23-26 – 60th PGA Merchandise Show in Orlando, FL.

January 24 – MAGCS monthly meeting and Annual Wee One Fundraiser and Auction at Seven Bridges Golf Club in Woodridge, IL, **Don Ferreri** and **Dave Gelino** hosts.

January 29-31 – 79th Annual Iowa Turfgrass & Trade Show at the Downtown Des Moines Marriott. Phone 515-232-8222 or go to www.iowaturfgrass.org.

February 3-5 – GCSAA National Championship and Golf Classic in San Diego, CA.

February 4-8 – GCSAA Education Conference in San Diego, CA.

February 6-7 – Golf Industry Show in San Diego, CA.

February 6 – University of Illinois Turfgrass Alumni gettogether at an unspecified tavern in the Gaslamp District from 5:30 til 7:00 PM. Luckily U of I alums are smart enough to figure out the venue without being told.

February 6 – MAGCS 2013 Hospitality Reception from 7 til 10 PM at the Hotel Salomar at 435 6th Avenue on the Rooftop Lounge.

February 7 – GCSAA's 2013 Annual Meeting in San Diego, CA somewhere.

March 1 – Deadline for applications for the Billy Casper Golf Agronomy Internship Program.

March 11 – MAGCS monthly meeting at the Marriott Oak Brook/Willow Crest Golf Club in Oak Brook, IL, **Dave Behm** host.



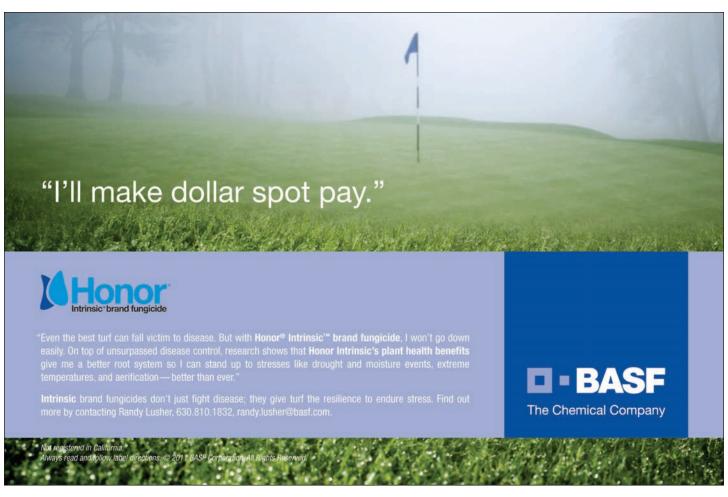
Happy New Year! It is December 21 as I write this, so if the Mayans were right, please disregard.

As we begin the New Year, the MAGCS Board asks that you consider contributing to one or more of the committees that truly make our association hum. This year's committee chairs are as follows: Editorial—Matt Harstad, Jim Pedersen and Chuck Barber; Golf & Arrangements—Justin VanLanduit and Dave Kohley; Education—Matt Kregel and Kris Kvelland; Class C—Shane Conroy; Class E—Jake Vollbeer. Feel free to contact these folks with your ideas or to volunteer.

Don't miss this month's meeting at Seven Bridges on the 24th. Pat Jones of Golf Course Industry magazine (and Facebook) will be in town to talk about our industry and its future as well as social media, and John Miller, CGCS, our GCSAA Field Representative will tell us what it is he does for us in that capacity. After the education, the Wee One Auction and Fundraiser will take place, which is always a hoot, and a great way to score some cool merchandise while contributing to a great cause. Hope to see you there.

Congratulations to **Harry Lovero** on his being named the golf course superintendent at Broken Arrow Golf Club. Welcome back Harry, and good luck to you!

(continued on page 17)







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Harry Lovero

Big news from the Nadlers to start the year—as of January 1st, Nadler Golf Car Sales is now Nadler Golf (complete with a new logo), and celebrates its 50th year in business by announcing its new owners, **Matt Baumgartner** and **Eric Nadler**. This makes the third generation of Nadlers to own and operate the business, which opened in 1963 as Nadler Harley-Davidson Sales, Inc. under the ownership of Bill and Bea Nadler. Congratulations, Matt and Eric, and the best of luck in your new (but not really new) venture!

Additionally on the long-time MAGCS vendor front, Burris Equipment Company is moving from its Frankfort location to Joliet this month. Burris purchased Illinois Lawn Equipment Co., which had been serving the Chicagoland area from its Orland Park site for 50 years, in 2004, and moved to the Frankfort facility the year after. The new Joliet facility is bigger than the two previous homes combined, and is located at 2001 Cherry Hill Road. The same phone numbers are still in use, so give them a call and welcome them to their new home.

Our sincere condolences to **Tim "TJ" Johnson** and his family on the passing of his mother last month.

I received a note from the VERY busy **Bruce Williams, CGCS** (more on that follows) last month, describing a trip he and **AI Fierst** (Oak Park CC) took to East Lansing for the Michigan State/Ohio State game (one of the teams which was actually bowl eligible). The game was a squeaker won by OSU 17-16, and the boys enjoyed all of it from the sidelines (for the second straight year) standing next to the MSU bench.



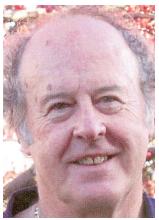
Al Fierst

They both had to dash out of town, as Bruce had to catch a plane to Tierra del Fuego or Ulan Bator or Timbuktu or another of his exotic destinations, and Al had to get back to the WGN studios for his side job.



Cookie

In news that involves both of the aforementioned scholastic institutions, on December 3rd Dr. Joe Vargas of Michigan State University was presented with the Lifetime Achievement Award by the Ohio State University during the Ohio Turfgrass Conference. In 58 years, Dr. Vargas is only the second recipient of this prestigious award.



Dr. Joe Vargas

Q: What social network did **Rick Bowden** join? A: Bob O' Linked In.

Billy Casper Golf, the owner and operator of more than 130 golf facilities is once again offering a comprehensive agronomy internship program designed to identify and further educate future leaders in turfgrass management. Applicants must be currently enrolled in an accredited associate, bachelor or graduate turfgrass program or agronomy degree program with career aspirations in golf course management. The deadline for applications is March 1, and they can be found at www.billycaspergolf.com/agronomyinternship.

The United States Golf Association recently announced that Davis Love III is the recipient of its 2013 Bob Jones Award. Presented annually since 1955, the Award is the USGA's highest honor and recognizes as individual who demonstrates the spirit, personal character, and respect for the game exhibited by Jones, winner of nine USGA championships.

Reinders is pleased to announce that Chris Frank has joined the company to help serve the south side of Chicago and Northwest Indiana as Territory Manager in the Soft Goods Business Group. Chris is responsible for sales and product support, and can be reached at 630-297-5827.



Chris Frank

This just in: Eagle One Golf Products, which was acquired by Canadian company Golf Supply Warehouse back in June, announced that it has acquired Fore-Par. With this acquisition, Eagle One claims it is "the largest distributors of golf course and golf range equipment, supplies and accessories in the world." This is awful news to **Jan Jarvis**, whose catalog just surpassed that of Grainger's in both weight and bulk.

I alluded earlier to the fact that Bruce Williams was a busy man. To that point, here is a small sample of his travel schedule recently: After returning from Myrtle Beach and the Cayman Islands, he taught a quick webinar before heading to China for the Asia Golf Show in late November, where he hopped from Beijing, Shenzen, Guangzhou, Hong Kong, and Kuala Lumpur, after which he spoke at the Asian Pacific Golf Summit in early December in the royal sultanate Brunei Darussalam, and then hitting the local trail with stops in Cleveland, DC, Atlanta, Daytona Beach, Orlando, Birmingham, Lookout Mountain, and Chicago this month. You can read a really great summary of Bruce's travels—called his Reporter's Notebook—in Golf Course Industry, where he goes the extra mile to not only describe the event he's covering, but the things that someone traveling to such destinations would find helpful, such as the local customs, climate, food, and seemingly simple things like public transportation and negotiating a cab fare. - Compelling reading from the onetime MAGCS and GCSAA president.

Audubon International has announced that Laura Karosic has been hired as the organization's Special Projects Coordinator, a newly-created position.

The results of a new survey conducted by Google Consumer Surveys concluded that most golfers are bending the rules. Based on over 6,800 screened responses, here are some of the findings: An overwhelming majority admitted to infractions such as taking a mulligan, using a foot wedge, taking gimme putts and improving their lie. Also, 63% said they would consider using equipment that was banned from professional play, so don't throw that belly putter away just follow the majority and cheat!

For the second consecutive year, the PGA Tour has recognized the John Deere Classic, played at TPC Deere Run in Silvis, IL with its "Most Engaged Community" Award. Last month we reported that the tournament raised \$6.9 million for 493 charities in the Quad Cities area—over \$1.5 million more than the previous year. It was due to this, as well as the 12 percent increase in ticket sales over the 2011 event, and a laundry list of other great things the tournament and community have come together to produce that this award was so richly deserved. Congrats to our northwest Illinois neighbors.

Congratulations to **Alan Hoogstraat**, formerly the assistant superintendent at Ravisloe Country Club who is now the golf course superintendent at Ravisloe.

- Q: What do you call Anfield when he plays Ben Kelnhofer's course?
- A: A Mistwoodchuck.

We have just learned that another of our members has been moonlighting on the side at WGN. **Aaron Hearn**, it turns



out, has been concealing his true identity for years until this undated photo of him was made public.





Aaron Hearn and Aaron Hearn?

It was PARTY CENTRAL around these parts last month. On the 3rd, the Annual South Side Superintendents Holiday Party took place in its customary location—Chef Klaus Bier Stube in Frankfort, where the traditional lunch of all things German (and mostly tubular) was enjoyed. Next up was the CAGCS Holiday Lunch at Pinstripes in Northbrook on the 11th. From there it was off to Seven Bridges on the 13th for the West Side Superintendents Holiday Party, where the annual Texas Hold 'em card game took place, and those who didn't want to stop the carnival when the bar tab was finally closed sashayed over to Tilted Kilt to keep things going. The very next day a very special party was held in honor of two very special men— **Tim Davis** and **Eddie Fischer**. The scene of the affair was Morgan's Pub in Mundelein, and a host of MAGCS members were present to pay their respects to these two "Sod Fathers" (stole that from Randy Wahler). Congratulations to Tim and Ed on their memorable careers, and we wish them the best in their next phase.

Southside party









Westside party





(continued on page 21)



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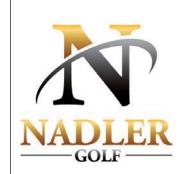
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