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JUNE 2008 Volume 62 No. 2

The 17th 543 yard 5 par at Royal Melbourne, the second toughest hole on this Greg Norman designed course.

FRONT COVER

The finishing hole at Royal Melbourne, site of the MAGCS 2008 June Meeting.
Photo Credit: Dave Groelle, CGCS

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The Midwest Association of Golf Course Superintendents (MAGCS), founded December 24, 1926, is a professional organization whose goals include preservation and dissemination of scientific and practical knowledge pertaining to golf turf maintenance. We endeavor to increase efficiency and economic performance while improving and enhancing the individual and collective prestige of the members.

The MAGCS member is also an environmental steward. We strive to uphold and enhance our surroundings by promoting flora and fauna in every facet in a manner that is beneficial to the general public now and in the future.

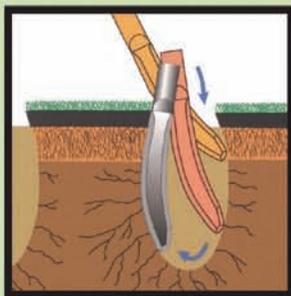
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Tony Kalina, *Prairie Landing Golf Course*



MAGCS Scholarship Committee

It is with great pride and purpose that the MAGCS will be conducting a fundraising golf outing to support the Association's annual scholarship campaign. The event will occur on Monday, July 28, 2008, at the Geneva Golf Club, in Geneva, Illinois. This venerable club and its affable Superintendent, Ed Braunsky, CGCS, will host.

The MAGCS's Scholarship fund has supported the financial needs of our members' children or grandchildren with college scholarships since 2000. Only the brightest and best students, those with the ability to serve the community and excel academically, are awarded scholarships. The list of past MAGCS Scholarship recipients is long and demonstrates high standards of achievement. This year will be no exception. Three scholarship recipients will be recognized at this event.

We are very excited and fortunate to be returning to Geneva GC this year. In 2000, they hosted our first MAGCS Scholarship Golf Outing.

Since 1900, the Geneva Golf Club has enjoyed a rich history. It offers a unique club atmosphere in the Chicagoland area. Family, community, and genuine fun are combined. The club underwent an extensive renovation in 1999 including re-grassing greens, tees, and fairways, along with bunker reconstruction. The club re-opened in 2000 to rave reviews on its course conditioning and renovation. It retains its celebrated character and charm.

The Geneva GC membership has graciously donated the use of the club for the day's event in order to maximize fundraising. This generosity on the part of the GGC membership shows their commitment to creating community, hospitality, and goodwill; it also helps guarantee success for the event. I applaud the Geneva GC membership for their support and kindness. I commend Ed Braunsky for his guidance, support, and stewardship of our profession with the MAGCS. Their gifts benefit our scholarship recipients.

The MAGCS Scholarship eligibility requirements are simple; First, candidates must be the child or grandchild of a current

I hope everyone will be able to come out and join us at Geneva GC. Good fun, food, and times will be had by all. If you are unable to attend, please consider making a donation to the scholarship fund.

MAGCS member in good standing for at least three or more consecutive years. The member must currently be active in one of the following classifications: A, SM, C, D, or E. Second, the applicant must be enrolled full-time at an accredited institution of higher learning, or in the case of high school seniors, must be accepted at such an institution for the next academic year. Graduating high school seniors must attach a letter of acceptance to their application. That's it! The rest is up to the selection committee. It is comprised of three individuals with no MAGCS ties who evaluate the applications independently. The applications are read and judged under complete anonymity. Their decision is final.

I hope everyone will be able to come out and join us at Geneva GC. Good fun, food, and times will be had by all. If you are unable to attend, please consider making a donation to the scholarship fund.

The MAGCS is poised to extend greater opportunity to our members' children. Every single gift, no matter the amount, is important to the success of this campaign. **-OC**

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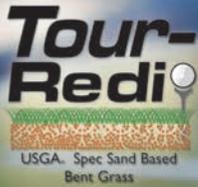
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Dave Groelle, CGCS -N-



ROYAL MELBOURNE COUNTRY CLUB

For the past eight years Dave Groelle, CGCS has been superintendent at Royal Melbourne Country Club, a private club located in the North suburbs of Chicago. Royal Melbourne is carved into the surrounding wetlands, ponds, prairies and trees. The 6,731 yard course provides an exiting and challenging experience for golfers of all skill levels. Opened in 1992, the Greg Norman designed course was named after Alister Mackenzie's Royal Melbourne Golf Club in Australia.

Dave got his start in the industry 20 years ago, at the age of 14, working on the cart staff at the Oak Club of Genoa, the town where he grew up. During slow times he would run down to the maintenance department, grab a push mower, and mow the clubhouse lawns. He enjoyed the "down time" so much that at the end of the season he asked superintendent, Phil Zeinert, CGCS, if he could join the maintenance staff the next season. Dave's passion not only for turf management, but also for the game of golf itself has continued to grow ever since.

Dave pursued his dream of building a career in the industry by attending Colorado State University, where he received his turf management degree. After graduation he landed his first assistant's position at Broken Arrow Golf Club. He then moved to Kemper Lakes Golf Course as an assistant. While at Kemper Lakes, Dave had the opportunity to host national tournaments for both the PGA and the USGA. After two years at Kemper Lakes, Kemper Sports Management offered Dave an opportunity to gain some knowledge in the construction/grow-in phase of golf. He became the assistant project manager of The Glen Club and the project manager of Glenview National Nine. He also helped grow both courses in under the tutelage of Tom Prichard. Once Tom established himself at both of these facilities, Dave was offered the position at Royal Melbourne. While at Royal Melbourne, Dave has overseen a complete in-house bunker renovation, greenside in 2005, and fairway bunkers in 2006. As if that's not enough,

he is also acting superintendent at Vernon Hills Golf Course, a local nine-hole municipal course about 10 minutes away from Royal Melbourne. Dave enjoys experiencing both perspectives on the game.

Dave says the most challenging thing he faces is balancing his time between work and family while still satisfying his members' expectations. Dave sees his father as his mentor. From him, he learned about honesty and integrity at the same time that he learned a work ethic which provides him the ability to maintain a great golf course and still have quality time to spend with his family. Dave and his wife of eight years, Brooke, have two children. Chase is three, and Dylan was welcomed into their family six months ago. Something tells me Dave didn't get as much rest during the off season as the rest of us did. In addition to being an avid golfer, Dave has many other interests. During the winter he likes to head up North with friends and go snowmobiling. He is also a big fan of NASCAR racing. This last Daytona 500 was the first he has missed in the last six years. But, as Dave said, his favorite races are in the South. He always comes back feeling a little better about himself, and his dental plan!



*The Groelle's.
Brooke holding son Dylan,
Dave and son Chase.*

According to Dave, "Creating an environment that people can enjoy with their friends and family," is the most rewarding part of his job. He also, "Loves the fact that we have a physical result that exists from the fruits of our labor...something we can touch, feel, see, and even play!" Dave says he wouldn't be able to do any of what he does without the help of his guys,

"They are the best group of guys I could ask for." It all starts with his assistant Eduardo Jaime, who has been at Royal Melbourne for 15 years. Dave says he will usually be in mid sentence when he gets the reply, "Done." Eduardo is one of those guys you just can't do without. Just as important to Royal Melbourne is the equipment technician, Mike Schapals. He has been with Dave for four years, making his job easier by insuring that the equipment is operating flawlessly. Mike is a guy who respects everyone and genuinely wants to get along with everyone. Of Mike, Dave says, "His relationship with the staff is a great asset to our team because we can all communicate freely." With the support of his team and Dave's pure passion for the game of golf he will continue to be successful and to contribute great things to our industry. **-OC**



Images of Royal Melbourne

Right: The 10th, a par 3 plays at 162 yards from the tips and offers a little reprieve as you start your back nine.

Below: The 12th, a par 4 takes some precision shots with the landing area guarded by bunkers and the green is protected by water on the left.



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FEATURE ARTICLE I

Dr. Randy Kane, *Chicago District Golf Association*



Global Warming, Climate Change, and YOU

(Are Disruptive Weather Patterns a Sign of the Times?)

Since the last ice age ended about 14,000 years ago, the earth's surface temperature (atmosphere and oceans) has been in a warming trend. Over long periods of time, the planet's temperature is not stable or uniform, but instead goes through cycles of cooling (ice ages) and warming (see Figure 1). Even within our current warming trend, there have been cooling cycles including the "Little Ice Age" in the northern hemisphere from roughly 1400AD to 1800AD. So yes, the planet is undergoing a cycle of "global warming," which isn't so bad considering humans are warm blooded mammals and don't do very well during ice ages...

However, concerns about global warming have increased greatly over the last few years, primarily because it appears that the average temperature of the planet has been increasing at a much faster rate than expected. Reasonably accurate measurements show that the average global temperature near the earth's surface increased by as much as 1.3°F over the last 100 years (see Figure 2). But if current climate model projections come true, the earth could warm another 2° to 10°F by the end of this century. On a geologic time scale, increases in earth's temperature of several degrees in less than a hundred years are very unusual, and this could have drastic consequences for life on earth in general, and for highly populated areas in particular - because of melting polar ice caps, coastal flooding, and climate change (droughts, desertification, etc.)

An apparent cause of rapid global warming has been identified (Figure 3). Certain gases and aerosols (primarily CO₂ and CH₄) in the upper atmosphere are blocking re-radiation of heat from the sun back out into space, thus trapping heat near the planet's surface. This is referred to as the 'greenhouse effect' and the suspect gases are called 'greenhouse gases.' The accumulation of greenhouse gases is mainly attributable to the rapid industrialization of human society since the early 1800s, the use of fossil

fuels (coal, crude oil, natural gas) as a primary source of energy, and the cutting down and burning of forests for agriculture (deforestation). More than 5 billion tons of CO₂ are released into the air on an annual basis in the USA alone. It is estimated that worldwide CO₂ release in 2007 increased 0.6% to 19 billion tons worldwide. Measured atmospheric CO₂ levels are approaching 400 PPM, a concentration not reached in the last 500,000 years or so, as estimated from geologic records (mostly ice cores).

As mentioned previously, it is very likely that rapid global warming is going to cause significant changes to existing climatic patterns, depending on the region of the earth where you live. Our 'climate' is defined as the long-term average of weather conditions - seasonal average temperatures, rain and snow patterns, wind, etc. Our 'weather' is defined as the day-to-day condition of the atmosphere, and is a more chaotic, non linear system (and thus harder to predict!). Until recently, we have viewed regional climate conditions as fairly stable and predictable. Now, with the advent of rapid global warming, we have changed that perception. For example, in northern Illinois we may see our humid/continental ("semi-cool") climate convert to a more humid/subtropical or semi-arid/subtropical climate. In terms of the turfgrasses, we may have weather

(continued on next page)

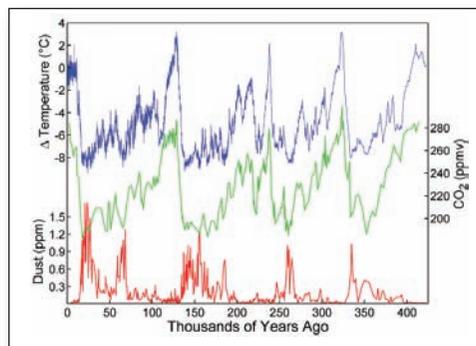


Figure 1.
420,000 years of ice core data from Vostok, Antarctica research station. Current period is at left. High dust levels are correlated to cold, dry periods. (<http://en.wikipedia.org/wiki/Image:Vostok-ice-core-petit.png>)

conditions more like those currently experienced in the transition zone (think St Louis area or southern Illinois). We have had a few summers like that already, but these environmental conditions could become the norm in the next 25-50 years. (see Figure 4) Do we have zoysiagrass in our future??? Buffalograss roughs, anyone???

Actually, what may be more likely in our near-term weather future are wider (wilder) swings in our day-to-day weather events. When the atmosphere holds more heat energy, severe storms are more likely to occur. Spring and summer thunderstorms could become more severe, with higher winds and more frequent tornados. Heavy, flooding rains could occur more frequently with these severe thunderstorms. Summer heat waves could be more severe and long-lasting (e.g. 1995), and high temperatures could persist into September and October. When cold weather fluctuations occur, snow and ice storms could be worse than we have experienced.

After the last few months of cold and snow, it's a little hard to believe global warming is an imminent threat. But don't confuse a short-term weather fluctuation with the bigger issues of climate change. It seems we've caught a break with a recent fluctuation in the 'southern oscillator' El Nino/La Nina phenomenon. The southern Pacific Ocean water temperature has cooled over the last 12 months or so ('La Nina'), and this is correlated with cooler temperatures in the north eastern and north central USA. Note that the southern oscillator is not the cause of this weather change, but an indicator of a probable weather change to come! Water temperatures in the Pacific Ocean and the Gulf of Mexico, along with surface and subsurface ocean currents have a very strong and complex interaction with the atmosphere to affect our weather. The long-term trend is still hotter... El Nino will return!

Now you know a little about global warming and the potential for climate change. So, what are you gonna do about it? First of all, we need to continue to promote golf courses as benefitting the environment. Green space is good! We need more plants to pull CO2 out of the atmosphere and reduce greenhouse gases. Also, golf course turf helps cool surrounding environments in urban areas (blacktop and concrete get hot!). We also need to support development of alternative

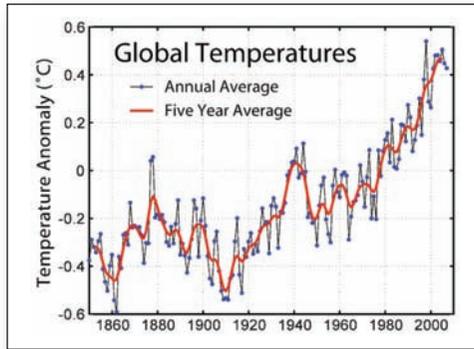


Figure 2.
Global mean surface temperature anomaly relative to 1961-1990 mean. (http://en.wikipedia.org/wiki/Image:Instrumental_Temperature_Record.png)

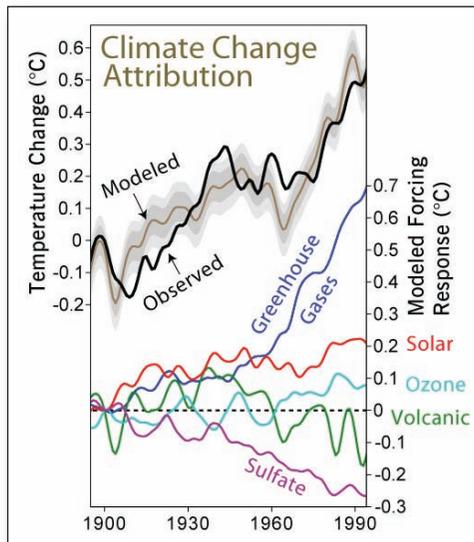


Figure 3.
Graph of a global climate model that reconstructs the historical temperature record and the degree to which the associated temperature changes can be decomposed into various 'forcing' factors. (http://en.wikipedia.org/wiki/Image:Climate_Change_Attribution.png)

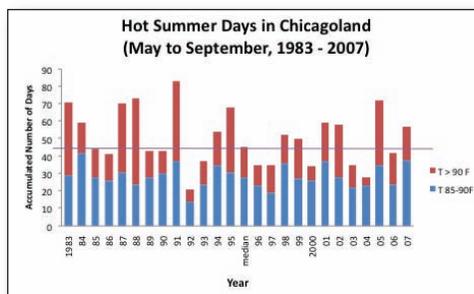


Figure 4.
Bar chart of the number of days per year where the daily high temperature exceeded 85F or 90F in the Chicago area (data from Aurora and O'Hare Stations). Note that the frequency of hot summers does not appear to be increasing over this 25 year time span...

energy sources and utilization of equipment that has electric or hybrid electric motors, or runs on biofuels or diesel alternatives. (Hey, how about a windmill instead of a cell phone tower next to the maintenance shop??? Just kidding..)

Another thing to think about is planning for weather extremes. Does your course sit near a flood plain, or is it part of a flood control plan? Are there areas on the course where drainage improvements can be made or emergency flood water can be stored? What about drought planning and the potential for irrigation water restrictions if the weather patterns go the other way? Are there alternative sources of water available to use for irrigation (e.g. recycled or wastewater/effluent sources)? If you haven't already, you may want to consider renovating key turf areas with some of the newer, heat tolerant types of cool season turf.

I am sure you can think of a thousand more questions about global warming and the implications for golf turf management. It may be a few years before some of these issues become critical, but you may want to start thinking about, and planning for, some of the potential problems we will face on the golf course if our weather takes a turn for the worse. Anything we can do to ease our CO2 loading of the atmosphere should help... just don't hold your breath!

Author's note: This is a fairly simplistic look at global warming and climate change issues. For a deeper understanding of the atmospheric and oceanic science of global warming - and surrounding controversies - I suggest the following resources:

Websites: www.wikipedia.org (search 'global warming' or 'climate change')
www.nytimes.com (search articles/blog by Andrew C. Revkin)

Books: The Discovery of Global Warming by Spencer R. Weart (2003 Harvard University Press, Cambridge MA)

Storm World: Hurricanes, Politics, and the Battle Over Global Warming by Chris Mooney (2007 Harcourt Press)