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Climate Change

By: Kenneth H. Nelson, P.E.

The past year or so has shown us many extreme weather events. Historic floods affected the Baton Rouge area, southwest Mississippi, and Houston. Record heat, cold, drought, and precipitation have wreaked havoc in various ways. There has been much in the public discourse lately about “climate change” and whether human activity has a hand in causing it. Let me state at the outset that I believe unequivocally in climate change. I also believe in continental drift and volcanoes. However, I ascribe the existence of none of these phenomena to be the sole fault of humankind. I will concede that man’s activity has affected the planet in some small ways. For example, the Great Wall of China is visible from space, as is the loss of land area in the Mississippi River delta since the construction of levees has cut off the annual sediment deposition during high water. But it strikes me as hubris to think that human activity is the sole cause of climate change. My grandmother was alive when people in her parents’ generation spoke of “the year without a summer”, which occurred in the early 1800’s after the eruption of Mount Tambora sent a cloud of volcanic ash around the world, reflecting the sun’s heat and causing noticeably cooler global temperatures to even the casual observer. This was at the dawn of the currently maligned “Carbon Age”, so the only causative factor that could be




Weather extremes of all types continued this year, as they have for millenia

ascribed to humankind for that particular global climate altering event was being alive to witness it, similar to the way a wolf howling at the full moon acknowledges the phenomenon but has no part in its making. If you go to Fossil Butte, Wyoming, you will see the remains of tropical plants and swamp animals preserved in the rocks of a high and arid mountain climate. These organisms lived fifty-five million years ago, eons before humans arrived on the planet, so we had no part in the changes that left them stranded there. I remember seeing the cover story on a national magazine in the 1970’s proclaiming that scientists believed we were on the verge of a new ice age, and yet all the news today is filled with predictions of

global warming. I am therefore skeptical about the prospect of climate change and our effect on it. Of course the climate changes, and there is nothing we can do but adapt to it...or to war, pestilence, revolution, or whatever else fate has in store for us. Luckily, we have centuries of accumulated engineering knowledge to help us do this.

Every day we are approached by clients facing changing conditions that require innovative solutions. Instead of lamenting that the world is not in a static state, we apply our skills to solve our clients’ problems and allow them and us to stay in business and raise our families. I once heard of a mathematical study of genetics which concluded through



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massive change and will do the same as our ice-challenged forbearers. One person's problem is another's opportunity, and we welcome the chance to solve the ever-evolving problems that "climate change" brings. We don't even have to wait for something with a timescale in the eons to have design opportunities. I recently flew from freezing temperatures with snow on the ground in the morning to warm humid weather in the evening. I was very glad that the people who designed the aircraft, airports, oil refineries, highways, and automobiles had gotten me out of that snowy winter landscape so quickly.

We as a society need to realize that unless we want to crawl in a hole and perish, we have to be ready to adapt to whatever the world throws at us. A frozen body believed to be several thousand years old was recently found in a glacier in the Alps, and upon studying the person's hiking gear, scientists identified five different species of wood had been used in its making. Each species had qualities that made it particularly suitable for the function it had been used for in his kit. This shows that our ancient ancestors were very ingeniously designing things using the materials they had available to solve the problems of their existence, many of which were

more life-threatening than those we face today. The materials have evolved since then from stone, wood, leather, and basic metals to exotic plastics, concrete, and refined metal alloys, but the principle of humans using their intellect and accumulated experience to solve the problems of their day has not changed one bit. Today we are lucky to have centuries of information and lessons learned available to us in the form of technical standards and design codes. We do not have to reinvent the wheel, but we routinely make the wheel better or faster or cheaper or more sustainable. As the economy and society evolve, we stand ready to help design whatever infrastructure is necessary to deal with the changes. Whether this takes the form of developing renewable energy resources, mitigating against rising ocean levels and weather extremes, trying to feed the expanding world population, or just keeping the traditional industrial and municipal infrastructure functioning, we have many tools and skills to apply. So the next time some event or prediction is announced with great hand wringing, pause to reflect upon history, and realize we will just need to start working on the next solution in the long continuous struggle to survive on this ever-changing planet.

statistical analysis of the mutations likely to occur per generation that in the last ice age, all of humankind consisted of a few dozen souls. If the study was valid, this very small cohort of surviving humans figured out a way to eke out a living among the ice and wooly mammoths, resulting in the world population of several billion souls today. So we as engineers and as humans are used to dealing with



October Rebuild 2017



Jessica Ramirez



Bill Berg

Nelson employees did volunteer work with the Preservation Resource Center's October Rebuild program. Nelson has participated in this program for over 20 years assisting the PRC with making improvements to area resident's homes.

NELSON Participates in Core Element STEM FEST

The New Orleans Pelicans and Core Element hosted the First Annual Community Stem Fest. This event is designed to build on Core Element's commitment to increase awareness of the importance of K-12 STEM education and its impact on workforce development in our community. The event is designed to engage the entire family and get up-close and personal with hands-on STEM activities. Martin Patterson, a control systems engineer in the New Orleans office, volunteered for the event and hosted an exhibit on indirect measurement.



Service Anniversaries ~ 2017

Thank you to the following employees who have continued to offer their loyalty and talent to our company and clients. Your dedication allows NELSON to deliver the caliber of service to our clients for which we all strive. We congratulate you.

40 Years

Johnnie Clark

35 Years

Bart Harris

25 Years

Holly A. Beaulieu

Angela B. Fehn

Jack H. Neelis, II

William E. Rushing Jr.

20 Years

Patricia J. Cazaux

Judith S. Christiana

Tad J. Duhe

Karen H. Martin

Christopher P. Wegmann

15 Years

Robert J. Guidry

Nick I. Maalouli

Robert A. Myers

James S. Otwell

Yuzain M. Parekh

Rick E. Trzaska

5 Years

Georgianna M. Bienvenu

Randolph J. Ciaccio

Ricardo I. Cuellar

Georgios A. Gaitantzis

Dyson A. Germany

Megan B. Gohres

Peter G. Grehan

Zina L. Guidry

Alexander D. Hart

Jesse F. Hemeter

Aimee A. Hill

Gregory T. Hurst

Patrick J. Ibert

Justin J. Kiger

Mark Landesman

Angela C. Laurent

Khoi B. Le

Karl A. Lessing

Nathan D. Linhardt

Michelle S. Maggiore

10 Years

Jason P. Brookshier

Christopher C. Creppel

Sidney A. Gaudet, IV

Dena A. Hutchinson

Dallas J. Massey

Christopher M. McClusky

Erin M. McCrossen

Bruce V. Montz

David T. Richards

David Villalobos

Betsy M. Martin

Junius S. Nixon, III

Louis Randazzo, III

Michael J. Selleck

Jennifer L. Tornus

Phong T. Tran

Natalia S. Varona

Richard D. Wilkins

Kimberly A. Wilson



Ken Nelson, Johnnie Clark (40 years), Penny Larsen



Jim Lane and Bart Harris (35 years)



15 Years - N.O. Office
Rick Trzaska, Nick Maalouli, Rob Guidry



20 & 25 Year - N.O. Office
I to r front: Karen Martin (20), Judy Christiana (20), Holly Beaulieu, (25) Angela Fehn (25), Johnnie Clark and Patricia Cazaux (20). I to r back: Bill Rushing (25), Jack Neelis (25) and Tad Duhe (20).



15 Years - Houston Office
Zain Parekh, Robert Myers, Steve Otwell



10 Years - Houston Office
Chris McClusky, David Villalobos, Dallas Massey and Jason Brookshier



10 Years - N.O. Office
Sid Gaudet, Chris Creppel, Dena Hutchinson, Erin McCrossen, Bruce Montz



5 Year - Houston Office
Khoi Le, Phong Tran, Ricardo Cuellar, Mike Selleck and Richard Wilkins



Jim Lane and Kim Wilson (5)



5 Years - N.O. Office
I to r back: Justin Kiger, Greg Hurst, Junius Nixon, Cami Munson, Mark Landesman, Nathan Linhardt, Yorgos Gaitantzis, Dyson Germany, Betsy Martin, Pat Ibert, Alex Hart. I to r, front: Karl Lessing, Michelle Maggiore, Aimee Hill, Angela Laurent, Megan Gohres, Jennifer Tornus, Natalia Varona, Randy Ciaccio

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Mr. Yorgos Gaitantzis became a United States Citizen. Yorgos is a Mechanical Engineer in the New Orleans Office.



Slater Bass & Karla Webber delivering gifts to the Houston area Salvation Army

Nelson Employees enjoy helping the community each Christmas season by providing gifts to families through the Salvation Army and Volunteers of America gift giving programs.



The Houston office had some holiday fun this Christmas. Participants in the Ugly Sweater Contest were Andy Morrison, Slater Bass (the winner!), Erin Douglass, Elizabeth Bahr, Karla Webber and Kim Wilson.