Michigan through the Portage Lakefront Park, which Roy Deda helped spearhead. The scope of the Portage Lakefront Park project has been further expanded to include the restoration of an additional sixty-nine acres recently acquired by the City of Portage. Thanks to Roy's direction, the Portage Lakefront Park embodies the essence of the Lake Michigan Waterfront Authority, the intent of which is to increase public access to the Lake Michigan shoreline in Indiana. The success of these transformational projects improve the quality of life in Northwest Indiana and increase opportunities for economic development in our region, and for that I am grateful for Mr. Deda's exceptional work and dedication to bring these initiatives to fruition.

Mr. Speaker, I ask that you and all our colleagues join me in commending Roy Deda for his exceptional career, and in wishing him well as he spends time with his friends and family in retirement, including his children Erin and Donald. Roy's work and life of dedicated public service will enrich generations to come, and for his many contributions, he is worthy of the highest praise.

ENCOURAGING NATO PARTICIPATION FROM MEMBER NATIONS

HON. BRADLEY BYRNE

OF ALABAMA

IN THE HOUSE OF REPRESENTATIVES

Wednesday, April 20, 2016

Mr. BYRNE. Mr. Speaker, I rise today to highlight a disturbing trend that deserves increased scrutiny in the wake of Russia's growing aggression in the Baltics, Ukraine, Eastern Europe, and the South Caucasus. Recently, NATO Secretary-General Jens Stoltenberg met with members of the Senate Armed Services and Foreign Relations Committees to discuss how to counter an assertive Russia, a phenomenon he describes as ''a chief threat.''

To be sure, recent events have led some to question the relevance of the NATO alliance. Indeed, that the U.S. accounted for more than 72 percent of NATO members' total defense expenditures, spending about $649.9 billion last year, exemplifies the need to reform the 28-member defense alliance to restore it to a body that collectively wields the power to deter aggression and secure peace.

Currently, only 5 members of the 28 nation alliance spend the NATO recommended 2 percent of their gross domestic product on defense. This statistic is troublesome and indicative of a vastly disproportionate burden sharing that has existed for far too long and has potentially compromised NATO's effectiveness.

Perhaps as a result, Putin has successfully increased pressure on NATO's perimeter in an attempt to solidify control of the ''Near Abroad.'' Moscow's invasion of Georgia in 2008 set in motion what has become an increasingly obvious pattern. Russia's annexation of Crimea in 2014, ongoing military campaign in the eastern part of Ukraine, and most recently, its confrontation with Azerbaijan through its proxy Armenia, epitomize Polish Minister of Foreign Affairs Witold Waszczykowski's characterization: Russia is ''an aggressive neighbor that is openly proclaiming the redrawing of the borders of Europe.''

As NATO members in Central, Eastern and Southern Europe continue to face antagonism from Russia, including a substantial military buildup in Armenia where it has deployed advanced fighter aircraft and attack helicopters to bases in Armenian territory just 25 miles from the Turkish border, the time to address the systemic issues that have plagued the NATO alliance is now.

European countries must step up to the plate to counter aggression and send a clear message to Russia that their actions will not be allowed to continue.

CELEBRATING THE 75TH ANNIVERSARY OF THE UNIVERSITY OF MARY WASHINGTON'S FEDERAL DEPOSITORY LIBRARY PROGRAM

HON. ROBERT J. WITTMAN

OF VIRGINIA

IN THE HOUSE OF REPRESENTATIVES

Wednesday, April 20, 2016

Mr. WITTMAN. Mr. Speaker, I rise today in recognition of the University of Mary Washington celebrating their 75th anniversary as a Federal Depository Library on Thursday, March 10. The public has a right to information contained in Government documents, which have been published at public expense and the Government has an obligation to ensure the availability of, and access to, these documents at no cost. Federal Depository Libraries serve that goal by providing free, ready, and permanent public access to Federal Government information for present and future generations. UMW has shown true service to the community by highlighting the diversity and excellence of government information. I am thrilled to have the UMW Federal Depository Library Program as a part of the First District and want to again congratulate them on this amazing achievement.

RECOGNIZING THE CONTRIBUTIONS OF THE ALUMINUM INDUSTRY

HON. TIM RYAN

OF OHIO

IN THE HOUSE OF REPRESENTATIVES

Wednesday, April 20, 2016

Mr. RYAN of Ohio. Mr. Speaker, I rise today, two days prior to Earth Day, in my capacity as a member of the bipartisan Congressional Aluminum Caucus, to note the many ways in which the aluminum industry has contributed to the environmental goals we all share.

The list of contributions the aluminum industry has made to protect our nation's air and land is long, but allow me to mention just two ways in which aluminum deserves recognition on Earth Day.

Let's start with recycling. The aluminum industry's record as a contributor to driving up the nation's recycling rate is formidable. In the United States, 70 percent of all aluminum produced is recycled. And recycling that aluminum requires only 8 percent of the energy it took to make it the first time.

Because the metal is infinitely recyclable, as well as durable, a remarkable 75 percent of all aluminum ever made is still in use. Recycled aluminum is so valuable that it more than pays for itself in the consumer recovery stream.

We all benefit from clean air, and aluminum has a lot to be proud of here, too. As auto companies commit to increased fuel economy, many are realizing that using aluminum in the bodies of cars and trucks significantly increases performance because it's strong and light weight.

This, in turn, means that drivers go further on a tank of gas, saving vast amounts of money over the life of a vehicle. It means that a lighter weight vehicle will be responsible for reduced greenhouse gases and increased fuel efficiency, which benefits everyone. And aluminum is increasingly being used in modern building construction, which in turn makes buildings more energy efficient.

I am proud to have major aluminum plants in my district that generate $755.7 million in economic output. It creates great jobs, and is putting into commerce a material that is being used increasingly in all aspects of our lives from cars, planes and buildings and construction.

On this day, when we take note of the great strides we have made in protecting the planet, but also realize the work ahead of us, I wanted to take special note of the contributions made by my friends in the aluminum industry. I applaud their efforts.

JOHN ENGLANDER TESTIMONY TO HOUSE SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

HON. ALAN S. LOWENTHAL

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Wednesday, April 20, 2016

Mr. LOWENTHAL. Mr. Speaker, I submit the July 28, 2015 testimony of John Englander to the House Subcommittee on Energy and Mineral Resources.

Chairman Lamborn, Ranking Member Lowenthal, and members of the Committee: I am John Englander, an oceanographer, independent consultant, and author of the book, High Tide On Main Street: Rising Sea Level and the Coming Coastal Crisis. (2nd Ed, 2013, The Science Bookshelf)

Thank you for inviting me to comment on the implementation of the Coastal Zone Management Act. Your oversight of that important legislation is a good opportunity to consider the profound changes in the coastline that are just beginning to occur and will almost certainly accelerate in the decades ahead. I believe that looking forward to new perspectives about our coastal zone management is a truly important role for your subcommittee and the Natural Resources Committee and deserves a high priority.

Throughout human civilization we have recognized the highly dynamic aspects of the broad coastal zone, particularly the varying tides and storms, and shoreline erosion or accretion. Yet, it was generally assumed that the base sea level was rather stable. That was a commonsense belief as the fundamental height of the ocean had changed little in all of recorded human history, going back some five or six thousand years.

Understanding of the ice age cycles, however, gives a critical perspective that is key to recognizing the new era we are now entering. Thus I would like to briefly explain the ice ages and the implications for future sea level change, as that will directly impact how we define and manage the coastal zone.

Over long periods of time, centuries and millennia, the amount of ice and sea level vary inversely, in response to climate shifts, that is, long-term average temperature change.

With the natural cycles of glacial advance and retreat, sea level moves up and down roughly 300 to 400 feet, moving typical coastlines many miles inland or seaward. This phenomenon has been occurring in a regular pattern roughly every hundred thousand years (more precisely varying between 95 and 125 thousand years).

The most recent ice age extreme (Last Glacial Maximum) was some twenty thousand years ago. At that time ice sheets miles thick covered much of the northern hemisphere. Sea level was 390 feet lower than at present. As the ice melted, the sea rose for some fifteen thousand years when it stabilized at roughly the current height. That sea level change is shown in attached Exhibit A, illustrating how sea level rose since the last glacial maximum.

In Exhibit B, a chart of the last four hundred thousand years, that last glacial warming period is put in a larger perspective, looking at several full ice age cycles with the accompanying up and down of sea level. The red graph in the middle, shows global average temperature, and easily identifies four ice age cycles. The blue graph at the bottom shows the respective sea level. The green graph at the top, represents the carbon dioxide (CO2) concentration.

At the last warm point in the cycle, 120,000 years ago, average global temperature was approximately the same as present and base sea level reached a height approximately twenty-five feet above the present. It is almost inevitable that our future sea level will eventually exceed that height. The key question of course is how long it will take to occur. The consensus thinking among scientists is that it will take centuries, though the evidence of increased melting in key locations continues to accumulate in recent years.

Over the last twenty-five years, the Intergovernmental Panel on Climate Change (IPCC) has published projections for SLR, though even they have rather consistently been on the low side. In Exhibit C, the 1990 projections are shown in blue with various spreads of possibility. The 2002 projections are shown in green, a little higher than the previous projection. Actual sea level is shown in gold, with a smoothed out trend line in red. While there is considerable variation, it is clear that even for the last decade or two, that official projections for sea level, underestimate the rise, more often than not.

The fact is that there is large uncertainty as to just how quickly the glaciers and ice sheets on land will melt. That depends on how warm the planet becomes, which in turn largely depends on the levels of the 'greenhouse gases' (GHG) and the unknown tipping points and feedback loops for the collapse of the ice.

Again referring to the three-part chart in Exhibit B, there is a long-term close correlation of sea level, average global temperature and carbon dioxide levels, with CO2 being the GHG of greatest concern.

In that regard, I was very pleased to see the statement by your subcommittee featuring the support of alternative energy sources such as wind, solar, hydropower, biomass, and nuclear. They are most likely the key to reducing the growth of GHG and slowing the warming.

However, it needs to be noted that even if all GHG emissions were stopped today there is enough heat already stored in the ocean to guarantee sea level will rise for centuries. The rate of rise can be slowed but it can no longer be stopped in the foreseeable future.

We need to recognize that rise sea level rise is quite different than the temporary flooding from storms along the coast. The damaging wave action of storms is typically confined to the shoreline with storm surge affecting adjacent coastal waterways, all of which recedes in a very short time.

With rising sea level saltwater percolates through porous rock, getting into the fresh water table, flooding highly productive and ecologically sensitive marshlands, and extending up tidal rivers. Though not as dramatic as a severe storm, the affected area is far broader. As a result for each foot of vertical sea level rise the average shoreline is estimated to move inland roughly three hundred feet.

Given the importance of higher sea level to coastal facilities such as refineries, transfer terminals, wind farms, hydropower, ocean energy, and the infrastructure associated with traditional energy sources, I submit that this is a very important topic for consideration by your Committee.

There will be tremendous losses of assets, ''write offs'', as vast areas of land go underwater with increasing frequency during flood events, and eventually permanently. What is often overlooked is that there will also be tremendous opportunities for economic growth as we adapt to this new reality.

Now is the right time to see the future that is just over the horizon and will soon be at our shores—just like a tsunami racing invisibly across the sea at four hundred miles an hour, only becoming visible moments before impact. In this case I am using the tsunami as a metaphor for the relatively slow sea level rise.

But make no mistake the speed of the ice that is now melting on Greenland and Antarctica is happening at ''warp speed' in geologic time. The pace of warming is tens or even a hundred times faster than at any known period in the last five hundred million years of geologic history.

Since this is without precedent in recorded human history and is often misunderstood, it may be worth reviewing the factors that contribute to sea level rise. Primarily it is the melting of ice on land, the glaciers and ice sheets, which can enter the ocean as icebergs (glacier fragments) or melt water. Another factor is the slight expansion of seawater as it warms. Such thermal expansion has been a major factor in the last century causing nearly four inches of global sea level increase, but that will almost certainly be overwhelmed by the ice melt in the coming century. (There are also other nuanced factors that can affect sea level, such as changing ocean currents and global mass redistribution, though I suspect those are beyond the scope of the subcommittee's inquiry.)

Certain locations vary considerably from the global average sea level change and warrant special attention even sooner. Over the last century, global average sea level has been approximately eight inches as shown in Exhibit D. However during the same period of time the New Orleans region has had approximately forty six inches of SLR, Norfolk thirty inches, Miami twelve, but Los Angles only four. Most of Alaska has had lower SLR in the same period. The differences are mostly due to land subsidence or uplift, which increases or reduces the global average sea level change. The point is that historical and future sea level change will not be the same everywhere and in fact will vary greatly.

The effects of sea level rise are often confused with storm surge, coastal erosion and the regular extreme high tide events, ('king tides'). Except for erosion, those other types of flooding are temporary, making it possible to rebuild and recover. Sea level rise is different in that it is essentially permanent, and will not recede for at least a thousand years.

I trust you will see that this insight has strong relevance for critical assets and infrastructure including ports, power plants, and military bases that have long durability and are difficult to elevate or relocate. Of course there will be an even broader effect on homeowners, businesses, communities, local and regional economies in the vulnerable low elevation coastal areas, where a majority of the US population resides.

I encourage this Subcommittee, the Committee on Natural Resources, and the Congress to revise and reauthorize the CZMA taking this seminal change in the land ocean boundary—the coastline—into full consideration.

I would expect that your subcommittee is also interested in the changing Arctic given its potential role for energy exploration and shipping. Regardless of the associated concerns with those activities, it is worth noting that the melting of the polar ice cap has no effect on sea level, as it is floating sea ice. The disappearance of that perennial ice across the Arctic Ocean does however illustrate some key points. The fact that it will be essentially ice-free for increasing periods of time starting in some late September, almost certainly within the next decade or two, points to the profoundness of this new era. The sea around the North Pole has been frozen for roughly three million years.

I recall my first expedition in 1985 diving under the polar ice cap, when we had to drill through ten feet of ice. That multi-year ice is almost gone. Now we just have thin ice that builds up and then melts each year. That thin ice, or lack of ice, has very different energy characteristics, which has a huge impact on the planet's weather.

The changes to the Arctic are truly profound and raise new issues. As I am sure you have considered there is the opening of sea routes, the challenge of treacherous waters for our Navy and Coast Guard to operate, and new areas of shoreline rapidly eroding as the coastline is exposed by the disappearing ice and melting permafrost.

Your subcommittee has the opportunity to mark a place in our nation's history by recognizing and planning ahead for the dynamic changes in store for our coastal zone. Sea level will almost certainly reach the upper limit cited in the 2014 National Climate Assessment regardless of exactly when it occurs. That report explicitly said they had a 90 percent confidence that SLR this century would be between upper and lower bounds of 8 inches and 6.6 feet. It is difficult to quantify the collapse rate of the West Antarctic marine glaciers, due to the phenomenon of ''tipping points'', which defy accurate modeling until they can be observed in detail.

That challenge leads to an inadvertent conservative or low figure, not because of a lack of risk, but rather due to the inability to put a precise number on it. With other phenomena where we have had prior experience such as earthquakes, tornedos, and hurricanes we plan for low probability high-risk events. In the case of sea level rise, the worst-case scenarios for this century now exceed ten feet, yet hardly anyone is putting that scenario in their range of planning.

A key point in that National Climate Assessment that is often overlooked is that they acknowledge a one-in-ten chance that it will not be within those bounds. In risk terms, a ten percent chance is huge. In fact a risk assessment is exactly how we should be considering the effect of rising sea level on the coastline and our management thereof.

We are already seeing the destructive effects of sea level rise today. Just to cite a few examples: In Miami Beach, they recently installed $15 million of pumps to keep salt water off the streets that now occurs every 28 days with the full-moon high tide. It is just the first phase of a $400 million plan

that they admit has limitations as sea level continues to rise. In Hampton Roads, both military and private locations are seeing steadily worsening flooding, a combination of higher global sea level, a slowing of the Gulf Stream, and subsidence.

From the Carolina banks to Cape Cod, coastal changes are noticeable from year-to-year. Along San Francisco's seven-mile Embarcadero well inside the Bay, saltwater now comes over the seawall onto the street with increasing frequency. I could cite examples from Annapolis, Boston, Seattle, and the Gulf Coast or dozens of others. These are manifestations of rising sea level already increasing the problem of storm impacts and abnormal high tides. It will continue to get worse.

In the longer term, mid-century and beyond, rising sea level will dramatically change the coastal zone, probably beyond what most of us can imagine, within the lifetimes of our children and grandchildren. We can ignore reality and leave future Americans to suffer the consequences.

Or we can see the future in front of us and plan for intelligent adaptation. Recent evidence from Antarctica makes clear that the melting forces are well ahead of nearly all the models and projections, similar to the way that the melting of the polar ice cap is far ahead of the models. Those who understand the dynamics of glacial collapse and the uncertainty of specific projections, appreciate that the models will almost certainly continue to underestimate the rate of their collapse, and the sea level rise that will directly result.

To close my remarks, the sea does not care what we think or want, or what laws we pass. Throughout history the ocean has taught man humility. We ignore its power at our peril. Along with crisis, there is opportunity. There can be tremendous innovation and adaptation in the coming decades as we anticipate and change our coastal oriented society and economies. But getting a good return on investment requires that we see where things are headed.

I often cite the Dutch as an example of how it is possible to do bold engineering, but also to illustrate the potential trap of inadequate design. Many have seen pictures of the amazing gates at Rotterdam harbor, the Maeslantkering. Designed in the 1980's with construction finished in the early 90's, it is a key part of their innovative coastal defense system. The cost was almost a billion dollars. It was designed for a one-in-ten thousand-year storm, and the worst historical downstream flooding from the three rivers that merge there.

Plus they added an allowance for one foot of sea level rise, as that was the worst they considered possible when it was designed. Now they recognize that will soon be inadequate. If they had been able to foresee the possibility of five to ten feet of SLR back in the 1980's they admit they would have designed the barrier with greater height for longer effectiveness and a better ROI—return on investment.

Our coastline is largely unchanged since the founding of the United States, a nation founded in recognition of truth and science. Our founders specifically recognized that the world of man and nature was dynamic and would need to adapt accordingly.

Our changing coastline, a significant feature of the United States, is an appropriate place to implement that attitude, respecting the collaborative relationship between the Federal government and the States. From my perspective the CZMA seems like the right forum to have that discussion about public policy. The sea is rising and the shoreline is shifting. We have time to adapt, but no time to waste.

Thank you again for the opportunity to testify. I would be pleased to answer questions.

HONORING REAVELYN PRAY

HON. BLAKE FARENTHOLD

OF TEXAS

IN THE HOUSE OF REPRESENTATIVES

Wednesday, April 20, 2016

Mr. FARENTHOLD. Mr. Speaker, Reavelyn Pray is among 60 students selected from across the country out of 300 highly competitive applications for Council on Undergraduate Research "Posters on the Hill" presentations in Washington, D.C. Pray's selection is the first time a Del Mar College student has been accepted for Council on Undergraduate Research's "Posters on the Hill," and she will present her research findings illustrated on her poster titled "Engineering Plants to Produce Petrochemical Alternatives in Vegetative Tissues." Research projects submitted for "Posters on the Hill" went through a rigorous review process and were selected as the best from around the country.

RECOGNIZING MASTER-AT-ARMS 1ST CLASS CARL S. RANDOLPH ON HIS RETIREMENT FROM THE U.S. NAVY

HON. BLAINE LUETKEMEYER

OF MISSOURI

IN THE HOUSE OF REPRESENTATIVES

Wednesday, April 20, 2016

Mr. LUETKEMEYER. Mr. Speaker, I rise today to honor a constituent of mine, Master-at-Arms 1st Class Carl S. Randolph. He will be retiring from the Navy on May 1, 2016 after 22 years of dedicated service to our nation.

On July 10, 1995 Mr. Randolph joined the U.S. Navy and reported to Recruit Training Command in Great Lakes, Illinois. After graduating from recruit training he attended Ships Serviceman Class A School where upon graduation, MA1 Randolph was assigned to the USS *Russell* DDG 59 in Pearl Harbor, HI. In 1996 and 1998, Randolph was deployed to the Northern Arabian Gulf in support of Operation Northern Watch. During his time assigned to the USS *Russell*, Petty Officer Randolph received numerous awards which included: a Maritime Unit Commendation, a Navy Unit Commendation, and a Meritorious Service Medal.

On March 20, 2000, MA1 Randolph reported to NTTC Pensacola, FL for Aviation Machinist Mate Class A School. After graduation, MA1 Randolph received orders and was then assigned to VF–211 at NAS Oceana in Virginia Beach, VA. MA1 Randolph was assigned to the USS *Stennis* CVN 76 and was deployed to the Northern Arabian Gulf in support of Operation Northern Watch. In August 10, 2001, MA1 Randolph was honorably discharged from active service duty to attend college. On December 18, 2004, MA1 Randolph graduated with a Bachelor of Science degree, in Criminal Justice and a minor concentration in Sociology, from Southern Illinois University Edwardsville. MA1 Randolph began his employment as a Federal Police Officer for the Department of Veterans Affairs in St. Louis, Missouri, after graduation from college.

MA1 Randolph was voluntarily mobilized to Bagram Afghanistan for a Detainee Operation mission in support of Operation Enduring Freedom on October 15, 2007. During this deployment, MA1 Randolph earned his Aviation Warfare Specialist Pin from VAQ 134. MA1 Randolph had numerous responsibilities during his deployment including: cell guard, escort guard, segregation cell guard, and main floor NCO.

MA1 Randolph was assigned to COMNAVFORKOREA Det D on February 7, 2012. Then on November 6, 2014, MA1 Randolph was assigned to NSWDG in Virginia Beach, VA. From there he was deployed to support AFRICOM and returned back to COMNAVFORKOREA Det D in November of 2015. Additionally, MA1 Randolph has completed numerous Navy schools: Small Arms Marksmanship Instructor, Security Reaction Force Advanced, Non-Lethal Weapons Instructor, Anti-Terrorism Training Supervisor, Reserve Career Information, Beamhit Instructor, and Security Reaction Force Basic.

Since September of 2009, MA1 Randolph has been employed as an Inspector for the Department of Homeland Security's Federal Protective Service. With this employment, MA1 Randolph oversees the law enforcement of all federal buildings in the states of Missouri, Kansas, Nebraska, and Iowa. The primary assignment location for MA1 Randolph is the St. Louis, MO area.

There are numerous professional schools that MA1 Randolph has graduated from; including: Department of Veterans Affairs Police Academy, Federal Protective Service Advance Individual Training Program, Department of Homeland Security Active Shooter Threat Instructor Training Program, Federal Protective Service Contract Officer Technical Representative, and the Federal Protective Service Electronic Control Device Instructor training.

MA1 Randolph has received many personnel awards including: Letter of Commendation from Rear Admiral G. R. Jones Commander of Amphibious Forces U.S. Seventh Fleet, Global War on Terrorism Expeditionary Medal, Navy Meritorious Service Medal, Navy Unit Commendation Award Ribbon, Afghanistan Service Medal, Enlisted Aviation Warfare Specialist Pin, and the Joint Service Commendation Medal.

With this retirement, MA1 Randolph can now spend more time with his family which includes: his wife Terri, 11-year-old son William, and 5-year-old daughter Katherine.

I ask you to join me in recognizing MA1 Randolph on his retirement after 22 years of commitment to his country, community, and state.

IN SPECIAL RECOGNITION OF COLLIN KEIL ON HIS OFFER OF APPOINTMENT TO THE UNITED STATES MERCHANT MARINE ACADEMY

HON. ROBERT E. LATTA

OF OHIO

IN THE HOUSE OF REPRESENTATIVES

Wednesday, April 20, 2016

Mr. LATTA. Mr. Speaker, it is my great pleasure to pay special tribute to an outstanding student from Ohio's Fifth Congressional District. I am pleased to announce that