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AN/JAMES ANSIN HIGH SCHOOL WORKSHOP IN JOURNALISM AND NEW MEDIA



Stenning The Hide

Stories and images of South Florida's battle against climate change and sea level rise



MIAMI MONTAGE 2015: (Row 1, from left) Amanda Prats, Katie Armstrong, Dayany Sotolongo, Camille Von Simson and Krizia Ketchum. (Row 2, from left) Ciro Salcedo, Andrea Jensen, Nathalie Mairena, Samantha Moffett, David Perez and Phillip Bootsma. (Row 3, from left) Maile Wobb, Fabuola Pierre, Daniel Saiz, Vivian Bermudez, Daniela Mateu and Samanta Carias. (Row 4, from left) Homar Hernandez, Alissandra Enriquez and Anthony Martinez.

University of Miami

PEACE SULLIVAN/ JAMES ANSIN HIGH SCHOOL WORKSHOP IN JOURNALISM AND NEW MEDIA

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ON THE COVER: The cover photo was shot by Maile Wobb with a GoPro digital camera from the shore of Biscayne Bay. The backdrop is the Miami skyline.

In Memoriam

Miami Montage is published in perpetual memory of Mupalia Wakhisi

Peril and promise

Environmental issues dominate politics, religion and science

BY ANDREA JENSEN

Miami Country Day School

Despite the abundant wildlife and lush foliage filling the barely-moving waters, South Florida's Everglades belie a quiet vulnerability, one threatened by a fast-changing climate that could alter the state forever.

The national treasure and popular tourist destination has become a statewide public service announcement of sorts, one that warns residents that they need to clean up their act. If they don't, South Florida might pay an irreparable price.

"Climate change is real," said Ricardo Alvarez, a Florida Atlantic University professor at the Florida Center for Environmental Studies. "So we should all pay attention, and because we are all contributing to it, we should all take measures to reduce the impact that we are causing on climate."

Because of its long coastlines and elevations below or near-below sea levels, South Florida is one of the world's most susceptible areas to climate change. If current global warming patterns aren't addressed soon in significant ways, scientists and environmental activists warn that the damage could profoundly harm the state.

Sea levels are already rising. Streets flood regularly. Saltwater is seeping into drinking water supplies. At this point, scientists say, climate change has already begun its assault.

A man-made phenomenon

Global warming, according to NASA, refers to the long-term warming of the planet. Climate change includes global warming and the broader range of changes on the Earth "caused mainly by people burning fossil fuels and putting out heat-trapping gases into the air," according to the space agency's Global



INCHING UP: Rising sea levels have subsumed warning signs on a dock at Key Largo Harbor Marina.



OMINOUS DANGER: Environmental degredation threatens the beautiful and vast portions of the Everglades National Park.

Climate Change website.

As temperatures warm the Earth, seas expand because warm water takes up more room than cool water. The National Climate Assessment, a 2014 federal advisory committee study, warned that Miami, New Orleans, Tampa, Charleston, S.C., and Virginia Beach are most at risk for sea level rise.

The report warned that it could grow as much as 6 feet by 2100. That alone could cost Florida \$130 billion, according to a 2010 edition of the academic journal Coastal Management.

Climate change has already been especially harsh on southern Florida. Miami-Dade and Broward counties are experiencing an extreme drought with 85 percent of Miami-Dade's wells at the lowest levels in a century, according to a July 16 story in the Miami Herald.

And there's more. Much more. Without a way to permanently curb excessive flooding in Miami, saltwater will contaminate drinking water. So Miami Beach has spent millions on temporary pumps to stave off city flooding. All of these climate effects threaten to jeopardize the massive and perpetual growth of the area.

Of course, the damage will extend beyond the impact on humans. Warmer waters caused by climate change increase the likelihood of red tides that threaten wildlife.

The coral reefs are in danger, too. Without them, many sea creatures will have no home, and the beaches will have reduced protection from erosion. Florida crops are experiencing lower yields because of rising temperatures and a lack of water.

And on and on.

The causes of climate warming are numerous, but the biggest culprit is humankind, said Dianne Owen, a program coordinator at Florida Atlantic University's Charles E. Schmidt College of Science.

"I personally don't think that human civilization is going to get its act together enough to actually do anything about limiting our contribution," she said. "I think our problem now is more adapting than trying to prevent global climate change. I think we just need to start being realistic and adapting to climate change and the reality of it."

Humans, however, are the biggest obstacles to confronting climate change.

A call to action

The Intergovernmental Panel on Climate Change evaluates the state of climate science using peer-reviewed and published scientific literature. Its 2014 Climate Change report said that "human influence on the climate system is clear," and that humancaused "emissions of greenhouse gases are the highest in history."

About 97 percent of the scientific community that specializes in climate change acknowledges human influence as a major factor.

But not everyone is on board with efforts to address climate change. Some people, including Republican presidential candidates Jeb Bush and Marco Rubio, disagree on the extent of human impact.

In fact, a Pew Research Center

survey released earlier this year of more than 5,000 respondents, found that nearly a third of Americans don't feel that global warming is a problem. Some groups, however, are working to turn those numbers around.

Pope Francis recently issued a climate change encyclical, the Vatican's official position, which stated that it is a grave concern for the environment. Every individual is accountable, he said.

"Humanity is called to recognize the need for changes of lifestyle, production and consumption, in order to combat this warming or at least the human causes which produce or aggravate it," he wrote in the document.

Archbishop Thomas Wenski of Miami recently announced that he would spread the pope's message in a tour of speaking events.

"There is today broad consensus among scientists that climate change presents real threat to human flourishing on this planet," he wrote on the archdiocese's official website. "The Church cannot be indifferent."

Several other Florida activist groups are working to spread similar messages. Eyesontherise.org, a Florida International University journalism and communication school project, works to promote student journalism projects focused on sea level rise.

"We're trying to inform what you can do about it, what the community and the government are doing about it," said Susan Jacobson, the manager of a project that produced a mapping app that can project future effects on South Florida's coastal communities.

Urban Impact Lab, an organization founded by Marta Viciedo and Irvans Augustin, is currently focusing on a new project, Resilient Miami, with the main goal of building community involvement for adapting to climate change effects.

The Everglades Restoration Project is attempting to maintain the natural flow of the river so that saltwater stays out of people's drinking water.

South Floridians are at the forefront of these projects. Those who combat climate change argue that such grassroots efforts can help spark more widespread activism.

"I think people will listen more to one of the common people or real people as opposed to the politician or the scientist talking about it," Alvarez said.

 $\ensuremath{^{\circ}}\xspace{\rm So}$ we, all of us, need to carry the message."



Photo by Amanda Prats

MAKING WAVES: FIU's Juliet Pinto answers student questions about the effects of climate change.

FIU professors build app to view rising sea levels

BY KRIZIA KETCHUM

Saint Brendan High School

In fall 2013, Susan Jacobson drove to her Miami Beach apartment and parked her four-door Buick LaCrosse outside for a couple of hours.

When she returned, she found her car in half a foot of water. After the same scenario repeated numerous times, Jacobson, who was new to Miami, tried to find out what was causing the problem.

"I got interested," Jacobson recalled, "because I wanted to know when I would have to move my car."

For Jacobson, her car's flooding was a call to action. She, Juliet Pinto. Kate MacMillin and Robert "Ted" Gutsche, Jr., faculty members in Florida International University's School of Journalism and Mass Communication, came together to create an app to show how much of Miami would be submerged with each incremental rise in sea level.

The app can be found on their website, www.evesontherise.org, which also includes a student-produced documentary and timely facts on sea



level rise.

Jacobson is currently project manager of the app, which has a map where users can adjust water level rise up to six feet. The app also allows users to search an address and see at what water level that location might be submerged.

It uses Google elevation technology to display the elevation of land as it relates to elevation of the water. Jacobson and Pinto say they hope the app will give Miami residents a simple way to visualize water rise.

"Sea level rise is so overwhelming," Pinto said.

Jacobson and the Eves on the Rise team are not alone in their concern over sea level rise. Over the past

few decades, flooding caused by sea level rise has increasingly affected South Florida. Even with the current drought, it remains a constant concern for many Miami neighborhoods.

It's common knowledge that seas began rising centuries ago as large ice sheets started melting.

"Ocean levels are increasing because of the ice age," said Michael McGauley, who teaches physics and earth sciences at Miami Dade College.

Tide gauges, also known as mareographs, record changes in sea level rise. Florida has 1,200 miles of coastline, but they are not Miami's only source of water concerns. Water is also rising from underneath the ground's surface.

limestone bedrock, formed when shellfish, coral and fish skeletons are piled together for a long time. Limestone is porous with holes, which allow water to rise into yards and back through drainage systems. As the water rises, the saltwater mixes with the freshwater. The biggest worry about sea level

The reason for this underground

rise, scientists say, is Miami's

rise is Florida's infrastructure. In 2010, this infrastructure was worth \$2 trillion and it is expected to be worth about \$3 trillion by 2030. As water rise affects Miami, it will ruin homes and buildings causing Miamians to lose money in investments, time and effort. Just buying a home in Miami will take on new significance.

When young people are looking to buy their first homes, they may not realize rising water could affect their potential neighborhoods. That's because Realtors are not required to tell their customers about the effects.

Marla Martin, media relations and communications manager for Florida Realtors, said there is "no disclosure law for something not known." She said water level rise would need to be more of a broad issue before realty companies would be required to say anything to their customers.

Although Pinto agrees that it is impossible to know the future, she said climate change is having a direct effect on sea level rise, and her hope is that the app will help the Miami community get involved to save the Everglades and their homes.

Pinto called climate change "the ultimate incremental invisible problem" of this era.

The app's developers are looking to improve its accuracy by including flood reports, tide levels, rainstorms and pumps like those being installed in Miami Beach.

They also want to start a K-12 curriculum to broaden education initiatives and to get future generations involved with what they will one day have to face.

"We are going to better teach our students about climate change," Pinto said, "because climate change is the biggest issue of our time."

Jacobson and Pinto say they hope the app will not panic Miamians, but help them come together to address the issue. Ignoring the danger is no longer possible.

"If you're planning on living here." Jacobson said, "then the impact is obvious."

Looking to kids to clean up Earth

Programs teach conservation and climate change

BY DAYANY SOTOLONGO

Sports Leadership and Management

One of Danni Washington's earliest memories is going to Miami Beach with her mom. It was through that experience at age 6 that her love for the water began.

"I wanted to share that love with others and inspire them to also love it," Washington, 28, recalled.

In 2008, Washington's passion led her and her mother, Michelle, to found The Big Blue and You, a nonprofit dedicated to educating young people about conservation through media and the arts. Its most noted event, Artsea, is a daylong festival where kids recycle beach trash and repurpose it for art.

In keeping with its mission to involve young people, The Big Blue and You has a youth board made up of high school and college students.

"They are the ones who do a lot of the work to make it happen because this organization is for kids by kids," Washington said.

She is part of a growing movement to educate youth about water conservation and climate change. She said the more millennials are educated on this topic, the greater the impact will be.

"Some people seem apathetic about it because they think it's not going to make a difference," Washington said. "That's why I think engaging young people specifically is so important because there is a certain level of optimism with this generation."

Also looking to future generations is Caroline Lewis, a former teacher and principal for 22 years. In 2002, Lewis joined the Fairchild Tropical Botanic Garden as director of education and created The Fairchild Challenge.

This program encourages elementary, middle and high school students to generate newsletters, create political environmental cartoons and restore gardens.

Schools receive points for each challenge they complete to build



ALL ABOUT KIDS: Caroline Lewis says getting to children gets to the parents, too.

Photo by Vivian Bermudez

environmental awareness in their community. There is an award for the top-scoring school, and the competition is strong.

Lewis said the challenge remains successful and helps schools encourage otherwise disengaged students to understand what is happening to their environment and teaches them the importance of tropical plants and gardening.

Today, Lewis is executive director and founder of The CLEO Institute (Climate Leadership Engagement Opportunities), which helps different age groups understand climate change and its effects. Its Youth Task Force educates students through events, forums and training to help them inform their peers about climate change.

Lewis said students often take home what they learn in these programs and get their parents involved.

"There is a reasonable belief that if we reach the kids, we reach their parents," said Lewis.

Schools across South Florida are also providing students with access to environmental science programs.

TERRA Environmental Research Institute and two Maritime and Science Technology schools (MAST) academies offer curricula focused on conservation and biological control.

TERRA, located in Kendall, allows students to choose from three academies, including environmental research and field studies, engineering and robotics and biomedical research.

The two MAST Academies, Virginia Key and Florida International University's Biscayne Bay campus, focus on maritime science and technology. The Biscayne Bay location partners with FIU's School of Environment, Arts and Society, to give students hands-on experience in the marine sciences.

While programs like these and The Fairchild Challenge educate students within school settings, Washington said more non-school based programs are needed.

"Teachers have so much on their plates already, and there is so much that they have to cover and complete before the end of the school year," Washington said. "I know it's really tough on them to add more to their plate. That's why we try to supplement and provide opportunities outside of the classroom to give kids great experiences."

For those young people who feel as if their involvement won't make a difference in conservation efforts, Washington has a message.

"You have a bright future ahead of you," Washington said. "This Earth belongs to you, too, so let's all figure out a way to work together to make sure it's good for everyone."



"I wanted to share that love with others and inspire them to also love it."

Danni Washington co-founder, The Big Blue and You



Photos illustration by Ciro Salcedo

CLI-FI FRENZY: Hollywood is churning out more and more fictionalized accounts of the effects of global warming.

Lights, camera, action

Film genre generates debate in discussion of climate change

BY CIRO SALCEDO

Felix Varela Senior High School

Dan Bloom wanted to change the world. Hoping to use film to spread messages of conservation but lacking any screenwriting or directing skills, he created an annual awards ceremony in 2014 to honor the best environmentally themed films.

"I created it out of conviction that the world is in trouble," said the freelance journalist.

Bloom's award, known in the biz as a "Cliffie," honors the best films of the year in the genre of climate fiction, or "cli-fi," a term he coined. "Taklub," a film about several Filipinos following a super-typhoon, was 2015's top movie, winning both best picture and best screenplay.

"I hope that the film indeed serves as a jumping board to recognize the need to do something about climate change and to protect our environment," said Mary Honeylyn Joy Alipio, the film's screenwriter.

Bloom and countless other movie

buffs say cli-fi movies not only entertain crowds—they can educate them too

Since the 1980s, films such as "Escape from New York" (1981), "Deep Impact" (1998) and "Wall-E" (2008) have given audiences visions of Earth's destruction from mistreatment by humans.

But despite the entertainment value audiences find in these films, some question their credibility and accuracy. Michael Svoboda, a George Washington University writing professor, said it depends on certain situations.

"These films can be credible in different ways for different groups of people," said Svoboda, who also contributes to the website "Yale Climate Connections."

Svoboda cites inaccuracies as a reason for waning credibility. He describes "Waterworld," a 1995 film where all the ice caps melt and flood the world, as inaccurate and misleading.

"One gets the sense from

BY THE NUMBERS

THE BIGGEST HITS IN CLI-FI

Here are the leading climate fiction movies by gross revenue.

Title 2012 Interstellar Wall-E Godzilla Day After Tomorrow Twister Noah Mad Max: Fury Road Eccape from New York	Gross \$767 million \$673 \$535 \$529 \$528 \$494 \$363 \$359 \$74	Year 2009 2014 2008 2014 2004 1996 2014 2015 1981
Escape from New York	\$74	1981

SOURCE: IMDB.com

'Waterworld' that just the tallest peaks of the Himalayas remain above water," he said. "That's far, far beyond what would happen if all the world's ice melted."

Experts may disagree on the credibility of these films, but moviegoers, such as self-described film buff Alec Di Lella, don't see inaccuracies as an issue.

"Hollywood does not set out to create films with the intention of making them entirely factual or accurate," said Di Lella, 18, a freshman at Miami Dade College. "Hollywood maintains an entertainment-driven economy. If you want a documentary, there are plenty of them to choose from."

Despite the issues with science or accuracy, Bloom still stands behind his "cli-fi" crusade, asserting that these movies could be used to teach the public.

"Films' facts should be left to the directors," Bloom said. "Films should be as credible as directors can make them, but there's room for imagination and far-fetched scenarios, too, to make viewers think."

Critics, audiences and experts all have differing views on how these films can be used to help educate the masses to better protect the planet.

"Hollywood seems no more able to imagine a useful response to climate change than the rest of us," Svoboda said, "but perhaps its films can agitate the rest of us to start coming up with solutions."

Di Lella said movies such as "The Day After Tomorrow," a 2004 film about the Earth plunging into a new ice age, can mobilize the masses into changing the world.

"Movies such as these are effective in educating the masses in doing what's right to protect the planet," he said, "in the sense that they take events that the audience will never live to see and display them as a difficult reminder of the consequences of their actions."

Alipio, the "Taklub" screenwriter, said she hopes the cli-fi genre spreads throughout her country and around the world.

"I hope that other countries representing their film producers, filmmakers and government agencies also spearhead in making films that tackle climate change," she said.

"I plan to research and write screenplays about mining, deforestation and other issues that define my country and its people in relation to humanity as a whole."

Although such films can give the impression that the world is headed to total destruction, Bloom wants to reassure audiences that people are not without hope:

"There is still time to try to solve climate change problems and to prepare for the worst-case scenarios 300 years from now."



How journalism and science clash over climate change

BY DANIEL SAIZ

Miami Lakes Educational Center

Contrary to what many believe, news stories seldom have two sides.

"Journalists are trained to search out the what, why, when, where and how," said John Morales, chief meteorologist at WTVJ NBC6. "They're always trained to find both sides of a story. You present one side then you have to present the other.

"To them, everything, including science, needs to have two sides to a story. But science doesn't have two stories; once there is a consensus view, once there is a hypothesis proven by science, there is no other view," Morales said.

Jim Naureckas, a media critic for Fairness and Accuracy In Reporting, has similar beliefs.

"There's almost a quest for controversy in the media," Naureckas said. "Journalists are beginning to feel that getting both sides is the way you get out the truth, so when they're told that humans are warming the climate, they're told to find people that say humans are not warming the climate." A 2015 poll conducted by Communication Research shows that the general public distrusts the media. It states "just 37 percent of Americans report that they somewhat or strongly trust the mainstream media."

Georgetown University associate professor Jonathan M. Ladd says the media have two relationships to uphold: one with scientists and one with the public. In his book, "Why Americans Distrust the News Media and How it Matters," he explained that trying to maintain both of these relationships ultimately leaves journalists in disfavor.

Jenny Staletovich, an environmental reporter at the Miami Herald, said climate change is a difficult topic because its projections are distributed unevenly. In her articles, Staletovich said she always clarifies what the scientific consensus is.

"Scientists love to argue," Staletovich said, noting that scientists are always skeptical of each other's work.

Morales said that when those arguments reach a news platform, the result is confusion and complexity.

"I think that the goal of journalism should be to say what is happening, to get at reality."

Jim Naureckas media critic

"Because journalists are inadvertently complicit to keep people confused about something like climate change and other controversial topics, the way it happens is that journalists will search high and low to find the other side of the coin," he said.

Morales explained that while false equivalency – the concept of treating a truthful statement the same as an untruthful one – is a problem among scientists and journalists, the reason behind this is simple: They are two completely different fields of expertise.

Another factor that contributes to the tension between scientists and journalists is the style of writing in the articles.

Sunshine Menezes, executive director of the Metcalf Institute for Marine and Environmental Reporting, which incorporates scientific research into journalism, said the media should focus on stating the facts in articles concerning climate change. This way the public can be aware and help, instead of reading news only so that they can be entertained.

"From a scientist's perspective, they'd like all of the facts very explicitly stated, and all of the caveats explicitly stated, since that's how they work," Menezes said.

"Journalists have to synthesize information that they've gathered and report it back in a way where the consumer would want to continue reading or watching it."

Naureckas and Staletovich agree that writing for consumers can bring sensationalism into the news story.

An April CNN column by John D. Sutter reported that if the world gets warmer by 2 degrees, super droughts, rising seas, mass extinctions and acidifying oceans will plague the planet. One source reportedly told him: "If we start warming the planet way beyond what humans have ever experienced, God knows what will wait for us."

Staletovich also explained another reason scientists get upset with journalists.

"People think that science should be very black and white, so I understand their expectations, but it's not," Staletovich said.

"Scientists wrestle with issues for some time before they can reach a consensus."

When Sean Hannity, a Fox News commentator and syndicated radio talk show host, was presented a report saying only one out of 9,136 scientists rejected man-made global warming, he immediately dismissed both the report and the idea of global warming.

"I don't care what your liberal friends say," Hannity said. "It means nothing to me. I think global warming is a hoax; there's nothing you're going to say here today that's going to convince me otherwise."

"I think that the goal of journalism should be to say what is happening, to get at reality," Naureckas said. "And I think that this is not always what journalists have as their approach."

Hiding from the truth

Debate on climate pits scientists against skeptics and deniers

BY DAVID PEREZ

Christopher Columbus High School

The senator wanted no more of it.

The climate change debate had raged on, and despite overwhelming scientific evidence that human activity is a major factor in climate change, U.S. Sen. Ron Johnson, R-Wis., left the Senate hearing in denial.

"The science is far from settled," he said as he collected his things and left.

As dramatic as Johnson's exit was in March 2014, climate change denial is not so unusual. Numerous blogs, websites and books claim that climate change is a worldwide hoax.

Ralph Heredia, a climate change denier living in South Florida, says scientists make money by creating propaganda.

"If we say that there is no climate change and there is no issue with that, nobody benefits from it or is affected by it," Heredia said. "But by creating a chaos, someone will benefit from it."

Climate change might be a fairly new debate in the political forum, but the denial of scientific findings is an age-old idea.

Prior to 1492, people thought the world was flat. In 1633, Galileo was exiled for stating that the Earth revolved around the sun; in 1859, Charles Darwin released his theory of evolution, which is still not accepted by some religions. To this day, many believe that the universe is thousands of years old rather than billions.

Climate change science might eventually prevail over deniers. The difference between this issue and past topics, however, is that it may be too late, scientists say.

In a report issued by the United Nations Intergovernmental Panel on Climate Change in November 2014, co-author and Princeton University geosciences professor Michael Oppenheimer stated that the



HOT ISSUE: Sen. Ron Johnson left a Senate hearing when questions turned to whether climate change is caused by humans.

disastrous effects are coming sooner than we believe and that the "window of opportunity for acting in a costeffective way — or in an effective way — is closing fast."

Dan Kahan, a professor at Yale University, has studied public attitudes on climate change. Based on his studies, Kahan said that a major problem is a climate change skeptic's reasoning.

"What we believe about the facts tells us who we are," he said.

According to Kahan, most people don't know enough about climate change to support their opinion. If given a climate change assessment test, neither supporters nor deniers would do better than the other, he said. Both would do "horribly."

"Both sides don't know what they are talking about," he said. He added that they "are processing information in a way that is biased."

The motivation for many climate change deniers lies in combating potential political policies that could be adopted as a result of Earth's rising temperatures. Other deniers have been given misinformation from fossil fuel companies such as ExxonMobil. These companies downplay climate change to prevent new environmental legislation from passing.

In July, the Union of Concerned Scientists released a report stating that Americans were misinformed for nearly the past three decades and that scientific fraud potentially took place.

The report stated that ExxonMobil funded a supposed independent climatologist from the Smithsonian Institution who denied the effects of climate change. Information such as this gives skeptics ammunition for their denial because their arguments rely on so-called scientific findings that may not be true.

Many people are saying politicians need to do something about climate change, said Riley E. Dunlap, a professor of sociology at Oklahoma State University.

"For many it's easier to deny the truth than accept government relations," Dunlap said.

Most politicians opposed to climate change do not refute that the climate is changing. Instead, they have shifted their focus to whether these changes are man-made. In fact, the typical climate change denier doesn't identify as a denier but rather a skeptic, someone who believes the changes are natural and will do minimal damage.

Despite this opinion, Kahan is not surprised that the public's initial reaction is to avoid a new scientific finding. Kahan said deniers do not want to change their belief system or identity because it is a "psychologically brutal process" that is terrifying to most. The Identity-Protection Cognition theory, as Kahan calls it, is the reason why science deniers appear to reason in a way that will support their case instead of find the truth.

Kahan wrote that he is more surprised that people are expected to act in a rational way. His research states that an individual's ability to reason cannot be trusted because it is typically used to protect one's own identity. But empirical research operates in an entirely different way from how people usually think.

"Science is about what the weight of the evidence is," he said.



Graphic by Ciro Salcedo

It's gettin' wordy

How the meaning of words affects the climate debate

BY MAILE WOBB

West Broward High School

Scrolling through his smartphone outside the University of Miami's School of Engineering, Kevin Boutsen made a confession.

"I don't know what global warming means and what it entails," the mechanical engineering student said. "So I'd rather say climate change if I'm talking about that topic."

According to a study done at Yale University in 2010, 63 percent of Americans know what global warming is but many don't understand why it occurs

And 90 percent of Americans said they were not well-informed about the term "climate change."

"Global Warming is the word I use the most because that's the word most people around me use," said Christopher Reddick, a junior at UM majoring in computer science. "I know there is a difference, but I don't know exactly what is the difference between the two."

Climate change results from an increase of gases in the atmosphere, which can cause extreme weather events. Global warming, a feature of climate change, is the recent increase in temperature caused by those gases.

People prefer one of the two terms for different reasons, said Kevin E. Trenberth, a scientist at the National Center for Atmospheric Research.

"Clearly the deniers of climate change prefer a more neutral term," Trenberth said. "Scientists in general probably prefer the term climate change as they are involved in all aspects of the variability and changes going on."

Trenberth said global warming can also be effective for public use because of the urgency associated with it.

One reason global warming and climate change cause confusion is that global warming is seen as unnatural and man-made, while climate change is seen as a regular occurrence because weather is always changing.

However, Trenberth said that scientific studies have proven that not only is global warming man-made, but climate change is, too.

In fact, most Americans are four times more likely to hear global warming in everyday conversation, while climate change is used more often in the scientific community, according to a Yale Project on Climate Change Communication's article, "What's in a Name? Global Warming

vs. Climate Change."

Confusion of environmental terms also plays a role in politics. Senate Environment and Public Works Committee Chairman Jim Inhofe, R-Okla., even misrepresented the terms.

In a speech before the Senate

in February 2015, he produced a snowball as evidence to prove that temperatures were not increasing. Inhofe, author of "The Greatest Hoax: How the Global Warming Conspiracy Threatens Your Future," said that Washington's unusual cold spell disproved global warming, despite scientists' proof that this type of weather was actually an effect of climate change.

"It would be hard to find an influential political figure in other countries, even a minor one, who could produce anything like the statements of James Inhofe," said MIT linguist Noam Chomsky.

While confusion exists about environmental terms, Chomsky warned of bigger problems, namely that the term climate change is undermining the severity of global warming.

"The real issues are not terminological: rather, substantive, and of crucial importance," Chomsky said.

"Energy corporations and rightwing organizations are pouring huge resources into denving the facts, and it is having some effect in the United States, rarely elsewhere."

Ever-present danger



BIG BITE: A lone alligator lurks in the Everglades, Miami-Dade's primary source of freshwater.

> Photo by Amanda Prats

Climate change and sea level rise put Everglades freshwater at risk

BY PHILLIP BOOTSMA

Christopher Columbus High School

Sandeep Varry, a writer for The Beacon at Florida International University, went to the Everglades to be inspired by its natural beauty. However, while he was there for a class project, he noticed that the Everglades weren't as beautiful as they used to be.

"After going to the Everglades I realized how climate change could affect the plants and animals," Varry said. "Humans weren't the only ones facing the consequences of climate change."

Varry, like many South Floridians, is realizing how climate change's effect on sea levels is threatening the Everglades' unique ecosystem and the fresh water supplied to Miami-Dade County residents.

One of the biggest effects of sea

level rise on the Florida Everglades is saltwater intrusion, said Donald McNeill, a senior scientist in the department of geological sciences at the University of Miami. Intrusion occurs when sea levels rise to a point where they begin to encroach on freshwater aquifers as well as the Everglades.

Saltwater intrusion is critical because most of Miami-Dade pumps water from the ground and as salt water intrudes, water must come from more inland sources, McNeill said.

"As we pump more freshwater out it allows the saltwater to start to fill that space," he said. "The salts are intruding in and mixing with the freshwater; it is a process that we help along by pumping out the freshwater."

A huge concern for many ecologists studying the Everglades is whether the Everglades can stay resilient, said Gina Maranto, the director of ecosystem science and policy at the UM. In ecology, resilience is the ability of an ecosystem to adapt or respond to a disturbance by resisting damage and recovering quickly.

If a particular disturbance is too prolonged or it occurs at too fast a rate for the ecosystem to handle, the ecosystem will crash and never

recover.

"Ecosystems can cycle through, they're resilient," Maranto said. "[Ecosystems] can take certain shots, they can take fires and they can take droughts. They can tolerate it for so long and then they crash. The question is can they reorganize and come back again."

Because most of South Florida either depends on natural aquifers or the Everglades for its primary source of freshwater, restoring correct water flow in the Everglades is of vital importance.

Several projects are under way to change how water is managed in South Florida, said Cara Capp, the Everglades Restoration Program manager at the National Parks Conservation Association. The Comprehensive Everglades Restoration Plan provides a framework for these projects and aims to restore, preserve and protect the water resources of Florida.

One such project is the Tamiami Trail Restoration Project, which entails raising the Tamiami Trail and creating a bridge, Capp said. The Tamiami Trail is a highway that connects Tampa and Miami and cuts through the Everglades. "The Everglades should historically flow from Lake Okeechobee ... into Everglades National Park, but that roadway really cuts off what the historic flow should be," Capp said. "So the plan for years has been to raise the road, to bridge portions of the Tamiami Trail so that water can flow underneath and we can bring back that more historic water flow pattern."

The water from the Everglades puts pressure on the Floridan aquifers, forcing water up into the wells and pumps, said Gary Matthews, an airboat pilot who already is seeing the effects of lowered water levels.

"Right now there is no water. My airboats have been sitting in a compound for six months," Matthews said.

"I'm out of business. I'm literally out of business because of what they have done to the Everglades."

All of South Florida is dependent on the Everglades. Whether they depend on the freshwater from the Everglades or as their primary source of income, losing the Everglades would have serious effects not only the Florida economy but also Florida as a whole.

"People should act before it's too late and they lose something so unique," Varry said.



TAKING MEASURE: A stick among the reeds and tall grasses shows the water level in the Everglades.

Off the power grid

Ballot initiatives would allow the sale of solar power by state residents

BY FABUOLA PIERRE

Miami Senior High School

Florida residents may soon be able to reduce their reliance on fossil fuel energy and earn extra income by producing solar energy if two initiatives to amend current law go to voters on the November 2016 ballot.

The "Solar Choice Amendment" and the "Smart Solar Amendment" both seek to expand the use of solar energy in Florida. State law currently states that only utilities can sell electricity to consumers.

Both ballot proposals will need 683,149 valid signatures by Feb. 1 before they can be put on the ballot. Floridians for Solar Choice already have collected more than 100,000 signatures for its initiative.

"If the amendment passes, rent payers won't be held hostage by the electric utilities," said Debbie Dooley, president of Conservatives for Energy Freedom, a nonprofit social welfare organization that supports the "Solar Choice Amendment."

"If they want to buy from a neighbor up to 2 megawatts per day they would be allowed to do that," said Dooley, also the founder of the Green Tea Coalition.

The Libertarian Party of Florida, the Florida Alliance for Renewable Energy and the Republican Liberty Caucus also support the ballot initiative.

The amendment, however, is facing opposition from the National League of Cities and the Florida Municipal Electric Association, according to reports in the Miami Herald. The organizations cite loss of local revenue and the impact on city government.

Florida Attorney General Pamela Bondi recently requested the state Supreme Court to decide whether the Solar Choice Amendment violates the single subject rule, has a misleading summary and removes a class of utilities from public service



BRIGHT FUTURE: Goldin Solar installed solar panels atop the Marriott Residence Inn in Coconut Grove.

> Photo by Samantha Moffett

commission regulation. The court is expected to make a

ruling on Sept. 1.

Consumers for Smart Solar announced the "Smart Solar Amendment" proposal on July 15, arguing that state and local governments need to be involved to prevent fraud, abuse and overbilling.

As of December 2014, 3,241 customers owned renewable generation connections, said Kathleen Campanella, a spokesperson for Florida Power and Light. That represents a 26 percent increase since December 2013, when the number was 2,565.

Allan Miller, a solar panel homeowner for eight years, has been pleased with the investment in his grid-tie solar system, a system that doesn't use batteries, but uses the grid instead.

"What we make during the day when we aren't at home, we sell out to Florida Power and Light," Miller said. "At the end of the day, we buy it back but the difference between the two is what we wind up paying in our monthly electric bill." Miller supports the Solar Choice Amendment.

An average residential solar system costs between \$15,000 to \$25,000 after rebates and incentives, according to Solar-Florida.org. If the roof is made out of a difficult or unique material, consumers are looking at a 10 to 25 percent increase on cost of the installation of solar panels.

In Florida, there's no financial assistance for installing solar panels on your roof, according to Solar-Florida.org. Solar energy users can only take a federal tax credit.



VANISHING BEADS: Floridians face a future of conservation and innovation to sustain growth and preserve life.

A salt assault

Rising seas pose threat to South Florida freshwater resources

BY SAMANTA CARIAS

Hialeah Senior High School

Drinking water appears plentiful around the University of Miami's Coral Gables campus, so it's hard for visitor Annabel McDermott, 16, to imagine that South Florida is facing a water crisis.

"My bottle is full," McDermott said. "There is a water fountain on every floor."

Like McDermott, an Australian track and field athlete, many people are unaware of the threat to South Florida's water supply. As climate warms, sea levels rise and freshwater faces demise. Refilling water bottles may not be so easy in the future.

Randy Smith, spokesperson for the South Florida Water Management District, said saltwater intrusion is a direct effect of the rising sea level and it is becoming a major problem for Florida aquifers.

These aquifers are being encroached upon by saltwater because

of the rising sea level. Since South Florida sits above a porous limestone plateau, it is especially easy for this saltwater to intrude into the aquifers because the rock acts as a sponge.

"We don't want the saltwater coming in from the ocean," said Smith. "We are still early in the process of accurately figuring out what the level of rise is and how fast is it rising."

Cities, towns and businesses get most of their freshwater from aquifers. According to the Florida Department of Environmental Protection, the aquifers contribute 90 percent of the state's drinking water, supplying more than 8 billion gallons of water each day.

The South Florida Water Management District is working to protect regional water supplies and aquifers by building more coastal structures such as seawalls to prevent saltwater from coming into freshwater canals.

"When it comes to our drinking water, these coastal structures are

very important because most of our water supply here comes from the Biscayne aquifer," Smith said, noting that this aquifer is just below the surface of the land and is prone to contamination.

"So it's of ultra importance to us to be able to maintain that wedge and keep the seawater out of our drinking water supply."

Drinking saltwater dehydrates the body, which is why humans cannot use saltwater as a drinkable source. Desalination, a process that makes saltwater safe to drink, does exist, but most cities don't have the resources to build plants.

"The technology is definitely there, but desalination plants can take up to 10 years to build and cost up to billions of dollars," said Arjen Bootsma, former mechanical engineer at the Miami-Dade Water and Sewer Department. "They are only built when there is no other viable option."

It is becoming challenging to meet the freshwater needs of Floridians. According to the 2014 Census report, Florida is the third largest state with 19,893,297 residents, after California and Texas with 38,802,500 and 26,956,958 respectively. As a result of the growing number of inhabitants, Florida's water districts will have to find alternative ways to supply water.

"Because South Florida has grown tremendously, the Biscayne aquifer is sucked dry due to the high demands for water," Bootsma said.

Every year, South Florida faces a shift in the boundaries between saltwater and freshwater. The Biscayne aquifer is in jeopardy because saltwater is seeping in and rainfall is decreasing.

"We're going to the deep wells, going down to the Floridan aquifer rather than relying solely on the Biscayne aquifer, which is practically tapped out at this point," Smith said. "It would be hard to get any substantial withdrawal from the Biscayne now."

Smith added that a contributing factor to the seeping of saltwater into freshwater is the excessive pumping of wells. When water is pumped at a faster rate than the aquifer is replenished, the possibility of seawater leakage into the aquifer is more likely. These wells are also built too close to the shore and face a threat every year as sea level rises.

"The Miami-Dade Water Department has, in the last 15 years or so, built new well fields all the way out west in the Everglades to get as far away from the ocean," said Bootsma. "By doing so they can utilize those wells as long as possible before saltwater encroaches on them, too."

South Florida's saltwater intrusion, population growth and related water demands mean that maintaining conservation efforts and finding alternative water sources will be inescapable.

"Conservation is critical for South Florida," Smith said. "It is a tremendous way to save the finite supply of water that we have."

"... the Biscayne aquifer is sucked dry... ."

Arjen Bootsma mechanical engineer



A FRESH START: Above-ground construction site prepares the way for a new pump station.

> Photo by Krizia Ketchum

Toward a drier future

Miami Beach combats rising tides with new pump stations

BY ANTHONY MARTINEZ

Christopher Columbus High School

With its historic Art Deco hotels, countless shops, boutiques and international cuisine, Miami Beach offers plenty to see and enjoy away from the water – at least for the near future.

Even on days without rain, larger waves during high tides are causing flooding in Miami Beach, just one effect of climate change. In response, the city of Miami Beach is installing water pumps to move water from the streets of the coastal resort city.

"We have seven pumps coming online this summer," City Engineer Bruce Mowry said. "And next year, I would hope to have 10 to 15 more pumps."

Mowry said the city plans to have 60 to 80 pumps running by 2020, depending on the size of the units. The pumps will be placed in locations where a large amount of water from high tide spills onto the streets, and will pipe 14,000 gallons of water back into the sea every minute.

With a \$300 million price tag, the pumps are a big purchase for a city with a \$502 million annual budget.

"You not only have to have support," Mowry said. "You have to back the support with finances."

The city commission is funding these projects with three \$100 million bonds, which allow Miami Beach to borrow money at a low interest rate. Also, a new tax, the Stormwater Utility Fee, is being collected from all homeowners, businesses and hotels.

Despite their high cost, the pumps are necessary to support the constant construction and renovation of resorts and condominiums. Because of its tax structure, Miami Beach relies on its thriving real estate market, especially premium apartments on the coast. Property tax revenue will continue to grow only if buyers are certain their investment is worthwhile.

"There are groups of people who are concerned about their investments in high-end apartment units and their property values being in jeopardy," said Eileen Nexer, a local real estate agent.

These concerns have fueled plans to have seven new pumps in operation by November. Although this is a milestone for the project, the city has no intention of slowing down soon.

"We're taking action and moving ahead. We're not just looking at short term, we're looking at middle and long term," Mowry said.

Once construction is completed, the pumps will run constantly to move flood waters. Water will be collected through sewage drains, stored in reservoirs and pumped back into the ocean through a sea wall in Biscayne Bay.

An initial concern was the condition of the water being sent back because the water comes into contact with trash, motor oil and other contaminants. As a result, the collected water must be treated and decontaminated. Mowry said he hopes to see similar projects in other at-risk areas.

"Sea level rise isn't just happening in Miami Beach," said Mowry. "It's worldwide."

Mowry said unprecedented construction makes it difficult to manage traffic, nightlife and major infrastructure changes.

"It's always a challenge to do construction while keeping a city moving." Mowry said.

Even with the disruption, local residents have supported the pump installations since construction began.

"We need their involvement and we need their investment into the future," Mowry said.

Even after all pumps are installed, efforts to combat sea level rise will be far from over and alternative solutions are being considered.

One of the most daring ideas is to elevate the entire city up to four feet off the ground, which would involve major structural modification to the entire city's infrastructure.

"We have staff today working on solutions that really don't have to be completed for 20 years," Mowry said.

"The city has the drive, the vision and the support to do this," Mowry said. "We're rising above, we're gonna take on the challenge, and we're gonna succeed."

A hidden treasure in trouble

Warming waters destroying reefs at highest rate ever

BY SAMANTHA MOFFETT

South Dade Senior High School

People flock from all over the world to South Florida's beautiful beaches, probably unaware of a vital and endangered resource lying beneath the water's surface.

"The coral reefs are really an amazing and unique gem that we have right here off of our coast," said Richard Kern, producer of the documentary "You, Me and The Sea."

"All of us can hop in our cars and boats and in 30 minutes visit the most biodiverse ecosystem that we have."

These reefs are as vulnerable as they are diverse, and scientists like Lisa Pitman agree that climate change is having a disastrous effect on their community. But many Floridians remain unaware of the danger the reefs face.

Climate change will "absolutely affect many things, including tourism," said Pitman, who is a project director with the Rosenstiel School of Marine and Atmospheric Science at the University of Miami. "People come from all over to see our reefs."

According to the engineering firm Hazen and Sawyer, coral reefs in the Florida Keys account for more than 70,000 jobs and \$5.5 billion in sales.

"Coral reefs in South Florida provide both economic and aesthetic benefits to human society," said Margaret Miller, an ecologist for the National Oceanic and Atmospheric Administration. Covering less than a tenth of 1 percent of the Earth's surface, the reefs are home to one in every four species of ocean creatures, NOAA reports.

Global warming results from excessive amounts of carbon dioxide released into the environment, causing temperatures around the globe to increase, killing swaths of reefs. Ocean acidification is another factor in reef decline, causing decay of reef formations.

"Ocean acidification is one of the



MAKING A CHANGE: NOAA ecologist Margaret Miller prepares gear in Key Largo before a research dive to count coral reefs.

effects of increased carbon dioxide in the atmosphere because it changes the chemistry of the ocean," Miller said.

Still another problem that occurs when ocean water is heated is known as coral bleaching.

"The most important effect of climate change on coral reefs here in South Florida especially up until now has been in the form of coral bleaching events," Miller said. The algae critical to sustaining life for the corals are released during bleaching, revealing their skeleton as they turn completely white and begin to die.

"We use the phrase climate change to enclose a whole bunch of things that are going on," Kern said. "Especially acidification and sea level rise."

Flooding and high tides are a growing concern for homeowners and businesses in South Florida, but are an even bigger threat to reefs.

Even the smallest amount of sea level increase can push crucial

"The coral reefs are really an amazing and unique gem...."

Richard Kern scientist and film producer

sunlight rays away from reef swaths. Even without sea level rise, other problems lurk among the waters.

A 2013 project conducted by marinecultures.org shows that boat anchors are a primary threat to reefs, especially in areas such as South Florida.

"Boating regulations need to be followed," Pitman said. "People do really terrible things while boating and diving, and I think people should just stay away from our reefs."

Even without leaving their homes, many people could be adding to the problem unwittingly. Household items such as soaps containing micro-beads starve reef systems and the coexisting animals. Tiny microbeads floating around in the sea look just as enticing as their actual form of food, plankton.

The website takepart.com has reported that 92 percent of ocean animals have eaten some form of plastic waste. Another item that harms coral reefs is sunscreen. Miller said sunscreen chemicals brought into the ocean by humans build up on the reefs and cause them to decay. By using more recyclable materials to make products, the reefs' digestive system, and oceans can be spared.

"There is always hope," Pitman said. "Awareness of beauty is so important, but there is always something to be hopeful about."



Leading the charge

Most millennials say they are worried about climate change

BY VIVIAN BERMUDEZ

Miami Lakes Educational Center

While some millennials are seen as apathetic toward saving the environment, others are not so indifferent when it comes to defying that label.

A 2015 study conducted by the Harvard Public Opinion Project argued that the millennial generation was no more aware of the environment than their parents.

Some millennials, however, are telling a different story.

A July online poll conducted by the Miami Montage team found that millennials surveyed are more aware of climate change than some surveys have shown. Sixty-four percent of millennials surveyed described climate change as a very serious problem, and 81 percent said their generation believes global warming is occurring.

And millennials are worried. The poll found that 87 percent

of millennials were either very or somewhat worried about climate change, a contrast to the 13 percent who were not worried at all.

BY THE NUMBERS

MILLENNIAL ATTITUDES TOWARD CLIMATE CHANGE

An online poll conducted July 7 - 12 yielded nearly 152 responses from people who identified as a millennial. Eighty-four percent of the respondents reported being between the ages of 16 and 24. Percentages may not total 100 percent.

64% indicated climate change is a very serious problem and 28% indicated it is somewhat serious. The remaining 9% indicated that climate change is not too serious, not a problem or had no opinion.

83% indicated they receive most of their information about climate change from online sources and social media. 12% indicated broadcast news channels and 5% indicated newspapers.

47% indicated that most Floridians are unsure whether global warming is occurring, 36% indicated most believe that global warming is occurring and 17% indicated that most Floridians believe that global warming is not occurring.

55% indicated that they are **somewhat** helping to reduce climate change. 29% indicated they are not very active.

SOURCE: Miami Montage Poll 2015

Photo by

Nika K. Hosseini, 20, has seen firsthand how active millennials are in helping to reduce climate change. As the executive chair of ECO Agency, a University of Miami student-run environmental club, Hosseini said that millennials are leading the

climate change battle. "Millennials are at the forefront of the fight," said Hosseini, who also formed her own environmental awareness organization, the NKH Foundation.

"You can't take the human out of nature - they are interconnected. Millennials are so much more active and understanding and empathetic activists are begging for change."

But not all research shows the same results.

A 2014 Pew Research Center study showed that millennials are apathetic and The Atlantic magazine dubbed them "deeply confused." According to the Pew poll, only 32 percent of millennials would describe themselves as "environmentalists."

The 2014 study is a contrast to the Miami Montage poll that found that 62 percent of millennials were either very active or somewhat active while only 39 percent of millennials were not very or not at all active in reducing climate change.

Iqra Ahmed, a 20-year-old student at the University of Florida, argued that the source of the confusion has more to do with how millennials are living their lives and less with their apathetic nature.

"I guess it comes down to action." said Ahmed, who is researching carbon dioxide emissions in olive orchards in Spain.

"When someone considers themselves an activist, an environmentalist, it implies that you are doing something to combat the cause.

"It's not enough to agree with renewable energy sources. It comes down to making changes in your lifestyle, to act in a more sustainable lifestyle."

While millennials hope to change their lifestyle, a 2012 Journal of Personality and Social Psychology study showed that millennials were about three times less likely than other generations to make an effort in helping the environment.

But Hosseini said she has never met a millennial who is not aware of climate change or its implications.

"The title doesn't matter," Hosseini said. "What matters is what you care about and what you do about it."

She encourages apathetic millennials to learn more.

"The first step is to educate yourself. Take a step forward and look for information. If everyone moved forward together, we could change the world," she said.

Ahmed wants millennials to make change happen.

"Something needs to be done, and it needs to be done now," Ahmed said. "And millennials are in place to take over. We have to be the ones to implement a sustainable lifestyle, to create the change that will last for generations to come and help to preserve our planet.

"The older generations may already be used to a certain way of living, and it is up to us as the next in line to reform that in order to fight climate change."

Holy papal politics

Pope and Miami prelate spark a debate over climate change

BY ALISSANDRA ENRIQUEZ

South Dade Senior High School

In what might be a first in recent memory, some Florida Republicans and Democrats actually agree on something.

For Catholics, all it took was the voice of God.

In June, Pope Francis issued what's known as an encyclical, a papal letter sent to Catholic bishops worldwide stating that climate change is a crucial concern that needs to be addressed and mitigated.

"There is today broad consensus among scientists that climate change presents real threat to human flourishing on this planet. The church cannot be indifferent," Miami Archbishop Thomas Wenski said in a prepared statement on the archdiocese website.

Wenski pledged to start an aggressive campaign to promote climate change with speeches, sermons and other events.

"We need to talk about this because this is affecting people," said Nelson Araque, an ambassador at the Catholic Climate Covenant, the church's climate change outreach group.

"Who is suffering the most? The poor people," said Araque, a theology instructor at Cardinal Gibbons High School in Fort Lauderdale.

The encyclical focuses on the detrimental effects of climate change and urges people of all faiths to take responsibility for caring for the Earth. Francis based his assertions on a moral obligation to help the world's poor, who are most affected by climate change.

Florida politicians say the topic will be important in the upcoming presidential election.

"I don't know how big climate change is going to be, but it's definitely going to play a role," said Raul Martinez, former Democratic



(left) and Miami Archbishop Thomas Wenski agree that climate change has become a moral issue.

mayor of Hialeah. "People are interested in jobs, economy, foreign policy and the issue of race in the United States. But I'm sure that there's going to be a lot of discussions with the issue of climate change."

The president of the Miami Young Republicans Club agrees.

"I think any candidate that's going to be positioning himself to win the presidency needs to be aware that there are things happening with the environment," said club leader Jessica Fernandez.

"And instead of us trying to specifically say, 'Company X or Jessica Fernandez is using this much energy and are causing this much pollution,' we have to figure out how to be innovative and have better technology and be more efficient."

The pope's message has gained momentum in Florida thanks in part to Wenski, who started a yearlong trek to generate climate change awareness.

In an interview with NPR's Robert Siegel in June, the archbishop referenced the book of Genesis to stress the impact people have on nature.

"The Lord has entrusted us the Earth," Wenski said. "And he expects us to be good stewards."

Lesley Northup, honors dean and associate professor of religious studies at Florida International University, said Wenski's tour probably would not advance an environmental discussion in any meaningful way.

"He's not likely to come out, for both political reasons and his own intellectual reasons, with any stunning remarks about climate change," Northup said.

The archbishop is largely acting out of professional responsibility, not moral conviction, Northup said.

"The archbishop is a political animal," she said. "In my opinion, he's not a very strong thinker."

Michelle Gonzalez Maldonado, an associate professor of religious studies at the University of Miami, said that religion often has an important impact on politics.

"If you look at both the Democrats and Republicans, they always quote the Hebrew and Christian scriptures," she said. "They often do this in their speeches in very public ways. This becomes a way of appealing to voters that are religious."

But while 2016 Florida Republican presidential candidates—and Roman Catholics—Jeb Bush and Marco Rubio might acknowledge climate change to some degree, Maldonado said they're still out of touch with the pope's message.

She said Republicans' reactions to the pope's upcoming Washington, D.C. address to Congress in September will be interesting. SPEAKING OUT: FIU honors dean and professor Lesley Northup defends the pope against politicians who say climate change is none of his

business.

Photo by Anthony Martinez

"I suspect he's going to have a very strong message for our political leaders, and I think that particularly Catholic Republicans are going to be squirming a little bit and trying to figure out how to handle that," Maldonado said.

Northup added that most Catholics won't appreciate a politician telling the pope to mind his own business.

"This is the pope's business," she said. "It's the business of anybody who cares about other human beings. If anybody's supposed to embody that, it's the pope."

In the end, more supporters mean more campaign dollars and Northup said politicians usually aren't willing to risk either.

"We'll see whether the campaign dollars are enough to overcome invincible ignorance."

The pope, a former chemist, also lays blame on climate change deniers.

"Many of those who possess more resources and economic or political power seem mostly to be concerned with masking the problems," he said in his encyclical.

In any event, Martinez said the topic shouldn't be reduced to petty politics.

"It should not be a party issue," he said. "It should not be Democrat, Republican or Independent issue. It should be a people's issue."



DOWN THE LINE: A recycling sorter separates trash from recyclables.

Photo by

by hand.

"Our recycling facility at Pembroke Pines is one of the largest recycling facilities in the Southeast," Kashar said, noting that the facility processes 50 tons of material an hour, with an output of up to 145,600 tons of material a year.

In 1994, a worker at the Pembroke Pines facility was killed after being run over by a front-end loader. Since then, safety measures have been installed, including a lockout system that allows an employee to lock a machine and keeps anyone else from turning it back on.

Injuries have increased alongside the workload, which can be traced to the increased use of singlestream recycling and the companies themselves, according to the National Council for Occupational Safety and Health.

Since its introduction in the 1990s, single-stream recycling has gained huge traction thanks to its convenience, saving consumers time sorting plastic, glass and paper.

Single stream became the primary recycling method in Florida, as Waste Management, Miami-Dade's primary contractor, switched to the method. Since the implementation of blue bins in 2008, half of Florida now recycles.

Despite more people recycling, fewer materials are recyclable. According to Miami-Dade County's Waste Management Department, sometimes 30 percent of all materials sent to facilities are unworkable.

"People are putting food in any bin and the whole thing must go in the trash because it's contaminated," said Teddy Lhoutellier, sustainability manager for the University of Miami. "If everyone would separate waste, it'd be beautiful."

Some recyclables, tainted by grease or chemicals, don't even make it to the processing lines. Single-stream recycling, according to a 2005 study by the Solid and Hazardous Waste Education Center in Milwaukee, produces 16 times more contaminants than source-separated recycling.

"One of the keys to success with any recyclable program is educating the consumers on the right material to put in the recycling," Kashar said.

"With any recycling program that you go to, contamination is going to be their No. 1 challenge. The way you handle that is through proper education. Recycling is very important for the environment, for the community and for business.

"Recycle often and recycle right."

Sort of a mess

Improper consumer recycling poses dangers to plant workers

BY NATHALIE MAIRENA

Miami Lakes Educational Center

The sorters spend their shifts working in a row, sifting through stained newspapers, greasy pizza boxes and cleaning supply bottles.

"I have seen hypodermic needles inside the trash," said Chuck Stiles, assistant director of the Teamsters Solid Waste Division and Recycling in Washington, D.C., the union representing recycling plant workers.

"People put in hypodermic needles, dead animals, used diapers."

At Waste Management's Reuter **Recycling Facility in Pembroke** Pines, the reek of misplaced garbage permeates the recycling facility, while the constant whir of the machine deafens conversation.

The heat, generated both by the machines and the closed warehouse conditions, causes beads of sweat to drip down workers' faces as they sort through misplaced trash. All of that waste must be thrown out to get to the good stuff that can be recycled: clean

glass, paper and plastic.

Recycling work, according to a Bureau of Labor Statistics 2014 report, is one of the 10 most dangerous jobs in the United States, listed high up with firefighting, police work and logging.

As single-stream recycling, which puts all recyclables into a single bin, becomes more prominent and consumers smudge the line between recyclables and garbage, more workers are at risk of injury and even death.

Of every 100 workers in the recycling industry, 8.5 are injured on the job, according to a 2015 report by the National Council for Occupational Safety and Health. Between 2011 and 2013, 17 workers died.

Misplaced batteries can result in acid burns; broken glass can lead to lacerated hands. Plastic bags, a recycling employee's arch nemesis, can shut down facilities, forcing workers to squeeze between dangerous machinery to uniam them by hand.

As more people recycle in an increasingly green movement, the conditions faced by these workers become more critical.

Injury due to wrongly sorted garbage is common inside these recycling plants. According to the Occupational Safety and Health Administration, these facilities process dangerous chemicals, which can lead to respiratory hazards.

"We get car engines, vertical blinds, fabric, pillows," said Shiraz Kashar, a spokesman at Waste Management Inc., the largest waste management company in North America and operator of two facilities in Florida. "After Christmas, you know what

we get the most? Christmas lights."

Even more prominent within the recycling management industry are issues with worker treatment.

Low pay is not uncommon, with workers receiving an average of \$8 an hour, Stiles said.

Florida produces more than 32million tons of waste each year. Along with moving all that waste, workers must stand in lines, slouched over conveyor belts, separating the waste

Money talks, green walks

Rich conservatives turn their attention to climate change

BY AMANDA PRATS

Monsignor Edward Pace High School

North Carolina entrepreneur Jay Faison, dubbed the "Green Sugar Daddy" of the Republican Party by Vice News, has been making waves in the conservative community.

A proponent of climate change prevention, Faison founded the ClearPath Foundation, an organization focused on educating conservatives about climate change.

Political conservatives historically have had a complicated relationship with climate change. Whether releasing carefully crafted statements that either tiptoe around the subject or outright denying the problem, Republicans and other right-wing politicos have earned a reputation as being apathetic to environmental issues.

It's a reputation that could hurt them as the younger, more environmentally-conscious generation reaches voting age. To win these votes, the Republicans' environmental image is in need of a facelift.

The need for this change is not lost on political activists like Faison, who says he intends to change Republican views on climate change and educate consumers on clean energy.

In August, Faison invested \$165 million to build ClearPath, a 501(c)(3) foundation that aims to "simplify the oftentimes complicated and emotional debate over what to do about climate change," according to its website, www.clearpath.org.

Faison, in a Forbes magazine interview, said he was inspired to create ClearPath after noticing the lack of resources available for educating consumers on environmental issues and climate change in a way that was "respectful to moderates and conservatives."

Recently, Faison made news with his \$500,000 donation to Granite State Solutions, the super PAC that supports New Hampshire Sen. Kelly Ayotte. Ayotte, who has said she



intends to run for reelection in 2016, currently has a reputation as one of the few Republican senators with a voting record somewhat in favor of conservation and environmental protection.

It hasn't always been that way. According to a Huffington Post article, Ayotte previously stated that scientific evidence was not conclusive enough to determine if climate change was a direct result of human activity. Ayotte, though, is not the only Republican to change her position on climate change in recent years.

In 2014, the Yale Project on Climate Change Communication surveyed 726 adults who identified as Republicans or Republican-leaning independents. The study showed that overall, most surveyed believed climate change is happening. They also believe in using clean energy, that the benefits of clean energy outweigh the cost and that there should be a response to climate change.

The study also showed that only one-third of respondents agree with the Republican Party's position on climate change, and fewer than 20 percent believe they had an influence on what elected officials did or thought concerning climate change.

The disparity between these beliefs and GOP leaders' actions is troubling for the party. Faison says he hopes that ClearPath will help to educate policymakers and consumers alike in order to start a dialogue on climate change among conservatives. Faison and his board of directors have other reasons for founding ClearPath, too.

As a 501(c)(3), ClearPath is able to engage in some political lobbying. The organization's leadership comprises businessmen and entrepreneurs with many ties to clean energy enterprises. Several, like Faison, are from the Charlotte, N.C., area. Although these connections may raise questions, many are not bothered by the potential conflict of interest.

Several environmental organizations, such as the National Audubon Society and the Sierra Club are supportive of ClearPath. Jesse Simons, chief of staff for the Sierra Club, said there is nothing wrong with people who have solutions to climate change sharing those solutions.

"They are essentially an antidote to the Koch brothers' Americans For Prosperity," Simons said, noting that ClearPath is helping to make climate change a bipartisan issue.

"I think if I were leading the Republican party, I would urge them to listen to Jay and ClearPath," Simons stated.

Many Republicans have also

expressed their support for ClearPath. Jacqueline Coleman, the director of social activities for the Miami Young Republicans, doesn't see a problem with ClearPath's ties to energy companies.

"Everyone has a financial motive," Coleman said. She said that if its motives help develop clean energy and benefit society, it is fine for someone to make a profit. Not everyone shares Coleman's level of comfort, however.

Isabel Villalon, president of the Greater Miami Young Democrats, considers ClearPath's economic ties a conflict of interest.

"ClearPath will try to fill their pockets and advance their agenda at the cost of the citizen," Villalon said.

ClearPath is not the only organization with the goal of educating a primarily conservative audience. Others, such as RepublicEn and ConservAmerica, use education as their primary method of fighting climate change.

"Education is the way we're going to round up the troops to combat climate change," Coleman said.

"Our generation is very different in the way we do business and see people," she said. "I'm curious to see how we'll change, and I'm optimistic about the people I see in leadership positions."

Red tides on the rise

Warmer waters aid development of poisonous algae blooms

BY KATIE ARMSTRONG

Our Lady of Lourdes Academy

Climate change may be an abstract idea to many South Floridians, but its effects are real for the fishermen who rely on the ocean's bounty.

"The guys on the west coast who fish offshore, the party boats there and charter boats, they're dealing with red tides all the time and all summer, and you can't eat the fish out of it," said Dan Kipnis, a Miami-area fish boat captain and an advocate for climate change awareness.

Warming sea waters — which are linked to climate change — are expected to contribute to more occurrences of red tide, which poses a threat to wildlife living in the ocean and on the Floridian shorelines.

Red tide is the common name for a phenomenon where large amounts of harmful algae blooms develop in the ocean and rapidly reproduce when contacting warmer waters.

The mass of algae can take on a reddish hue, giving the phenomenon its name.

Karenia brevis, often called K. brevis, is responsible for the deaths of many aquatic organisms every year.

"It's naturally occurring in Florida, and it's been happening for hundreds of years," said Kelly Richmond, a spokesperson for the Florida Fish and Wildlife Conservation Commission.

Red tide develops offshore and as it reaches shorelines, the algae feed off man-made nutrients found in pollution and continue to spread, Richmond said.

K. brevis red tide becomes deadly to fish when the algae die and release toxins, said Larry E. Brand, professor of marine biology and ecology at the University of Miami.

"This is a toxin called brevetoxin," Brand said. "It's a neurotoxin, so it screws up the nerves, and eventually it kills them."

Matt Garrett, a marine research



FISHY BUSINESS: Fisherman Dan Kipnis works to raise awareness about climate change, warming waters and red tides.

associate at the Florida Fish and Wildlife Conservation Commission and the Fish and Wildlife Research Institute, knows firsthand how red tide affects fish.

"I immediately recognized a change in the water and then we started seeing dead spotted seatrout, hundreds of them," Garrett said.

"They were actively dying in front of us and we were just kind of picking them up when they were in their last moments of life."

Currently, there does not seem to be a way to eradicate red tide. The algae cannot simply be killed. They must also be removed after death before the toxins they release can escape.

Scientists also are reluctant to put an end to red tide because it is naturally occurring and doing so may have catastrophic results on nature.

Right now, rather than attempting to combat the red tide, scientists are making an effort to monitor blooms

"... we started seeing dead spotted seatrout, hundreds of them."

Matt Garrett marine research associate

and predict when red tide will happen. Scientists create satellite images from data provided by NASA and the National Oceanic and Atmospheric Administration and use these results to determine where water sampling should be performed.

The Florida Fish and Wildlife Conservation Commission also surveys more than 100 areas that are known to be bloom "hot spots" and tests the sediment, sea grasses and animal tissue in those areas for toxins. This allows scientists to forecast red tide days in advance.

Bob Weisberg, distinguished professor of physical oceanography at the University of South Florida's College of Marine Science, has accurately predicted red tide in the past with a new method.

"We've been able to begin predicting red tide almost solely on the part of the ocean circulation," Weisberg said.

Weisberg's team is using ocean currents to peer into the future in an attempt to predict red tide months before it becomes a reality. His goal is to accurately predict red tide and give people time to prepare.

While scientists continue to examine red tide, fishermen already know the most important thing.

"Without oceans, healthy oceans, the land dies," Kipnis said.



SKY'S THE LIMIT: Echo Brickell will have 60 floors and condos selling for tens of millions. It is one of many under way in Miami.

Untenable reality

Unbridled growth tests the balance of sustainability and quality of life

BY HOMAR HERNANDEZ

Hialeah Gardens High School

With sea levels predicted to rise in South Florida, Miami officials are working with developers to address the demands for urban development while protecting the city's future from rising sea levels.

Earlier this year, city of Miami Commissioner Francis Suarez and other city officials created the Sea Level Rise Committee, a program to address the danger of saltwater intrusion.

As part of the program, a \$10 million stormwater pump station

project will expand existing infrastructure to address excessive flooding caused by changes to precipitation patterns and saltwater intrusion.

Saltwater intrusion occurs as sea levels rise. By 2060, South Florida's sea levels could potentially rise 2 to 4 feet.

"Ultimately, it is something that we have to spend a good amount of money on an annual basis just to keep up with the demands that our environment is placing on our city," Suarez said.

The challenge city officials face is finding ways to fund infrastructure improvements like the pump station project. Because Florida does not collect income taxes, Miami relies on property taxes for almost half of its revenue.

Fortunately, the demand for property in Miami is high. The Miami Downtown Development Authority predicts that by 2019 downtown Miami's population will rise to 92,519, up from 80,750 today. Miami's total city population is about 418,000 and nearly 3 million people live in Miami-Dade County.

Much of the demand for residential properties comes from people buying second or third homes in Miami.

RE/MAX real estate agent Wanda Bee said buyers from Central and South America are also investing in real estate because of the currency instability in their home countries. To meet the demand, developers are

making colossal investments.

In the heart of downtown Miami, the largest project currently under development is Brickell City Center. The \$1.05 billion mixed-use development features innovative climate control technology and below sea level parking garages.

City officials support this type of development because it reduces the effect of issues commonly associated with growth like water consumption

"One must keep in mind that development these days is very different."

David Kelly UM economics professor

and traffic. Moreover, the development projects are generating revenue for the city.

Last year, the city of Miami collected \$239 million in property tax dollars, an increase from \$226 million in 2013 and \$216 million in 2012.

With the city of Miami budget at \$583 million this year, officials will continue to pursue development opportunities to generate more property taxes.

But with all the development in Miami, space is becoming scarce.

As a result, various developers have attempted to extend the Urban Development Boundary west toward Everglades National Park. The Urban Development Boundary is a comprehensive map that illustrates where developers are able to develop property.

"We are fairly close to that space limit," said Mahadev Bhat, a professor of natural resource economics at Florida International University. "The fact that the developers are asking for pushing the Urban Development Boundary westward is an indication that we are running out of space."

Although most of the city of Miami is developed, Bhat said the infrastructure could be expanded to fit the demands of pro-growth policies. Property and transportation infrastructure can be redesigned to sustain a higher density of growth in areas already developed.

While Miami's growth may seem contradictory to environmental efforts, the city's Sea Level Rise Committee represents a different approach.

"One must keep in mind that development these days is very different," said David Kelly, an economics professor at the University of Miami. "I don't see a huge conflict between growth/development and conservation in the current development cycle."



ORGANIC SOLUTIONS: Rolando Zedan and wife Carmen worry about the future of their organic ranch.

> Photo by Camille Von Simson

A bushel of woe

Florida growers battle drought and heat from climate change

BY DANIELA MATEU

Hialeah Senior High School

Effects of climate change prove menacing to the future of Florida farms as rising temperatures and irregular water availability threaten cash crops.

Climate change encompasses a number of factors often overlooked by individuals, including temperature extremes, rising sea levels, melting ice in arctic regions, fluctuating weather patterns and decreasing amounts of freshwater. These factors affect regions all over the globe, but are a primary threat to Florida agriculture.

After a 2014 Census report designated Florida as the third most populated state, it became clear that the state was committed to increased expansion.

The increase of residents puts a strain on diminishing natural resources, making sustaining a growing population virtually impossible. The natural resource on the frontline of this situation is freshwater.

Without a stable source of freshwater in Florida, climate change

forces farmers to invest in irrigation systems.

"We use wells to water our trees; it's just not the same as rainwater," said Rolando Zedan, owner of Redland Ranch, an organic fruit ranch in Miami-Dade County.

"The well doesn't reach every leaf. It mostly gets the root system wet which absorbs the water slowly. They grow quicker with the rainwater."

Primary sources of freshwater in Florida are the Everglades, Lake Okeechobee and aquifers, all at risk of becoming brackish upon contact with saltwater from rising sea levels.

"We need freshwater flowing through the Everglades and into Big Cypress and into Florida Bay, and we need it clean and free of human pollution," said Gina Maranto, director of the undergraduate program in ecosystem science and policy and coordinator of the graduate program in environmental science and policy at the University of Miami.

Aside from the threat of dwindling water sources, the area's high temperatures also pose a threat. According to the 2014 National Climate Assessment, the past decade

"We use wells...it's just not the same as rainwater."

Rolando Zedan Redland Ranch owner

has been the warmest on record. Rising temperatures lead to evaporation and water movement within plants, severely dehydrating the plants. While some plant species thrive in warmer temperatures and handle reduced amounts of water well, certain types of native plants would be at risk of dying. The potential growth experienced by populations of invasive species and strains of plants that typically do not grow in this climate would eventually prove detrimental to the pre-existing environment.

Florida is a hub of citrus and sugarcane, among other profitable crops.

According to the Florida Department of Agriculture and Consumer Services, Florida accounts for 65 percent of all citrus production in the United States and ranks seventh in agricultural exports with a value of \$4 billion.

With such revenue emanating from the growth and cultivation of agricultural products, a blow to the availability of these exportable crops translates into economic loss.

Despite the current environmental situation, farmers are finding refuge in organic and sustainable farming. Compared with traditional farming methods, organic farming is meant to reduce the presence of pesticides and certain chemicals found in crops grown conventionally.

"With organic farming, there's no pesticide usage, there's no herbicides, there's nothing used to alter the genetic scope of the produce," said Jenni Williams, communications director at Florida Organic Growers. "Because you're not using those things, there's no runoff when it rains."

Farms certified as organic must be free of pesticides for more than three years and cannot possess any contaminants in order to earn the title, Williams said. Even though sustainable and organic farming methods differ, their objectives often merge as farmers conserve the natural state of soil and avoid soil erosion.

Some grocers have taken up initiatives to ensure the organic properties of their products.

"If there's a label with four numbers that start with a four, that's conventional; if there's a label that starts with an eight and has five numbers, that's a GMO (genetically modified organism)," said Giselle Orentas, health coach and founder of La Vida Organica. "If there's a label that starts with a nine and has five numbers, that's organic."

A variety of local and large-scale markets, like Whole Foods Market and Trader Joe's, have even made it their mission to sell strictly organic food and work only with farmers meeting health guidelines.

"Consumers can help by promoting organic agriculture and promoting sustainable activities, reducing all the gas levels because these are also contributing to climate change," said Krish Jayachandran, associate professor at the Department of Earth and Environment at Florida International University.

"The consumers can definitely help to bring down climate change slowly, and this can take 50 years."

As easy as 1-2-Green

Amid the waste, there are things people can do to conserve resources

BY CAMILLE VON SIMSON

Immaculata La Salle High School

Samantha Nelson approaches going green like many young people; she tries her best to be environmentally conscious by recycling regularly.

But she cannot bring herself to take shorter showers.

"Going green can sometimes be overwhelming," Nelson said, "because the practices seem too difficult to apply to everyday life."

Nelson, a University of Miami student, said she cannot make a difference with such eco-friendly habits because she is only one person. However, there are many simple green practices teens could follow without much thought or effort.

For example, most teens do not realize that recycling a single aluminum saves enough energy to run a television for up to three hours. Despite this, Americans waste enough aluminum to completely rebuild the nation's commercial airline fleet.

In addition, recycling one ton of paper saves 20 trees, and 7,000 gallons of water.

These facts and others are offered by Going Green Today, a company that creates plans to help families become eco-friendly and prevent further damage to fragile ecosystems such as the Everglades.

Chris Nicolaus, 35, has been organizing cleanups in the Everglades since November 2014 and says one reason the Everglades have become endangered is Florida's population growth.

"If nobody picks up the trash that's out there, it will just accumulate and create more damage," Nicolaus said.

One concern for Nicolaus and others is the chemicals from fertilizers and construction sites, and activists like Nicolaus are not alone in their efforts.

South Florida businesses and universities are taking strides to become more green. Sustainable



NOT-SO-SOLID WASTE: A frontloader shovels recycleables at the Waste Management Reuter Recycling facility in Pembroke Pines.

Photo by Samanta Carias

Florida is a business with a holistic approach to demonstrate and promote green practices.

"We don't teach people how to swap a light bulb," said Executive Director Tim Center. "We encourage folks to take an inventory of current practices to prepare a plan for the future to get the numbers even lower."

Similarly, Imaging10, based in Miami Lakes, helps businesses go green by becoming paperless.

"The decision to go green came about when we realized clients were wasting paper because they were making up to three to six copies of each document," said Jacob Russo, company president. "Wasting this amount of paper, which later gets shredded, burned and incinerated, was just creating another environmental issue."

The company now has about 7,500 people working digitally.

"We have no file cabinets in our office," Russo said.

The University of Miami also has adoted green practices. Teddy Lhoutellier is UM's sustainability manager of Green U.

"Green U is the idea of how everybody at UM could make this a place that respects the environment," Lhoutellier said.

FAST FACTS EFFECTS OF CONSERVATION

When you do your part, good things happen. Here are a few recycling facts.

 Recycling one aluminum can saves enough energy to run a TV set for 3 hours or to light a 100-watt bulb for 20 hours

• Recycling one glass bottle saves enough electricity to light a 100-watt bulb for four hours.

• 5 recycled plastic bottles make enough fiberfill to stuff a ski jacket.

• If U.S. readers recycled just 1/10 of their newsprint, we would save the estimated equivalent of about 25 million trees a year

SOURCE: recyclingit.com

From recycling practices, transportation solutions and public awareness, Green U has helped UM become a model of what a green university should look like. One of the first initiatives, begun in 2008, was to prohibit freshmen residents from having a car on campus, thereby reducing the carbon footprint these cars leave behind.

The main source of UM's carbon emissions footprint is electricity. As a result, in the past eight years, the university has invested in green buildings, which are saving energy despite a growing campus.

Florida International University has a sustainability office that also applies green practices within its operations. An annual FIU event is Earth Day, which takes place at the university's nature preserve. The university also offers various green organizations such as The Garden Club, SEA (Students for Environmental Action) and IDEAS (Intellectual Decisions on Environmental Awareness Solutions).

The university also participated in RecycleMania, a competition that encourages students to participate in waste reduction and recycling. According to FIU News, the participants recycled 635,500 pounds of recyclable material and placed second in the state of Florida and 27th in the nation.

As businesses, universities and Floridians implement green practices, communities will see their effects. Nicolaus said that Floridians will take action and address the damage previous generations have left behind.

"We want our kids to go out there when they get older and enjoy the Everglades like we did," Nicolaus said. "I want to make it a better place for future generations."



Katie Armstrong, 17, will be a senior at Our Lady of Lourdes Academy. A member of the photography club, she aspires to pursue an English degree and write novels for a living.

Vivian Bermudez, 17, is a rising senior at Miami Lakes Educational Center. She is a layout design enthusiast and the editor-in-chief of her high school yearbook. She wants to become a marketing executive at The Walt Disney Co. She hopes to attend Emory University or Barnard College.





Phillip Bootsma, 17, will be a senior at Christopher Columbus High School. He is a member of CCNN Live, his school's news network. He hopes to film news packages, edit broadcast news stories and short commercials.

Samanta Carias, 18, will be a senior at Hialeah Senior High School. She is the vice president of the National Honor Society and president of SECME, a school club focusing on science, technology, engineering and mathematics. She is the design editor of her school's newspaper, The Record, and hopes to minor in journalism.





Alissandra Enriquez, 16, will be a senior at South Dade Senior High School. She has a passion for travel and a knack for photography. She hopes to become an executive producer for a major television network.

Homar Hernandez, 17, will be a senior at Hialeah Gardens High School. An avid sports writer, he plans to attend a university in Florida and major in broadcast journalism.





Andrea Jensen, 17, will be a senior at Miami Country Day School. She is the president of the National Art Honor Society and art editor of the Amused Literary magazine. She's a freelance photographer during her free time. She hopes to live in a big city during her undergraduate years and to find a fulfilling career in journalism.

Krizia Ketchum, 17, will be a senior at Saint Brendan High School. She aspires to be a speech therapist. She is the editor for her school's yearbook and a content producer for BTV.





Nathalie Mairena, 17, will be a senior at Miami Lakes Educational Center. She is the managing editor of the school newspaper, The Harbinger. She aspires to be a creative writing professor.

Anthony Martinez, 16, will be a junior at Christopher Columbus High School. He is the online editor of CCNN Live. He aims to complete his Eagle Scout Service Project this fall and hopes to study computer science in college.





Daniela Mateu, 17, will be a senior at Hialeah Senior High School. She is the editor-in-chief of the school newspaper, The Record. She is the student body president, president of the National Honor Society and Science, Engineering, Communication, Mathematics and Enrichment (SECME) treasurer. She'd like to become an economic analyst or a journalist.

Samantha Moffett, 17, will be a senior at South Dade Senior High School. She is part of the TV production program, where she anchors and helps produce the morning show, Riptide. She hopes to become a war correspondent for a major news outlet.





David Perez, 16, will be a senior at Christopher Columbus High School. He is the president of CCNN Live and hopes to attend the University of Miami to follow his dream of becoming a sports journalist.

Fabuola Pierre, 17, will be a senior at Miami Senior High School. She is the vice president of the upcoming senior class and plans on pursuing a bachelor's in political science with a minor in communications at Florida State University.





Amanda Prats, 16, will be a senior at Monsignor Edward Pace High School. She is the editor-in-chief of her school's yearbook, Torch, and is the Thespian Club's historian. She plays the piano, guitar and ukulele and hopes to pursue a career in journalism.

Daniel Saiz, 16, will be a senior at Miami Lakes Educational Center. He manages staff blogs for his school's newspaper, The Harbinger, and is a member of the debate club. He plans to study English at Middlebury College.





Ciro Salcedo, 17, will be a senior at Felix Varela Senior High School. He is the editor-in-chief of his high school's newspaper, The Viper Vibe, and is a major film buff. He hopes to become a screenwriter or English professor.

Dayany Sotolongo, 17, will be a senior at Sports Leadership and Management Charter High School, (SLAM). She was the Student Government president for the 2014-2015 school year. She plans on majoring in business with a minor in television and radio.





Camille Von Simson, 17, will be a senior at LaSalle High School. She is part of the Quill and Scroll Honor Society and plans on majoring in communications on her way to becoming creative director for a fashion magazine.

Maile Wobb, 16, will be a junior at West Broward High School. She is the news editor for her school's newspaper, The Lynx, and plays for the school's flag football team. She wants to pursue a career in journalism, science and engineering.



Changing climate

Workshop students explore the effects of climate change and sea level rise

BY CIRO SALCEDO

Felix Varela Senior High School

The high school students came looking to better their understanding of journalism, but they found they had the opportunity to change much more than that.

Aspiring journalists from the Miami area recently worked to bring attention to climate change at the University of Miami's Peace Sullivan/ James Ansin High School Workshop in Journalism and New Media.

"I think this theme is the most important one imaginable," said Sam Terilli, co-director of the program. "The whole question of climate change, particularly in South Florida, and what we can do to try and improve the odds of humanity's survival are very important questions. The days of being able to deny that the climate is changing and that the Earth is warming are over."

From July 5 to July 25, the 20 students honed their skills at reporting and writing news. They worked hands-on in print, photography and video projects, culminating in a printed publication, Miami Montage, and a website showcasing their work.

The workshop is sponsored by Sullivan, a retired journalist and psychologist, and Ansin, general manager at WSVN-Channel 7.

Alongside students, writing coach and former workshop director Tsitsi D. Wakhisi learned more about climate change through the workshop.

"I wasn't a climate change denier, but I never jumped on any bandwagon until (co-director) Fred Blevens brought this theme to the program," she said. "And I'm glad he did because I learned so much.'

Articles ranged from the problems future generations face to the research being done to prevent global warming from worsening. Students also learned skills such as video editing on



SHOOTING WILDLIFE: Workshop students train lenses on a bale of turtles in Everglades National Park.

different software and interviewing for articles and multimedia reporting.

"It's a topic that will affect our generation in the future," said David Perez, a rising senior at Christopher Columbus High School. "But it is not talked about as much as it should be."

Sports Leadership and Management Charter High School rising senior Dayany Sotolongo said that she learned a lot from reporting this topic.

"I'm enjoying the theme a lot, and I am gaining a lot of knowledge," she said. "My article was about conservation efforts in education, and I learned about the ways we could prevent the potential events of global warming."

A team of counselors made up of journalism professionals and former workshop graduates assisted the students with their work from the brainstorming stages to the final

products.

John Stoltenborg, Montage graduate and Santa Fe College student, said that working with the students made him nostalgic.

"Walking through the Hecht halls for the first time made me think, 'Man, I was here five years ago," he said. "And it all looks the same."

Along with the memories, Stoltenborg enjoyed being a mentor to the students.

"It feels great helping them out. Just being that person who taught me was great. I want to be a role model to these kids like the past teachers I had were to me."

Workshop graduates have gone to top journalism schools across the country, such as the University of Missouri, Syracuse University, Northwestern University and the University of Miami. Additionally, they have worked for major news

outlets such as the New York Post, The New York Times, the Miami Herald and the Miami New Times.

Rising senior Amanda Prats from Monsignor Edward Pace High School said that the program gave her experience for her future and taught her to remain persistent when trying to reach goals. Prats intends to take these lessons back to her high school.

"Don't give up so easily, and don't take no for an answer," she said.

After more than 32 years, the program has gone through many changes, but the major lessons to becoming an effective journalist remain the same, according to Wakhisi.

"Read a lot," she said. "Try to find ways to stay involved with your high school and continue that on into college. Stay current with the technological trends since they're always changing."



MAKING NEWS: Workshop students learn the routines of real journalism in the field and in UM's media labs.



TOO MUCH TO LOSE: Montage photographers captured a small sample of the wildlife that struggle with the effects of climate change in Everglades National Park.