The following is an adaptation from a speech presented at University of the Cumberlands on February 8, 2011 in the Phi Alpha Theta history honor society lecture series. The lecture was largely from his book The Forces of Nature in which all documentation may be found for this article.

The Galveston Hurricane of 1900

In late August 2005, Hurricane Katrina gathered strength in the Gulf of Mexico. In a brief passage over southern Florida, fourteen people were killed. By August 28th, the storm strengthened to category 5, the strongest rating in the Saffir-Simpson Hurricane Scale. At its peak, the storm produced maximum sustained winds of 175 mph.

When the hurricane struck southern Louisiana on August 29th, it had lost some of its power but was still a formidable category 3 storm with constant winds of 125 miles per hour. Katrina caused tides to rise and surge inland, ten to fifteen feet above their normal levels. The city of New Orleans survived the onslaught of the storm surge, but it could not sustain itself against the rising water table underneath, behind, and in front of the levees that protected the city.

New Orleans sits in a basin; the city is several feet below sea level in some places. The water table rests right at the surface of the ground under dry conditions. So imagine what happens when, just north of New Orleans in the Mississippi River Valley, some twelve...
inches of precipitation fall in just a matter of two or three days. That is what destroyed the levees in the city—it was not the storm surge. It was the effect of Lake Pontchartrain behind it, in the north, the Mississippi River to the east, and the Gulf of Mexico to the south, and the water table underneath the city that rose up and caused the levees to literally dissolve from within.

Hurricane Katrina was a costly storm: 1200 lives lost, with most of those deaths occurring in Louisiana and damages estimated at $81 billion dollars. Hurricanes strike with more frequency in some parts of the world than in others. Louisiana, and the Gulf of Mexico on which the state is situated, are located in “Hurricane Alley,” a part of the world that is particularly vulnerable to hurricane devastation. The most vulnerable locations are the eastern shores of North America (including the Gulf of Mexico), the Bay of Bengal on the Indian Ocean, and the coastal waters of Southeast Asia, including the South China Sea. Consequently, states located along the Gulf of Mexico are the most likely victims of hurricanes in the United States. But the hurricane destruction visited on the Gulf Coast states pales in comparison to the human fatalities suffered by the countries that surround the Bay of Bengal, including Bangladesh, India, and Myanmar.

While Katrina proved devastating to populations living in the Gulf Coast states, the death toll suffered by countries situated along the shores of the Indian Ocean’s Bay of Bengal has been considerably larger. More than a quarter million people lost their lives in a single cyclone (hurricanes are called “cyclones” in the Indian Ocean) that struck Bangladesh on November 13, 1970. In 1991, another hurricane killed 138,000 Bangladeshis. On October 29, 1999, nearly 10,000 Indians died in a cyclone. Across the Bay of Bengal on May 5, 2008, a killer cyclone named Nargis made landfall in Myanmar. In its wake, some 78,000 people were dead, and thousands more missing. In each of these cyclones, storm surges and flooding were the primary causes of death.

Hurricane Katrina was indeed a national disaster of the first order, but it was by no means the country’s most costly in terms of human life. The most lethal natural event in American history was the hurricane that struck Galveston, Texas on September 8, 1900.

The city of Galveston in 1900 was a southern center of fishing and shipping. Located on a barrier island, 45 steamship lines connected Galveston to the outside world, including the White Star Line that would later become famous as the owner of the “unsinkable” Titanic. The town was wealthy enough to have electric street cars, telephones, electricity in homes and businesses (some 33 years before the Tennessee Valley Authority was formed), three big concert halls, and 20 hotels, including the richly appointed Tremont.

The US Weather Bureau operated an observation station on the island, managed by Isaac Cline. This self-trained meteorologist and his family, including his younger brother Joseph, made up part of the population that the recently conducted census showed was just over 29,000 people.

In early September, the wide expanse of relatively shallow water in the Gulf had been

"Every morning my faith is restored when I see the clean cut, mannerly, hard working, mountain students walk with purpose, with head held high, body erect and with pleasant smiles on their faces."

President Jim Taylor

Residents search for remains in the ruins of the Galveston Hurricane, 1900
bombarded by sunlight for a number of days as a stationary high pressure center settled in over the northern Gulf area, the Gulf States, the Midwest, and the eastern seaboard. The oppressive mass of stationary air stretched far out into the Atlantic. Clear skies permitted sun light to super heat the Atlantic and the Gulf.

At 11:30 am on Friday, September 7, the Weather Bureau in Washington, D.C., notified its observers in Louisiana and Texas that a tropical storm was located south of Louisiana and was slowly moving northwest. The forecast included in the telegram Cline received predicted “high northerly winds tonight and Saturday [the 8th] with probably heavy rain.”

On the morning of September 8, however, the bustling little city and its optimistic residents were in jeopardy from a force of nature that few of them could have imagined. In the hours before daylight on September 8, Isaac Cline and his brother, Joseph, who also worked for the US Weather Bureau, were awakened and troubled by the thudding sounds they heard through their open windows. They lived about eight blocks from the ocean; they normally did not hear the tranquil waves of the Gulf of Mexico lapping up on the shores, but this night was different. Thudding, crashing, destructive sounding waves were slamming into the sand just a little ways south of them.

Concerned about the crashing sounds, Cline rose from bed hours before day break and walked the few blocks to the beach. He observed large waves and a higher than normal tide. He also observed a strong north wind coming from behind him as he looked out over the water.

Cline then went straight to his downtown office and checked the station's weather instruments. Despite his “feeling” that something was terribly wrong, he decided that the evidence did not suggest a hurricane. In reality, the north wind that he felt should have told him that there was a powerful low pressure center forming over the Gulf of Mexico. It was literally “sucking air” in from Texas as well as from other parts of the overheated Gulf of Mexico.

As the morning wore on, hundreds of people came down to see the breakers. Children and adults enjoyed the cooler north wind while playing in the increasingly large waves. Intermittent blue sky and orange-hued clouds reigned overhead.

One observer of the morning’s activities at the beach was Walter W. Davis of Scranton, Pennsylvania. He was in Galveston on business and, as a resident of a landlocked state, he was not accustomed to seeing the ocean. When he heard people in his hotel talking about the huge breakers that were slamming into the beach, he decided to take a look. He recalled, “the sight was grand at the time. I watched the waves wash out and break all of the shell houses, theaters, and lunch rooms, until I saw the waves were coming too close for comfort.”

Even though the hurricane was sending forth plenty of warnings, Davis walked to his hotel through water-choked streets, often knee high, ate lunch in the hotel’s dining room, and then gave into his curiosity by leaving the inn and venturing to the bay side of the island. He stood
on a high sidewalk and gazed in amazement as water from the bay invaded the streets before and behind him. He noted that he could see the water rising and shortly he “became nervous” when the water careened over the sidewalk and washed over his feet. He did not know it, but he and the population of Galveston were witnessing storm surge, and the eye wall of the hurricane was still dozens of miles out to sea.

Even at half past noon, there still were no hurricane warnings. In his report to the Weather Bureau on September 23, Isaac Cline stated that the storm warning that had been issued by Washington was sufficient and that precautions to warn people had been taken. He claimed that the warnings he issued saved thousands of lives. However, the strength of his warning and his actions raised questions about the depth of his concern. As he reported to the Weather Bureau:

Storm warnings were timely and received a wide distribution not only in Galveston but throughout the coast region. Warning messages were posted. The high tide on the morning of the 8th, with storm warning flying, made it necessary to keep one man constantly at the telephone giving out information. Hundreds of people who could not reach us by telephone came to the Weather Bureau office seeking advice. I went down on Strand Street and advised some wholesale commission merchants who had perishable goods on their floors to place them 3 feet above the floor.

Those warnings, however, were not nearly enough to save the city’s residents from the unnamed hurricane’s wrath.

Throughout most of the day and early evening, Cline or his staff recorded barometric pressure as well as wind speed and direction. Their record keeping in the midst of an emerging massive hurricane shows that they believed they were relatively safe.

In his report, Cline recalled that he went to work at 5:00 AM and throughout the morning made several trips between his office and the beach. Torrential rain began falling at noon. He was concerned because upon his first visit to the beach that morning he noted that heavy swells, which were occurring at high tide, were overflowing the low places in the southern portion of the city.

Despite his apprehension, his instruments did not tell him that a hurricane was developing. His reluctance to accept the fact that a hurricane was heading full force for his low-lying island was reinforced by other less-reliable assumptions: “The usual signs which herald the approach of hurricanes were not present in this case. The brick-dust sky was not in evidence to the smallest degree. “ Furthermore, he did not observe any nimbus clouds until after noon: “Broken stratus and strato-cumulus clouds predominated during the early forenoon of the 8th, with the blue sky visible here and there. Showery weather commenced at 8:45 a.m., but dense clouds and heavy rain were not in evidence until about noon, after which dense clouds with rain prevailed.” It was at about this time that Walter W. Davis had watched rising water from the bay.

While Isaac went home for lunch at 3:30 PM, Joseph stayed at the office to send an update describing the flooding conditions to Washington. He discovered that the city’s telegraph wires were down and that only one telephone line connecting the island to the outside world was working.
Joseph was eventually able to make a call to Houston and gave officials there this report: “Gulf rising, water covers streets of about half city.” That was the last report filed until after the storm subsided.

Winds reached hurricane force by 5:00 PM. The highest wind speed recorded that day was 100 mph at 6:15 PM, but, according to Cline, the anemometer, (wind gauge), blew away at that time. Given the fact that the eye wall did not make landfall until after 8:00 PM and that Cline described the wind after its passage to be of “greater fury than before,” wind velocity at the storm’s peak was probably in excess of 150 mph.

That Cline and anyone else for that matter survived a direct hit from a Category 4 or Category 5 storm is astonishing. Having a well-built, multistory home located a few blocks from the beach at an elevation of 5.2 feet above sea level—just two feet short of the highest elevation on the 30 mile-long island—Cline believed that he and his family were safe in it, and so did several dozen of his neighbors.

When Cline arrived home for lunch at 3:30, he found that the water around his house was already waist deep. By 8:00 PM, forty to fifty of his neighbors had taken refuge in his house. Just before debris (or tornado) knocked the sturdy house from its foundation at 8:30, Cline noted that water was fifteen feet deep at his residence, making a storm surge of just over twenty feet. Of the fifty or sixty people who went down into the black torrent, eighteen survived. Among those who perished was Cline’s wife.

When the house collapsed into the rising tide, Cline was able to find his children and his brother. Together with several others, they climbed aboard a pile of floating debris, clung for their lives, and were pushed out to sea by waves and then washed back toward shore. Three hours later they landed on someone’s home. They were 300 yards from where their house once stood. By 8:00 AM on Sunday morning, the wind was blowing from the south at 20 mph, but more importantly, the water had receded.

Of the city’s population of 29,000 people, the homes of 20,000 were destroyed, according to Cline’s report. At least 8,000 lives were lost.

Isaac Cline concluded his report of September 23, 1900, with a comment that the high death toll was the result of waves. He further argued that more lives would have been saved had there been a sea wall built in the Gulf. In the wake of the storm such a structure was constructed. In the final analysis of the Galveston storm of September 8, 1900, it is doubtful that a sea wall would have protected the city. Walter Davis’s description of bayside flooding shows that the island, which in effect was a sea wall for the bay, could not stop the water from rising.

Residents stand among the ruins of the Galveston Hurricane, 1900

Given our penchant for living near large water bodies and our confidence in technology to overcome nature’s forces, human populations will increase in places like New Orleans and Galveston. While developers can build homes and businesses out of wind resistant materials and even place them on stilts, there are still uncontrollable factors that make it nearly impossible to make low-lying, coastal settlement in the Gulf completely safe.

At the risk of sounding like an alarmist, it is nevertheless important to state that at some unknown time in the future, a storm will develop over the north equatorial current. Atmospheric conditions will empower the storm to strengthen and move over the Gulf of Mexico or the Atlantic shoreline following the Gulf Stream. It will be a category 5, and it will be a killer.
Appalachia is a world unto itself. It is a place of great beauty and promise, yet at the same time a place of significant need. What can a few college students do to help alleviate some of the hurt that has accumulated for decades in this region? Truthfully, not much on their own accord, yet when they act as God’s Hands and Feet great things can be accomplished. Mountain Outreach (MO) is a student led construction ministry that has built 138 homes for the local community in the last 30 years. Additionally, they have completed thousands of projects that typically include wheelchair ramps, decks and stairs, and new roofs. This is a ministry that provides for the physical needs of many, but more importantly nourishes spiritual hunger. It helps to restore dignity and gives families a fresh start at life.

The students who comprise the Mountain Outreach team live out the mission statement of the University of the Cumberlands which speaks of serving the under-served. Each spring, a group of over thirty students give up their Spring Break week to swing a hammer in order to help their fellow man. This is a very different Spring Break experience than the typical college student partakes in around the county. The common perception of a Spring Break celebrates all that is wrong with America—an overindulgence in selfish behaviors. The MO Spring Break is in fact just the opposite, it is a time to learn to be selfless and put others around you ahead of your personal goals and desires. Talk about a clash of cultures; whereas the typical spring-breaker is partying late into the night on a distant warm and sandy beach, the MO spring-breaker awakes at 6:00 A.M. to head out and work in the cold and rain for someone they don’t even know.

These spring mission trips have taken Cumberlands’ students to the epicenters of the many natural disasters that have occurred in the South. Even when lending a hand at cleaning up and building at these large scale disaster sites where there are many people helping, the student volunteers for MO likely stand out like a sore thumb. They are not there expecting to be paid, they are there with the expectation of giving. Moreover, the demographics of our spring break mission teams typically have more female than male participation, which one might not expect from a construction ministry. On more than one occasion, our MO teams have had members of the community approach them at a worksite and tell them they had no idea that ‘a bunch of young men and women’ could replace a roof or run major power tools. Of course, the sight of a group of college students giving of themselves has the greatest impact on the family receiving the help. Not only are their lives physically impacted, the great witness of these students often restores people’s confidence in humanity. That may seem like an overly bold statement, but it must be seen in light of the boldness with which these students serve as God’s Hands and Feet and the fact that lives are changed. All too often our world is saturated with an image of a younger generation that is disconnected with the needs and demands of life. The laughter and encouraging words shared on MO mission sites are a testament to how UC students are different than the typical college student. Moreover, the Mountain Outreach Spring Break trip is just one of the many ways in which to see the University of the Cumberlands as not your typical liberal arts college.
You can remember Cumberlands in your will or trust, or you might want to create a charitable gift annuity to provide you with a lifetime income as you assist deserving students.

With charitable gift annuities:
- The rates are significantly greater than bond rates and certificates of deposits.
- Annuity payments are fixed and based on the age(s) of the annuitant(s).
- Annuity payments are extremely favorably taxed.
- The donor is entitled to an income tax charitable contribution deduction.
- Appreciated securities given to Cumberlands for a charitable gift annuity are valued on the date of the gift; capital gains taxes are not immediately due as they are when securities are sold by the donor.
- A gift annuity is the simplest of all split-interest planned gifts.

A Charitable Gift Annuity will not only provide you a fixed income, guaranteed for life, but also will create a significant legacy here at University of the Cumberlands.

University of the Cumberlands offers numerous planned giving vehicles guaranteeing income for the remainder of life. Some have established trusts and deferred gift annuities naming a loved one as the income beneficiary. With the low payout rates currently on certificates of deposit (CDs) and the volatility of the stock market, deferred gift annuities are becoming extremely popular for young adults who will not be retiring any time soon but want to plan and secure a steady, fixed income that will begin when they retire. For instance, a 45-year-old can defer a gift annuity for 15 years and receive income at a rate of 6.67% percent for life. The charitable gift tax deduction would be immediate (during working years when your tax bracket is higher) and the income would not begin until you are 60. As with regular gift annuities, the entire amount of the annuity would be backed by all of the University’s assets.

If you are considering the establishment of a Charitable Gift Annuity to provide life-long income for yourself and vital support for University of the Cumberlands, please contact Jim Taylor at presoff@ucumberlands.edu.

Remember, as a financial supporter of Cumberlands, you are encouraging today’s students as you also demonstrate your continuing commitment to the University’s mission to educate individuals for lives of responsible service and leadership.
The lovely mountains that surround University of the Cumberlands are beginning to come alive and renew their buds and blooms; it’s encouraging to know that spring is here. The students involved with our Mountain Outreach program are already looking ahead to the summer.

Currently our Mountain Outreach students are not only completing their coursework to finish another semester but are also making preparations for the Mountain Outreach program’s summer projects. They are scheduled to build three homes as well as complete around forty to fifty other repair projects such as constructing wheelchair ramps, patching roofs, building porches and doing other worthwhile projects for families and individuals in the mountains of Eastern Kentucky who, for physical or financial reasons, need help to make their homes safer and more comfortable. But the number of summer projects that will be completed depends upon the financial resources.

Every project that our students complete through the Mountain Outreach program depends upon the kindness and generosity of friends who help provide the resources necessary for the program’s success.

Can you help?