

Student Conference for Research and Creative Arts

[UHCL Students Tab](#) > [Student Conference Home](#)

2014 eAbstracts

The following eAbstracts presentations are available:

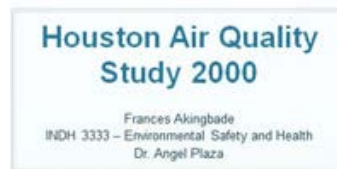
- Faculty Sponsor: Dr. Angel Plaza, 26 entries
[INDH 3333 - Environmental Safety & Health, 1-20](#)
[INDH 3333 - Environmental Safety & Health, Continued](#)
- Faculty Sponsor: Dr. Magdy Akladios, 4 entries
[INDH 5336 - Safety, Health, & Environmental Issues](#)

Date Updated: 09-Apr-2014

INDH 3333 - Environmental Safety & Health, 1-20

1. **Houston Air Quality Study 2000**

by Frances Akingbade



In August and September of 2000, a national team of researchers undertook the largest air quality study ever done in the State of Texas. The study was designed to improve understanding of the factors that controlled the formation and transportation of air pollutants along the Gulf Coast of southeastern Texas.

The plans called for 6 weeks of intensive sampling; measurements of gaseous, particulate, and hazardous air pollutants were made at approximately 20 ground stations, located throughout the eastern half of the state. Additional sampling was carried out with specially equipped aircraft that can detect air pollutants very quickly, at very low concentrations. Experts in meteorology, atmospheric chemistry, and other areas of science studied the formation, composition, and day-night cycles of ozone and

particulate matter, as well as how these pollutants are affected by weather. The large area covered by this study also made it possible to examine long-range transport of air pollutants. Up to 250 researchers were involved in the busiest stage of the project. Results of this study were assembled into computer models for assessing the health effects of pollution and developing effective strategies to meet National Ambient Air Quality Standards. The Houston area was designated a particulate matter "supersite" by the U. S. Environmental Protection Agency (EPA).

2. **Restoring Wetlands**

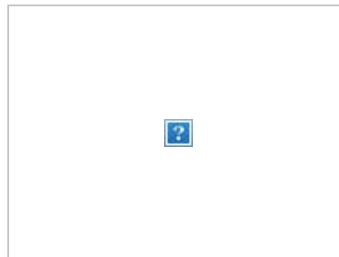
by Kamie Briner and Michelle Shipp



Wetlands are a vital yet often unnoticed component to our planet and ecosystems. The Clean Air Act gave light to conservation programs and awareness of wetlands. Yet many don't understand the benefits of wetland conservation and restoration. We would like to determine the benefits of wetland restoration programs as well as possible methods of conservation and restoration. A growing number of wetlands will positively affect us all.

3. **Promoting Sustainability Through the Use of Green Chemistry**

by Meagan Buchanan



With the population ever expanding, green chemistry is essential for sustaining the environment as our standard of living continues to rise. If we want our environment to thrive, we must meet global challenges head on. Green chemistry allows us to do just this by implementing chemical products and processes that reduce and/or eliminate hazardous chemicals from being

used or generated in the first place. This report should demonstrate awareness and hopefully get more people from all backgrounds involved in the sustainability process through green chemistry.

4. **Ototoxicity: An Invisible Hazard**

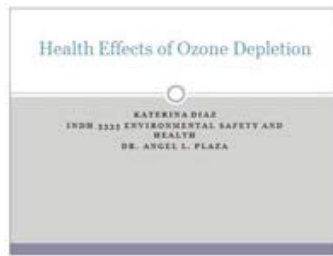
by Arietza Contreras and Aranza Contreras



The purpose of the study is to focus on ototoxicity in the workplace, an uncommon safety hazard that targets the auditory system and is physically undetectable. High hazardous chemicals, environmental producing chemicals, prescriptions drugs and over-the-counter medication and high noise levels have ototoxic potential. There hasn't been made enough testing and research about a particular drug causing ototoxicity because it usually takes a vast amount of time and follow up from researchers. Ototoxic results are usually discovered after enough people has suffered and is when scientist are able to find a connection between a specific substance and the environment an individual was exposed to (noise wise). According to the Center for Disease Control and Prevention "four million workers in the United States are exposed to damaging noise every day; ten million people in the United Sates have a noise-related hearing loss condition and twenty million are exposed to potentially damaging noise each year". Research regarding ototoxic agents has grown since 2008. Workers are still not aware of ototoxic as a hazard as they are of the importance of personal protective equipment. NIOSH and OSHA have developed standards to detect ototoxic levels, create awareness of the hazard, keep workers safe even when is imperative to work in conditions that demand the use of noise and chemicals. The best method to prevent hearing loss from ototoxic agents is to comply with the safety regulations created for the workers. The study will give an insight of the regulations developed to avoid ototoxicity in the work place and the testing that has to be conducted to work in a safe environment.

5. **Health Effects of Ozone Depletion**

by Katerina Diaz



In my paper, I will discuss the dangers of ozone depletion, focusing on the effect it has on human health. I will cover various diseases and why ozone depletion causes them. I will also discuss preventative measures to reduce the risk of damaging human health.

6. **Indoor Formaldehyde and Exposure**

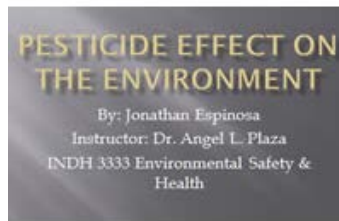
by Brittney Druckenbrodt and Juan Hernandez



Formaldehyde is becoming a top rated indoor air pollutant. According to the Environmental Protection Agency (EPA), formaldehyde is one of 188 hazardous air pollutants and is regulated for many manufactured products. It is used predominantly as a chemical intermediate in industrial processes and also in the manufacturing of construction materials such as plywood, carpets, and particle board. The health effects from exposure to formaldehyde are generally limited to the respiratory tract and have been scientifically linked to nasal/pharyngeal cancer. Removing formaldehyde sources from homes and sealing wood products can reduce the formaldehyde emissions indoors.

7. **Pesticide Effect on the Environment**

by Jonathan Espinosa



The purpose of this research is to identify the health risks of pesticides, and to improve the prevention of these health effects through education and acknowledgement from health providers, government agencies, and the pesticide companies. Pesticides include a wide range of chemicals that prevent or destroy pests, but consequently may harm humans and their environment. Pesticides are often found in many household products, products for the maintenance and preservation of green areas, and are often used indoors and outdoors when needed. The Houston region in particular has a per capita use of pesticides that are higher than that of most metropolitan areas. Houston's strong background in health care, and their strong environmental initiatives, makes the proper control and management of pesticides a priority to improve its residents well being and the environments preservation for current and future residents.

8. **Pollution Prevention in the Houston Ship Channel**

by John Galvan



A multitude of ships dock in the Houston Ship Channel every day, and with them, engines burning a fuel that is several hundred times dirtier than diesel. The pollutants from these ships fall throughout the surrounding mainland for miles and can cause severe respiratory health problems, including cancer, to humans. Presently, measures have been taken to make emissions safer by having ships switch to cleaner fuels. Future prevention will consist of regulating sulfur oxides, nitrous oxides, particles, greenhouse gas emissions and ballast water management. The future of ship design and structure will also be vital in making cleaner, energy efficient vessels that will be able to comply with new standards.

9. **Pharmaceuticals in Wastewater Treatment Plants**

by Brianna Garney



I would like to write my term project about pharmaceuticals in treated wastewater. Pharmaceuticals being discharged in treated wastewater to streams, rivers, lakes and the oceans are becoming a silent but deadly pollutant. Pharmaceuticals such as birth control are effecting the local wildlife such as fish and causing them to be sterile or to become hermaphrodites. Wastewater treatment plants are designed to treat BOD, ammonia, nitrogen, fecal matter, remove suspended solids but they are not designed to remove pharmaceuticals. There has been a lot of recent research and studies showing that fish and frogs are starting to mutate into hermaphrodites from the abundance of birth control being found in these bodies of water. Studies have been ran on pharmaceuticals such as Prozac and how the effects on fish disrupt their reproductive cycles. There are not many identified methods of treatment to remove these pharmaceuticals so far there are SBR plants and wetland treatment plants. One wetland treatment plant of interest is by Syracuse, NY. I hope to find more options for removal of these pharmaceuticals and some regulations in the works to begin regulating these pollutants.

10. **Fukushima: The Meltdown - A Study in Safety**

by Jose Garza, Edward Morales, Raul Rogel



On March 11, 2011, an earthquake assaulted the country of Japan that rated a 9 on the moment magnitude scale. This massive quake's epicenter was located 81 miles off the coast of Sendai, Japan, and created a tsunami off the Northeastern coast. This tsunami's massive size flooded over 200 square

miles of the country and took an estimated 15,000 human lives not accounting for the over 2,000 missing. The damage wasn't simply the taking of lives but also devastated much of the country's economy and infrastructure including one of their major energy production sources. One such casualty was the Fukushima Daiichi Nuclear Power Plant. A chain events lead to one of the nation's worst industrial disasters and considered a worldwide threat not seen since the 1986 Chernobyl accident. Experts and independent panels have concluded that some if not all of the blame can be pinned on negligence by the owners, regulating office, and government not taking proper precautions beforehand to prevent the disaster. Our team proposes to look at the safety protocols and guidelines that were instituted by the owner, Tokyo Electrical Power Company (TEPCO), safety parameters and standards set forth by the Japanese government, and what type of regulations were and were not followed. We also plan to discuss what precautions were set before the building of the plant, such as structural integrity requirements, knowing that Japan lies within an earthquake zone. We'll review what remedies have taken place since the accident, any additional issues that have occurred since the initial meltdown and what adjustments are occurring to resolve the ongoing issues. We plan to discuss the overall damage done to the environment, surrounding community, nation, and the Earth as a whole in respect to radioactive releases. We'll examine what are normal "healthy" levels associated with living near a nuclear power plant and what those levels are currently reading due to the accident. Reviewing the long-term impacts of the radioactive releases that occurred to the surrounding population and what long-term studies are taking place in regards to protecting the health of the residents and environmental safety. We'll then conclude the paper with what actions are taking place at this facility to prevent future incidents, and what new remedies or technologies conceived in the cleanup process that are being used at other facilities to prevent disasters such as this incident from occurring.

11.

Environmental Cleanup in the Pacific

by Ubaldo Gongora, Jeannette Cruz, Sophie Mendiola



The Great Pacific Garbage Patch is a giant vortex of trash, which is located in North Pacific Gyre Current. The spectrum of the contents found here can consist of industrial manufacturing products to common house hold items. This "garbage" ranges anywhere from water bottles and plastic bags to the degradation of microscopic plastics. The separation of this material can also

produces many by-products which take affect in the environment. Some of these include but not limited to; benzene, butadiene, styrene and di-z-ethylhexyl phthalate. These chemicals have shown to affect the growth and reproduction of aquatic fauna. It is found that interacting with this garbage patch would also produce a hazardous environment for humans. During varies phases of this project certain PPE is needed to ensure proper safety. By recycling, filtrating and ensuring proper PPE guidelines, we can address an ever growing international problem that has impacted the aquatic life.

12. **Hazardous Waste Disposal Systems: Incineration**

Technologies

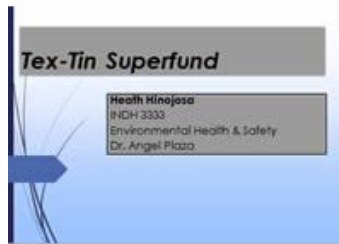
by Jessica Gruetzmacher, Kim Hailey Lane, Morgan Mitchell



In recent years knowledge regarding sustainable, more commonly known as “green”, technologies and processes has grown substantially and brought awareness to the preservation of our planet. The disposal of hazardous waste has not previously been considered a sustainable process but new technologies are emerging. Incineration technology is an up and coming waste disposal system for liquid and solid hazardous waste that prevents the burial of waste in landfills and contamination our soil. As with any other process, this technology does not come without its share of concerns. Hazardous emissions are off-gassed when hazardous waste is incinerated causing the need for regulatory legislation. Increasing legislation concerning incineration machinery, its maintenance, and its requirements along with the expansion of incinerable materials would allow for the betterment of this blooming technology.

13. **Tex-Tin Superfund**

by Heath Hinojosa



The Tex-Tin site is located in Texas City and La Marque, Galveston County, Texas. This site was developed into a tin smelting facility during World War II. The hazardous condition of the Tex-Tin site became a concern and after assessment was added to the Superfund's National Priorities List (NPL). The Tex-Tin site contained numerous hazardous substances covered by and designated within the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). In addition to hazardous metals found at the site, potential human exposure risks at the Tex Tin site included inhalation of contaminated particulates from site soils, incidental ingestion of sediments, soils, shallow ground water, and dermal contact with soils. Within eight years The Tex-Tin site was separated into four different cleanup areas referred to as Operable Units 1, 2, 3, and 4. Through extensive efforts the site was managed and remediation efforts were made to contain and clean the hazardous materials to reduce the environmental and biological impacts. The cleanup of the site is considered a success and is now proclaimed to be "Ready for Reuse" by the EPA. The site became enlisted under the Superfund Redevelopment Initiative Pilot Grant in 2001 and the nation's first Ready for Reuse determination in 2003 proceeded for the Site's continuous redevelopment as the Texas City Phoenix International Terminal. (epa.gov) .

14. **Does the Advanced Design of Structural Firefighting Increase the Risk of Heart Attacks in Firefighters?**

by Marshall Hutton



On average, one hundred firefighters will die in the line of duty every year. Of these, 47% will be from heart attack(FEMA, 2014). There are many possible reasons and causes for heart attack; this paper will concentrate its research on the design features of Personal Protective Equipment(PPE) and the risk versus benefit of newer, more advanced gear for firefighters. As a twenty

year career firefighter, I understand and know the need for more advanced protection; however I also realize the need for more user input into the design of PPE, and more advanced training in the use of newer equipment. Currently there are 52 members of the National Fire Protection Association (NFPA) technical Committee that oversees the design and development of PPE for Firefighters; of those members, 11 are representative of users. The remaining members are representatives of the manufacturing companies, research scientist, and enforcing authorities. This presentation is intended to highlight the increased risk to firefighters as related to design features of advanced personal protective equipment.

15. **Environmental Restoration**

by Jonathan Klinkerman

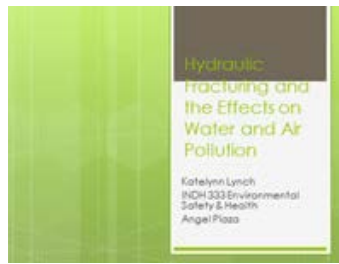


Environmental Restoration is often neglected. Even though with high cost or high difficulty there has been an increasing demand for it by the public since the early 1970's. Environmental Restoration approaches can vary depending on the habitat. Expenses for Environmental Restoration can range from high cost machinery like cranes, bulldozer, or excavators to low costs like purchasing trees and plants for volunteers to plant. To initiate the Environmental Restoration process, information on the decline of the habitats need to be expressed to the public. Environmental Restoration's overall mission is to allow species to thrive and to allow future generations to experience the natural habitat as it was intended.

16. **Hydraulic Fracturing and the Effects on Water and Air**

Pollution

by Katelynn Lynch



According to the U.S. Environmental Protection Agency “Natural gas plays a key role in our nation’s clean energy future”. Hydraulic fracturing is a processed used to retrieve natural gas that is trapped underground and uses large amounts of water, sand, and chemicals. Although natural gas is considered a “clean” energy source, many are becoming concerned with how “dirty” the process of retrieving this energy source actually is. Knowing the effects that hydraulic fracturing has on our nation’s air and water is important for determining if the outcome actually outweighs the risk.

17.

Ocean Acidification

by Zachary Martin and Alexandra Ficklin

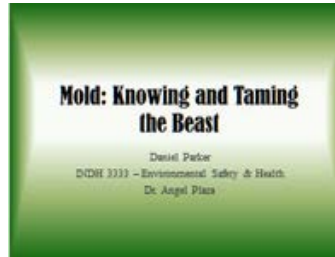


Ocean acidification is the continuing process of pH decrease in the world’s oceans caused by carbon dioxide sequestering. This phenomenon degrades marine ecosystems by damaging coral reefs through bleaching, disrupting plankton reproduction, deteriorating crustacean exoskeletons, etc. Acidification also threatens industry; commercial fisheries surrounding the Arctic are diminishing and ecotourism worldwide is declining. While oceans uptake more carbonic acid, they become more capacitated, potentially increasing CO₂ emissions in the atmosphere and furthering global climate change. Organizations such as, NOAA are constructing new marine management strategies to combat the fluctuating sea chemistry and its effect on marine organisms. Some solutions proposed are iron fertilization, which would stimulate photosynthesis in phytoplankton, carbon negative fuels, the extraction and conversion of CO₂ from seawater into usable fuel, and other more general approaches. In 2009 the Inter Academy Panel suggested reducing carbon emissions to below 50% the average in 1990. However, research for this topic is still underdeveloped and unless fossil fuels become a less dependable resource, mankind and its surroundings will have to

acclimate to a new habitat.

18. **Mold: Knowing and Taming the Beast**

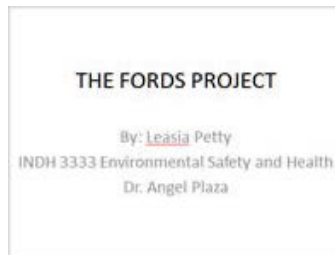
by Daniel Parker



The air we breathe affects our health. Within the air of homes and businesses in Houston a microscopic health threat lurks unseen, a miniature menace commonly known as mold and mildew. The Houston area is an ideal breeding ground for mold because of its high humidity levels. The purpose of this paper is to raise awareness of the dangers of mold by first describing briefly its characteristics and explaining how and where it forms, and then outlining the health concerns associated with mold exposure followed by a presentation of the methods and procedures for its removal, and finally discussing measures that one can take to help prevent mold growth. Indoor air pollution is among the world's most significant toxic pollution problems, with mold and mildew constituting a large portion of this health threat. If ignored, this airborne menace will not only damage one's health, but it may shorten one's life.

19. **The Fords Project**

by Leasia Petty



USA Environment was contracted for a 185-acre project in Woodbridge, New Jersey known as the Fords Project. The site formerly hosted various industrial manufacturing facilities which operated for over fifty years and presented complex remedial challenges. The remediation, due its size and complexity, resulted in significant wetland impacts requiring large scale

mitigation. Upon completion of Area 1 with NJDEP, the client was able to market the capped property for redevelopment, adding significant project value.

INDH 3333 - Environmental Safety & Health, Continued

20. **The Global Effects of Tobacco**

by Isa Pierce



It is known that tobacco causes devastating health implications and kills more than 5 million people per year. In addition to the health impacts, tobacco can also exacerbate poverty, damage the environment and reduce economic productivity. Tobacco companies have tried to target developing nations, by increasing advertising at children and women. They have attempted to undermine global treaties and influence trade talks, etc. Tobacco effects us on a global scale. Whether it be impacts from agriculture and tobacco sales to the countless health effects and diseases.

21. **Hygiene and Illness Prevention: Hand washing**

by Garrett Rime, Josh Jorgenson, Cristian Garza



In recent years, the field of science has not only evolved in techniques used

for finding cures related to illnesses, but have also bettered the means by which to prevent these illnesses. One of the main forms of prevention is vaccination, but another form of prevention that is often overlooked is hand washing; it is one of the oldest yet most effective forms of prevention. There are many reports that support the effectiveness of hand washing when using soaps with anti-microbial properties and alcohol based products. As a group we intend to explore the different effects that non-proper hand washing can have in both the industrial and office settings. We will discuss which methods of hand washing have proved to be most effective in minimizing the growth of bacteria and how regularly this action should be performed. We will also investigate different types of illnesses that can be prevented by practicing proper hand washing, such as the transfer of cholera: due to waterborne bacteria- vibrio cholera. It is important to keep in mind, that when working in facilities such as water treatment plants for example, in which water may act as a vehicle for pathogen transfer, maintaining proper hygiene is crucial not only for the health of workers but also for the health of the community. Another topic of interest is the regulations OSHA follows and instills upon industrial workers (field personnel) for proper hand washing and hygiene.

22. **Houston Air Quality and Ways to Help Improve It**

by Eva Riojas and Felica Davis



Ozone is one of Houston's biggest concerns when discussing air quality. There are many different ways our city is trying to attack the problem to help preserve our environment for our children and children's children. Over the decades our air quality has decreased significantly due to the increase need of fossil fuels. With the help of government programs, we as a society are trying to get a handle on regulations and ways to improve the quality of the air we breathe.

23. **Food Safety and Environmental Health**

by Brittany Rivers

Name: Brittany Rivers
Title: Food Safety and Environmental Health
Instructor: Dr. Angel Plaza
Course Name: INDH 3333
Environmental Safety & Health

This project will cover many environmental and safety issues relating to food establishments. I will discuss such subjects as, What makes food unsafe? I would like to improve as well as bring awareness to things such as biological contaminants, physical contaminants, chemical contaminants, poor personal hygiene, cross contamination, improper cleaning and sanitizing, and lastly temperature abuse. I would like to bring awareness of the importance of food safety and what can be done to ensure those steps and procedures take place. My research would include me going into different establishments and making sure that each establishment is following law guidelines that apply to the safety and health of its customers. In the event of coming across a contaminant or more than one, will prove that not all food establishments are healthy and safe for the environment and what steps can be taken to improve the issue.

24.

Global Warming

by Vania Teixeira



This is an environmental study concerning global warming. The analysis concerns the effects of global warming to environmental and international economies. There is need for international and local bodies to put efforts together in solving global warming problem. Climate change is the single most humanitarian and environmental crisis of current time. The Earth's atmosphere is jammed with heat-congesting carbon dioxide that risk large-scale disruptions in climate with catastrophic consequences. This paper is subdivided into three main subsections with introduction defining the problem and presenting problem statement. After introduction, there is method section handling micro and macro approaches of addressing global warming. The last part concerns discussion of results and necessary recommendation.

25. **Pollution Prevention**

by Brittany Tombrella



Pollution Prevention is considered one of the most important and common environmental safety and health topics, which can be described as the reduction or elimination of sources that cause pollution within the air, water, work area, land, and so on. Pollution prevention is also looked upon, according to the guidelines of the Environmental Protection Agency (EPA), in searching for various, yet simpler ways to prevent pollution and maintain a cleaner environment before it becomes a serious issue to the environment itself as well as our own safety and health. There are some various techniques that are recommended and could most likely contribute to the elimination of environmental pollutants. These techniques include recycling, treatment, disposing of the wastes, and most importantly, reducing toxic waste materials at the source. Although these techniques can be costly, I believe they can be beneficial to the workplace, workers, environment, as well as our own personal health and safety. For this project, I hope to find some accurate plans and/or ways to expand on each of these techniques, in order to help benefit and maintain our safety, our health, and cleanliness of the environment.

26. **Greening Houston:**

America's Oil Capital Is Making Environmental Improvements

by Jeff Wyatt and Dan Efram



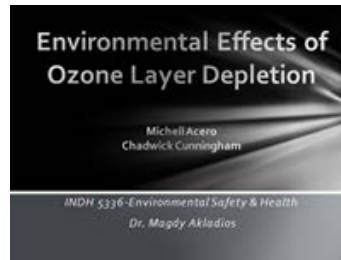
At a casual glance, the City of Houston, Texas doesn't look like it has changed much. The city has tangled interstates and freeways, an area of big

and small sky scrapers, shopping malls and dozens of INDEPENDENT districts. But if you look closer, most of the traffic lights have been updated to new LED bulbs, rather than the old incandescent ones. More and more vehicles in the city fleet are of the hybrid or electric type and just last year a bike lane sharing program went into effect. Other changes are harder to see. Much of Houston's power comes from Texan wind farms. Houston in other words is going green. As one of the nation's fastest growing cities, Houston is embracing change and becoming a greener city.

INDH 5336 - Safety, Health, & Environmental Issues

1. Environmental Effects of Ozone Layer Depletion

by Michell Acero and Chadwick Cunningham



Ozone layer depletion is the decrease of the quantity of ozone in the stratosphere, which is the second layer of the Earth's atmosphere. Decreases in the stratosphere lead to higher levels of Ultraviolet B (UVB) reaching the Earth's surface which has many serious effects on the Earth's environment due to the decrease in protection from the ozone. **PURPOSE:** To find what causes significant reduction of the ozone and what changes can and should be done to reverse and prevent further damage to the ozone. **METHODS:** The University of Houston- Clear Lake library database, Google Scholar, government, and other online educational websites will be used to gather this information. If scholarly articles are to be used only evidence based research will be considered. **RESULTS:** It is hypothesized that industrial and chemical pollution play a significant role in the depletion of the ozone harming the agriculture, ground surfaces, marine ecosystems, and biogeochemical cycles. **CONCLUSION:** With the information to be gathered it is anticipated that simple changes to daily life and further research will have reversal and positive future effects on the Earth's environment.

<http://www.epa.gov/ozone/science/effects/>

2. **Bringing to Light Global Dimming**

by Luis Cruz

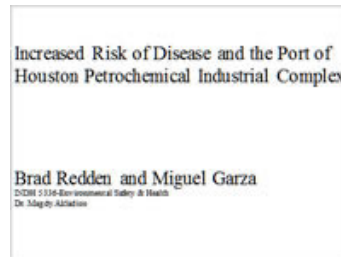


The Earth has seen climatic change throughout the ages, but none so much as we are currently undergoing. Natural disasters and stronger storms continue to demand attention as the Earth seems to be warning us of worse things to come if pollution, burning of fossil fuels, and control of greenhouse gases continue to plague Earth's atmospheric balance. Part of this imbalance is caused by global dimming, which is the name given to the gradual cooling of the Earth caused by the mirror effect of particulates that occupy water droplets in clouds in the atmosphere. These clouds shield the Earth from solar radiation creating an imbalance between global warming and global dimming (cooling) of the Earth. This paper will focus on global dimming, the risks it poses, and potential solutions for mitigation.

3. **Increased Risk of Disease and the Port of Houston**

Petrochemical Industrial Complex

by Brad Redden and Miguel Garza



Studies have shown that Houston air quality contain a multitude of toxins and in some cases failed to meet the EPA's National Ambient Air Quality Standards (NAAQS). In 2005 The National Scale Air Toxics Assessment data was released and reported Houstonians living in close proximity to the Houston ship channel had a much greater risk of developing cancer as well as other respiratory related disease. The purpose of this study is to compare Houston's air quality issues with other cities in the United States that has similar industry to examine the relationship of disease and industry. We will also discuss approaches to reduce the risks associated with the

petrochemical industry pollution as well as other sources of industrial pollution.

4.

Polar Vortex to Make Encore Performance

by Veronique Witherspoon



This presentation will describe the phenomenon of a polar vortex and its effects on the climate as well as discuss the link between this extreme weather system and global warming. Many researchers, particularly, meteorologists have described the polar vortex as a mass of very cold air that usually hangs out above the arctic circle and is contained by strong winds. This system is not a single storm and on occasion, the vortex can become distorted and effect more southern regions, allowing cold air to spill southward. With the many drastic changes in temperature across the U.S., many researchers have supported the idea that the polar vortex is a side effect of global warming. According to Alan Duke, of CNN, research shows that different types of extreme weather can result from the overall warming of the planet, melting of the Arctic Sea ice, etc, which includes extreme distortions of the jet stream, which can cause heat waves in summer and cold snaps in winter.

UHCL

The choice
is clear.