**Essay 3 – Lecture Notes**

**Researched Argumentative Paper**

**TOPIC: Global Climate Change**

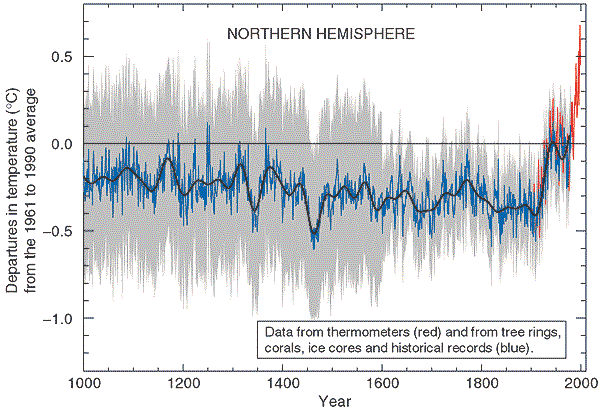
**CONTROVERSY TO BE RESEARCHED: *Anthropogenic* Global Climate Change (Global Warming)**

* **Anthro = “man” “human”**
* **Genic + “origin” “creation”**
  + **Anthropogenesis = “human caused global climate change”**

**1960s-70 = “Is global warming happening?” 🡪 YES**

**80s – 2000s = “Is global warming human caused?” 🡪 *YES*** (97% consensus among scientists)

**2010 – present = “What should be done about it if it is AGCC?”**

**Michael Mann (chief scientist on this project)**

**RED: Thermometers (new science)**

**BLUE: “proxy” evidence 🡪 CONVERGENCE**

Convergence of 5 independent lines of evidence

1. **Ice Cores (≈ 2.5 million years ago)1**
2. **Tree Rings (≈ 5,000 years ago)**
3. **Corals (≈ 4,300 years ago)**
4. **Historical Records (≈ 4,000 years ago)2**
5. **Thermometers ( 170 years ago)**

**1.****Not to scale**

**2. Historical records are based up upon such data as grape harvests, harbor sea ice reports, and personal diaries. This source of proxy data is considered qualitative rather than quantitative because the entries are not systematic or based upon a standard of reporting. Therefore, there is a subjective aspect to qualitative reporting that needs to be taken into consideration. It is in some ways the “weakest” form of evidence because of the subjective aspect of the data. Nonetheless, historical records can provide, in aggregate, an observational context for climate change discussions. Indeed, these naïve reports are guaranteed to be free of bias as there would be no global context for the reporters to refer to which may have influence the report.**

**Consequences of Global Warming: GW is happening. That is not controversial except among those for whom reality is a problem. The question of whether or not GCC is anthropogenic is somewhat beside the point (although still a crucial issue). One way or another humans are going to have deal with it. And if it IS anthropogenic, then we have a unique opportunity to actually effect the problem by our own actions. In a sense, anthropogenesis is a *good thing* because it means we have the power to change the situation for the better.**

**Domino Effect:**

* **Ocean levels rise**
* **Habitats disrupted**
* **Ocean salinity effected**
* **Massive flooding of low-lying islands**

**Earth is warming 🡪 Greenhouse effect 🡪 Polar caps melt 🡪**

**Scientific Consensus : “**general agreement**“**

**Hypothesis 🡪 Theory 🡪 Consensus 🡪 “accepted as fact”**

* AVOID: “truth” “proof” “fact”
  + Why? Because these terms are *contingent* (changeable)
  + “Truth” *Humans have five digits on their hands* 
    - Consensus: “Human” *but could change IF the evidence is discovered*
    - Consensus: “digits” “hands”
    - Consensus: “five” (what is “five-ness”?)
      * 1+1+1+1+1 ; 4+1; 6 -1; V
* **“We live in a heliocentric solar system”** = consensus
  + Requires only ORDINARY evidence
  + **“We do NOT live in a heliocentric solar system”**
    - = HIGHLY implausible
    - What is required to make this statement true?
    - Extraordinary evidence
    - Carl Sagan: “*Extraordinary claims, require extraordinary evidence”*
* CONSENSUS of Science : **“Global climate change is occurring and it is primarily caused by human action” (Anthropogenic)**
* CONSENSUS of Society: ???.

Works Cited 🡪 the sources that are actually cited in the essay or research paper (limited; shorter than a bibliography)

Bibliography 🡪 all sources of information used in the completion of the essay or research paper (longer than Works Cited)

Working Bibliography 🡪 same as bibliography; used to establish possible sources for research *usually never submitted*

Annotated Bibliography 🡪 all sources of information used in the completion of the essay or research paper WITH short summaries of the individual articles/books/text; provides a means by which the essayist can interact with the source to demonstrate how it is relevant to the topic under research

**Create an Anno. Bibliography**

* **5 articles = 5 bibliographic entries = 5 annotations (summary)** 
  + Summaries = 15% 🡪 20% of a double spaced page OFFSET
* As current as possible; articles should be within the past two years
* Summaries/annotations should be written in YOUR words so the concepts are understandable to YOU
* ***We will work on this project TODAY and Wednesday; I will collect your Annotated bibliography at end of class Wednesday***

**Essay Updates:**

* **Annotated Bibliography: I will be collecting on FRIDAY**
  + **Add the following sources to your annot. Bib:** 
    - **4 OPINION based articles** 
      * **Opposing Viewpoints: search “climate change”**
  + **Alphabetical by LAST name of the author of the article**
    - **IF there is a group author** University of California – Davis
      * **FIRST time: Say the whole thing “Research recently conducted by** University of California – Davis…”
      * **SECOND and subsequent times: “UC Davis”**
* **FINAL DRAFT: You will be submitting your final draft of essay 3 to me via EMAIL attachment** 
  + **PLEASE use MS Word/Google Docs. OR a PDF**
  + **Deadline window (24 window)** 
    - **You send it to me**
    - **I send you a confirmation**
    - **IF you don’t hear back from me within twelve hours PLEASE resend**

**COLLECTING TODAY 🡪 End of Class**

* **Annotated Bibliography** 
  + **A total of 10 entries** 
    - **5 Science Daily articles**
    - **1 assigned article (C02 - Fred Pearce article)**
    - **4 opinion articles (from Opposing Viewpoints)**

**Source Authority**

* ***Who do we actually refer to when we want to present a source in our researched essay? (Or essays using external sources in general).***
* **AUTHORITY can be found in the following aspects of a source:**
  + **The Author of the piece**
  + **The institution conducting research**
  + **The source itself (newspaper, website, etc.)**
* **Always ask yourself *“which aspect of the source is the real authority?”***
  + **IF the article is written by a journalist, unless he or she is VERY famous, you want to quote or refer to the experts IN the article rather than the journalist (Don’t worry… your works cited page will have that information)**
  + **IF the article is written by an EXPERT in the field he or she is writing about, refer to THAT person**
    - **IF that person is presenting research that he or she has conducted with others, you should use the following format 🡪 (Smith, et al) - this tells your reader that Smith is the author and “et al” says that he or she worked with others**
  + **IF the article is presented as coming from an institution, you may *signal* the name of the institution:**
    - **“Research conducted by the UCLA School of Medicine has shown that…”**
  + **IF the article is purely a news article, you can *signal* the name of the newspaper or magazine**
    - **“A recent survey conducted by the *New York Times* revealed that…”**

"A warmer atmosphere can hold more water, so rainfall would be more intense," said HELIX project leader Professor Richard Betts, of the University of Exeter.

" This would inevitably mean more flooding, and our research suggests the largest increase in flood risk would be in parts of America, Asia and Europe."

**Although most people think that global warming is caused exclusively by air pollution, in reality a lot of the warming is due to increased water vapor in the atmosphere. "A warmer atmosphere can hold more water, so rainfall would be more intense," said HELIX project leader Professor Richard Betts, of the University of Exeter.[ORPHANED QUOTE]**

**Although most people think that global warming is caused exclusively by air pollution, in reality a lot of the warming is due to increased water vapor in the atmosphere. According to University of Exeter researcher Richard Betts “a warmer atmosphere can hold more water, so rainfall would be more intense." (University of Exeter). What this means is that the Earth would hold more heat in due to water vapor acting like a kind of atmospheric blanket. Betts goes on to explain that “this would inevitably mean more flooding … the largest increase in flood risk would be in parts of America, Asia and Europe.” (ibid)**

**JEFF NESBIT**

And what the commission has found is that climate change is already affecting human health in serious ways, with harms “far worse than previously understood.” The report argues that the health professions have a responsibility “to communicate the threats and opportunities” of a phenomenon that is “central to human well-being.”

[Jeff Nesbit](http://jeffnesbit.net/aboutme/) is the executive director of [Climate Nexus](http://climatenexus.org/), a nonprofit communications group focused on climate change and clean energy, and former director of legislative and public affairs at the National Science Foundation in the Obama and Bush administrations

1. **Use Nesbit’s authority as a climate expert (Nesbit is the authority AND the source)**
2. **Use the person or persons he quotes**
3. **Use the NY Times. (🡪 BECAUSE THIS IS AN OPINION PIECE, AKA AN ARGUMENT, I WANT TO USE THE AUTHOR’S AUTHORITY AND EXPERTISE RATHER THAN THE SOURCE)**

While it is easy to see the impact climate change has on the environment in general, we need to keep in mind that our individual health can be negatively affected by these changes. In a recent opinion piece in the *New York Times,* climate change expert and former advisor to Presidents Bush and Obama, Jeff Nesbit notes research has concluded that “climate change is already affecting human health in serious ways, with harms ‘far worse than previously understood.’ [And] health professions have a responsibility ‘to communicate the threats and opportunities’ of a phenomenon that is ‘central to human well-being.’ Nesbit is quoting a report released by the Lancet Commission, a group of medical researchers who have been studying the health impacts of climate change. (Nesbit) INTERPRETATION 🡪

"Human civilization is on the chopping block — that's a big thought,"

During a recent press conference in Europe, California Governor Jerry Brown [the authority] declared that "human civilization is on the chopping block — that's a big thought." (Kirschbaum – is the source).

Kirschbaum, Erik. “California Gov. Jerry Brown delivers a blunt climate change message

in Germany” *Los Angeles Times.* Los Angeles Times. 8 Nov. 2017.

NOTES for the Part C Draft:

* **Researched sources:** Locate TWO articles from *legitimate* sources which critique or disagree with the findings of the scientific consensus.I will help you with determining what “legitimate” means in this context.
* **Assignment**: Draft two body paragraphs of contextualized analysis, one for each critique. Summarized the critique then present your analysis in the final third of each BP. (*Are the critiques valid? Why? Why not?*)

**Major Concepts:**

* **Climate skeptic**: Questions the consensus on GCC and/or AGCC; They look at the actual science and critique those findings. Typically, these are actual scientists, although they may NOT be climate scientists. The sub-group of those who say that GCC is happening, but it’s not human caused.
* **Climate denier**: Believes GCC is not happening at all. They may, think it’s a hoax. They tend to be conspiracy “theorists”
* **Impact skeptic:** Believe that GCC may be occurring, AND may believe it’s AGCC, BUT they question whether it’s a significant impact. OR, even if we are contributing to GCC, the results may benefit. EGTBOK “Everything is going to be ok”, we will adapt

***What is the motivation for skepticism and denialism?***

* **Public’s Fear 🡪 economic costs/resistance to lifestyle change (industry uses the public’s fear to engender “manufactured controversy.” By casting doubt, a false sense of uncertainty is generated)**
* **Economic interests 🡪 oil industry (profit motive)** 
  + **How big is the oil industry worldwide?** 
    - **Total revenue for 2015: 5.5 TRILLION dollars** 
      * **By comparison:** 
        + **US GDP = 18.56 trillion (#1)**
        + **Japan = 4.9 trillion (#3)**
      * **Oil industry revenue is larger than the GDP of 188 nations**
* **Ideology 🡪 conspiracy : Typically, not a legitimate line of argument. Usually, skeptics “devolve” to conspiracies when arguments break down. Similar patterns of devolution are seen in other areas of science where there is controversy and motivated reasoning (i.e “I’m motivated to believe what I believe because I am emotionally invested in my premises.”** 
  + **“Evolution contradicts the teachings of the bible 🡪 The bible is the word of God and is therefore true 🡪 I am a Christian ∴ *Evolution is not true”***
  + **The history of any conspiracy-based denialism usually begins with legitimate skepticism of the scientific claim.**
  + **Once scientific consensus is achieved, the skeptic either has to moderate his views to be in line with the new consensus, or he must enter into denialism. This may involve various logical fallacies and/or the generation of manufactured controversies (often with the help of moneyed interests). As the consensus develops, becomes more nuanced through additional confirmation over time, the denialist may enter a variety of paranoia informed by a kind of “siege mentality”, i.e. he comes conflate “consensus” with “cabal”. So the consensus is used against itself to “show” that there is a conspiracy.** 
    - **The most radical form of this conspiracy thinking is “reality denial.” Where cognitive dissonance becomes the informing mindset. *Anything* that doesn’t fit the originating denialist position is automatically discarded.**

**“Six degrees of climate denialism” – Michael Mann**

1. **CO2 is not actually increasing**. (MAJOR greenhouse gas)

(2) Even if it is, the increase has no impact on the climate since there is no convincing evidence of warming.

(3) Even if there is warming, it is **due to natural causes**. (volcanism, the sun, etc.)

(4) Even if the warming cannot be explained by natural causes, the **human impact is small**, and the impact of continued greenhouse gas emissions will be minor.

(5) Even if the current and future projected human effects on Earth's climate are not negligible, the changes are generally **going to be good for us.**

(6) Whether or not the changes are going to be good for us, **humans are very adept at adapting to changes**; besides, **it’s too late to** do anything about it, and/or a technological fix is bound to come along when we really need it

Annotated Bibliography

Pearce, Fred. “What would a global warming increase of 1.5C be like?” *The Guardian.* Guardian News and Media Limited. 16 Jun. 2016.

**Part D: Working towards the Final Draft**

* **BP#5 Solutions: “Mitigation”, “Adaption” (search terms)** 
  + **Controlling and minimizing the damage now and in the future**
  + **“Sequestering” greenhouse gases**
  + **Single paragraph = 75% of a double spaced page MAX** 
    - **What do you think would be the MOST effective mitigation and/or adaption strategy for the world to take (“Think globally”)**
    - **Consider a combination of various approaches**
  + **“what would be the most effective measure(s) to take? Why do you think they would be so effective? How would you implement?”**
* **Introduction and conclusion**
  + **Intro: set up the discussion about AGCC. Briefly define the problem.** 
    - **The climate change itself**
    - **The false controversy that is delaying action**
    - **Thesis statement: *Should action be taken now to address global climate change?***
  + **Conclusion: bring discussion to close. Reiterate the importance of the topic and the need for change.**
* **Alternative Fuels (alternatives to fossil fuels)** 
  + **Do not confuse “energy” with “fuel”**
    - **Fuel is required for energy**
    - **Therefore, we can’t say “electricity is a fuel”** 
      * **Electricity is the result of converting fuels into useful work**
        + **Coal 🡪 heat/burn it 🡪 that heat is applied to water 🡪 steam 🡪 drive a turbine 🡪 generates electricity 🡪 distribution**
      * **The goal is to remove carbon-based, non-renewable fuels from the energy process**
  + **When considering ANY alternative fuel source:**
    - **The will ALL have a cost. There is no “free lunch”**
    - **There are upstream and downstream costs**
      * **Upstream: the cost in the short term (building infrastructure, establishing efficiency, conversion costs, etc)**
      * **Downstream: the costs in the long term (pollution, hazardous waste, potential dangers)**
* **-**

**English 120 – Common Final**

* ***Monday December 11th -* 6:30 – 8:50 AM** 
  + **On MONDAY December 4: I give you the readings**
  + **6 articles (1 – 1.5 pages) ALL on the same topic** 
    - **1 week to read and annotate the articles (highlighting, making notes in the margins, etc)**
    - **On the day of the final, the articles will be the only “notes” you will permitted**
    - **We will have NO discussion of the articles prior to the exam**
  + **“ON the final exam, students must make reference to AT LEAST two of the articles in the packet and cite all paraphrases (summaries) and quotes using the the MLA parenthetical method. (Author + pg #). NO works cited page is required.**
  + **You will have two hours**