

*CPSG100/200 Science & Global Change First Year Colloquium I and Sophomore Colloquium
Field Trip: National Museum of Natural History, Washington, DC
October 30, 2022*

Our Places: Connecting People and Nature (1st Floor)

This is a new interactive hall, focusing on how people interact with Nature (not a surprise, given the name...) In particular this hall asks for your input on your own experiences.

1) Describe how the exhibit is actually set up. What sort of material is on display? How is the visitor's input incorporated?

The exhibit is set up in a patch of land filled with plants. On display are materials related to current important topics, such as the Asian Hornet nest and the suits the entomologists wore to capture the insects. Also shown are sustainable methods to agriculture and fishing that prevent environmental degradation. And finally there are exhibits talking about the fieldwork occurring in far-off places. Visitor input is taken into account through notes and drawings they can leave behind.

2) What sort of conclusions or observations have they already come to and displayed?

Observations displayed are the spread of invasive species in the modern world, environmental degradation due to harvesting food on scales that cannot be sustained, and ecosystems changing due to human interference.

3) Do you think an equivalent exhibit might be easy to add to other museums or science centers? Explain why or why not? What insights or new information might additional versions in other institutions add?

An equivalent exhibit would probably be pretty easy to add to other museums or science centers. The exhibit doesn't take very much space overall (at least compared to the other exhibits present in the museum), and the objects present aren't particularly expensive or rare. Other museums would probably put their own spin on it. The one in the Smithsonian, due to being located in the Delmarva region, touches upon topics important to us such as the use of water (due to our location close to the Chesapeake Bay) and pollinator gardens (due to topics such as farmland). In a museum in a more arid region, an equivalent exhibit may instead focus on topics such as heat waves/droughts and changing weather patterns. In a museum located close to a region dependent on farming, their exhibit may focus upon the use of fertilizer on the environment and how one can use sustainable farming practices.

CLIMATE CHANGE IN THE DAVID H. KOCH HALL OF HUMAN ORIGINS (1st Floor)

Towards the end of this Hall (the side closer to the Mammal Hall) there is a section describing the most recent part of human evolutionary history, entitled “Humans Change the World.” This discusses (although not by that name) the “Anthropocene Event”: that time period when human activity noticeably impacted the living and non-living world.

4) Find three (3) different topics discussed in this section. Identify what those topics are; how humans have influenced them (or simply how they have changed) through time; and what means the exhibit designers used to portray these changes (be specific).

Three different topics discussed in this section are the way of life, population growth, and the Earth’s history. In terms of the way of life, *Homo sapiens* started cultivating plants for food 12,000 years ago, and made the switch from a hunter-gatherer lifestyle to one based primarily around agriculture. The second topic; population growth, is mentioned in terms of human impact upon the world. In order to create more food, humans have deforested large regions and driven species to extinction. The third topic; the history of the Earth, is mentioned in terms of what we have kickstarted. *Homo sapiens* seems to have unknowingly brought upon the start of the sixth mass extinction, and the traces of what we have done (such as nuclear testing and plastic waste) will be preserved in Earth’s geologic history for millenia to come.

5) Some critics of the hall state that this exhibit de-emphasizes the human impact on the environment and climate. Do you agree? If so, explain why. If not, explain why not.

I can see the angle that the critics of the exhibit are coming from. For something so massive, the exhibit only talks about the effect of humans in the broadest strokes. There is not much focus given to how the production of goods has negatively impacted the environment, how wasteful consumerism of unnecessary items is causing vital resources to become rarer and rarer. Most importantly, the reality of climate change starting due to anthropogenic causes is barely touched upon, especially how it started with the industrial revolution and is now primarily caused by large brands and oil companies that are going unchecked by governments due to corruption and short-sightedness.

CLIMATE CHANGE & HUMAN IMPACT IN THE SANT OCEAN HALL (1st Floor)

6) “The Changing Ocean”, Right Side of Hall (from the point of view of the rotunda), along Front Right Wall: Find the interactive video stations under the label “The Changing Ocean”. Watch two (2) of the different videos available (preferably one dealing with biological oceanography and one dealing with some other issue.) Give the name of the videos. Is this data understandable by a general visitor to the museum?

7) “Global Ocean Video”: This information is provided on the “Science on the Sphere” format: a globe-shaped video screen. Watch through an entire sequence. What subjects

does it discuss? What information did it provide? How was the spherical video used to portray this information? Do you consider this format to be useful? Explain why or why not.

CLIMATE CHANGE IN THE DAVID H. KOCH HALL OF FOSSILS – DEEP TIME

This new state of the art fossil hall contains many wonderful specimens. While we encourage you to look at them (and Merck & Holtz will even show people around some of their favorites!), we want to look at how climate change is described in this exhibit.

8) Paleoenvironmental Dioramas: Scattered throughout the hall are a set of pylons which feature miniature reconstructions of life and environments at different points in geologic time. In each is a diorama with scale models of fossil plants and animals, accompanied by additional information. Find two (2) of these pylons. For each, describe what time is represented; what place is represented; and how the carbon dioxide level, temperatures, and sea level compared to modern times. Also, do you think these exhibits are effective? **Explain.**

Diorama 1: Willwood Formation, Wyoming (56 - 53 million years ago). Carbon dioxide level, sea level, and temperature all seem to be higher - as can be seen due to the diorama showing Wyoming as a heavily forested region unlike today's more arid state.

Diorama 2: Hell Creek Formation, Montana (67 - 66 million years ago). Carbon dioxide level, sea level, and temperature are all seemingly higher. Montana is covered in forest and water, unlike today where a good portion of the landscape is dominated by grass.

I think these dioramas do a very good job at showing how the world used to be. Oftentimes we can read about how the world was different, but find it difficult to imagine. These dioramas function as a sort of "window to the past", allowing for those unfamiliar to easily comprehend the vast differences between life today and life millions of years ago.

9) Climate Change Exhibits: Along the low wall and benches opposite from the main set of skeletons in the great hall are a series of exhibits describing climate changes past and present. Describe what time or aspect of Earth history and past climate is discussed. What sort of data was used to figure out the past climate? Do these exhibits effectively explain how fossil and geological information can inform us about current or future climate change? **Explain.**

Much of the focus of this exhibit is about a period of time starting about 2.6 million years ago: the beginning of the Pleistocene epoch. This epoch was characterized by fluctuations in the climate, and held many of the famous ice ages we are familiar with today. In order to figure out climatic data about the Earth past, scientists drill out a layer of sediment from lake bottoms. The sediment contains various microfossils that scientists can use to figure out the necessary information. I think the exhibit provides a good explanation of how fossils and

geology help figure out about the climate in the past, but I also feel that it doesn't really touch upon the topic much. Climate change is mentioned as an occurrence, but there isn't much detail given other than that it causes things to change from how they were before.

Also, we encourage you to upload a picture of you at the field trip site and caption it on your Academic Portfolio gallery.