



ENVIRONMENTAL HUMANITIES: Teacher's Resource Guide

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Thank you for offering your students the opportunity to participate in *Fragile Habitat: Conversations for Miami's Future*! At the event, students will hear short talks from three different scholars, they will listen to stories from six local environmental activists, and they will have opportunities to ask questions and make comments. Depending on your preferences, they may also have the chance to visit the HistoryMiami Museum exhibit halls with a tour guide. The following information and activities will assure that your students get the most out of the event. I offer suggestions about how you might **activate** their prior knowledge, invite them to **engage** with the speakers during the event, **reflect** on the experience afterwards, and **share** what they learned with others. I look forward to hearing from you about how the experience worked out for you and them!

ACTIVATE | ENGAGE | REFLECT | SHARE

ACTIVATE – *What do your students already know about the environment?*

Introductions

We know that students get the most out of new experiences when they activate their prior knowledge. These two exercises are designed to challenge students' assumptions about nature.

- **Warm-Up** – Ask each student to say the first word that comes to mind when they think of the word *environment*. Afterwards, ask them to reflect on what they notice about people's words. What do you notice about their choices? Reflect back to them what you observe. Demonstrate curiosity about their choices and omissions. Try the activity again using the word *environmentalist*.
- **Nature/Not Nature** – On the first day of my environmental history class, I show students a series of photographs. They include: a mountain vista, a bottle of wine, a cell phone, an apple tree, a park with grass and trees, an abandoned building with a tree growing out of it. As we look at each image, I ask them to identify what is nature and what is not nature in each one. It is a trick, because there is some nature and some human in *all* of them. Many natural resources are used to make cell phones, and when people finish with them, they become part of the waste stream. By contrast, wilderness—seemingly free of human influence—is usually only untouched because people have consciously decided to preserve it. The landscape embodies a human ideal of pristine nature. And, as one of my students this semester pointed out, human actions are changing the climate in even the most remote, untouched regions of the world. Those of us who study the interrelationship between nature and culture recognize that there is rarely a clear dividing line between the two, and some of the most interesting questions come from the intersection of the two.

At *Fragile Habitat*, students will hear about a wide range of topics. Some of what they hear will sound like it's about “the environment,” but some will be surprising. What does gentrification have to do with the environment, for example? What does it mean to talk about Miami's environmental history? How do people use nature as a metaphor in literature and art? What social and economic factors contribute to vulnerability to natural disaster? What does it mean to study the history of science?

Background Knowledge

Today's problems can only be solved if we bring together science, history, geography, literature, the arts, and many other domains of knowledge. The purpose of *Fragile Habitat* is not to provide technical information about climate change science or sea level rise. While we do not expect you or your students to be experts, panel speakers will assume that the audience knows a little bit about the scientific consensus on these topics.

- **Review Sea Level Rise Basics** – Miami-Dade County is vulnerable to coastal flooding, stronger storm surges, and a rising water table. The FIU School of Journalism has created a video and app to educate people about the issue. The 26-minute video explains the basics of the issue: <http://www.eyesontherise.org/213-2/> Use the app (only on the computer, not on smart phones) to see how different parts of the city will be affected by sea level rise: <http://eyesontherise.org/app/>
- **Review Climate Science Basics** – I like the 38-minute video introduction at Our Climate, Our Future. They ask you to register to view the video, though it is free. The video is pitched at high school students, has nice graphics, and connects to students' lives. You can also view select chapters rather than the entire video <https://ourclimateourfuture.org/welcome>

Additional useful resources and fact sheets are at <https://www3.epa.gov/climatechange/basics/> and <https://www3.epa.gov/climatechange/basics/facts.html>

ENGAGE – *What will you learn about at the event? How can you participate?*

Help your students know what to expect at Fragile Habitat. There will be two panel discussions. In both of them, there will be speakers who offer their thoughts. After all the panelists have spoken, there will be an opportunity for the audience to ask questions and make comments. ***All audience members, no matter their age or expertise, are invited to ask questions and make comments.***

Asking Questions My students often expect *me* to ask *them* questions, and they usually expect that they won't know the right answers. It is easy to get stuck in this rut, which I don't like. To sidestep this dynamic, I teach students a simple procedure for generating questions. The goal is to ask lots of questions without trying to answer any of them. Sounds counterintuitive, but it works. The technique is simple.

- Offer students a prompt—a photograph, excerpt from a piece of literature, a chart, a historical document. The prompt should be short but provocative.
- Explain that the goal of this exercise is for the class to ask as many questions as possible about the prompt—25 questions is the *minimum*, but more is better. The goal is *quantity*, not quality. When you demand many questions, they end up asking detailed and obvious questions, *which is good*.
- Next, invite them to call out questions about the prompt. Write down their questions, *exactly as they ask them*. Use a whiteboard a piece of newsprint. Do not revise or rephrase the questions. Write them exactly as your students ask them. Don't add questions of your own.
- Do not pause to discuss the questions. Do not let the students try to answer the questions (yet). Do not answer them yourself.
- When you have a nice long list and the questions are not coming any more, pause with the class and reflect on the questions. My experience is that students almost always ask all of the right questions, and demonstrate amazing insight when they don't think that they have to give an answer.
- Talk about how you might find answers to the questions that the class has asked. Some questions might call for internet research, some might call for closer attention to the prompt, some might require more in-depth inquiry.

Preview On the end of this resource are artifacts provided by each of the speakers from the first panel, “Nature and Culture at a Crossroads.” These artifacts are ideal prompts for the “Asking Questions” activity described above. This is a way to invite the students’ curiosity as they listen to the speakers. Your students will likely have many questions about what the artifacts show. Some of these can be answered by reading them closely. Other questions will not be ones you can answer without hearing more from the speakers. Either way, students can listen to hear if the speakers address their questions. During the question and discussion period after the formal talks, students might ask questions that remain. You can download higher resolution versions of the artifacts from this dropbox folder: <http://bit.ly/1RyGRNL>

Professor Geri Augusto studies the African Diaspora using anthropology, history, literature, gardening, and the visual arts. She provided three photographs she took of environmental art projects she has done.

Professor David Vázquez studies literature by people of Caribbean and Latin American descent living in the United States. He provided a newspaper photograph and a quote from an online essay.

Professor Ted Steinberg studies the history of natural disasters, especially as they are experienced in cities. He provided a page from a scientific journal with comparisons of risk to different cities from climate change.

REFLECT – *What did you learn at the event? What are you still curious about?*

After the event be sure to give your students an opportunity to reflect *in writing* and *verbally* about the experience. I often use a half sheet of paper and several brief prompts as a post-activity reflection. Some questions you might ask them to write or speak about:

- What are two things that you learned today?
- What are two things that surprised you at today's event?
- Did the college professors look like you expected them to look? Did the environmental activists look like you expected them to look?
- Which of the people speaking about their environmental activism most inspired you? Which issues seemed closest to your life?
- What was it like to ask a question? What was it like to *not* ask a question?
- What are two questions you have that were not answered at today's event?
- What do you imagine Miami will be like in 50 or 100 years?
- What can you do to make Miami's environmental future better?

SHARE – *How can you expand the conversation?*

One of the goals of “Ecohumanities for Cities in Crisis” is to invite more people into the conversation about how Miami will cope with climate change and sea level rise. I hope that your students come away inspired to learn more, eager to become climate communicators, and ready to ask hard questions in their communities. Please consider how student participants might take ownership of what they have learned. Can they make short presentations to their classmates who did not attend the event? Can they write letters to the editor expressing their opinions about what they learned? Can they organize a townhall at your school on the topic of climate change and sea level rise? Who do they think needs to be at the table as we plan for a resilient Miami? And what ideas do they have about how to start those conversations?

SELECT REFERENCES – *Academic Studies*

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Merchant, Carolyn. *American Environmental History: An Introduction*. Cambridge University Press, 2007.

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Steinberg, Ted. “Do-It-Yourself Deathscape: The Unnatural History of Natural Disaster in South Florida.” *Environmental History* 2, no. 4 (1997).

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Two visitors to Brown University's Center for Slavery & Justice symbolic slave garden, at the *dikenga* (stone Kongo cosmogram planted with local medicinal plants), designed by Professor Geri Augusto



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Detail of the seed assemblage "Plants of Bondage/Liberation Flora," 2014, created by Professor Geri Augusto, on display at Brown University's Center for Study of Slavery and Justice



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“Transgressive Offering” in 2 de Julho park, Salvador da Bahia. Photo by Geri Augusto



© *The New York Daily News*, 2011

“Gentrification is violence. Couched in white supremacy, it is a systemic, intentional process of uprooting communities.” –Daniel José Older, *Salon.com*, April 2014

Table 1 | City ranking by risk (AAL) and relative risk (AAL in percentage of GDP) for 2005.

Ranking by AAL (US\$ million)				Ranking by relative AAL (percentage of city GDP)					
Urban agglomeration	100 year exposure	AAL, with protection (US\$ million)	AAL, with protection (percentage of GDP)	Urban agglomeration	100 year exposure	AAL, with protection (US\$ million)	AAL, with protection (percentage of GDP)		
1	Guangzhou	38,508	687	1.32%	1	Guangzhou	38,508	687	1.32%
2	Miami	366,421	672	0.30%	2	New Orleans	143,963	507	1.21%
3	New York—Newark	236,530	628	0.08%	3	Guayaquil	3,687	98	0.95%
4	New Orleans	143,963	507	1.21%	4	Ho Chi Minh City	18,708	104	0.74%
5	Mumbai	23,188	284	0.47%	5	Abidjan	1,786	38	0.72%
6	Nagoya	77,988	260	0.26%	6	Zhanjiang	2,780	46	0.50%
7	Tampa—St. Petersburg	49,593	244	0.26%	7	Mumbai	23,188	284	0.47%
8	Boston	55,445	237	0.13%	8	Khulna	2,073	13	0.43%
9	Shenzen	11,338	169	0.38%	9	Palembang	1,161	27	0.39%
10	Osaka—Kobe	149,935	120	0.03%	10	Shenzen	11,338	169	0.38%
11	Vancouver	33,456	107	0.14%	11	Hai Phong	6,348	19	0.37%
12	Tianjin	11,408	104	0.24%	12	N'ampo	507	6	0.31%
13	Ho Chi Minh City	18,708	104	0.74%	13	Miami	366,421	672	0.30%
14	Kolkata	14,769	99	0.21%	14	Kochi	855	14	0.29%
15	Guayaquil	3,687	98	0.95%	15	Tampa—St. Petersburg	49,593	244	0.26%
16	Philadelphia	22,132	89	0.04%	16	Nagoya	77,988	260	0.26%
17	Virginia Beach	61,507	89	0.15%	17	Surat	3,288	30	0.25%
18	Fukuoka—Kitakyushu	39,096	82	0.09%	18	Tianjin	11,408	104	0.24%
19	Baltimore	14,042	76	0.08%	19	Grande_Vitoria	6,738	32	0.23%
20	Jakarta	4,256	73	0.14%	20	Xiamen	4,486	33	0.22%

A comparison with a ranking by exposure is proposed in the Supplementary Information.

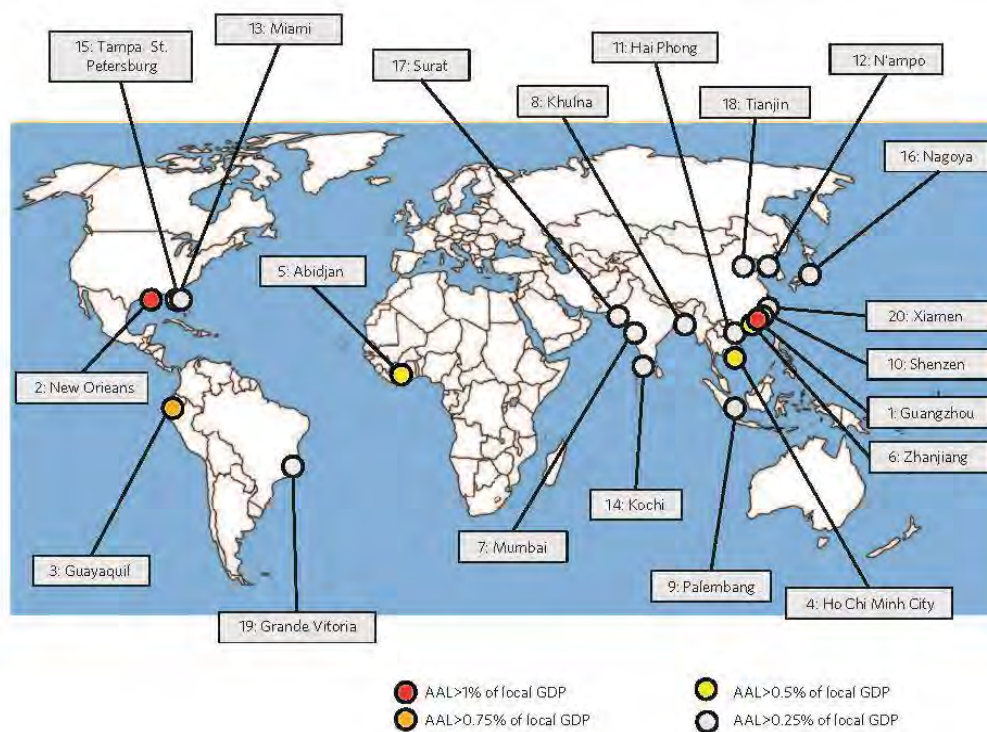


Figure 1 | The 20 cities where the relative risk is larger in 2005, that is, where the ratio of AAL with respect to local GDP is the largest. More information in Table 1.