EARTH 100 Fall 2017

Three Short Stories Project

DUE DATES (final copies): Sept. 22, Oct. 20, Nov. 17 (11PM)

Storytelling is an effective way to communicate sustainability topics AND we need more scientific information communicated in a way that is accessible to the general public BUT it takes practice to write a good non-fiction story on sustainability THEREFORE we will work to develop our storytelling skills in this course!

This project will allow you to explore pieces of sustainability that are a part of this course and interest you most. It also allows you to tie back in to our Overarching Course Goal:

> **Overarching Course Goal** -- For students to understand, **communicate examples**, and make informed decisions relating to the big ideas and supporting concepts of Earth science and the United Nations Sustainable Development Goals

The United Nations Sustainable Development Goals:
http://www.un.org/sustainabledevelopment/sustainable-development-goals/

Why have a piece of our course based on storytelling? Using narrative and storytelling has been proven by neuroscientists and others to be an effective way to communicate a message. Our message in EARTH 100 is for others to understand the relevance and importance of sustainability on a local-to-global scale.

Each student is required to write three non-fiction short stories on three different Sustainable Development Goals (ones that most closely relate to our course). Students will use the **And-But-Therefore (ABT) Framework** for their stories. Each story will be peer-reviewed in class before the final submission. Final stories will be part of an online collection of sustainable stories from Penn State Brandywine (with your permission).

For more on the ABT Framework (which we will continue to review in class), please see this TED Talk: Randy Olson Great Challenges Day at TEDMED 2013 - https://youtu.be/ERB7ITvabA4 (also linked in Canvas). The ABT Framework helps readers understand why facts and data matter, which again is a goal of our course.

For 8,000 years sea level has been stable AND civilizations have been built right to the edge of the ocean. BUT for the past 150 years sea level has been rising rapidly, THEREFORE it is now time to come up with a new management plan for coastal areas.

This project was originally inspired by the following article from Smithsonian Magazine...

These French Vending Machines Sell Short Stories - Super-short fiction that's as good as any snack, *by Erin Blakemore, November 13, 2015*
http://www.smithsonianmag.com/smart-news/new-vending-machine-spits-out-short-stories-france-180957273/

… and Penn State's library (at Univ. Park) installing one of these vending machines.

Penn State Libraries, Short Edition partner for first university collaboration – *May 18, 2017*
http://news.psu.edu/story/468845/2017/05/18/arts-and-entertainment/penn-state-libraries-short-edition-partner-first

The interface for this machine is very simple. A user has only three buttons to press: 1, 3, or 5. Once a button is selected, a short story will print out of the machine that takes the user 1 minute to read, 3 minutes to read, or 5 minutes to read.

Jupiter is the largest planet in our solar system AND older than Earth, BUT we don't know how it formed. THEREFORE we sent Juno to find out.

Your project… you are to write three NON-FICTION stories, relating to the intersection of Earth Science and the UN Sustainable Development Goals. Each of your stories will be a different length and address a different UN-SDG.

One-minute read = 300 words (average adult speed is ~300 words per minute)
Three-minute read = 900 words
Five-minute read = 1500 words

Where can you get information to serve as the basis for your stories?

- Any of your Zotero citations
- Our book *The Atlas of Climate Change*
- You may also use your class notes, lab exercises, handouts, etc.
- You are allowed to search the internet and use new sources
- Look at articles posted on our course LibGuide created by the Library
- Check out the PSUBW Sustainovation Twitter feed for current postings (you do not need a Twitter account to view): https://twitter.com/sustainPSUBW

You must keep track of the sources you use to write your short stories. ***You must have a minimum of two cited sources for each short story.** You need to include in-

text citations in APA format. Be sure you put your sources in an APA format, and list your sources alphabetically (remember, Zotero can help you with this!).

Your in-text citations and References should NOT be a part of your word count!

You must connect each short read back to ***at least one UN-SDG***.

General comments (*and a reminder of the instructions to follow!)

In your Short Story (the MS Word document you turn in), make sure you use 12 point Times New Roman or Arial.

Edit, edit, edit, and proofread, proofread, proofread. Make sure you catch every error – typos and spelling errors are not acceptable. You are strongly encouraged to have someone read through your stories (a family member or friend NOT in EARTH 100) to make sure what you are writing all makes sense.

It goes without saying that this is to be an individual effort – you are not to work with or discuss this project with anyone else in EARTH 100. You may utilize the campus Writing Studio for assistance (and in fact, are required to visit the Writing Studio for assistance for Story #2) – but these written products should be all your own efforts.

Be sure to follow the template for your submission.

Here's an example for you to explore (304 words, 1-minute read), taken from The Winnower (a Reddit AMA archive*)* [DOI: *10.15200/winn.144923.32016*]. It is six paragraphs – the first paragraph has the ANDs, the second paragraph gets to the BUT ("however") then quickly moves on to the THEREFORE with the last paragraph.

> Coral reefs are structures created by coral animals and are among the most biologically diverse ecosystems on the planet. They provide goods and services worth at least US$30 billion per year (and possibly much more) and support (through such activities as fisheries and tourism) at least 500 million people worldwide.
>
> Coral reefs, however, are threatened with effective collapse under rapid climate change. In particular, increasing sea temperatures are causing widespread coral bleaching and mortality. In addition, elevated carbon dioxide levels are causing ocean acidification that may further accelerate coral reef loss. The death of corals leads in turn to the loss of most of the fish and invertebrate populations that they support.

Over recent decades, 33-50% of coral reefs have been largely or completely degraded by a combination of local factors and global climate change. Reefs in many regions have lost half or more of their live corals. Additional extensive degradation will inevitably occur over the next two decades as temperatures continue to rise.

As a result of reef ecosystem destruction, a quarter of all marine species are at risk, while the associated economic losses will expose hundreds of millions of people to decreasing food security and increased poverty.

If average global surface temperatures increase by 2°C or more, relative to the pre-industrial period, the resultant ocean warming, along with acidification, will lead to continued widespread destruction of coral reef ecosystems over the next few decades. The emission reduction pledges submitted to date by the international community fall well short of what is required to avoid this biodiversity catastrophe.

The International Society for Reef Studies thus calls on all nations and negotiators at the Paris Climate Change Conference to commit to limiting atmospheric carbon dioxide (CO2) concentrations to no more than 450 ppm in the short-term, and reducing them to 350ppm in the long-term.

The ABT Words

Agreement	***Contradiction***	***Consequence***
AND	BUT	THEREFORE
also	despite	so
equally	however	thus
identically	yet	consequently
uniquely	conversely	hence
like	rather	thereupon
moreover	whereas	accordingly
as well as	although	as a result
furthermore	otherwise	henceforth
likewise	instead	for this reason
similarly	albeit	in that case

*(*list from Olson (2015), Houston, We Have a Narrative, Appendix 1, p. 234)*

Grading Rubric for Sustainability Stories (applied to each story individually)

CONTENT

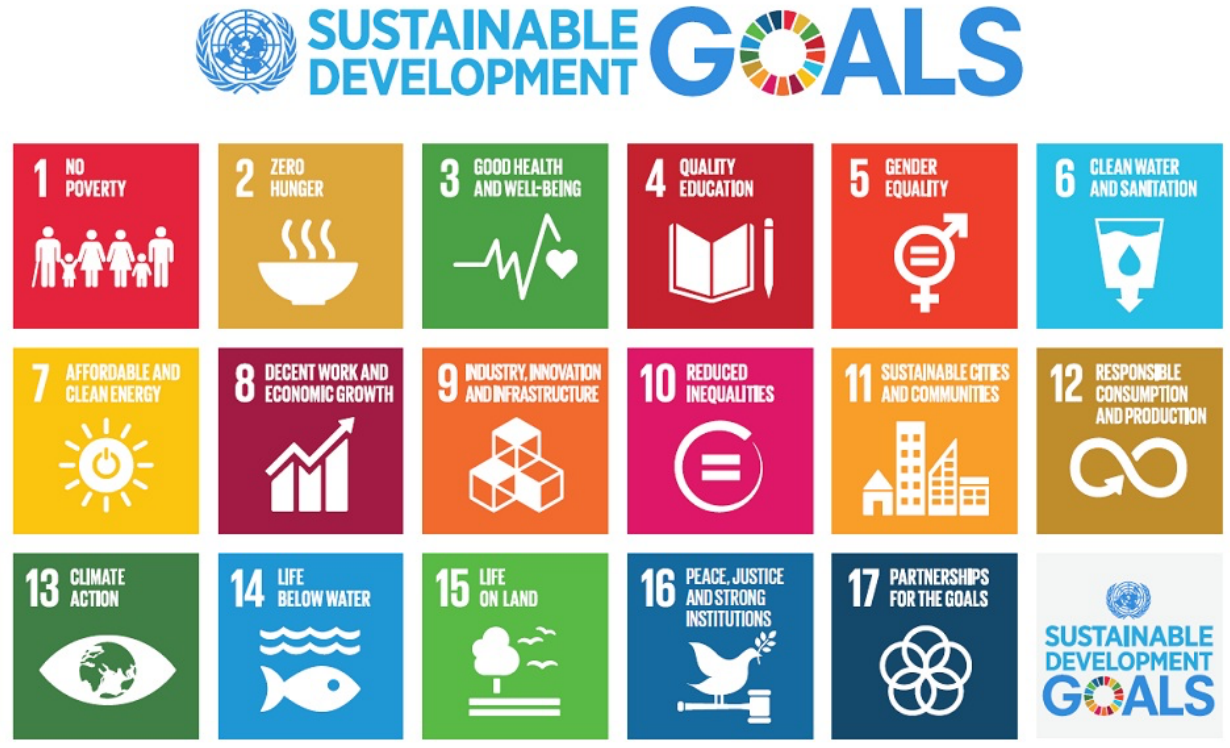
The topic you selected – Important? Relevant? Matches SDG?	0	1	2	3	4	5
Quality/accuracy of content in your story	0	1	2	3	4	5
Clarity of story for non-scientist to understand (jargon-free)	0	1	2	3	4	5
Is the content organized/easy to follow?	0	1	2	3	4	5
Did you follow the ABT Framework?	0	1	2	3	4	5
Are your References in APA formatting and complete/correct?	0	1	2	3	4	5

FORMAT

Do you have an effective title for your story, reflects content?	0	1	2
Did you follow the overall template accurately?	0	1	2
Did you edit/proofread? Any typos? Grammatical errors?	0	1	2
Did you hit at least the minimum word count	0	1	2
Did you visit the Writing Studio before submitting #2 draft?	0	1	2

Your grade for this project is based out of 40 points

**Missing the first draft deadline will lower this project grade by 20% (so 80% becomes 60%). If you miss the final submission deadline (including if you email me your file after 11PM the day it is due), you have three calendar days (not business days) to submit via Canvas email with a 10% deduction in your project grade each day. At 11PM on the third calendar day, the grade becomes zero.*



Read more about each: https://sustainabledevelopment.un.org/?menu=1300

EARTH 100
Fall 2017

Your name
Sustainable Story

Story #1 (1-minute read) – My meaningful title

Here is where I type my story following the ABT Framework…. This is the section that must be a one-minute read, with in-text citations in APA format, and a reference list in APA format.

References

Hwang, L. H. (2015, November 17). Rotation an important factor in Earth's evolution. AGU Blogsphere – Geospace. Retrieved from http://blogs.agu.org/geospace/2015/11/17/rotation-an-important-factor-in-earths-evolution/

Kahn, B. (2015, November 25). This is the Globe's Hottest Five-Year Period on Record. Climate Central. Retrieved November 26, 2015, from http://www.climatecentral.org/news/globes-hottest-five-years-19745

Kolbert, E. (2015). *Field Notes from a Catastrophe - Man, Nature, and Climate Change*. Bloomsbury USA.

Related Sustainable Development Goal

Goal 1: No Poverty
Goal 11: Sustainable Cities and Communities