Exploring Weathering, Erosion, and Deposition

# The Assignment:

You will locate an issue involving weather, erosion, and/or deposition then create solution to fix the problem, or to at least mitigate (lessen) the damage. You need to turn in one of the following:

* A written proposal
* A PowerPoint presentation
* A speech (may or may not include PowerPoint)

Pretend you are writing this to someone important who has the power to make these changes and you are trying to convince them to make these fixes.

# Apply (1): The Problem

Apply what you’ve learned in class to find a local issue where weathering, erosion, or deposition is the overall problem. Examples could be:

1. Cracks caused by some form of weathering
2. Water entering into or seeping out of locations where it should not be
3. Water creating holes or ditches which were not there before
4. Soil being unexpectedly deposited onto a location

These are just examples. Keep your eyes open, these kinds of issues are everywhere. Smaller issues are going to be easier for this assignment, but feel free to pick any issue you want, so long as it is in Southern Maryland, Baltimore or around Washington D.C.

You must submit the following for approval from your instructor before moving to “The Cause”:

* A description of the “real world” problem you have identified. This does not need to be more than a couple of sentences or one slide, though it will likely be your opening paragraph.
* At least two photographs from different angles to support the description you write. An original picture is worth a thousand words.

# Apply (2): The Cause

Now that you have identified the problem, analyze what is causing it?

1. Is this weathering, erosion, deposition, or a combination of 2 or more?
2. What is the agent or agents that are causing the problem?
3. How is the agent causing the problem (ex. Dissolution – water is dissolving the limestone)?
4. What are the immediate or short-term impacts of the problem?
5. What are the long-term impacts if not fixed?

This section should be around 1 – 2 paragraphs or 2 – 3 slides and must be approved by your instructor before moving forward.

# Analyze: The Research:

Since the agent has been identified and we know how it is causing the problem, we can look into solutions. Find and evaluate 3 methods to either stop or slow the agent and explain how it helps. Maybe we mentioned possible methods in class (i.e. what slows down erosion). The internet is also a great source of fixes. Note: The research **MUST BE RELATED TO YOUR ISSUE**. If your issue is a mudslide, your fixes must be about mudslides, not methods to fix plant wedging (unless plant wedging caused the mudslide in some way).

* This section should be about 1 paragraph for each method or one slide per method.
* It needs to include details about what the solution is as well as how it helps with the issue

# Evaluate: The Solution:

You have identified the problem, analyzed the cause, and researched methods to fix it. Now it is time to create a solution to your problem. Is there a way to stop the agent? If not, can we slow the agent until a better solution is found? If there is no way to stop or slow the agent, what can be done to mitigate (lessen) the damage done.

* This size of this section will depend on your problem and solution. If it is a smaller problem with a simple solution, it may only be 3 – 4 paragraphs or 4 – 5 slides, but if the problem and/or solution is more complex, it will take more. However, by this point, you should understand the problem and how the solution fixes it so it should not be too difficult to write.

# Rubric

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| Task | Meets | Somewhat Meets | Does Not Meet |
| A1. Problem is weathering, erosion, or deposition based | Problem identified is either weathering, erosion, deposition | - | Problem identified is not weathering, erosion, or deposition |
| A2. Problem is local | Problem is found in Charles County or surrounding area (or given permission by teacher) | - | Problem is not local |
| B1. Is the Issue Weathering, erosion, or deposition | Student correctly identifies **all** aspects of the problem as weathering, erosion, and/or deposition | Student correctly identifies parts of the problem but does not identify all parts | Student does not correctly identify the issue or does not attempt to |
| B2. What is the Agent or Agents | Student correctly identifies **all** agents | Student correctly identifies some agents but not all **or** identifies an agent that is not present | Does not correctly identify the agent(s) or does not attempt to |
| B3. How is the agent causing the issue | Student correctly identifies **and** describes the process using vocabulary from the class | Student correctly identifies the process and either describes the process **or** uses vocabulary from the class | Student does not correctly identify the process or does not attempt to |
| B4. What are the immediate impacts (**if applicable**) | Student accurately describes how the problem is currently affecting the area | Student describes how the problem is currently affecting the area but has some inaccuracies | Student does not explain accurately the immediate effects or does not attempt to |
| B5. What are the long-term impacts | Student accurately describes what could happen based on given information | Student’s prediction has some flaws in logic | Student’s prediction is not plausible or does not attempt to |
| C1. Research solution 1 | Researched solution is accurate and related to current problem | Researched solution is accurate but not related to current problem | Researched solution is bad or no research was done |
| C2. Research solution 2 | Researched solution is accurate and related to current problem | Researched solution is accurate but not related to current problem | Researched solution is bad or did not do a second research |
| C3. Research solution 3 | Researched solution is accurate and related to current problem | Researched solution is accurate but not related to current problem | Researched solution is bad or did not do a third research |
| D1. Solution matches the problem | The solution suggested matches the problem | The solution suggested somewhat matches the problem | The solution suggested has nothing to do with problem or no solution was suggested |
| D2. Solution is plausible | The solution suggested might fix or mitigate the problem | The solution would help, but there are flaws in the plan | The solution would not help the problem or no solution was suggested |
| D3. Solution was explained | The student fully explains the plan to fix or mitigate the problem | The student partially explains the plan or the plan is not well thought out | The student does not explain the solution |