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| **Project Title**:Mapping Environmental Disasters and Public Protest |
| **Project Main Purpose:**To map the location and scale of environmental disasters and related post-disaster protests in OECD countries |
| **Project Background/ Context:**Environmental disasters are frequently catalysts for social and political change. Yet, disasters of similar scale and impact seem to encourage collective action in some cases but fail to do so in others. For example, while some large oil spills have generated mass nationwide (and international) protests, others have gone largely unnoticed and protests, if any, remained small and localized. Why do some disasters succeed and others fail to catalyze mass protest movements?This project focuses on industrial environmental disasters in OECD countries: oil spills, mining leaks, and nuclear accidents. There may be many different aspects of disasters that prompt people to take to the streets. The aim of this assignment is to find out whether disaster location and size influence the occurrence and size of post-disaster protests. |
| **Outline of Project Details:**Students will have to 1. Meet with the project leader to determine the project objectives.
2. Review the available data and previous GIS work done for this project.
3. Locate and/or collect additional data as needed for the project completion.
4. Utilize data provided by the project leader to map several disaster damage areas in order to complement the existing maps.
5. Create new draft maps and analyze findings.
6. Submit draft maps and analysis/report (max 5 pages) for feedback.
7. Meet with the project leader to discuss the submitted work and feedback.
8. Incorporate feedback into final project.
9. Submit final maps and analysis/report (max 5 pages).
10. Clearly label and organize all data and maps.
11. Submit all data and maps in editable format (e.g., shape files, spreadsheets, etc.).
12. Give a final presentation of the project.

The maps would* Need to have:
	+ base layers: the worldmap or political maps as needed;
	+ disaster points according to disaster type (based on previous GIS work done for this project);
	+ the scale of disaster damage for each disaster (based on previous GIS work done for this project);
	+ the location and size of protests clearly linked to their respective disasters (based on previous GIS work done for this project);
	+ layers: protected areas/designated parks, species at risk habitats, major waterways/groundwater/water reservoirs, public beaches/public parks, population density (cities, towns), economic activity (employment by industry: oil, mining, nuclear)
* Be nice to have:
* An interactive component, a web map

The analysis/report* Needs to:
* Answer the following questions:
* Is there a correlation between the proximity of a disaster (of any type as well as specific types) to population centers and protest? In other words, are people more likely to protest, if the disaster occurs closer to their residences?
* If so, does the size of the population center (e.g., towns, cities) matter? For example, are disasters that occur close to cities correlated with protests (and large protests in particular)?
* Is there a correlation between disaster occurrence near pristine areas (e.g., parks, protected areas) and protest? For example, are people more likely to protest if the disaster happens in or close to a pristine area?
* Is there a correlation between disaster occurrence near species at risk habitats and protest? For example, are people more likely to protest if the disaster happens in or close to an area that’s a habitat of species at risk?
* Is there a correlation between disaster occurrence near important water bodies and protest? For example, are people more likely to protest if the disaster happens in or close to the sources of drinking water or water bodies with economic, social or other values?
* Is there a correlation between disaster location, protest and specific industries in the area of protest? For example, are people less likely to protest against an oil company if a large proportion of them are employed in the oil industry?
* If applicable, identify any additional patterns between disaster location and size, and protest.
* Include a detailed methodology of mapping and analysis.
* Identify the type of data used, including the sources (through proper referencing).
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| **Deliverables:**Maps, ArcGIS format  |
| **Required:**[Critical Milestones](https://sustain.ubc.ca/sites/sustain.ubc.ca/files/uploads/Critical_Milestones.docx) (please click on link for more information)Executive Summary (2 page max.)ReportPresentationOther (e.g. prototypes, a demonstration, conceptual designs, full build, video, application, installation, etc.)  ***Please specify other deliverables: \_\_\_\_\_\_\_\_\_\_\_\_\_\_***Maps***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** |

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| **anticipated OperationaL staff, faculty and student responsibilities** |
| **Project leader:*** Meet with students to review project objectives, discuss expectations, identify resources, and to set agreed-upon project milestones.
* Commit to ongoing communication engagement with the team – through meetings and email communication.
* Review and provide comment on any submitted progress reports and draft report.
* Attend final project report presentation.

**Faculty:*** Explain how students will be graded for the project and how the project mark fits into the course mark.
* Support students throughout project with expertise and advice as needed.
* Attend student presentation of project.

**Students:*** Meet project deliverables.
* Propose and commit to ongoing communication engagement schedule with the project leader and other project team members. This is typically through meetings, email communication or in-class workshops and serves as an opportunity to discuss project progress and receive guidance.
* Attend final meeting with the project leader.
* Present final research deliverables.
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