



## Introduction

September is national preparedness month in the United States. This designation reminds us to expect the unexpected and take steps to minimize the negative effects disasters can have on our lives. In this web quest, you will focus specifically on natural disasters and their economic impact.

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## The task

You are an analyst hired to research the economic impact of natural disasters. More specifically, you will examine what, if any, relationship exists between the real gross domestic product (RGDP) per capita (or real gross national income, RGNI, per capita) of a country, the human and financial losses experienced by that country, and its ability to recover when faced with a natural disaster. The culmination of this task is a presentation to the other analysts during which you will support or refute a correlation between the wealth of a country and its ability to cope with natural disasters. During the presentation, you will:

- Identify countries as low, middle, and high income based on their RGDP or RGNI per capita.
  - Compare and contrast the impact that natural disasters had on one low-, one middle-, and one high-income country of your choosing in a specific calendar year. (The year you select must be between 2000 and 2014.)
  - Describe the types and characteristics of the natural disasters that are most common and/or most destructive in your three countries.
  - Present charts/graphs/data maps of your own creation illustrating data for each country. The following information must be included for each of your three countries: the number of and types of disasters, the total number of people affected, the total death count, the financial damages in U.S. dollars, and the RGDP or RGNI per capita.
  - Cite the sources you used to research your countries. You must have at least one reputable source of information for each of your countries beyond those recommended in the web quest.
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# The process

1. **Select the countries:** Visit the following website to identify low-, middle-, and high-income countries. Select one country from each of the income levels to use for your analysis.

## [The World Bank](#)

- [http://data.worldbank.org/about/country-and-lending-groups#Low\\_income](http://data.worldbank.org/about/country-and-lending-groups#Low_income)

2. **Access the disaster data and select the year:** The EM-DAT database houses statistics about disasters affecting countries all over the world. This website provides most of your required data to create your charts/graphs/data maps. You will be using the country profile tool. In the window, select a year (which must be between 2000 and 2014), select one of your three countries, and click "display country profile." The display will give you statistics on the top 10 disasters for the country in that year. Look up all three countries and explore different years to determine which is most interesting. Finally, export a CSV file for each country and save it. You will be able to use this data for your charts/graphs.

## [EM-DAT](#)

- [http://www.emdat.be/country\\_profile/index.html](http://www.emdat.be/country_profile/index.html)

3. **Research the natural disasters:** In step two, you identified the types of natural disasters having the biggest impact on the countries you selected. You will now learn more about these disasters and what experts recommend people do to best prepare for them. As you read the expert advice, consider how well equipped people in different income countries would be to follow the recommended practices. One source of this information is provided below. If you use other sources, be sure to cite them and make sure they are reputable.

## [U.S. Department of Homeland Security](#)

- <http://www.ready.gov/natural-disasters>

Click on the natural disasters you need to research. Read about the type of disaster and how experts recommend people handle these disasters.

4. **Collect the income statistic:** You selected one target year in step two. You will now visit a website to collect the RGDP or RGNI per capita for each of your three countries in the target year. Be sure to note which statistic you collected and which source you used. Two sources for this data are listed below. If you get this information from a different source, be sure to cite it, make sure it is reputable, and ensure the statistics are inflation adjusted.

## [The World Bank](#)

- <http://data.worldbank.org/indicator/NY.GNP.PCAP.CD>

Select Economy & Growth from the drop-down menu and click on the statistic you want using the slider under the drop-down menu.

### [International Monetary Fund](#)

- <https://www.imf.org/external/ns/cs.aspx?id=28>

Scroll down this page until you see the target year you chose. Click on the World Economic Outlook Database for fall of that year. Scroll down the next page until you see Per Capita GDP, Constant Prices and click the link for All countries CSV. Download it in Excel and find your countries and the year you studied.

5. **Find other sources:** Using the research tools provided to you by your school or school system, find at least one other source of information (newspaper article, data set, magazine article, essay, blog, and so forth) about natural disasters for each of your three countries. Be sure to collect the information needed to cite the source and choose reputable sources.

6. **Create your visuals:** Using a free online tool or software loaded on your computer, create charts, graphs, or data maps to visualize data about your three countries. Be sure you clearly label the statistics being compared. Reference the task section to recall the statistics you must include in your comparison.

7. **Synthesize your research:** Use your research and data visualizations to support one of the following statements:

- There IS a positive relationship between the RGNI per capita (or RGDP per capita) of a country and its ability to prepare for, respond to, and recover from a natural disaster (the higher the income, the better the outcomes).

- There IS NOT a positive relationship between the RGNI per capita (or RGDP per capita) of a country and its ability to prepare for, respond to, and recover from a natural disaster. (Data and research show inconsistencies, contradictions, and/or an inverse relationship.)

8. **Present your analysis:** Begin with the statement you chose in step seven. Use your research and data to support the statement. Be sure to include all of the following in your presentation:

- State the position you selected in step seven.
- Identify the low-, middle-, and high-income countries you used for your study and the year you chose.
- Describe the types and characteristics of the natural disasters most common and/or most destructive in the three countries and how well each country was able to prepare for, respond to, and recover from natural disasters in the year you studied.
- Present charts/graphs/data maps of your own creation illustrating data for each

country in a way that provides evidence to support the statement you are defending.

- Share three limitations of your study that could potentially lead another researcher to a different conclusion about the relationship between a country's income and its ability to handle natural disasters.
- Cite the sources you used to research your countries. You must cite at least one reputable source of information for each of your countries beyond those recommended in the web quest.

## Evaluation

	Beginning	Developing	Accomplished	Exemplary	Score
Position clearly stated	No position is stated OR both positions are stated.  (1-2)	Audience is able to figure out what the student's position is, but it is buried in unnecessary information or lack of comfort with the topic.  (3-6)	Student clearly states his or her position.  (7-8)	Student clearly states his or her position AND incorporates a story or other device to engage the audience in the topic.  (9-10)	
Countries are selected and meet the required criteria	Student does not identify any countries or all countries fall into the same income level.  (1-5)	Student identifies all three countries studied but does not give the correct income level for each OR the student identifies less than three countries with the correct income levels.  (6-13)	Student identifies all three countries studied AND gives the correct income level for each.  (14-17)	Student identifies all three countries studied, gives the correct income level for each, AND provides an intriguing reason for selected these particular countries.  (18-20)	
Knowledge of natural disasters affecting target countries	Student gives misinformation about natural disasters or gives no information about natural disasters.  (1-5)	Student correctly discusses the characteristics of different natural disasters without making any connections to the countries he or she studied.  (6-13)	Student describes disasters in addition to the ones specific to the countries studied AND/OR gives general comments about preparedness, response, and recovery rather than specific examples.  (14-17)	Student correctly describes only natural disasters significant to his or her target countries and provides specific examples of preparedness, response, and recovery for each target country.  (18-20)	
	Student provides no data, does not create any	Student provides charts/graphs/data, but they are	Student provides correctly labeled charts/graphs/data	Student provides correctly labeled, visually appealing	

Data visualizations	charts/graphs/data maps, AND/OR all data shared is made up or incorrect.  (1-15)	incorrectly labeled, display incorrect data, or are missing required data.  (16-27)	maps for all of the required data.  (28-40)	charts/graphs/data maps for all of the required data, correctly interprets the visuals, and uses the visuals to reinforcement his or her position statement. (36-40)	
Citations	Student used no sources OR none of the sources are written down for submission.  (1-2)	Student has some sources referenced, but does not have all of the required sources.  (3-5)	Student has used all the required sources and has a list of these sources, but some or all are not in a correctly formatted bibliography. (7-8)	Student has a correctly formatted bibliography for all required sources.  (9-10)	
				<b>Total:</b>	

## Conclusion

If you have successfully completed this task, you have received three main benefits.

First, you have experienced the work an analyst might do. If you enjoyed researching, visualizing, and interpreting data, you may want to research this type of career. The Bureau of Labor Statistics' [Occupational Outlook Handbook](http://www.bls.gov/ooh/home.htm) (<http://www.bls.gov/ooh/home.htm>) describes several different types of analyst careers.

Second, you have experienced taking a position and using evidence from your research to support your position. You have also used research tools to find reputable sources of information. If you pursue higher education, you will use and build on these skills throughout college and graduate school.

Finally, you are now aware of the challenges people and countries face when natural disaster strikes. Hopefully, your awareness of how to prepare for, respond to, and recover from natural disasters will help you plan well and protect yourself and your family from unnecessary losses. You will be better prepared to advocate for public policy and infrastructure investments designed to minimize the negative impact of disasters. You may even choose to help those in need following a natural disaster.