

Exercise 7: Flood Case Analysis

Case Study Guide and Outline

Objectives

At the end of this exercise, you will be able to create a flood management plan based on remote sensing tools.

Outline

In this exercise, you will analyze a flood event, including precipitation, soil moisture, streamflow, and inundation maps for a flood case of your choice.

This team project will make use of as many of the relevant resources presented in this training as possible, and any other data you wish to include. You may choose to analyze a past event of heavy rain and flooding from your region, or one you may have heard about in the news. You can also choose a recent or on-going flooding event if there is any.

Conceptually, you can think of this as telling a story using remote sensing data, flood monitoring tools, and socio-economic data. You can use images, maps, time series, animation from various tools, and GIS for your case study.

Your case study will be presented at 3:15 p.m. Plan on 5-8 minutes for your presentation, with 5-6 PowerPoint slides.

Procedure

Find a group of 5 to 6 people to work on your case study. Determine the flooding case you will be analyzing. You can choose a case from the Dartmouth Flood Observatory flood archive: <http://floodobservatory.colorado.edu>, or can also use current flood information from ERDS2: <http://erds.ithacaweb.org>.

Identify the resources you wish to use and list these in the Case Study Analysis Sheet. You should make use of any and all course materials to identify resources for your case study.

Once you have identified the flood case, begin assembling the data you will use. It will be more efficient to divide this task among the people in your group. We **strongly suggest** that you fill in the information on the **Case Study Analysis Sheet** to guide you in your presentation.

Organize the information you have gathered so that it can be presented and practice telling your story.

You can select one person to make the presentation, or you can have several people take turns, each presenting one piece.

Suggested Resources

We suggest that your group first compile a list of resources that can be used including where to find this information. Since this is mostly a visual presentation, consider sources that can provide visual context.

- Rainfall Analysis: <http://giovanni.gsfc.nasa.gov/giovanni/>
- Soil Moisture: <http://nsidc.org/data/smap>
- Streamflow: <http://flood.umd.edu>
- Surface Inundation:
 - <http://oas.gsfc.nasa.gov/floodmap/>
 - <http://floodobservatory.colorado.edu/>
- Sentinel SAR data: <http://vertex.daac.asf.alaska.edu/#>
- River Watch: <http://floodobservatory.colorado.edu>
- Terrain: <https://gdex.cr.usgs.gov/gdex/>
- Population, Roads, urban areas etc.:
<http://sedac.ciesin.columbia.edu/data/sets/browse>