GIS Specialization Project Outline

UC DAVIS EXTENSION

This project is designed for you to work through an entire GIS project on your own, from conception all the way through final analysis and distribution. As mentioned in the video introducing the project, the topic of the project is up to you, so choose something relevant, and strike a balance between getting experience with something new that is relevant to your future work and utilizing skills you've practiced throughout this course.

This project is split into four milestones, allowing you to submit the project in phases. As you go through it, it's OK to adapt and change your project a bit - this is a natural part of the process - while a complete change in project would require you to start over.

- In the first milestone, you will decide on your project topic and submit a project plan or proposal, outlining your goals and what you hope to learn with your analysis
- The second milestone will have you submit your planned analysis, either as a ModelBuilder model or as another written description, to demonstrate to yourself that you have a viable route to analyze your data
- The third milestone is where you actually analyze the data - you will complete your analysis and submit your data results and metadata
- The fourth milestone has you generating two maps - a web map and standard PDF map for print.

In this framework, you can separate out each portion of your project to focus on one aspect at a time - the first milestone is meant for you to come up with a potential project. The next milestone helps you validate that you have an analysis you know how to do. The third milestone is fully focused on running the analysis and generating the data. The fourth milestone is meant to deliver maps to help others interpret your results using maps. With each milestone, you'll need to be aware of the choices you previously made about your project, but also keep in mind what you will need to accomplish in future milestones.

Each milestone should be completed before beginning the next milestone so that you are fully prepared to work on the next aspect of the project. How long each milestone takes you will depend on the topic you choose, but plan for a week or two to choose your topic, write and submit your proposal, another week or two to plan your analysis, 1-3 weeks to run your analysis, and 1-2 weeks to make your maps.

Regardless of your topic, your overall project should have a significant analysis component where you answer questions using geoprocessing tools. What "significant" means is subjective, so as a general rule, your analysis should result in the answers to a meaningful question or hypothesis, and should take you more time to run than your final projects for the other courses in this specialization.

For example, you might want to assess threats - whether human or environmental to a set of facility locations you have. Then, you can assess mitigation potential for those threats for each facility. Both of those can be done in the same way as a suitability analysis, so you can generate a threat and mitigation layer for your area of interest and use them to interpret risks and opportunities. This approach, at its

core is still something you know how to do - a suitability analysis - but it involves applying that skill in a new way. You may wish to research examples of where this approach has been done before in order to understand their methods and lessons learned from this approach. There will be a reading with other project ideas, and a discussion question for you all to share your own ideas too, but this example is meant to show the size of the analysis that you should be undertaking.

Your project can still involve data collection or digitizing if you would like to collect and create new data to answer your questions, but be aware of the significant time investment required for this if you choose to incorporate it. Your project can also still focus heavily on cartography and making a beautiful map to convey the results of your analysis, but it must still involve a significant analysis component.

The remaining resources in this module will help you choose a research question or topic. Remember to choose a topic that you have a true desire to discover more about. Good luck!

