Plan Overview

A Data Management Plan created using DMPTool

Title: Doctoral Dissertation Research: An Agent-Based Model of Population Changes in a Vulnerable Coastal Environment

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Doctoral Dissertation Research: An Agent-Based Model of Population Changes in a Vulnerable Coastal Environment

Roles and responsibilities

The Data Management Plan should outline the rights and obligations of all parties as to their roles and responsibilities in the management and retention of research data. It must also consider changes to roles and responsibilities that will occur should a principal investigator or co-PI leave the institution.

For the proposed research, Nina Lam will take the lead and responsibility for coordinating and ensuring data storage and access. However, Kenan Li will also be involved in managing, storing, and disseminating the results of the project. Both of them will be responsible for checking that the plan is being followed.

Should the co-PI leave the Louisiana State University, Nina Lam will take the responsibility for the storage and access of data directly acquired by the leaving co-PI, and transferring responsibility for the data to other lab personnel,

Expected data

The Data Management Plan should describe the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project. It should then describe the expected types of data to be retained.

This project will obtain three types of data: (1) coastal hazard data, including the beginning date, ending date, hazard type, and the caused property damages by hazard event; (2) GIS shape files and data (e.g. digital boundary, elevation) and remote sensing imagery; (3) social-economic and demographic data by geographic units of county or zip code. All these data will be re-distributed into the 1km by 1km grid through areal interpolation. A total storage demand of 5 TB is anticipated at the Louisiana State University.

Period of data retention

SBE is committed to timely and rapid data distribution. However, it recognizes that types of data can vary widely and that acceptable norms also vary by scientific discipline. It is strongly committed, however, to the underlying principle of timely access, and applicants should address how this will be met in their DMP statement.

Data will be maintained on our groups' public web server for a minimum of three years after the conclusion of the award or public release, whichever comes later. From experience, we expect this period to extend to eight years

Data format and dissemination

The Data Management Plan should describe data formats, media, and dissemination approaches that will be used to make data and metadata available to others. Policies for public access and sharing should be described, including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements. Research centers and major partnerships with industry or other user communities must also address how data are to be shared and managed with partners, center members, and other major stakeholders.

1. We will use the ArcGIS FGDC (Federal Geographic Data Committee) metadata standard as a means to organize the original datasets acquired from different sources. The metadata standard is a description of the dataset; it includes information such as the date when the data were generated, the location of the samples in terms of latitude and longitude, and the person to contact for access. Some brief descriptions of the data, keywords, and publications relate to the data will also be included. The spatial locational information included will enable (spatially enable) the mapping of the dataset as a point locator on the study area map to be made available on the project website. By doing so, we make the data *discoverable*, which is the first step towards making the data *accessible* and *usable*.

2. Although all the data were obtained from the publicly available sources, the data will further be processed for the research, such as areal interpolation, re-aggregation, redistribution, re-organized, and some statistics calculation. Thus, all the refined datasets will be archived using the same ArcGIS FGDC metadata standard, and stored in our web server and backed up in two other computers. For the modified or re-organized data, the original source, data quality, and the date of acquisition will be documented. These datasets will be made publicly available through our project website.

3. In the process of the simulation, new dataset will be generated from time to time, such as population changes prediction, assessment of the local resilience, and so on. All these simulation results will be documented and input into ArcGIS, under the same metadata standard (FGDC).

4. A web app is already being developed and tested for the dissemination, which will allow the end user directly querying and downloading the data from our ArcGIS Server.

Data storage and preservation of access

The Data Management Plan should describe physical and cyber resources and facilities that will be used for the effective preservation and storage of research data. These can include third party facilities and repositories.

As previously mentioned, data and codes developed during this research will be stored on both the PIs' groups' local server and at least one back-up machine. At the end of the project, the links for all the key datasets generated from the project will be posted on our website hosted by our own server. Research publications and other findings will be included and linked, thus the result of this data management plan would be a straightforward web-based GIS that can be accessible by researchers, students, stakeholders and the public.

Additional possible data management requirements

More stringent data management requirements may be specified in particular NSF solicitations or result from local policies and best practices at the PI's home institution. Additional requirements will be specified in the program solicitation and award conditions. Principal Investigators to be supported by such programs must discuss how they will meet these additional requirements in their Data Management Plans.

Question not answered.

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