Data Management Plan

The proposed research consists of (1) mapping of sponge populations, (2) laboratory and field manipulations, (3) molecular genetic analyses to evaluate the composition of associated microbial communities, and (4) model development. Completion of these objectives will generate various types of data as described in the proposal.

Using field surveys and photo-monitoring, we will evaluate the occurrence and distribution of *Aplysina* red band syndrome (ARBS) within the *Aplysina cauliformis* population. Digital data will be used for spatial analysis in ArcGIS software programs such as ArcMap, to investigate the spatial and temporal dynamics of ARBS. The laboratory and field manipulations will generate data on the process of disease transmission and the host's response to infection; molecular genetic analyses will be used to assess the composition of the associated microbial communities. By combining these data, we will develop a model for ARBS in the marine environment and test the efficacy of this model at a new location.

Notes will be taken in the field on either slates or underwater paper. All data will be transcribed into field notebooks upon return to the research station. Digital photographs taken in the field will be downloaded from the camera, labeled appropriately, and saved on two computers and external disc drives. Upon return to the university, all data will be saved to university computers with external and/or off site back-up resources. Results from laboratory manipulations and analyses will be recorded in laboratory notebooks and stored in a secure location in the PIs' laboratories. Raw and processed data will be saved as tab-delimited text files on university computers and saved to off-site servers. Computers within the PIs laboratories will be independently backed up on external hard drives daily. In compliance with NSF guidelines, hard copy versions of the data will be retained for at least three years following the award period.

Tab-delimited, plain text files will be used for data storage as they can be easily imported into various analysis programs such as Microsoft Excel, PRIMER, R, and ArcGIS. Digital data for ArcGIS analyses will adhere to Federal Geographic Data Committee (FGDC) metadata standards for metadata format and content. A variety of statistical analyses (e.g., ANOVA, ANOSIM, MDS) will be conducted on the resulting data and all statistical files will be retained in electronic form indefinitely. The NSF-supported Dryad international data repository (http://datadryad.org/) will be utilized as a resource for datasets that correspond to peer-reviewed publications arising from this work. Utilization of this service insures that the raw datasets will be available in perpetuity. For data that are not immediately published, resources at the University of Alabama, University of Mississippi, and the University of the Virgin Islands will be used to ensure long-term retention of the complete datasets.