

PROJECT SUMMARY

A Social Network Analysis of NOAA's Coastal Storms Program in the Gulf of Mexico



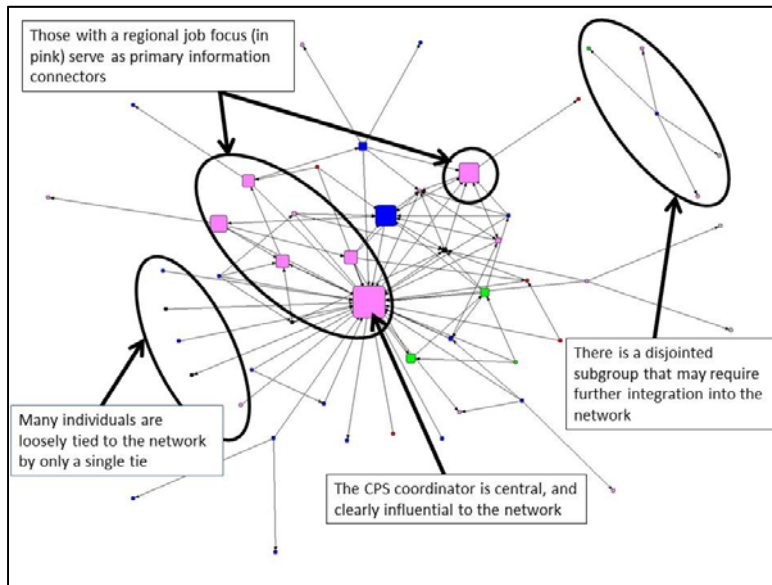
NOAA Coastal Services Center
www.csc.noaa.gov



Mississippi-Alabama Sea Grant Consortium
www.masgc.org

Overview

The Coastal Storms Program (CSP) is a national effort led by NOAA, to reduce loss of life and negative impacts on coastal property and the environment caused by coastal storms. CSP pilot areas, including the Gulf of Mexico, nurture partnerships and develop user-driven products that address storm risks in a targeted, regional context.



Social network analysis (SNA) is a technique for evaluating relationships and connectivity between individuals. Typically using a survey of respondents, it maps the relationships among people to show how information or other social elements (trust, support, etc.) flow, and illustrates what aspects of a network are essential for connectivity and information flow. The visual output of a SNA is called a sociogram. Nodes and ties are the primary features. Nodes indicate the individual people, or “actors” (in this case, individuals that collaborate and share information on the CSP) and the ties show the relationship between them. In the figure above, the larger the node, the more significant the person is to the communication network; smaller

nodes indicate people that are less connected to the network. In addition, the sociograms reveal important attributes of a network, such as who the leaders and connectors are, clusters of connectivity, and who is isolated or disconnected. This analytic tool allows one to understand the extent of communication across organizations, job sectors, and geographies.

This SNA was administered via web survey using a snowball sampling strategy. A snowball sample is a non-probability sampling technique used when the members of a population are difficult to locate, or are unknown. In a snowball sample, the researcher collects data on the few members of a target population he or she can locate (in this case the CSP advisory board members and small grants recipients), and then asks those individuals to provide information needed to locate other members of that population whom they know. This technique was administered in Winter/Spring, 2010 and again in Spring/Summer, 2012. Three rounds of sampling were used for each survey year, revealing a total of 56 unique individuals.

How we can use results

Although a SNA describes what patterns exist, it does not explain why. Through analysis of results, we can characterize the network patterns, and then ask questions to better understand why the network exhibits specific attributes and relationship patterns. We can begin to understand the complexity of collaboration and tease out what is attributed to the CSP network and what may be associated with other existing networks that support collaboration in a particular issue area. We can better understand how robust and collaborative a network is, identify individuals outside of the network that are tapped for their expertise, and visualize the value of the network to individuals within it, and value of individuals to the network. Finally, this tool can serve as a benchmark for how networks change over time, such as between the two years of data collection (2010 and 2012).

Value of CSP Collaboration and Products

As part of the 2012 survey, nearly 85% of respondents indicated they receive valuable information resilience-related activities, tools, and other resources that directly result from their association with the Gulf of Mexico CSP. Further, just over half of respondents reported making new contacts in the field of coastal hazard resilience, directly resulting from their association with the CSP. A number of survey respondents indicated that such regional, collaborative efforts are critical to improve NOAA's delivery of products and services. Of the products and tools developed by the Gulf of Mexico CSP, all were ranked as "valuable and likely to be used on the job," or "exceptional and used on a regular basis for my work" by 73% or more of respondents. Over half of respondents focus on the Gulf of Mexico from a regional perspective, while on the job. Though, when inquiring on one's priority state of interest, 54% reported Mississippi, followed by Alabama (17%), Louisiana (14%), Texas (9%), and Florida (6%).

Recommendations

The CSP should use these results to further refine and strengthen its network to better support information sharing and project development. This includes making efforts to increase participation in targeted states, validating existing constructs (e.g. workgroups, projects) and identifying areas where additional professional expertise could prove beneficial. Survey results also included the identification of important, and previously unknown contributors to many within the network (not shown), particularly affiliated with state agencies and private industry could be further involved to strengthen the overall network. Continued, periodic repetition of core components of this survey would allow for further comparisons that can guide team actions and improve the value and visibility of CSP collaboration.

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