

Second Semi-Annual Progress Report

(Period: July1, 2011 to December 31, 2011)

Project Title: Incorporating Social Science into NOAA's Tsunami Program
Funding Opportunity: Tsunami Social Science Program
Award Number: NA10NWS4670015

Prepared by:

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SUMMARY STATEMENT AND STATE OF THE PROJECT

The project has three primary objectives related to using social science to understand and improve aspects of NOAA's tsunami program. These objectives are to:

- Objective 1:** evaluate warning products of the two NOAA Tsunami Warning Centers;
- Objective 2:** measure the influence of educational outreach on communities associated with a proposed *TsunamiReady™ Program Improvement Plan (TRIP)*; and
- Objective 3:** develop a searchable, online compendium of social science research on tsunamis.

Five Phases of work consisting of 10 separate Activities were described in the proposal to meet the objectives. The period encompassing this reporting period primarily included work on the first two objectives. As with each prior reporting period, we began this period behind schedule and, while we are not yet completely on track with the proposal schedule, the team continues to make considerable progress on Objectives 1 and 2. Key progress this period includes:

- Conducted remaining four focus group meetings in Oregon, Alaska, North Carolina and the U.S. Virgin Islands for Objective 1 on warning products and Objective 2 on the TRIP.
- Analyzed focus group data for Objective 1 and 2;
- Prepared individual site reports describing results for Objectives 1 and 2;
- Submitted an Interim Report and draft version of a Final Report on the evaluation of Tsunami Warning Center warning from focus group meetings with emergency managers and stakeholders;
- Prepared a draft report describing the findings from focus group meetings with Emergency Managers and Stakeholders on the TRIP2. This report was submitted in January—the current period;
- Conducted telephone interviews of a sample (N = 300) of the previous participants in the earlier NSF funded study in WA, OR, CA, HI, AK, and NC for Objective 2. Data are still being cleaned and analyzed.
- Developed and refined methodologies to construct social vulnerability maps in target communities by mapping the spatial distribution of attitudinal survey data in a GIS.
- Developed a draft protocol for interviews with media concerning their use of NOAA tsunami products

As mentioned in the previous semi-annual report, we compensated for the lack of a post-doc on the project by increasing the workload of Gregg, Wood and Horan, plus increasing the use of undergraduate and graduate students and consultant support.

TIMELINE OF ACTIVITIES

Table 1 reflects the original timeline for activities detailed in the proposal. For the previous reporting period (July – December 2011), we continued to work on the first five tasks. Since all five tasks from the first period were not completed, we continued working on those tasks in this reporting period, in addition to the three targeted for this period.

Table 1. Timeline of proposed activities to accomplish the activities and objectives in this period (shaded).

	Year I	July 2010-Dec 31, 2010 and Jan 1, 2011-June 30, 2011												
		J	A	S	O	N	D	J	F	M	A	M	J	
1	Contact local to national stakeholders (Phase 1).	✓												
2	Compiling lists of TWC products, researching social science literature (Phase 1)	✓	✓											
3	Contract Am Samoa Field Coordinators. Collect Phase 2 baseline data in Am Samoa and US VI. Phase 2b data collection in the six HSD communities	✓	✓	✓										
4	Analysis of Phase 2 data. Use GIS to construct community vulnerability maps					✓	✓							
5	Focus group meetings with TWC, Emergency Managers and other key stakeholders/informants (Phase 1).					✓	✓							
6	Complete development of Phase 1 TWC products checklists and evaluate them for improvement.							✓	✓					
7	Conduct educational outreach described in Phase 3								✓	✓				
8	Collect Phase 4 data to evaluate effectiveness of educational outreach*											✓	✓	
		July 2011-June 30, 2012												
		J	A	S	O	N	D							
9	Begin working with the Natural Hazards Center to develop a concept repository for social science data.	✓	✓											
10	Analyze Phase 4 data. Use GIS to construct community vulnerability maps			✓	✓	✓	✓							

Table 2 summarizes the status of work on the 10 Activities outlined in Table 1.

Table 2. Status of Activities targeted for Year 1 and the first half of Year 2 (Jul-Dec 2011).

	Year I	Status
	Activity	
1	Contact local to national stakeholders (Phase 1).	Completed
2	Compile lists of TWC products; research social science literature (Phase 1)	Completed
3	Contract Am Samoa Field Coordinators. Collect Phase 2 baseline data in Am Samoa and US VI. Phase 2b data collection in the six HSD communities	Completed
4	Analysis of Phase 2 data. Use GIS to construct community vulnerability maps	Data analysis— in progress. GIS— Completed, report pending
5	Focus group meetings with TWC, Emergency Managers and other key stakeholders/ informants (Phase 1).	Completed— report issued January 2012.*
6	Complete development of Phase 1 TWC products checklists and evaluate them for improvement.	In progress
7	Conduct educational outreach described in Phase 3	**see below
8	Collect Phase 4 data to evaluate effectiveness of educational outreach*	**see below
9	Begin working with the Natural Hazards Center to develop a concept repository for social science data.	In progress
10	Analyze Phase 4 data. Use GIS to construct community vulnerability maps	* *see below

* Similar study of media in progress this period.

** Tasks 7, 8 and 10 are to be addressed once the TsunamiReady™ Improvement Plan is released and piloted in communities.

PERSONNEL AND ACTIVITIES

Senior Personnel:

The following personnel worked on the project in this reporting period.

Chris E. Gregg	PD/PI	Associate Professor of Geology, Dept of Geosciences East Tennessee State University, Johnson City, TN 37614 Worked on coordination of the project activities, wrote reports, analyzed data, and led the development of the warning metric.
Stephen Meinhold	Co-PI	Professor, Political Science, University of North Carolina, Wilmington, NC 28403 Participated in re-survey of the NSF HSD communities and USVI mail survey development, conducted New Hanover County, NC and USVI Focus Groups; general project administration and direction.
Liesel Ritchie	Co-PI	Assistant Director for Research, Natural Hazards Center University of CO at Boulder, Boulder, CO 80309

		Conducted the Alaska focus groups and supervised data analysis and reporting. Initiated work on the tsunami compendium.
Duane Gill	Consultant	Department Head and Professor, OK State University Stillwater, OK 74074 USA. Assisted with the Alaska focus groups.
Bruce F. Houghton	Consultant	Science Director, National Disaster Preparedness Training Center, University of HI, Honolulu, HI, 96825 USA Assisted with the Hawaii focus groups
Jennifer Horan	Consultant	Assistant Professor, Political Science, UNC Wilmington Wilmington, NC 28403 USA. Oversaw the re-survey of the NSF HSD communities, USVI mail survey, oversaw warning product collection and classification schema, and prepared draft warning analysis. Compiled Focus Group reports for New Hanover County, NC and USVI and transcriptions.
David M. Johnston	Collaborator	Director, Joint Centre for Disaster Research. Massey University, Wellington, NZ. Managed the data transcription, analysis and site reporting for the Washington focus groups; assisted with Objectives 1 and 2 reports and worked with Gregg on development of the warning metric.
Nate Wood	Collaborator	Research Geographer. USGS, Vancouver, WA 98683 USA Co-organized the Oregon focus groups; oversaw social vulnerability mapping and contributed to the report on Objectives 1 and 2. Wood received no direct funds from NOAA, since he is a USGS employee. His time and travel expenses were covered by USGS funds associated with a tsunami-related research project of his and by non-grant money from ETSU.

Undergraduate and Graduate Students and Staff

Colleen Scott	Doctoral of Public Health Candidate, ETSU; worked on data analysis and report writing for Objective 1.
Courtney Farnham	Professional Research Assistant and Graduate Student, Natural Hazards Center, UC. Worked on Alaska Focus Groups and data analysis and reporting.
Crystal Nelson	Executive Aid, Department of Geosciences, ETSU; worked on Transcriptions of Focus Group meetings from American Samoa, Hawaii, California.
Genevieve Cain Robinson-	Consultant, Portland, OR. Coordinated the Oregon focus groups, analyzed the data and prepared a summary site report.
Kasie Richards	Doctoral of Public Health Candidate, ETSU; worked on development of media protocol for evaluating receipt and use of tsunami products.
Max Ashworth	Research Assistant and Undergraduate Student, Department of Political Science, UNCW; worked on USVI mail survey logistics, data entry and cleaning; also conducted follow-up telephone interviews for the NSF HSD communities.

Sara Daniels	Research Assistant and Undergraduate Student, Department of Political Science, UNCW; worked on USVI mail survey logistics, data entry and cleaning; also conducted follow-up telephone interviews for the NSF HSD communities.
Stuart Frazer	PhD Candidate, Joint Centre for Disaster Research, Massey University and GNS Science, Wellington, New Zealand. Oversaw transcription of notes and recordings from the Washington focus groups and assisted David Johnston with analysis and reporting of the of the Washington data.
Victoria Johnson	PhD Candidate, Joint Centre for Disaster Research, Massey University and GNS Science, Wellington, New Zealand; worked on report writing and analysis for Objective 2.
Winn Ketchum	GIS Research Assistant and Graduate Student, Department of Geosciences, ETSU; worked on GIS-based social vulnerability mapping.

PROGRESS TOWARD ACTIVITIES IN THIS REPORTING PERIOD

Following is a brief discussion of each of the activities scheduled for this reporting period.

Activity 1. Completed

Activity 2. Completed

Activity 3. Completed

Activity 4. Completed— report pending for GIS-based mapping of social vulnerability.

Activity 5. Completed

Activity 6. In progress— the team has selected Tsunami Bulletins from the March 2011 Japan tsunami for evaluation of the bulletins against social science research on warnings.

Activity 7, 8 and 10. This activity will depend on how the NWS revises the Draft Guidelines for a community to become TsunamiReady™ and the draft proposal for the Community Rating System for TsunamiReady™

Activity 9. In progress— the PI plans on discussing options for the compendium with J. Hollingsworth at the NTHMP meeting in February

TEAM CORRESPONDENCE

The team corresponded through telephone, Skype and meetings. The following major meetings were held:

- Members of the team met in Broomfield, CO July 7-12, during the annual Natural Hazards Workshop. The team held an all-day meeting on Friday July 8 to work on project tasks. Gregg also met with C. Maier. A poster describing the project, titled, “*Integrating Social Science into NOAA’s Tsunami Program,*” was presented at the 36th Annual Natural Hazards Research and Applications Workshop. Team members attending were: Liesel Ritchie, Steve Meinhold, Jenifer Horan, David Johnston, Victoria Johnson, Courtney Farnham and Chris Gregg

- Gregg, Johnston and Johnson met in Tennessee in December to work on a) refinement of the two draft reports for Objectives 1 and 2; b) development of a metric for evaluating TWC warning products.

In addition to discussions among the team, Gregg also corresponded with Jane Hollingsworth, J. Rhoades and C. Maier via telephone and email and with C. Maier at the Natural Hazards Workshop in 2011.

LOOKING FORWARD TO THE CURRENT PERIOD (Jan 1-Jun 20, 2012)

In the current reporting period, we aim to:

- complete an evaluation of TWC Standard Tsunami Bulletins and develop a metric for evaluating warning products
- finalize the two current draft reports for Objective 1 and 2
- present summary findings of the study to date at the annual NTHMP meeting in San Diego, February 2012
- complete the analysis of telephone survey data collected as a subsample of the previous NSF HSD survey data and compare it with the previous NSF HSD data to look for changes in community attitudes
- finalize survey of media protocol and conduct telephone interviews of media for Objective 1
- analyze the media data and merge the findings on their use of tsunami products with the findings described in the report on emergency managers' use of warning products
- meet with the Tsunami Program Manager (Hollingsworth) in February to:
 - 1) review the report issued for work on Objective 1
 - 2) discuss progress on development of a metric for evaluating warning products and how it will supplement the report on Objective 1
 - 3) decide on the best approach for revising warning products
 - 4) discuss the work completed on GIS-based mapping of social vulnerability and how to best use these resources within NOAA's Tsunami Program
 - 5) review the report issued for work on Objective 2
 - 6) determine how to proceed with revising the Draft Guidelines for TsunamiReady and the Community Rating System
 - 7) Discuss options for proceeding with the development of a tsunami compendium.

Our aim is to complete the balance of outstanding work scheduled for this reporting period and the previous reporting period by the end of this period, with the exception of two tasks— Tasks 7, 8 and 10 in Table 2. These tasks require that educational information about the TRIP be released by NOAA in the target communities.

Financial Statement

SPENDING CATEGORIES BETWEEN JULY 2011 AND DECEMBER 2011: TOTAL OF \$ 98,249.19

<u>Title for Grant 229101 : NOAA</u>									
<u>Account</u>	<u>Type</u>	<u>Funding</u>	<u>Activity</u>	<u>Salary</u>	<u>Benefits</u>	<u>Travel</u>	<u>General Operating</u>	<u>Contractual</u>	<u>Overhead</u>
61215	L	Faculty Academic Salaries Extra Pay	5,349.00	5,349.00					
61320	L	Clerical Support Salaries Temp	13,848.00	13,848.00					
61330	L	Clerical Support Salaries Overtime	525.00	525.00					
61610	L	Professional Supp Salaries Regular	0.00	0.00					
62000	L	Employee Benefits Budget Pool	0.00		0.00				
62101	L	TCRS Retirement Teachers	797.53		797.53				
62102	L	TCRS Retirement Admin Staff	342.19		342.19				
62201	L	401k Matching	15.39		15.39				
62300	L	FICA	1,112.16		1,112.16				
62400	L	Medicare FICA	260.10		260.10				
62600	L	Unemployment Compen.	17.92		17.92				
73000	E	Travel Budget Pool	0.00			0.00			
73211	E	Employee Procard Travel	551.80			551.80			
73220	E	Individ Out St or Cntry Inst	3,413.75			3,413.75			
73230	E	Individ Out of St /Cntry Res	795.75			795.75			
73510	E	Visitors Instate Profsnl.	3,113.34			3,113.34			
73610	E	Visitors Out State/Ctry Prof	679.16			679.16			
74000	E	Operating Exp Budget Pool	0.00				0.00		
74140	E	Duplicating/Copy Out Instit	53.12				53.12		
74240	E	Freight and Express Charges	0.00				0.00		
74440	E	Consulting Services	31,873.56					31,873.56	
74490	E	Other Profess/Admin Srvs	5,198.88				5,198.88		
74552	E	Supplies/Food/Refresh	115.56				115.56		
74570	E	Supplies ProCard	444.00				444.00		
74599	E	Supplies Other	199.51				199.51		
79800	E	Indirect Cost Expense	29,543.47						29,543.47
Totals ---->		Spent 07/01/11 -12/31/11	98,249.19	19,722.00	2,545.29	8,553.80	6,011.07	31,873.56	29,543.47