

KEIM, LSU
DHS Coastal Resilience Center
Education Project:
Annual Project Performance Report
Covers reporting period July 1, 2016 – June 30, 2017

1. Project Title:

Disaster Science and Management Program at LSU

2. Principal Investigator / Institution:

Barry D. Keim, Professor in the Department of Geography and Anthropology and Louisiana State Climatologist.

3. Other Education Participants/Partners:

- Baton Rouge Community College (BRCC)
- NOAA's Southern Climate Impacts Planning Program.

4. Short Project Description (“elevator speech”):

The Disaster Science and Management (DSM) Program at LSU was originally within the College of Humanities and Social Sciences (for 7 years), however, the educational structure of the program took place outside of any single Department. Under this Coastal Resilience Center of Excellence project, the DSM program is now fully integrated within the Geography degree program at Louisiana State University. Students may now major (BA or BS) in Geography with a concentration in DSM. A minor in DSM is also available to students with majors in other Departments. We have partnered with the Emergency Management Program at BRCC to develop curriculum, enhance program development and recruitment, and foster ease of credit transfer to LSU for those that want to continue to a Baccalaureate degree. We believe that students in DSM should develop experience and connections in the Homeland Security Enterprise through internships, and we have a strong and expanding internship program.

5. Abstract:

Louisiana's propensity for natural disasters (e.g., Hurricanes Katrina, Rita, Gustav, Ike, and Isaac) demonstrates a clear need for a robust Disaster Science and Management Program in the region. The DSM program at LSU within the Department of Geography & Anthropology allows students to obtain either a BA or BS in Geography with a concentration in DSM, in addition to making the program available as a minor. A revised curriculum was implemented this year, including both on-campus, and on-line courses focused on hazard identification and assessment, geospatial techniques such as Geographic Information Systems (GIS) and remote

sensing, emergency management courses, and student internships within the Homeland Security Enterprise.

6. End users:

End User/Agency	Project Role	Expected Return/Benefit
Ms. Joanne Moreau, Director Mayor’s Office of Homeland Security and Emergency Preparedness	<ul style="list-style-type: none"> • Provided internship for DSM student during Spring 2016 semester. • Hired DSM student as a student worker. 	Student gained real-world experience with employment in a homeland security enterprise position.
Ms. Amy Pinero, Chair Department of Social Sciences and History, Baton Rouge Community College (BRCC)	<ul style="list-style-type: none"> • Build curriculum at BRCC • Act as gateway to DSM program at LSU. 	Increase student diversity at LSU as BRCC maintains a higher percentage of minority’s vs LSU (45% at BRCC vs. 25% at LSU). Able to reach different sectors of the community more effectively than LSU alone
Mr. Garrett J. Romagossa, Disaster Program Manager American Red Cross, Baton Rouge Chapter	<ul style="list-style-type: none"> • Provided internship for DSM student during Fall 2016 semester. • Provided volunteer opportunities for DSM class 	Student gained real-world experience with employment in a homeland security enterprise position.

7. Unanticipated Problems:

The DSM program had a change in personnel in November, 2016, when Dr. Alan Black replaced Nicole Coarsey as the Program Manager. Ms. Coarsey resigned to take a position with the Louisiana Department of Health and Hospitals.

While we have fully developed DSM curriculum for BRCC and both the “Fundamentals of Emergency Management” and “Hazards, Disasters, and the Environment” courses have been offered, neither had sufficient enrollment for the course to be taught. There is strong support at BRCC for these courses to be offered; therefore we will assist them in promoting the courses using promotional material and by attending student information fairs where we can promote the courses in person.

8. Project Impact:

The DSM program targets LSU students and professionals interested in the field of Emergency Management (EM). Students can earn a BA or the BS degree programs in Geography, whereby if they take the requisite core DSM courses, the student would earn a concentration in DSM along with their Geography degree. We also host a minor degree program through the Department. This concentration advances workforce capabilities by providing both classroom instruction and hands-on experience in the Homeland Security Enterprise (HSE) to students. Graduates of the program will be trained to immediately enter

the Homeland Security Enterprise, locally (i.e., MOHSEP - the East Baton Rouge Mayor's Office of Homeland Security and Emergency Preparedness), regionally (i.e., the Louisiana Department of Environmental Quality and GOHSEP – the Louisiana Governor's Office of Homeland Security and Emergency Preparedness), and nationally (i.e., FEMA, DHS, FBI). The program manager (Dr. Alan Black) monitors the course content to ensure consistency of material across course sections and instructors. Course content is updated each semester to ensure that it incorporates new, pertinent literature and advances in the field. Finally, the PI and Program Manager regularly interface with HSE professionals on the LSU campus and in the community to ensure that DSM courses prepare graduates to meet HSE needs.

9. Education Activities and Milestones: Progress to Date

Reporting Period 7/1/16 – 6/30/17			
Education Activity	Proposed Completion Date	% Complete	Explanation of why activity / milestone was not reached, and when completion is expected
Implement Geography and Anthropology approved DSM Concentration in BS/BA.	8/1/2016	100%	
Implement approved Certification Program.	8/1/2016	100%	
Implement one (1) or more course curricula for Baton Rouge Community College (BRCC).	9/1/2016	100%	Curricula were implemented, but course enrollment was insufficient
Education Milestone			
Offer at least three (3) DSM courses during the Fall2016 and Spring 2017 semesters.	5/31/2017	100%	
Promote and enroll two (2) students into the DSM Certificate Program.	6/30/2017	100%	
Deliver one (1) or more course curricula for Baton Rouge Community College (BRCC) during the Fall 2016 semester and Spring 2017 semester.	5/31/2017	100%	Curricula were implemented, but course enrollment was insufficient

10. Transition Activity and Milestone Progress:

Transition Activities and Milestones: Progress to Date

Reporting Period 7/1/16 – 6/30/17			
Transition Activity	Proposed Completion Date	% Complete	Explanation of why activity / milestone was not reached, and when completion is expected
Develop DSM social media page (Facebook) to further capture DSM Student Post- Graduation activities.	7/29/2016	100%	
Continue with the American Red Cross Baton Rouge Chapter to offer service learning project for DSM 2010 course and identify additional volunteer activities for DSMA student association.	7/29/2016	100%	
Contact each HSE end user listed on the working document to capture end user input on internship program via one-on-one phone calls and email.	9/1/2016	100%	
Transition Milestone			
Continue DSM Student Post-Graduation tracking method and document post-graduation activities in Homeland Security enterprises or continued grad school of 50-60% of Fall 2016 and Spring 2017 students.	5/31/2017	100%	
Through the partnership with the ARC, 75-80% students enrolled in DSM 2010: Fundamentals of Emergency Management in Fall 2016 completed the service learning portion of that class.	5/31/2017	100%	
DSMA student organization participated in community service projects.	5/31/2017	100%	
Partner with three (3) end users in the HSE to secure internships for DSM students.	1/31/2017	100%	

11. Interactions with research projects:

Stephen Kreller, MS student at LSU, is currently participating in an internship through the CRC SUMREX program. He is hosted by Dr. Brian Blanton at RENCi at UNC-Chapel Hill.

Dr. Don Resio presented a lecture on March 17, 2017 at LSU.

12. Publications:

Gilliland, J. M., and B.D. Keim. Submitted. Spatiotemporal analysis of upper-level wind speed trends of Brazil during 1980-2014. *Journal of Climate*.

Gilliland, J. M., and B.D. Keim. Submitted. Surface Wind Speed: Trend and Climatology of Brazil from 1980–2014. *International Journal of Climatology*.

Black, A.W., and G. Villarini. Submitted. Effects of Methodological Decisions on Rainfall-Related Crash Risk Estimates. *Accident Analysis and Prevention*.

Xue, G.Z., K. Sampson, W. Yu, B.D. Keim, Z. Zang, A. Dugger, D. Sathiaraj, D. Gochis, Q. Ge. Submitted. Assessing Hydroclimatic Change in Southwest Louisiana Rivers using WRF-Hydro. *Journal of Hydrology: Regional Studies*.

Black, A.W., G. Villarini, and T.L. Mote. 2017. Effects of Rainfall on Vehicle Crashes in Six U.S. States. *Weather, Climate, and Society* **9**: 53–70.

Shao, W., S. Xian, B. Keim, K. Goidel, N. Lin. 2017. Understanding Perceptions of Changing Hurricane Strength Along the U.S. Gulf Coast. *International Journal of Climatology* **37**(4):1716-1727. DOI:10.1002/joc.4805.

Allard, J.M., J.V. Clarke, and B.D. Keim. 2016. Spatial and Temporal Patterns of In Situ Sea Surface Temperatures within the Gulf of Mexico from 1901–2010. *American Journal of Climate Change* **5**:314-343. DOI:10.4236/ajcc.2016.53025.

Shao, W., J.C. Garand, B.D. Keim, and L.C. Hamilton. 2016. Science, Scientists, and Local Weather: Understanding Mass Perceptions of Global Warming. *Social Science Quarterly* **97**(5):1023-1057. DOI:10.1111/ssqu.12317.

Hamilton, L.C, J. Hartter, B.D. Keim, A.E. Boag, M.W. Palace, F.R. Stevens, M.J. Ducey. 2016. Wildfire, Climate and Perceptions in Northeast Oregon. *Regional Environmental Change* **16**:1819-1832. DOI:10.1007/s10113-015-0914-y.

13. Tables:

Table 1: Documenting CRC Education Project Courses and Enrollments

Courses Developed and Taught by Louisiana State University under Project Disaster Science and Management Program at LSU						
Course		Developed (D), Revised (R), and/or Taught (T), by Project Year				
Number	Title	1	2	3	4	5
DSM/ GEOG 2000	Hazards, Disasters, and the Environment	T	R/T			
Offering: Elective (E), Concentration (C), Minor (M)		C	C			
Enrollment		150	164			

DSM / GEOG 2010	Fundamentals of Emergency Management	T	R/T			
Offering: Elective (E), Concentration (C), Minor (M)		C	C			
Enrollment		54	135			
DSM 3910	Hazards Seminar	T				
Offering: Elective (E), Concentration (C), Minor (M)		C				
Enrollment		10				
DSM 4000.	Practicum in Disaster Science and Management	T				
Offering: Elective (E), Concentration (C), Minor (M)		C				
Enrollment		5				
GEOG 4200	Hazard Risk Reduction		D			
Offering: Elective (E), Concentration (C), Minor (M)			C			
Enrollment						
DSM 4600	Crisis Management	T				
Offering: Elective (E), Concentration (C), Minor (M)		C				
Enrollment		8				

Table 2: Documenting External Funding and Leveraged Support

External Funding			
Title	PI	Total Amount	Source
Southern Climate Impacts Planning Program (SCIPP)	Keim	\$358,000	NOAA
Leveraged Support			
Description			Estimated Annual Value
NA			

14. Metrics:

<u>Metric</u>	<u>Year 1</u> (1/1/16 – 6/30/16)	<u>Year 2</u> (7/1/16 – 6/30/17)
HS-related internships (number)	5	1
Undergraduates provided tuition/fee support (number)	0	0
Undergraduate students provided stipends (number)	0	0
Graduate students provided tuition/fee support (number)	2	2
Graduate students provided stipends (number)	2	2
Undergraduates who received HS-related degrees (number)	4	5
Graduate students who received HS-related degrees (number)	0	0
Certificates awarded (number)	0	0
Graduates who obtained HS-related employment (number)	2	3
Lectures/presentations/seminars at Center partners (number)	1	0
DHS MSI Summer Research Teams hosted (number)	0	0
Journal articles submitted (number)	1	3
Journal articles published (number)	5	1
Conference presentations made (number)	2	17
Other presentations, interviews, etc. (number)	4	132
Trademarks/copyrights filed (number)	0	0
Requests for assistance/advice from DHS agencies (number)	2	1
Requests for assistance/advice from other agencies or governments (number)	5	8
Total milestones for reporting period (number)	6	6
Accomplished fully (number)	6	6
Accomplished partially (number)	0	0
Not accomplished (number)	0	0