Project Title: Working Together For A Safer Tomorrow

Working Together for A Safer Tomorrow attempts to reduce the economic impact of terror and disaster events in Tribally Inclusive Geographic Areas (TIGA), provides educational opportunities and outreach to underrepresented and rural populations, and analyzes the economic implications of FEMA’s ‘Government-to-Government’ post-disaster relationships with Tribally Inclusive Geographic Areas.

Project Technical Description
1. Theme Area: Risk Management and Operations Research
2. Principal Investigators: Lloyd Mitchell Ph.D., MPH, RS
   Anne Garland, Ph.D.
3. Institution: Haskell Foundation, Elizabeth City St. University
4. Co-Investigators: Dr. Kathleen Fischer
5. Research Transition Lead: Dr. Lloyd Mitchell
6. Keywords: American Indians, Indians, Alaska Natives, Indian Tribes, Indian Reservations, Risk, Risk Management, Risk Communication, Minority, Underrepresented Populations

7. Brief Description:
Working Together for A Safer Tomorrow attempts to reduce the economic impact of terror and disaster events in Tribally Inclusive Geographic Areas (TIGA). Introduced in Year 6 and in use since, TIGA include both tribal communities and neighboring non-tribal communities and governments. Specifically, Working Together for A Safer Tomorrow, through a variety of inter-jurisdictional approaches, promotes and provides collaborative risk management and risk reduction opportunities through a variety educational and outreach activities for American Indian tribes, tribal corporations, tribal colleges, tribal gaming enterprises, Alaska Native villages, Alaska Native corporations, and adjacent governments and neighboring non-tribal communities. WTST activities work within TIGA by providing opportunities to work together as collaborators to identify risks, analyze data, develop impact reduction strategies, discuss perceptions of risk from varying cultural viewpoints, and implement risk-based activities via a series of symposia and workshops, public service announcement distribution, and “boots on the ground” efforts, often using “real time, real event” situations to train participants, including tribal members, undergraduate students, as well as veterans and graduate students. For Year 12, WTST will include a second independently run project, Regional Cooperation, Operability, and Organizational Partnerships a.k.a. RECOOP, which will comprise one half of the overall effort and budget. This project will introduce the use of game theory to assess and improve integration in TIGA to reduce risks and economic impacts. RECOOP will estimate risks of cooperation related to preparedness and mitigation across jurisdictions and organizations. RECOOP, with TIGA emergency management participation, will examine and assess the logistical, behavioral, and economic components needed to integrate emergency management resources, services, and capabilities in an effort to improve resilient multi-jurisdictional cooperation.

8. Research Objectives: The research objectives of these projects are:
A. Assess risk factor identification processes, risk awareness, risk communication, risk management and related activities currently used in indigenous, rural, low income, and minority communities;
B. Compare and analyze the effectiveness of integrative risk reduction processes
C. Continually update TIGA risk ranking charts as internal and open source data review indicates.
D. Promote collaborative working relationships between tribal and non-tribal entities to effectively identify risks, enhance risk assessment, and more efficiently allocate appropriate resources through applicable and culturally acceptable risk management processes.

E. Assess selected emergency management factors that enhance multi-jurisdictional resiliency.

9. Research Transition Objectives:
The research based results of this project are specifically designed to:
A. Update TIGA Risk Ranking charts as indicated by internal and open source data analysis and, when indicated, appropriate information will be provided to selected stakeholders as applicable.
B. Implement risk awareness and risk factor identification training for American Indian, TIGA, rural, low income minority communities, and emergency management leaders via workshops, symposia, and student and professional poster and oral presentations at national conferences.
C. Assess the use of: 1.) Science and technology tools, 2.) traditional knowledge, 3.) ‘Ground truth’ field research data, and 4.) surveys, by tribal and non-tribal entities as well as multi-jurisdictional stakeholders, to cooperatively self-identify risks, enhance risk assessment, and more efficiently allocate and share government and private resources.
D. Assess use of TIGA maps for the United States and Canada and distribute maps electronically via a designated website as well as present mapping products physically at symposia and conferences.
E. Extrapolation of WTST and RECOOP methods to trans-national and circumpolar projects.

WTST and RECOOP research transition efforts will be combined, as appropriate, with ‘boots on the ground’ education and outreach and multi-jurisdiction efforts in real time during real events and will:
1. Improve the informal national network of indigenous communities and emergency managers committed to working together with non-tribal entities to identify manage risks and risk.
2. Increase terror risk awareness in TIGA and underrepresented communities.
3. Improved accessibility to risk management tools, data interpretation methodologies, and other related resources for TIGA resource allocation decision-makers including emergency managers.
4. Enhance efforts to prepare “The Next Generation of Homeland Security Professionals” via student recruitment and participation in Working Together and RECOOP specific projects
5. Continue the review of efforts related to implementing ‘government-to-government’ requirements for post-disaster assistance requests to FEMA from tribes.

10. Interfaces to Current CREATE Projects:
Most importantly, WTST serves as conduit, when or if necessary, for all CREATE projects related to or including or incorporating American Indian, Alaska Native, and other indigenous communities. Via its education and outreach efforts, this work provides several critical components in support of CREATE’s Educational and Outreach initiatives for underrepresented, tribal, and rural communities. This work interfaces with CREATE’s current and recent Risk Management and Operations Research efforts such as Resiliency and Sustainability in the Face of Disasters (Rose, 2011), Economic Costs to the U.S. of Closing Its Borders: A Computable General Equilibrium Analysis ( Dixon, et.al 2011), Comparing Security, Accident, And Disaster Risks to Guide DHS Strategic Planning (Willis and Lindberg, 2012), Instructional Strategies for Tailoring Risk Communication Messaging (Sellnow and Veil, 2012), Homeland Security Comparative Risk Assessment (Willis, 2011), Organizational Cooperation Model (Zhuang 2012), and CREATE Communication and Marketing Workplan (2012).
11. Previous or current work relevant to the proposed project, why DHS is interested, identification of expected DHS users.

Risk Assessment, Communications, and Management Activities

A long running matrix based on risk ranking of tribal areas will continue to serve as a base for all projects throughout 2015-2016. Three projects currently underway that are specific for tribal areas and Indian reservations are especially relevant to the proposed project: 1.) Tribally Inclusive Geographic Area Risk Based Management, 2.) TIGA Risk Ranking, and 3.) TIGA Emergency Management Integration and Improvement Assessment

U.S. Department of Homeland Security users include all DHS units with intergovernmental operations including those in FEMA. Because Indian tribes and Alaska Native groups who are granted ‘recognition’ status are considered independent operating entities, DHS must legally view them as culturally and politically sovereign nations and therefore relate to tribes and Alaska Native communities on a level similar to that of a ‘nation to nation’ or a ‘state to state’ basis. However, because the United States, via historic and legally viable ‘trust responsibilities’ the U.S. is required to defend Indian reservations and Alaska Native communities and provide public health, education, and related services. Thus every single program of the Department of Homeland Security is to show that it has the capability of providing a degree of service to Indians and Alaska natives that is equitable in accessibility and content to those available to other states and communities. These programs, Working Together For A Safer Tomorrow and RECOOP, do that by bringing risk related education and outreach to ANY interested indigenous community, recognized or not, regardless of geographic location, remoteness, or relationship with national, regional, and local entities. Because tribal community relationships range from only partially integrated to nearly fully integrated with non-tribal communities, management of disasters and effects from intentional events that occur within tribally boundaries become a dual, or most often, multijurisdictional responsibilities.

In 2013, the USDHS, under ‘state to state’ responsibilities, for the first time, allowed tribes, in additional to states or major municipalities, to be lead ‘agencies’ in the fiduciary management, including monetary awards and disbursement of FEMA disaster funds, to any entity, Indian or non-Indian, affected by the disaster. However, depending on the scale of the event, not all tribal communities have the education, experience, or capability of serving as post disaster leads. Again, this program, Working Together For A Safer Tomorrow, through its real time, real event education and outreach programs, helps to increase the numbers of recognized tribal communities that can serve as post disaster by bringing risk related education and outreach to ANY recognized tribal community, regardless of geographic location or rural remoteness, and allow them to serve as DHS FEMA representatives for post disaster events and assist other national, regional, and local entities.

International collaborations, made available with external funding, with Israel, Canada, and New Zealand, will also be expanded as requested by international governing bodies. WTST has shared its research protocols and results, specifically data collection and risk ranking processes, with several nations worldwide and to date three countries are employing various WTST methodologies, developed with previous and current DHS support, into their risk management operations. Entities in three additional countries, Australia, Scotland, and France have requested WTST assistance in using various aspects of WTST research designs to enhance indigenous or minority disaster related education and outreach. This international aspect assists in the recognition and elevation of current USDHS programs worldwide.
**Student Driven Risk Management Based Projects**

At least six student driven projects from previous or current “Next Generation of Homeland Security Professionals” Research and Education activities are anticipated: 1. Geohazards Risk Series, 2. Sovereignty and Tribal Disaster (STD), 3. Aerospace Risks Review and Assessment (ARRA), 4. Portable External Relief Unit Risk Cycle Analysis and Risk Management, 5. National Outdoor Activities and Sporting Event Assessment and Risk Communication (NOASEARC), and 6.) Game Theory Based Assessment of TIGA Risk Management Integration. Additionally, a student driven project related to a comparison of perceptions of Israeli and American university safety efforts will be continued by a recently graduated WTST student who is now a graduate student at the University of Haifa in the Peace and Conflict program. DHS has in the past, and is expected to in the future, utilize in part or whole, research methodologies or results from student driven projects.

**Education and Outreach**

Several current domestic and international outreach efforts relevant to project work will be continued, including one-on-one and small target group outreach to residents living on or near Indian reservations, tribal governments, and rural or low-income communities, in the south, Appalachia, and Alaska. Projects are individualized for each community based on risk perception and “best fit” communication styles and practices. International outreach will continue to include indigenous populations in New Zealand, Canada, and as applicable, Africa. The most valuable DHS end user for WTST education and outreach efforts is DHS itself, specifically in the more efficient and effective use of DHS resources by entities in Tribally Inclusive Geographic Areas.

**12. Major Deliverables, Research Transition Products, and Customers**

WTST major products and identified customers have continued to expand since its inception. Project deliverables for Year 12 will be reports, education, and outreach in five areas:

1. Continued critical vigilance of risks and communication in and near Tribally Inclusive Geographic Areas (TIGA) and the sharing of that information in a variety of formats as requested by appropriate domestic entities and international governments. The customers expected as a result of this activity are: TIGA risk management policy makers and interested TIGA stakeholders.

2. An assessment of the costs related to fully implementing the brand new ‘government-to-government’ requirements for post-disaster assistance requests to DHS FEMA from tribes. This project encourages use of either the Cumulative Regional Integrated Operability Score (CRIOS) or RECOOP model by TIGA stakeholders or WTST researchers. The customers expected as a result of this activity are: TIGA risk management policy makers, emergency managers, and stakeholders.

3. Development, implementation, and refinement of culturally sensitive methods for risk-based resource allocation and risk based communication specific for tribal governments, tribally based enterprises such as Indian casinos, and non-tribally affiliated Americans residing on Indian Reservations. The customers expected as a result of this activity are American Indians, Native Alaskans, Hawaiian Natives, and other indigenous populations, all of whom are DHS ‘customers’.

4. Development of a student cadre for the “Next Generation of Homeland Security Professionals” for DHS via a series of comprehensive faculty-driven or student-driven risk related outreach programs to Indian reservations, tribal governments, and minority and rural or low-income communities, as well as mentoring student participants in risk based research protocols and scientific methods, refined educational outreach, distribution, and use of a student-driven models. Student-driven research will be presented at national venues and competitions. The customers are students.
while in the WTST training programs, but upon graduation DHS and other government entities are the primary beneficiaries of WTST students. Several WTST students have been commissioned as officers and several more are in the pipeline.

5.) A dedicated third party developed and reviewed web site that presents results and reports related to: A) Performance feasibility testing of survey methods, B.) Application to actual data provided by risk and emergency management stakeholders, C.) Field truth, participant observations, and real time events analysis; (c) Real time strategies supporting resiliency, and D.) Stakeholder feedback.

13. Technical Approach:
A risk matrix based format will continue to be used for TIGA risk ranking. Risk ranking is conducted for specific situations related to a specific Tribally Integrated Geographic Area. The risk ranking process utilizes a ten component master ‘list’ of tribal specific characteristics previously determined to be factors inherent to risk management. Qualitative data is quantified utilizing standard methods and the purposely non-weighted units are placed into specific corresponding slots. A simplified algebraic based matrix table is used to determine a current ranking for specific tribal area. Over time, with collected data, a historical risk ranking level can be established and this historical data can be used as an accessory or primary tool to determine if an Indian Tribe or Alaska Native group has the ability to serve as fiduciary manager for FEMA in a post disaster declaration situation. Since a TIGA’s risk ranking is dependent upon both internal and external factors, including historical, cultural, environmental, and political the actual risk ranking results are dynamic.

Field based observations and previously employed comprehensive quantitative and qualitative data review methods will be utilized for identifying and assessing risk in designated research areas and previously identified potential target zones. All results are considered sensitive and securely stored.

Field based research applications will be grounded in research methods of causal-comparative measures of relationships, descriptive statistics enhanced via the utilization of demographic data combined with open source Geographic Information Systems data, and incorporation of field data obtained from ‘boots on the ground’ activities as well as via traditional oral, written, and community activity participation. Data collected from BOG activities is considered sensitive and stored securely.

When data or research indicates that a Tribally Inclusive Geographic Area has a higher risk from a real or potential threat, and risk ranking confirms the higher risk, appropriate officials and specific stakeholders related to the TIGA are contacted and the WTST DHS CREATE supervisor is notified as necessary. If elevated by CREATE, TIGA risk ranking results are critical for administrative level decisions. Results from WTST technical approaches have already been utilized in several TIGA.

WTST is also pleased that these processes can be utilized efficiently and simply, and with previously collected data and currently available open source data, risk ranking can be deployed within minutes to provide a critical component to assist decision makers in resource allocation thus reducing the economic impact of unintentional and intentional events within TIGA.

14. Major Milestones and Dates:
2. July 2105 through June 2016: Tribal Education, Outreach Symposia, Networking, Presentations
3. October 2015 through May 2016: Student research presentations at national conferences
5. May 2015 through September 2016: Summer Education and Outreach, RECOOP Activities
6. May 2016 Final draft of FEMA Tribal 'Government-to-Government’ Review and Analysis

15. Brief Biography and CV: Dr. Lloyd Mitchell and Dr. Anne Garland

Lloyd W. Mitchell III Ph.D., MPH, RS

Dr. Lloyd Mitchell has been a member of the CREATE team since 2005 assisting the Department of Homeland Security (DHS) on several projects related to challenges and issues involving American Indians and tribal entities. In 2005 and again in 2006, Dr. Mitchell was awarded a Faculty-Student Research Grant from DHS to research Homeland Security challenges related to American Indian Reservations. He serves dually as an Associate Professor of Health and also Aerospace Science at Elizabeth City State University, one of the 16 constituent institutions of the University of North Carolina, where he combines teaching, research, and service in aviation, aerospace, and public health with special foci on cultural geology, geological hazard planning, bioterrorism, diseases related to soil or rock, the unintentional spread of disease on passenger or cargo aircraft via fomitic vectors, and the use of aircraft as a tool for the intentional dispersing of disease causing organisms or dispersing of ‘Class A’ bioterror agents as weapons. He also has conducted cultural geology research relating ice cracks to human and environmental health in the Arctic. For over twenty years, Dr. Mitchell has lived, worked, and taught on American Indian reservations throughout North America, including the Oneida Tribe of Indians of Wisconsin, Navajo Nation, the Confederated Tribes of Grand Ronde in Oregon, and the Puyallup Tribe of Indians in Washington State. Dr. Mitchell holds advanced degrees in space studies, public health, and cultural geology, and undergraduate degrees in architecture and urban planning, geology, general biology, and community services. He also holds national level registrations as a sanitarian a.k.a. public health officer, and a surgical assistant. He has active memberships in many associations and organizations, served on the Minority Affairs Committee of the Endocrine Society and on several governmental selection and advisory committees, including the Licensing Review Panel of the Nuclear Regulatory Commission. In his spare time, Dr. Mitchell enjoys NASCAR races, classic automobiles, collecting American antiques, traveling to small towns, camping in America's National Parks, and weekend escapes to the mountains of the Pacific Northwest.

Anne W.H. Garland, Ph.D., RA.

Dr. Anne Garland has worked with the CREATE team since 2006 assisting the Department of Homeland Security (DHS) on several projects related to challenges and issues involving American Indians tribal and non-tribal entities and stakeholders. As a Research Associate, Dr. Garland has participated with DHS CREATE along with Applied Research in Environmental Sciences, Nonprofit, Inc., (ARIES) for risk and disaster management research. Dr. Garland received degrees in Anthropology from College of William and Mary (BA and MA) and the University of Hawaii, Manoa (PhD), with emphases on Archaeology (Evolutionary Archaeology), Applied Anthropology, Cultural Resource Management, and Museum Program Development and Education (Historical and Environmental Museums and Virginia Air and Space Center). Experiential specializations are in Culture Contact Research, Osteology, Soil Science, Archaeological Conservation, Material Science, Remote Sensing and Applications, and Non-profit Consulting for Training or Ethics and Public Archaeology. Since 2006, Applied Anthropology among diverse cultures and communities benefited the research, education, and outreach for Working Together for a Safer Tomorrow Program of DHS
CREATE. Since 2005, Historical Ecology research had led to trans-disciplinary applications in archaeology, environmental sciences, and risk management among diverse geographic regions including the Albemarle Sound, NC, Long Island, NY, the North Slope, AK, New Zealand Maori, Hawaii, and Canadian Arctic. Dr. Garland’s current interest includes applying historical, natural and social science research models, and tools, and products working with community based decision making about disaster mitigation, such as community based monitoring for coastal erosion of city limits along with North Slope Borough Risk Management. This includes risk perception, communication, interpretation, and action model, tools, and products in partnership with community stakeholders and professional facilitators. Many of these projects are community driven programs and include Science, Technology, Engineering, Art, and Math (STEAM) approaches. Since 2005, Dr. Garland was and is currently adjunct or affiliate faculty at Elizabeth City State University, University of Maryland, College Park, Angelo State University (Center for Security Studies), and University of Canterbury (Center for Risk, Resilience, and Renewal) for either public history, sociology, environmental studies, geology, archaeology, historical ecology, or Emergency Management Homeland Security (EMHS) courses and projects, especially through distance learning. She is a long time professional member of Registry for Professional Archaeologists, Society for Hawaiian Archaeology, Society for Historical Archaeology, and recently the Canadian Risk and Hazards Network. For personal interests she incorporates her functional 3D artwork, music, aerobics, photography, poetry, and drama for science outreach, education, and fundraising. Dr. Garland also enjoys animals, traveling, and spending time with her family.