

Land of Sky Phase II Regional Resilience Assessment

Request for Proposals

Release Date: 3/15/2019

Introduction

About Land of Sky

Land of Sky Regional Council (LOSRC) is a multi-county, local government planning and development organization. We cross county and municipal boundaries to provide technical assistance, and to administer projects and programs which benefit our region's citizens.

Project Background

Communities across the Southeast are recognizing an increasing need to plan for the future as they face new challenges. As a result, municipalities, counties, and regional planning organizations are turning to resilience planning as a way to develop strategies for reducing their vulnerability and risk to impacts from such things as extreme weather events and increasing rates of growth.

In the first phase, UNC Asheville's National Environmental Modeling and Analysis Center (NEMAC) led a data-driven process to evaluate risk to our economic and transportation assets in the 5-county region (Madison, Buncombe, Henderson, Transylvania and Haywood counties). This process, called the U.S. Climate Resilience Toolkit Steps to Resilience, began by exploring both threats from climate and non-climate stressors and impacts to key assets, followed by a quantifiable evaluation of the assets' threat exposure. Phase I produced a report and a dataset, available here:

http://www.landofsky.org/pdf/LGS/LOS_Resilience_Exposure_Phase1_Report.pdf.

General Information

As a result of responses to this RFP, LOSRC plans to review submissions and conduct interviews with selected consultants it determines can best meet the requirements outlined below. The contract will begin as soon as terms have been agreed upon, and expire June 30th, 2020.

Maximum Budget for the Project

The maximum budget for this project is \$30,000.

Project Scope & Tasks

Project Description

LOSRC is seeking a consultant with experience in conducting resilience assessments using the U.S. Climate Resilience Toolkit's Steps to Resilience process, or a compatible approach, to expand the exposure analysis from Phase I to more asset-threat pairs. The consultant will also conduct a vulnerability and risk analysis on one set of these asset-threat pairs that will be selected by community stakeholders. Finally, the consultant will

provide an interactive tool for exploring the resilience assessment data. LOSRC expects the work to be completed by June 30th, 2020.

Scope of Services

Proposals must address all requirements outlined below.

Task 1: Interactive Data Tool Implementation

The first, foundational piece of work under Phase II is to make a vendor-hosted interactive software product tool available to LOS that will incorporate the integrated five-county regional parcel dataset and the data inputs used in the Phase I exposure analysis to allow stakeholders to interact with the exposure assessment. Such software should publish the underlying data services to an LOS-controlled ArcGIS Online account, provide access to a dashboard viewer product, and provide the ability to view and interrogate the data at both the regional census tract scale and the local parcel/structure scale.

Data to be made available by the interactive software tool from Phase I include:

1. Asset datasets:
 - a. Commercial assets
 - i. Industrial Properties
 - ii. Institutional Properties (Government, Hospitals, Schools)
 - iii. Office Properties
 - iv. Retail Properties (includes lodging)
 - v. Utility Properties
 - b. Transportation assets
 - i. Roads
2. Threat datasets:
 - a. Flooding threat extent
 - b. Landslide threat extent (only Buncombe and Henderson counties)
 - c. Wildfire risk extent
3. Eighteen exposure maps (six assets times three threats)
4. Demographic and socioeconomic datasets:
 - a. Population and Growth
 - i. Population Density
 - ii. Total (Nighttime) Population
 - iii. Daytime Population
 - iv. Population Growth Rate
 - v. Projected Population
 - b. Social Vulnerability
 - i. Median Household Income
 - ii. Households Below the Poverty Line
 - iii. Population with Education Less than 9th grade
 - iv. Percentage of Workers over Age 16
 - c. Economy
 - i. Total Businesses
 - ii. Total Employees

- iii. Total Sales
- iv. Majority Business Sector

Requirements for the software product include:

- The viewer application should be hosted and maintained by the vendor
 - This task should also include one year of access to and support of the product, with a start date beginning at the completion of Task 3 outlined below
 - It should use the ESRI ArcGIS JavaScript API
 - It should include multiple levels of detail including:
 - An overview level with key rolled-up stats across the region
 - A regional view for a selected asset, threat, or exposure layer. This view should provide:
 - Key stats for the selected layer region-wide
 - An interactive map of the layer displaying data across the region
 - A census tract or equivalent view for the selected layer. This view should provide:
 - Key stats for the selected layer within the selected census tract
 - An interactive map displaying asset-level data
 - Each asset should be selectable displaying additional relevant data for that asset
 - It should use named-user authentication, with those users managed by an LOS-controlled ArcGIS Online
- The data services should be published to an LOS-controlled ArcGIS Online

Task 2: Expanded Exposure Analysis

The second task under Phase II is to expand the initial exposure analysis performed in Phase I to include a complete set of parcel categories to allow for an exposure analysis of all relevant regional parcels. This would involve performing a regional exposure analysis using the interactive software described in Task 1, incorporating the integrated five-county regional parcel dataset and including new asset categories, to wit:

1. **Natural** parcels
 - a. Farm (farmland and forestland/horticultural and forestry activities)
 - b. Protected natural area (mostly undeveloped parks and protected natural areas)
 - c. Developed parks, golf courses, cemeteries
2. **Residential** parcels (if desired, grouped into three categories: rural, suburban, and urban)

The same three threat categories should be used in the analysis: flooding and wildfire for all five counties, and landslides for Buncombe and Henderson Counties. Data outputs from the exposure analysis should result in twelve new exposure maps (four asset categories times three threats).

In accordance with Task 1, these new exposure maps should be published to an LOS-controlled ArcGIS Online and made available in the interactive viewer tool.

Task 3: Vulnerability and Risk Assessment

The third task in Phase II is to perform an initial vulnerability and risk scoping assessment for one asset-threat pair. To perform this task, the interactive software described in Task 1 would utilize the integrated five-county parcel dataset used for Tasks 1 and 2 to perform a vulnerability and risk analysis for the asset-threat pair.

Task 4: Presentation of Results

The fourth task for Phase II is to plan and participate in one presentation/public workshop to present and discuss the results of the full exposure analysis for all asset categories to the named threats and the vulnerability and risk scoping results for the one named asset-threat pair.

Following the conclusion of the workshop, a report that updates the findings of the Land of Sky Region Economic Resilience Exposure Analysis Phase I Report to include the exposure analysis of all asset categories to the three named threats and the vulnerability and risk scoping analysis for the one named asset-threat pair will be submitted to LOS.

Qualifications

All interested firms should present experience with community resilience assessments, including a definition of their understanding of resilience. They should also show examples of information products created as a part of their resilience assessments. Finally, they should describe and provide examples of the interactive resilience assessment data tool.

Selection Criteria

Proposals from qualified firms will be examined and scored by the project steering committee based on the following attributes from the proposal:

1. Demonstrated experience, of both firm and personnel assigned to this project, in the field of resilience assessment.
2. Responsiveness of the proposal to the scope of work and specific tasks.
3. Quality and relevance of examples.
4. Clear timeline for project completion.

Submittal Requirements

Prospective consultants should submit an electronic copy of their proposal with the following included:

- (1) Identify the Consultant team that will be involved in this project. Include a narrative describing the team's combined qualifications and strengths. Clearly identify the project manager, specify the role of subcontractors and describe the team's structure for leadership, support and accountability. Each individual with time on the project should be identified, their qualifications outlined and their role defined whether they work for the lead firm or a subcontractor.
- (2) Provide a narrative proposal of the approach and techniques the applicant will use to complete the entire scope of services. The proposal must include a clear and concise work plan for achieving the identified tasks and preparing the required deliverables.
- (3) Provide at least two examples of similar work that the Consultant has completed. Specify the client, the date completed and the approximate cost of each example. Provide references for each project

including the individual contact name and phone number of project managers who are willing and able to comment on the proposed project manager's ability to produce a quality professional product on time and within budget.

(4) Provide a cost estimate for the proposal, not to exceed \$30,000.

All proposals should be sent to Mary Roderick, mary@landofsky.org **by 5:00pm Friday, April 12th, 2019.** Questions may also be directed to Mary Roderick.