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**460 West 34th St.**

**17th floor**

**New York, NY 10001-2320**

**Point of Contact: Dr. Andrew Huff**

**Telephone #: 612-743-1265**

**Email: huff@ecohealthalliance.org**

* **EHA is a small business, non-profit, currently with 34 full time employees.**
* **Originally incorporated in July 2000 as Wildlife Trust, it changed its name to EcoHealth Alliance in June 2010.**
* **EHA is not affiliated with any other organization.**

**Statement of Qualifications**

Increasingly, infectious disease surveillance is being conducted in humans and animals. Infectious disease surveillance helps identify infectious disease environmental reservoirs, hosts, and transmission pathways. This has inspired multiple government agencies, across multiple domains, to fund the collection of infectious disease data for multiple purposes. Via EcoHealth Alliance, the United States Fish and Wildlife Service has funded the development of a Ranavirus spatial database to monitor the population health of amphibians, the Defense Threats Reduction Agency has funded the development of a spatial database for Rift Valley Fever (human and animals) and the development of novel analytical tools for the Biosurveillance Ecosystem, and EcoHealth Alliance is one of the main partners of USAID’s PREDICT program. Importantly, the opportunity exists to leverage multiple sources of funding and disparate infectious disease surveillance, for research, analytics, and data visualization, to create an OneHealth database (a.k.a. Mantle) that is adaptable and flexible for a broad range of international partners.

Mantle is a powerful tool that can identify, display, and visualize environmental reservoirs, infectious disease hosts, and transmission pathways. EcoHealth Alliance’s database and web-based interface makes it easy and simple for scientists and disease surveillance specialists to upload and secure new or existing infectious disease data from anywhere on the planet, thus building international partner capacity. Data are stored and retrieved in a standardized spatial format that does not require the user to clean or convert scientific data. These infectious disease data are then stored where the user can decide whether to hide, share with spatial obfuscation, or to completely share with other users in the community. Users are then able to rapidly identify relevant publications, scientists, and host nation partners based on location in maps and tables, rather than by traditional literatures reviews via taxonomic description or through social networks. Shared infectious disease data can be downloaded by any user and used to analyze infectious diseases spatially across multiple species, thus improving the speed and accuracy at which the scientific community can measure, distill, and report emerging infectious diseases. The web-based interface enables users to quickly visualize infectious disease data in tables, graphs, and maps and shares this information with partners internationally. Lastly, these spatial infectious disease data can be combined with other existing data to locate and identify the determinants of emerging and reemerging infectious diseases, which will help reduce disease burden globally while helping build capacity in foreign governments.

*Our specific capabilities include:*

* Outline of Services
  + A diverse interdisciplinary data and analytics team with a track record of success.
  + EHA is comprised of international team and we have partners spanning the globe.
  + Our team has international data and analytics experience, and has the capability to analyze data from multiple languages at almost any location on the globe.
  + EHA routinely works and collaborates with partners in foreign countries.
  + EHA builds web-interfaces, GUI, and databases for international collaboration and data sharing.
  + EHA develops and builds custom tools for unique analytics and visualization problems.
  + EHA specializes in conservation and emerging infectious diseases (i.e., human, plant, and animal) and our tools that we developed are applicable to other domains.
  + EHA has expertise in the fields of data mining, machine learning, and big data analysis and visualization. We are able to ingest large volumes of unstructured text and automatically identify and annotate key concepts and data points such as locations, dates, health events and other relevant features.
  + Locations can be identified and associated with geographical coordinates with high accuracy even when they are ambiguous in the source text (e.g., the system is likely to be able to disambiguate Paris, France from Paris, Texas by using the context of the source article even when the reference is only to "Paris").
  + Extracted locations and concepts are linked to secondary data sources such as GeoNames, Wikipedia and DBPedia, allowing for the use of various kinds of metadata about these features such as geographical coordinates, geopolitical boundaries, population, etc.
  + Our machine learning driven predictive analysis capabilities currently allow us to associate disease diagnosis labels with unstructured text reports, and can be extended to make other kinds of predictions as well.
  + We can automatically identify relevant features in any kind of text; our analysis is equally applicable to formal reports and articles as well as informal media, social media, and personal communications.
  + We have experience converting large quantities of unstructured information into visualizations that quickly convey important information to users.
  + Our text analysis interface highlights relevant features in various categories and displays them both temporally, on an interactive timeline, and geographically, on an interactive map. This allows analysts to locate specific keyword occurrences in time and space, for example identifying references to a specific disease in a certain country in some recent period.
  + Our web development team, in conjunction with our data scientists, is capable of developing novel visualizations and interfaces that distill massive unstructured datasets and make it easy to pick out important trends.
  + Our machine learning expertise allows us to model complex systems with interactions between many kinds of features and develop predictive and descriptive models for diverse phenomena.
* Subsector Expertise
  + Infectious Diseases
  + Conservation
  + Emerging Diseases
  + Public Health Systems
  + Global Food systems
* Geographic Areas
  + International except Antarctica
* Anticipated Challenges
  + Data acquisition from partner agencies and governments can be difficult.
  + Data integration from disparate sources and languages can be a significant obstacle for data analytics and visualization.
  + Data visualization capabilities in multiple languages could be difficult.
  + Despite these challenges we are currently developing tools that use natural language processing to efficiently merge datasets for future analysis and visualization.

*Multiple Analyses Simultaneously:*

* EHA is currently managing many large projects (not an exhaustive list):
  + DTRA, $2,680,000 per year, 3 years, HDTRA1-13C-0029
  + DTRA, $992,699 per year, 5 years, HDTRA1-14-1-0029
  + USFW, $25,000 pear year, 1 year, 2014-JV-11261953-052
  + USAID/UC DAVIS, $20,000,000, 5 years, sub-award 201403200-07

*Experiences Collaborating:*

* Local Experts
  + We have been collaborating with multiple international governments (state and local), and local communities for 15 years to improve global health and preserve wildlife.
* Academic Institutions
  + We are currently partnered with Columbia University, U.C. Davis, and several other international universities in Europe and Africa.
* International Development Implementing Partners
  + In our extensive portfolio of international work we also work with local partners to increase their capacity and to maximize the impact of our work.