

Uejio Statement of Interest

The stakeholder-driven and decision support scientists are wrestling with the multifaceted challenge of conducting socially relevant research that can be understood and utilized by a disparate user community. Depending on the end user, progress toward meeting this challenge has been mixed. For example, barriers to the integration of novel weather products by water managers were attributed to complex domains of governance, inflexible internal policies and mismatched spatial and temporal scales of weather forecasts. As part of a Regional Integrated Sciences and Assessment (RISA) program, I have attempted to integrate weather and climate information into the work of stakeholders concerned with West Nile Virus. Multiple mutually beneficial results have emerged from this dialogue. Arizona Department of Health officials have been directed to appropriate weather forecasts and summaries and received clarification on weather misconceptions. Likewise, the stakeholders have prioritized research areas that will most likely benefit from further applied weather research.

Because the field of weather and health is developing, weather and climate forecasts are rarely considered by or tailored to the needs of public health stakeholders. Even though further applied ecological research must be conducted before disease early warning systems can be developed, innovative weather forecasts can greatly benefit public health officials. In August of 2005, West Nile Virus had reached epidemic levels in the Sacramento-Yolo Counties Area of Northern California. In order to aerially apply pesticides, sustained surface winds cannot be greater than 10mph. More than halfway through pesticide application, surface winds increased in intensity and delayed critical mosquito mitigation by 14 days. On average in August, how often do surface winds consecutively reach speeds of 10 mph? Basic averaging of weather data or a technique like self-organizing maps would easily answer this question. I believe that other WAS*IS participants will need to innovate and adapt existing weather products to provide meaningful decision support information. Moreover, simply modifying a forecasting tool will does not guarantee that policy makers will be able to interpret, correctly utilize or even perceive the tool as being beneficial. In this vein, the process of iteratively developing appropriate decision support tools with end-users is critical to the utilization of weather forecasts. Ideally, the integration of weather forecasts into public health activities can learn from growing pains of other sectors and construct fruitful methodologies for communication.

To varying extents, stakeholder-driven science has begun to serve as an intermediary between the research and user community. However, these efforts are largely local, targeted to specific end-users, and not uniformly emphasized in project design. In this respect, WAS*IS can build toward the next paradigm of participatory and interdisciplinary research by creating alternative frameworks, processes, and evaluation mechanisms for integrative studies. Thank you for your consideration.