CRISTAL CRITICALITY SPATIAL ANALYSIS

CRISTAL is a user-friendly software that enables private food companies and the government to compare disparate food systems for the allocation of scarce security and risk mitigation resources.

Food and agriculture comprise a systems-based infrastructure that contains a complex network of farms, individual production or processing facilities, and distribution, which the United States relies on economically, and the world relies upon as a reliable source of food. These complex food systems derive their efficiency and vulnerability from the way each supply chain system is constructed. Methods that document and assess the components that comprise this critical food infrastructure are needed to prevent naturally occurring and anthropogenic disasters from crippling the food system.

CRISTAL engages private food companies to improve understanding of their risks, and ultimately increases the safety and security of global food systems. The Food Safety Modernization Act (FSMA) places an increased emphasis on supply chain documentation, product tracing, and event response. CRISTAL is one tool that helps companies accomplish these tasks. Furthermore, CRISTAL supports efforts to identify where mitigation resources are most needed during catastrophic supply-chain failures.

CRISTAL prototype for a food system from farm to retail.

CRISTAL prototype with geographic coordinates and hazard layers.

CRISTAL ENABLES PRIVATELY OWNED FOOD COMPANIES TO

- Document supply chain components in a user-friendly platform.
- Identify specific points and facilities in food systems that are at risk of failure.
- Proactively identify and mitigate risks to systems and facilities.
- Identify priorities for allocation of resources to mitigate risks to facilities and systems in advance.

BENEFITS THAT CRISTAL MAY PROVIDE TO USERS

- Provide the necessary evidence to reduce insurance costs to private companies.
- Facilitate rule in/rule out of supply chain components during an event response.
- Increase the strength of food systems to ensure a safe and reliable food supply.
- Improve event response agility, reducing the cost of supplier disruptions.

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