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Enhancing Decision Support through Social and Behavioral Sciences: A Convergence Science Approach

Operational meteorologists provide decision support services (DSS) for their partners and end users (e.g. emergency managers and fire managers), which requires reliable and validated weather products and services. Effective DSS necessitates a deep understanding of meteorologists and core partners' decision timelines within the contexts of extreme weather. NOAA's Global Systems Laboratory (GSL) recently developed a Social and Behavioral Sciences (SBS) Branch within GSL's Weather Informatics and Decision Support (WIDS) Division. This branch provides research and evaluative support for products and services in development and builds knowledge about the decisions and information needs of our core partners. This presentation will provide a brief background of the SBS Branch, along with examples of completed, current, and planned research and evaluation activities pertaining to decision support. Using a convergence science approach, these projects center around end-user decision-making and information needs, specifically as it relates to hazardous and probabilistic weather information as it pertains to communicating uncertainty and confidence. The examples presented will demonstrate how SBS approaches can be used to (i) evaluate products and services (ii) advance knowledge of the types of decisions our core partners must make in the context of extreme weather, and (iii) better

understand and meet the information needs of end-users and publics we serve.

Presentation Theme: The theme and purpose of this presentation is to showcase how social science can be integrated to provide more effective weather-related decision support tools to National Weather Service core partners, particularly emergency managers. It will highlight what it means to integrate social and behavioral sciences, as well as examples of research and evaluation projects designed to inform and improve decision support tools from the vantage point of a NOAA research laboratory.

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