Appendix 9
DataFEWSion Core Competencies

Core Competency: Communication	
Definition:	Clearly conveying information and ideas through a variety of media to individuals or groups in a manner that engages the audience and helps them understand and retain the message.
Key Actions:	• Organizes the communication—Clarifies purpose and importance; stresses major points; follows a logical sequence. • Maintains audience attention—Keeps the audience engaged through use of techniques such as analogies, illustrations, humor, an appealing style, body language, and voice inflection. • Adjusts to the audience—Frames message in line with audience experience, background, and expectations; uses terms, examples, and analogies that are meaningful to the audience. • Ensures understanding—Seeks input from audience; checks understanding; presents message in different ways to enhance understanding. • Adheres to accepted conventions—Uses syntax, pace, volume, diction, and mechanics appropriate to the media being used. • Comprehends communication from others—Attends to messages from others; correctly interprets messages and responds appropriately.

Core Competency: Data Acquisition, Visualization and Analytics	
Definition:	Facility with technologies for acquiring, examining and synthesizing data from diverse sources; identifying patterns; and predicting trends.
Key Actions:	• Curates and pre-processes data to develop data models • Performs feature extraction and data driven modeling • Performs inference with data-driven models and interprets results • Designs and implements effective visual presentations of data

Core Competency: Complex Systems Modeling for Decision Support	
Definition:	Identifying the components of a system and how they interact over time; providing structure for a decision maker; and enabling the use of simulation and optimization
Key Actions:	• Understands systems thinking and the phases of a system life cycle • Effectively manages both simple and complex systems and projects • Structures a decision problem by identifying objectives, constraints and decision variables • Employs sensitivity analysis and the value of information to understand key decision influencers

Core Competency: Economics, Policy, Business or Sociology of FEWS	
Definition:	Being able to apply concepts, theories and analytical techniques from economics, business, and sociology to analyze problems involving the interaction of technology, human activity, and the environment, and determine "optimal" choices among alternatives
Key Actions:	• (Economics/Policy) Conducts policy analysis - Computes consumer, producer, and societal surpluses. Quantifies the market and welfare effect of alternative policies and government interventions, incorporating their impacts on the environment. • (Economics/Business) Calculates short- and long-run profits – Quantifies revenues, costs, and profits under alternative scenarios, and determines optimal choices. Identifies and computes opportunity costs, as well as variable and fixed costs. • (Sociology) Applies understanding of the relationship between society and the environment to contemporary problems and debates around the FEWS nexus • (Law/Policy) Analyzes the impacts of government policy on a FEW systems.