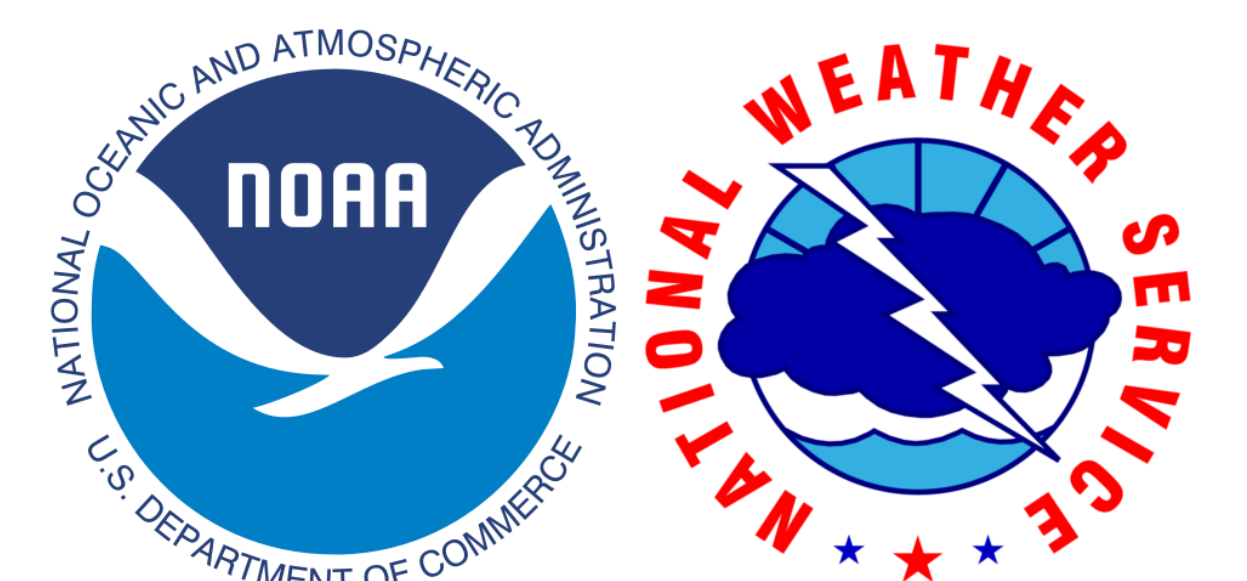
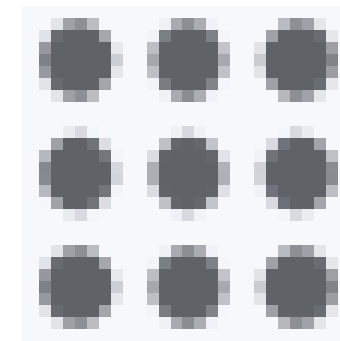


# Creating an Agile Framework and Toolset for Evolving IDSS Needs in the National Weather Service

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NON-COMPETITIVE DIVISION

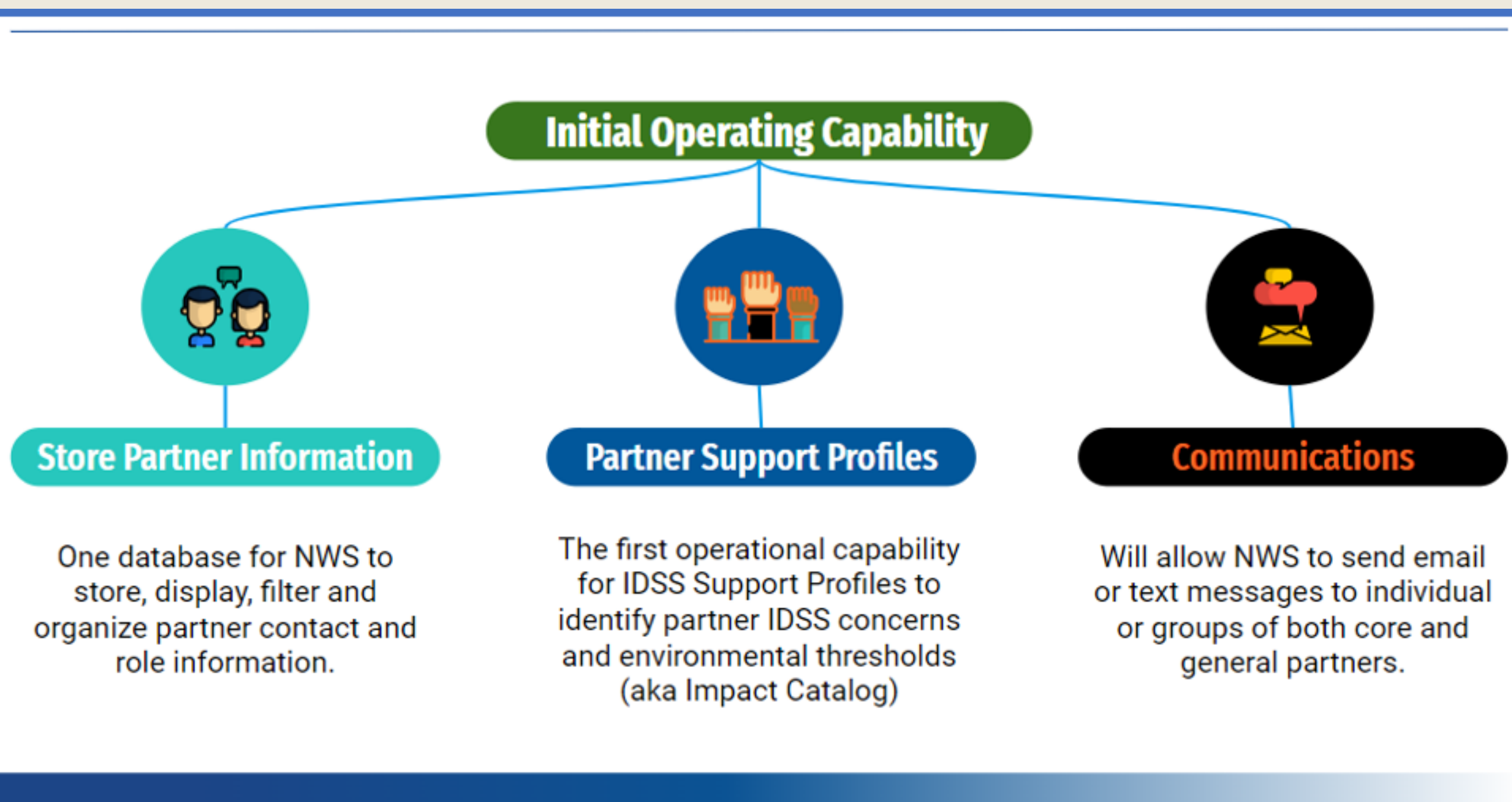


IMS: Becoming the Suite of Tools to Enable Modern Partner Services in the NWS

## Partner Focused

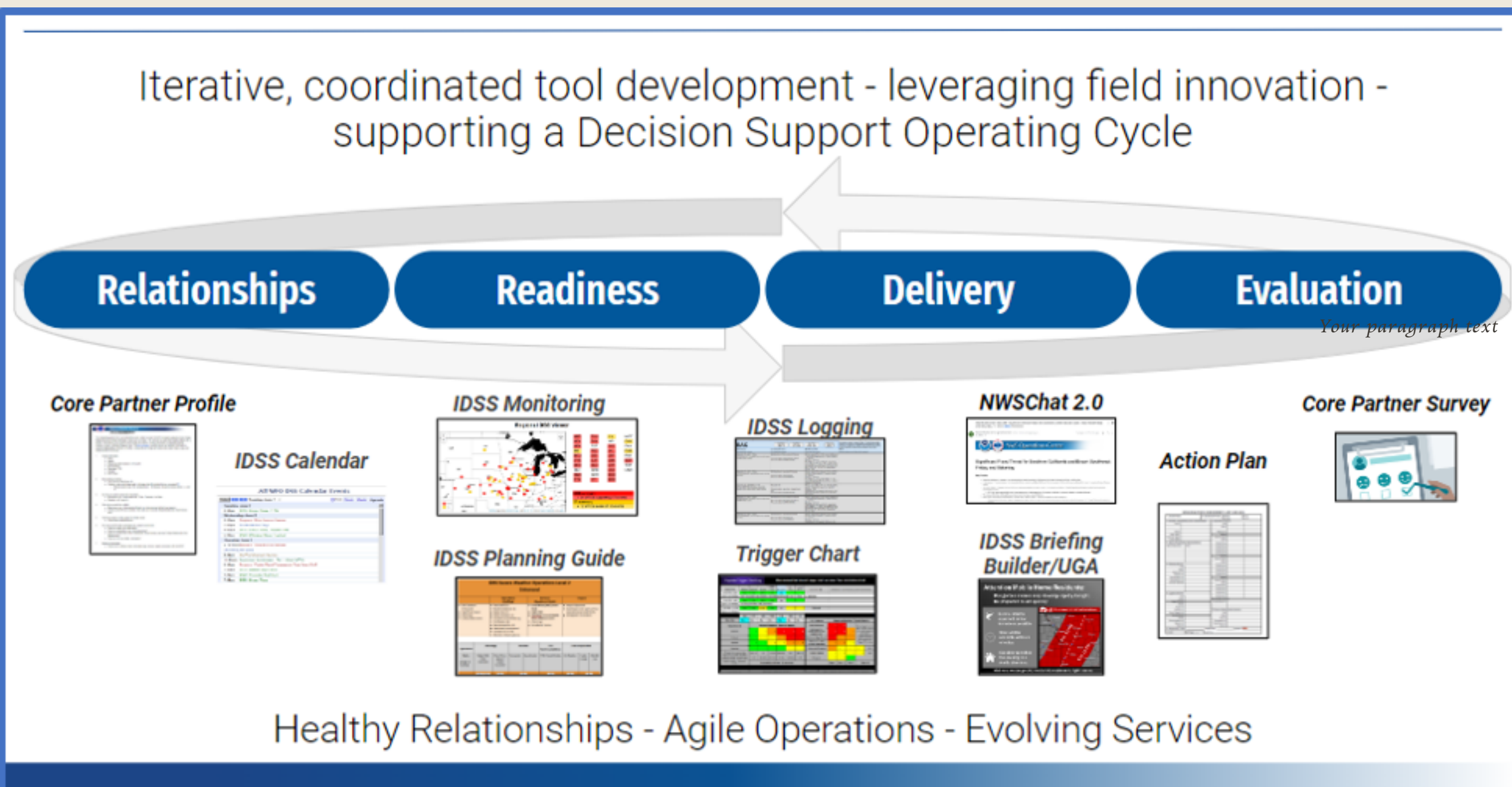
## The IDSS Management System (IMS)

## Community Response



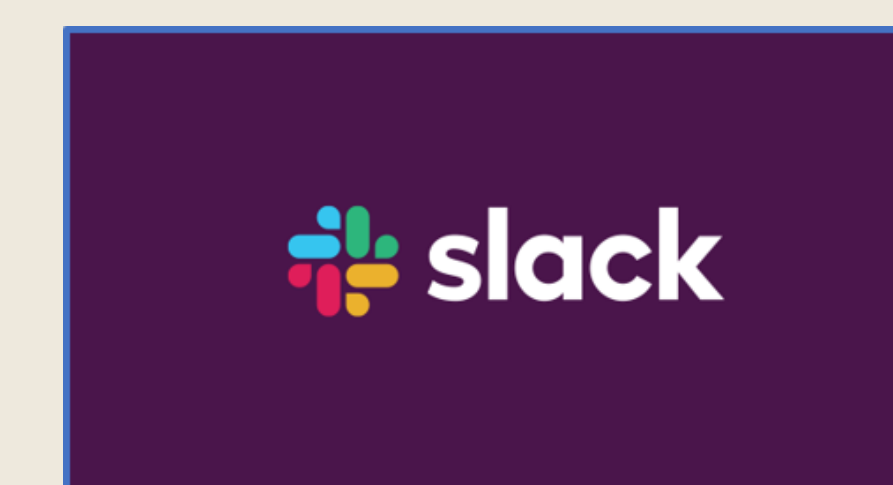
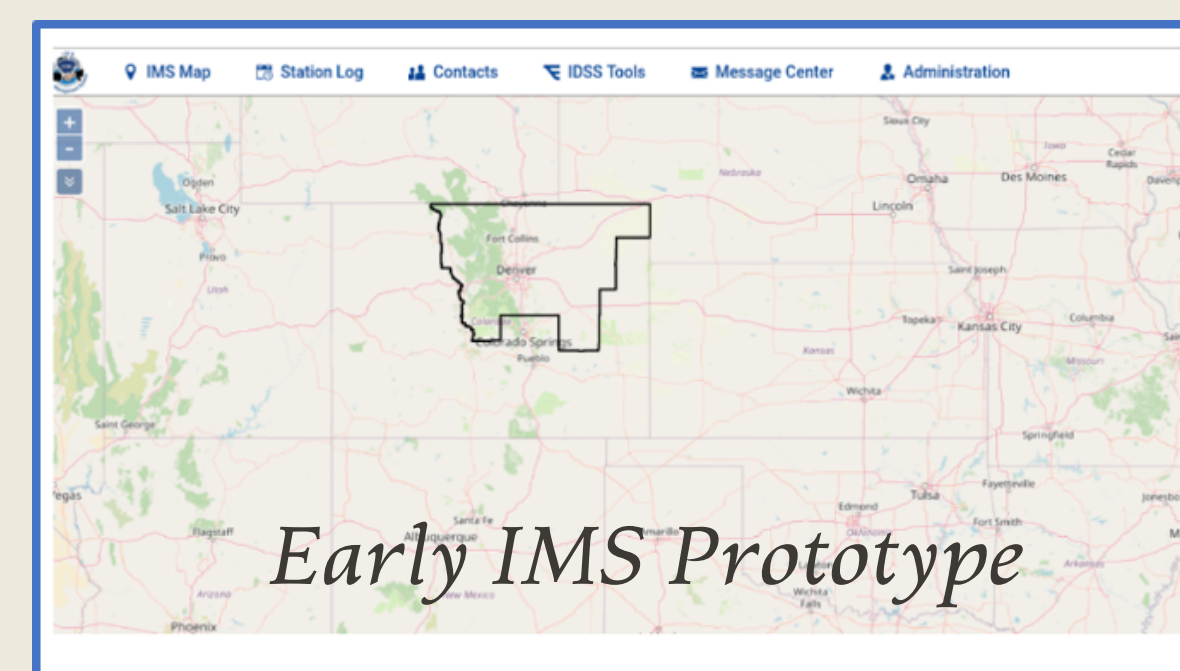
### IDSS Management System (IMS): Initial Operating Capability (IOC)

The IMS IOC will allow the NWS to organize partner information in a modern, consistent manner. The core of IOC will be an enterprise database powered by Amazon Aurora, that will have a web interface allowing for contact storing and mapping, the first ever NWS capability to create "Support Profiles", and the ability to communicate with partners via email and text messages. The IOC will be built in an iterative fashion, allowing for field feedback to be quickly integrated into development. Mapping capabilities will also allow for interrogation of CDC's Social Vulnerability Index (SVI) and select weather hazards with partner location information.

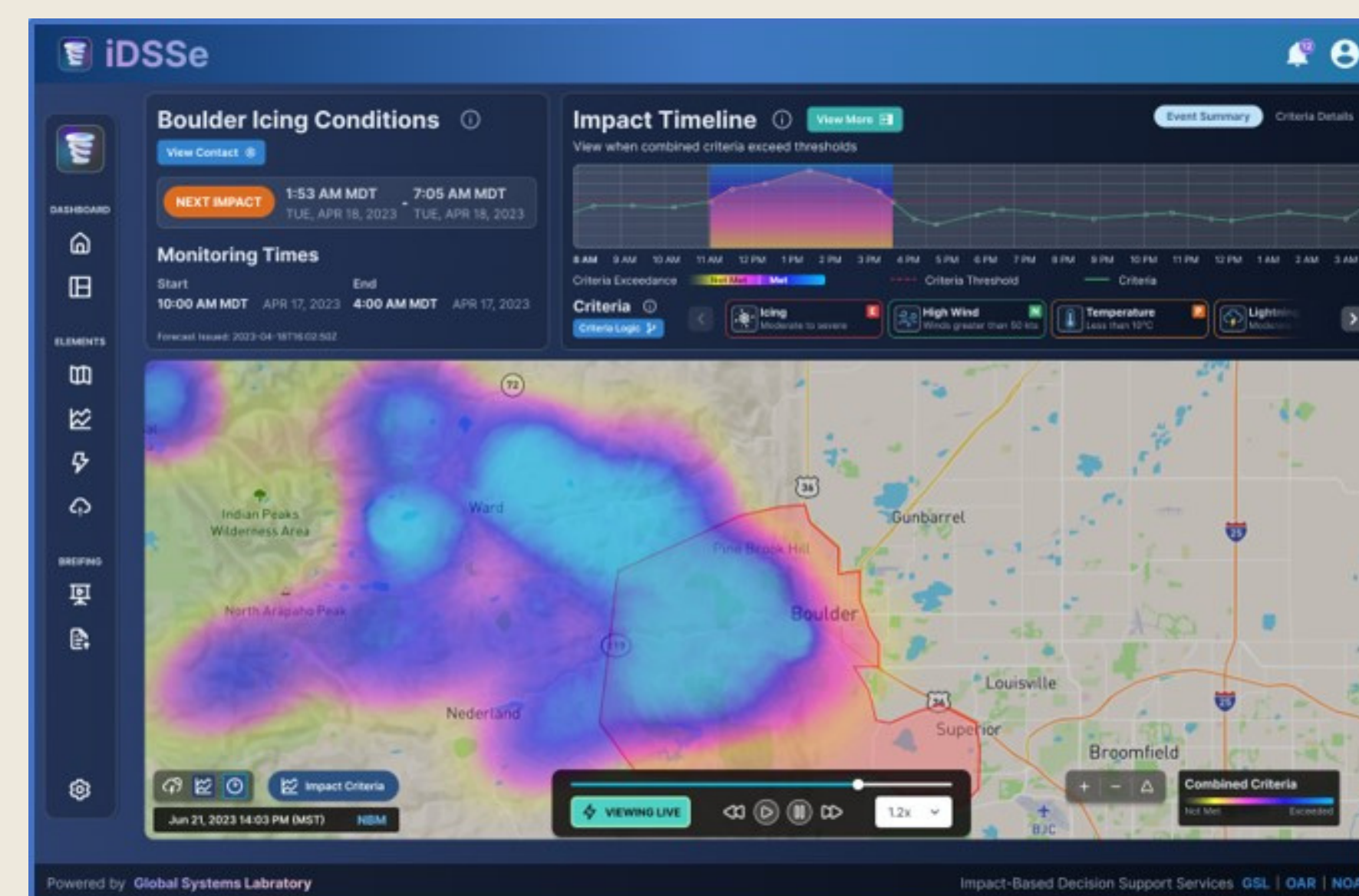


After IOC, IMS will leverage existing field developed tools that support our partners before, during, and after hazardous weather events. IMS will bring these in iteratively, and allow for consistent services to be produced across the agency.

- IMS is a suite of Impact Based Decision Support Services (IDSS) and Community Engagement Tools built upon an enterprise partner database with mutual aid at its core.
- Development funded by Bipartisan Infrastructure Law (BIL) Provision 3 through FY26. Initial Operating Capability to be rolled out internally during FY24, with select partner facing services gradually becoming available thereafter.
- Will support partner alerting capabilities based on custom user thresholds, particularly those associated with flooding.
- NWSChat 2.0, driven by Slack, will be fully integrated into IMS.
- IMS will allow NWS to see eye to eye with our partners, and allow us deliver the Last Critical Mile of our Mission.

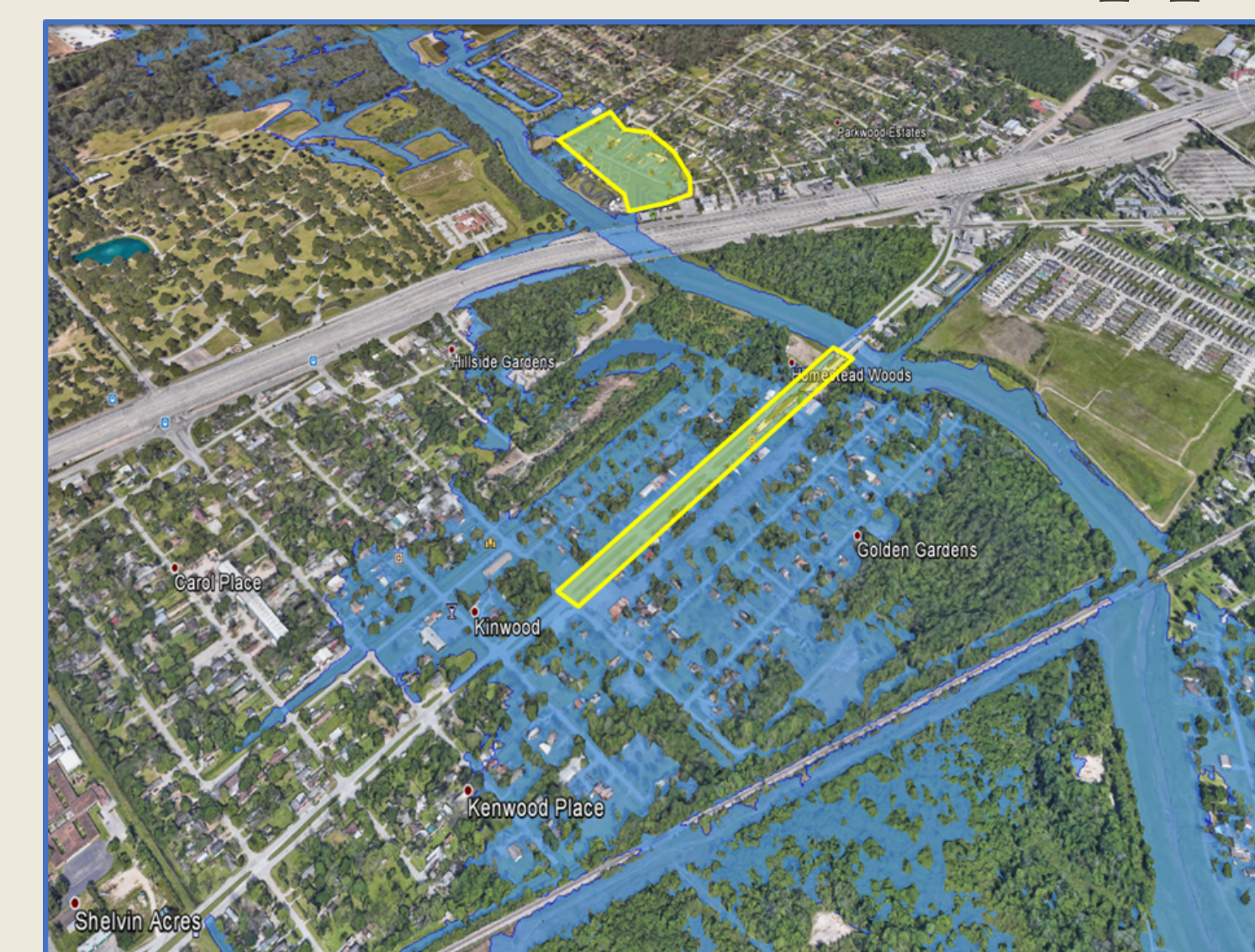


### IDSS Engine

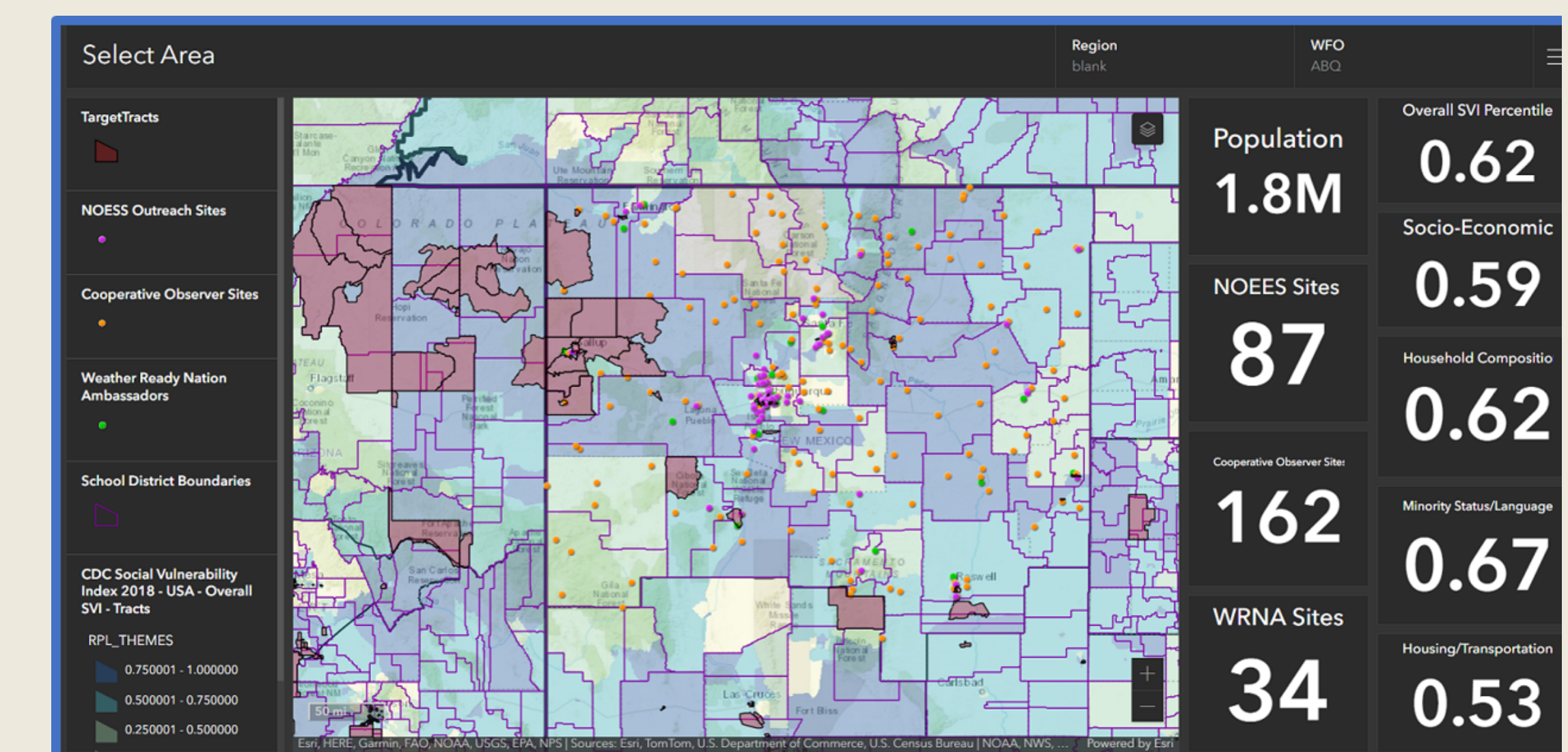


IDSS engine is being built in parallel to IMS, and will tap into IMS Support Profiles while mining probabilistic datasets to produce a range of outcomes for specific partner thresholds. For example, if an Emergency Manager has a sensitivity to 3" of rain in an hour, 40mph winds, and/or other environmental thresholds - IMS will enable that EM to be alerted when the criteria is expected to be exceeded. see the chances of their threshold being exceeded, and other potential scenarios.

### Flood Inundation Mapping



IMS will allow NWS forecasters to interrogate Flood Inundation Mapping (FIM) layers (where available) to quickly identify which partners will be impacted by flooding, and then seamlessly coordinate with those partners via technology such as NWSChat 2.0 (Slack). Future versions will allow for partner alerting based on predefined, custom partner flooding thresholds. This will significantly enhance our ability to monitor, communicate and disseminate uniquely relevant riverine and tidal flooding messaging to our partners.



### Community Engagement & Service Equity Tools

The NWS Office of Science and Technology Integration (OSTI) continually develops and advances new tools and resources to ensure that NWS products and services are provided to all our constituents equitably.

- Currently, the NWS has a number of GIS based tools to support situational awareness, tracking, and planning by utilizing the Center for Disease Control's Social Vulnerability Index (SVI). Forecasters can also display tribal lands and Minority Serving Institutions (MSI).
- WFO's can also visualize current NWS outlooks and warnings in relation to the SVI and see summaries of the vulnerable populations facing immediate weather threats, and display their outreach and education activities in relation to community level vulnerabilities.
- These features are not currently within a single tool or framework. OSTI will be working to integrate these complementary tools into a single resource that will provide the forecaster a single location to better understand the multiple communities they serve.
- IMS strives to integrate this next generation tool into its framework to ensure operational support and compatibility with other fundamental engagement and IDSS tools.



IMS will allow the NWS to see eye to eye with our partners in ways we never have before, and effectively allow us to deliver the Last Critical Mile of our mission.