NWS GIS Enterprise Viewer Overview

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vLab Seminar
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Briefing Purpose – *Informational*

- Briefing purpose is to:
  - To provide a high level overview of the plans for the NWS Enterprise Viewer for which the need was validated as CaRDS 16-037

Background of Mission Need or Requirement

- *CaRDS 16-037*
- MDC validated CaRDS request in November 2017
- A common web design to display and disseminate map-based graphics and text information would allow NWS partners and the public to more seamlessly access information across multiple CWAs. This will improve DSS in states and localities that span multiple CWAs. In addition, users would not have to learn how to navigate several different web designs to find the products they need to make decisions.
- While the initial effort may be substantial, establishing a common design and code base for the display of map-based graphics and related text information will ultimately reduce the work required to design and maintain sites to support different NWS products and services. Display of future products and services could be planned to fit the common web design when possible.

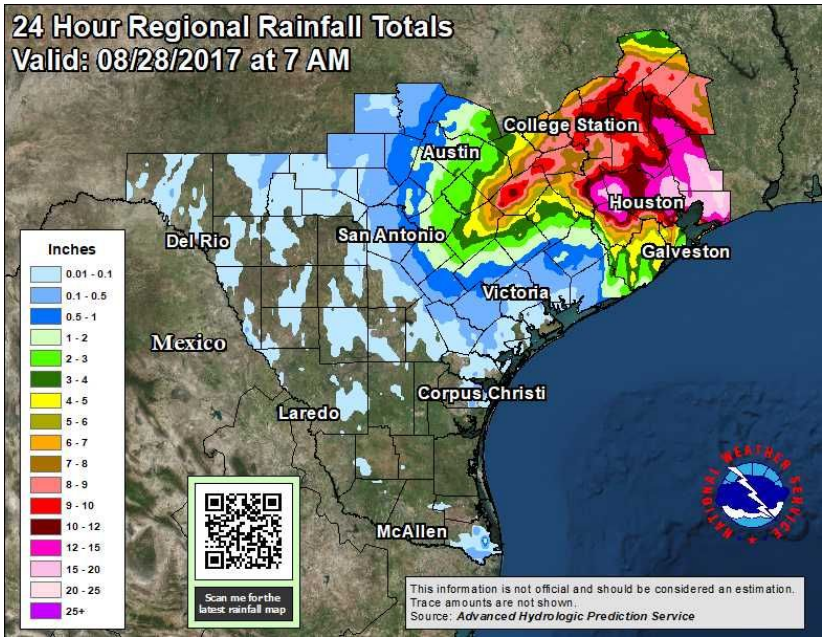
Background of Mission Need or Requirement

Hurricane Supplemental:
Scalable National Web-Based GIS Viewer / CaRDS 16-037

Improve public access, end user experience and Decision Support Services (DSS) in states and localities that span multiple County Watch Areas (CWAs)

Provide a reliably consistent and common design and software code base to display GIS map-based graphics and related text information

Provide consistent and reliable display and data access for flood inundation mapping, excessive rainfall products, and quantitative precipitation forecasts



Background of Mission Need or Requirement

- The GIS D2O team (June 2017-Nov 2018) identified at least 30 NWS websites which provide geospatial data and information. Each site has been developed independently.
- Additionally through the NOAA esri ELA independent arcgis online (AGOL) sites are being developed by individuals, offices and regions for IDSS purposes with little to no consistency in design or approach.
- The DIS GIS team and NWS GIS D2O team documented and validated the technical and functional requirements based on the functionality of the existing websites and shared these requirements in the CaRDS system as well as with AFS policy teams.
- The provision of data in GIS formats is separate from this CaRDS request, but also managed by the Dissemination Office and was worked on by the D2O team
- The NWS GIS D2O has been reinstitued and real time virtual training will be held July 30-Aug 1. The plan is to record these trainings for those not able to participate. If you are interested in joining the D2O team email Kari.sheets@noaa.gov for more information.

Strategic Alignment

A single code base for NWS web based GIS contributes to 2 of the “5 Key Ways Forward” for evolving NWS:

1) **Better Serving Partners** by providing key IDSS information as GIS web services so NWS IDSS staff can brief using NWS tools while also providing the data so it can be efficiently integrated into the GIS or common operating pictures of our partners.

2) Improve **consistency of NWS forecast & product display and dissemination in support of IDSS** through a collaborative R2O process that makes best use of technology, reduces duplication, and ensures consistency of IDSS experience across the NWS’ 11 service areas.

Timeline

- **What it does:** Displays NWS IDSS data across multiple County Warning Areas and other geographies
- **What we need to do:** Develop a common code base focusing on large precipitation events (inundation, QPE, etc) of national interest

GIS Viewer	FY 2019				FY 2020			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Planning								
Development								
Quality Assurance								
Implementation								

Requirements Documentation

- https://docs.google.com/spreadsheets/d/14fatfg6C28MGQKAv06u2Uqlc3nVPvUZYrvZrVhGkFqs/edit?usp=sharing
- **268 requirements**

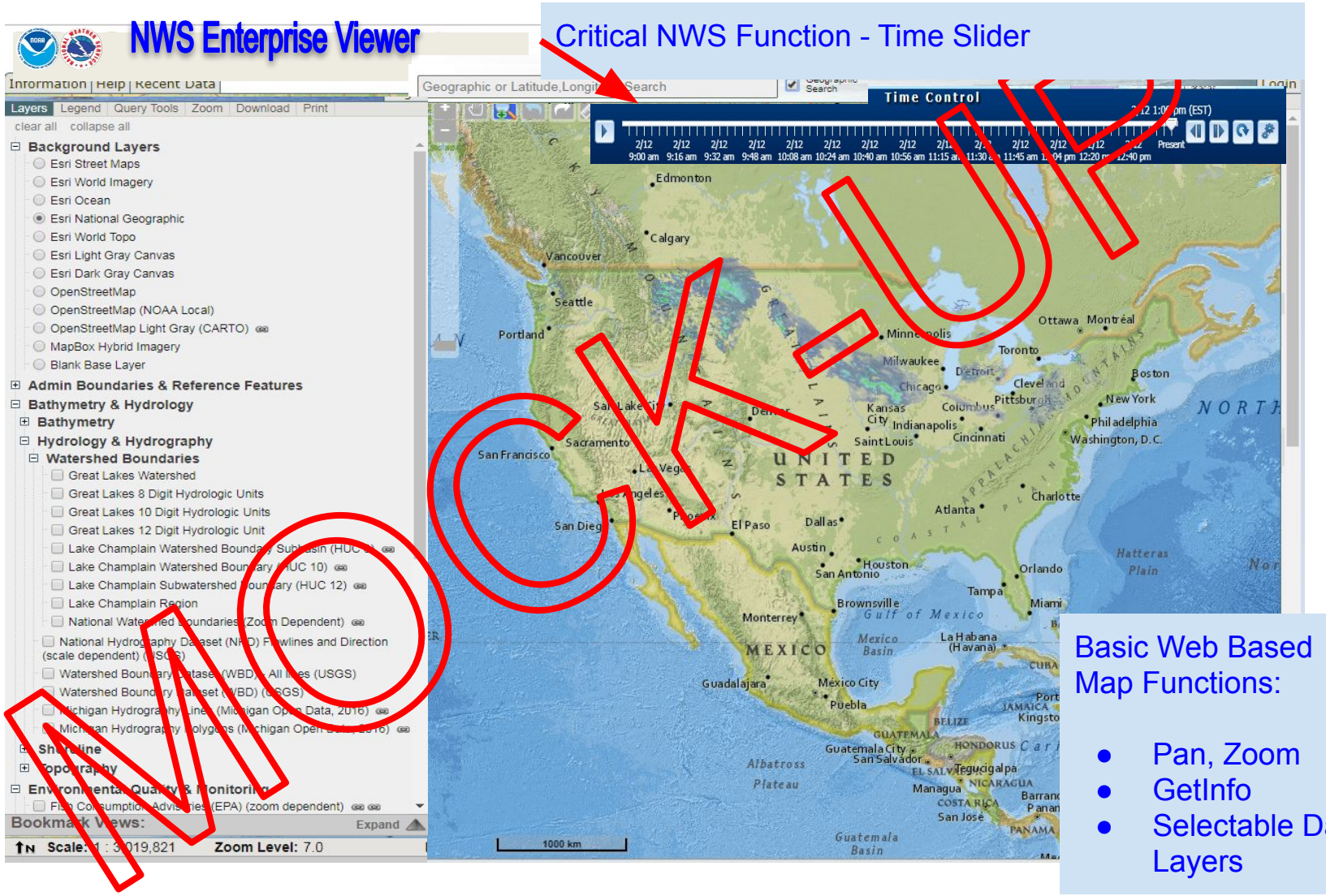
NWS National Viewer (CaRDS 16-037) Requirements

File Edit View Insert Format Data Tools Add-ons Help Last edit was on June 22, 2018

Req#

	A	B	C	D	E	F	G	H
1	Req#	Requirement	Comments	Priority	Date Validatec	Date Req Verified	SME Reviewed / Approved	Planned Release
2	Sym = Symbology/colors/map feature aesthetics; CD = Custom Display; CC = Common Code; IN = infrastructure; QC = quality control; OM = Operations & maintenance; SS = Social Science							
3	CC_001	The system must have text wrap control and be able to scale to screen sizes		1				
4	CC_002	The system must be capable of orienting the map based on a user's location (if shared.)	AK Requirements	1				
5	CC_003	The system must allow for a default map extent for each presentation layer or API instances for cases when location is not available or geolocation desired. for example and/or allow region/WFO pages to have the office location set a default center of map for their Area of responsibility.	AK Requirements					
6	CC_004	The system must allow for location search by city name, zip code, and lat, lon	The user should then be able to pan/zoom to adjust to a final extent					
7	CC_005	The system must allow for hyperlinks from data layers (or from a "right click" menu from the layer) to metadata records.	This is a link to the full xml ISO compliant metadata					
8	CC_006	The system must allow for hyperlinks from data layers (or from a "right click" menu from the layer) to source data.	This may be grib files, an office web page, etc.					

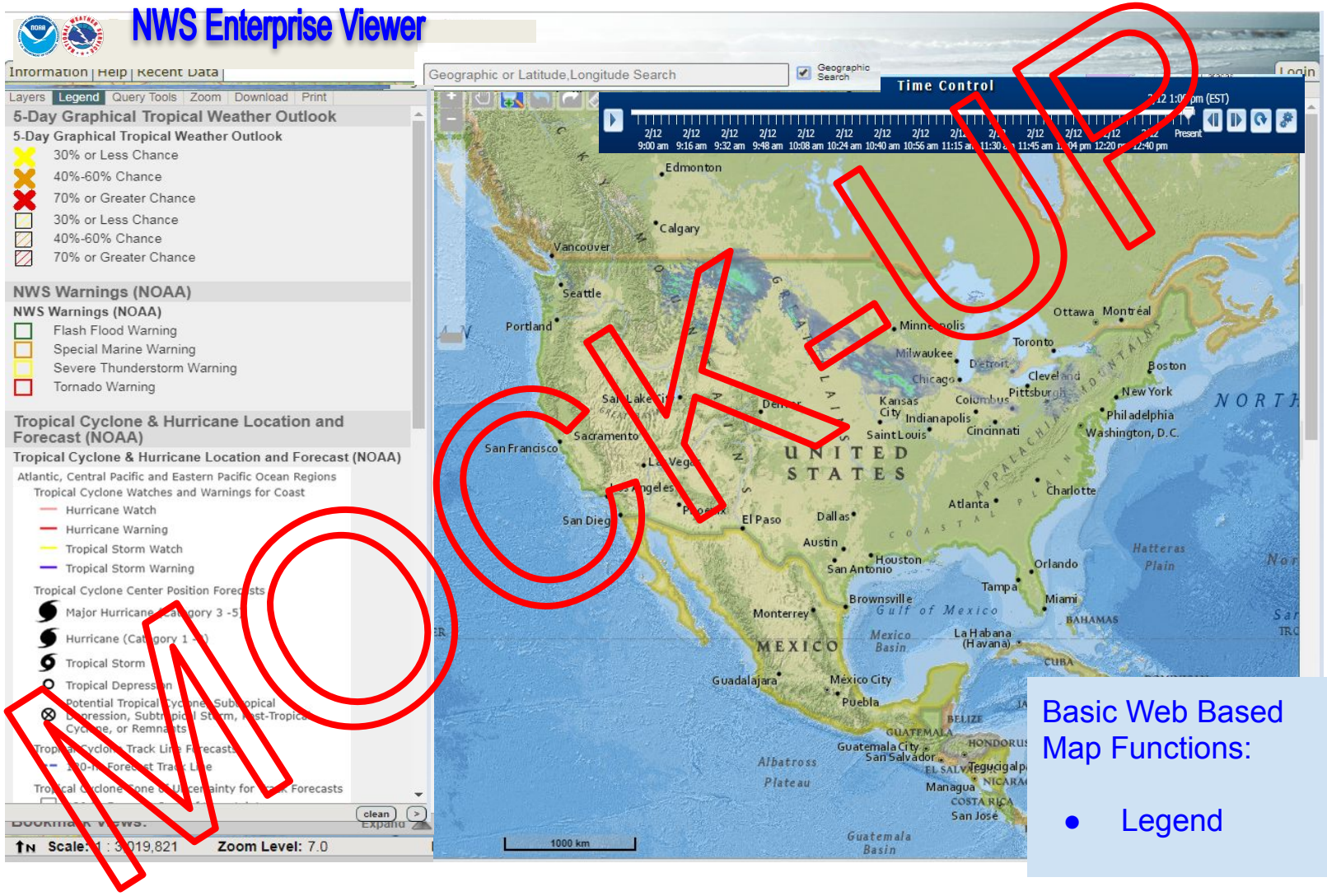
NWS Enterprise Viewer MOCK-UP



Basic Web Based Map Functions:

- Pan, Zoom
- GetInfo
- Selectable Data Layers

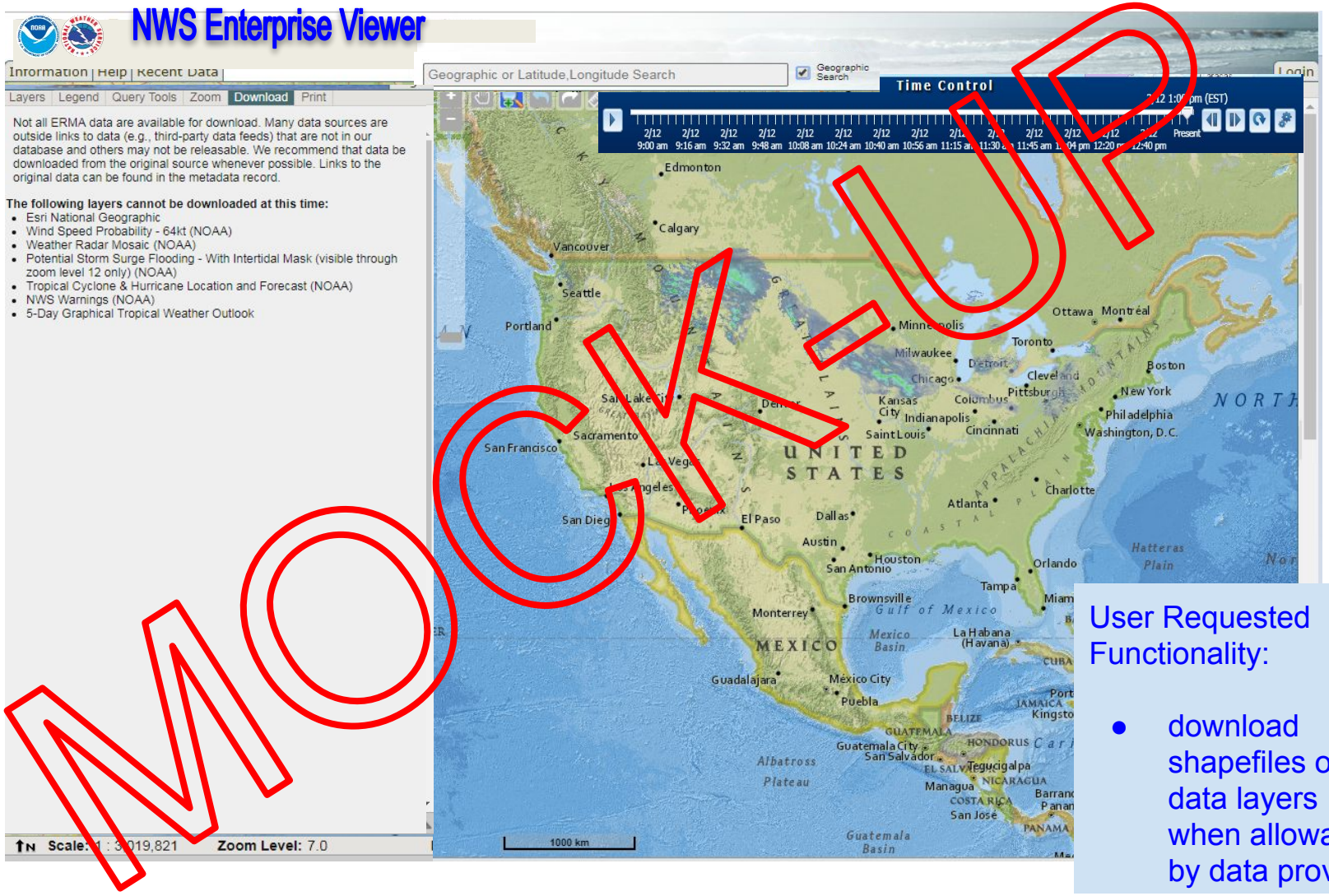
NWS Enterprise Viewer Mock-Up



Basic Web Based Map Functions:

- Legend

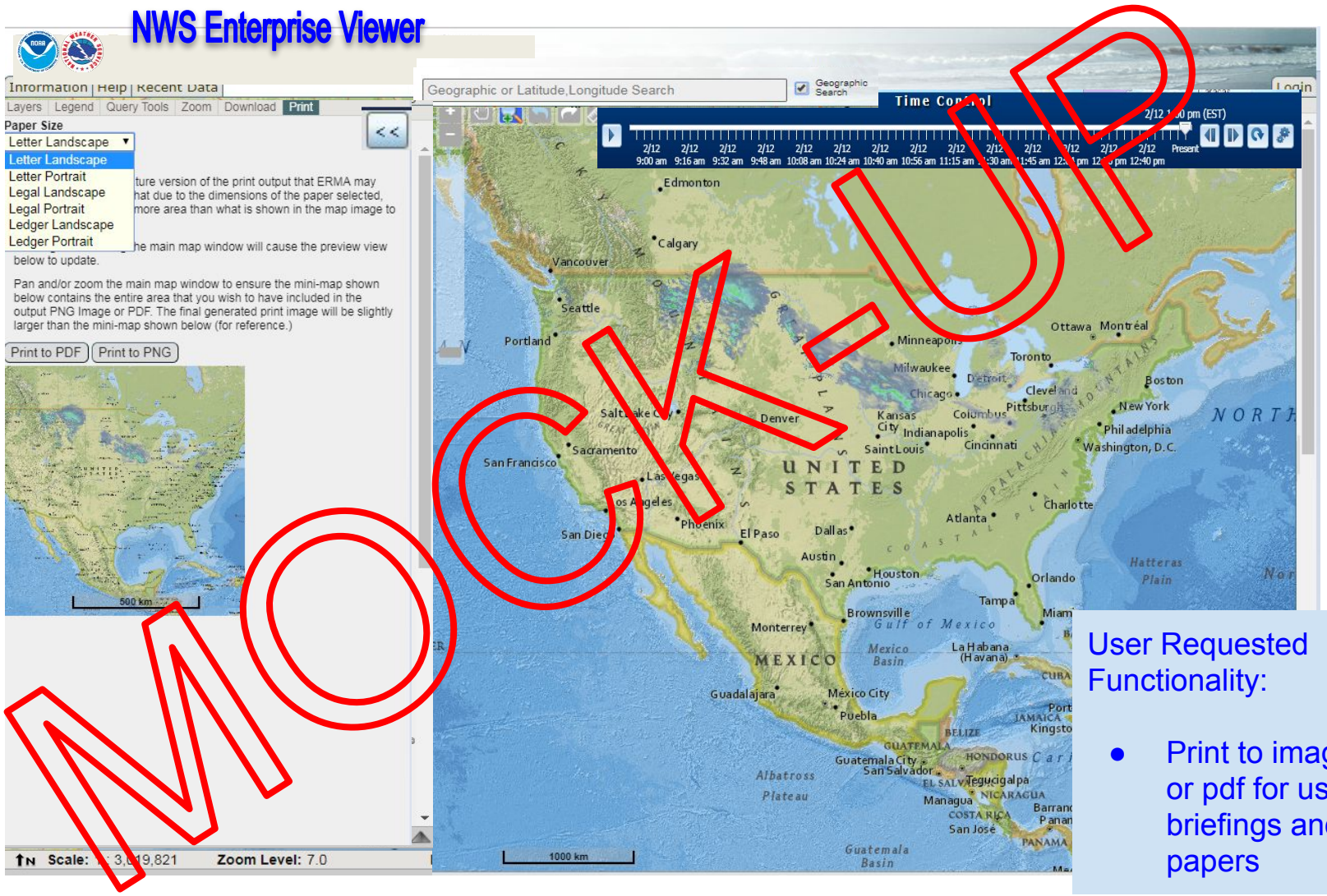
NWS Enterprise Viewer Mock-Up



User Requested Functionality:

- download shapefiles of data layers when allowable by data provider

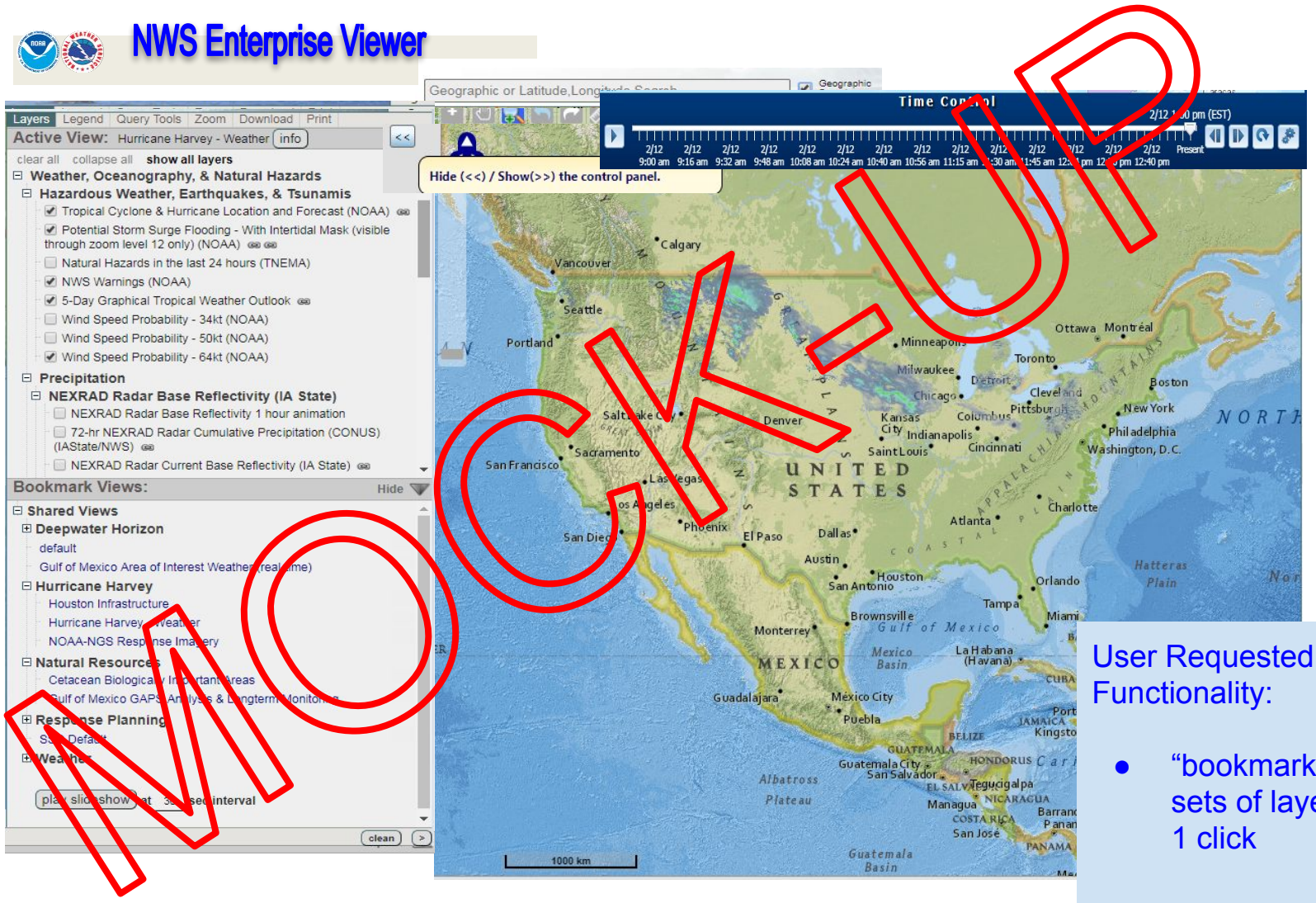
NWS Enterprise Viewer Mock-Up



User Requested Functionality:

- Print to image or pdf for use in briefings and papers

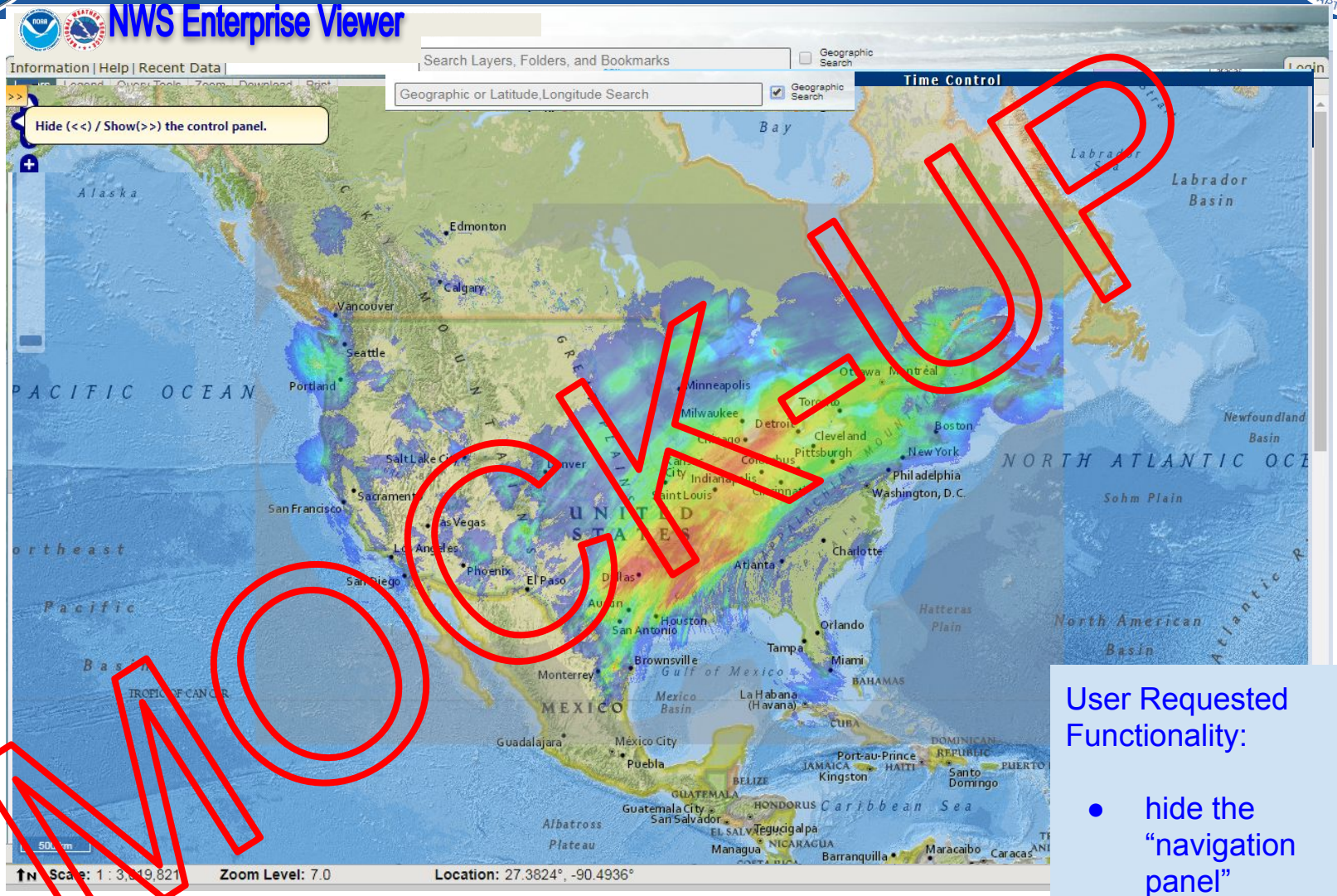
NWS Enterprise Viewer Mock-Up



User Requested Functionality:

- "bookmarks" for sets of layers in 1 click

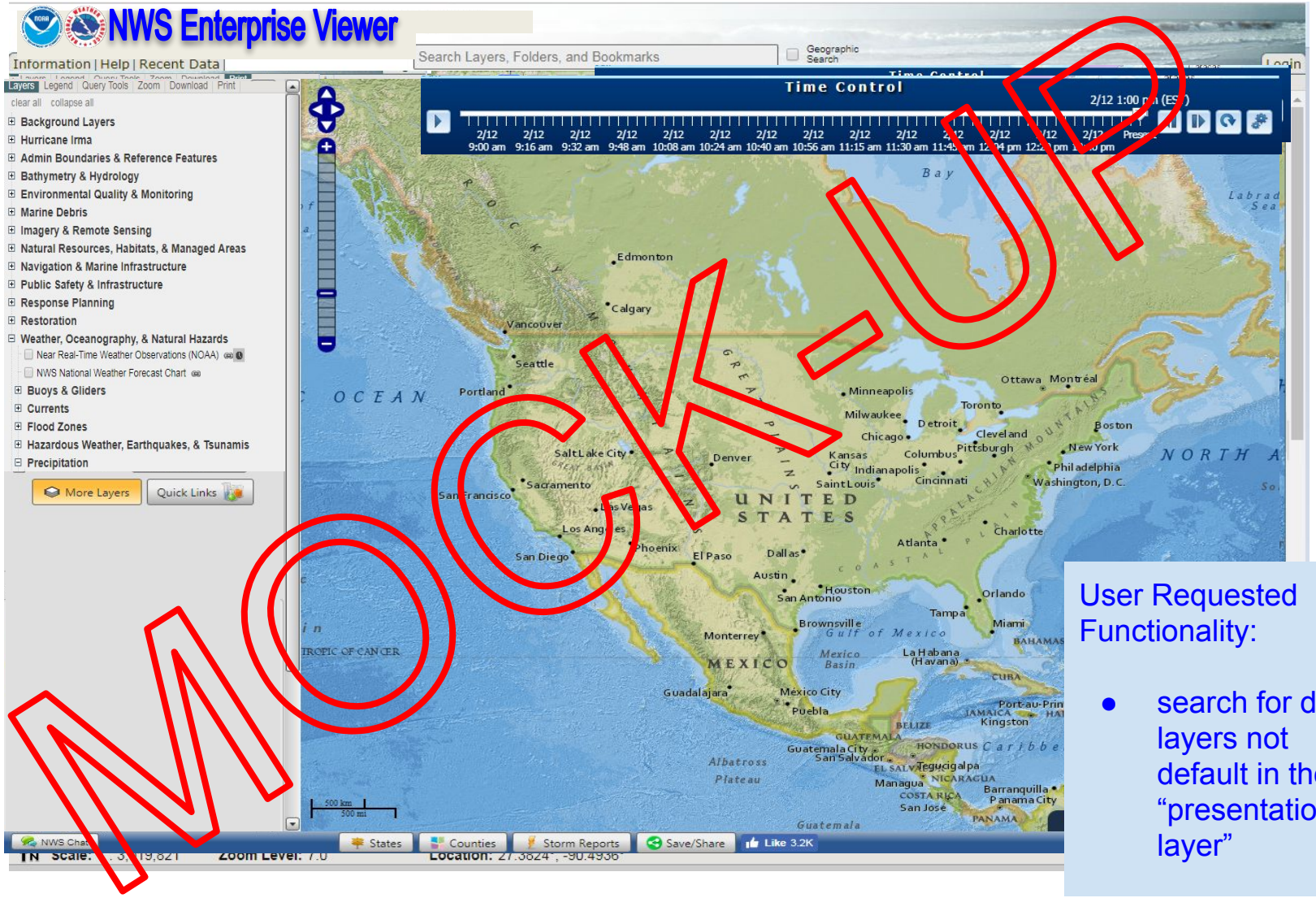
NWS Enterprise Viewer Mock-Up



User Requested Functionality:

- hide the “navigation panel”

NWS Enterprise Viewer Mock-Up

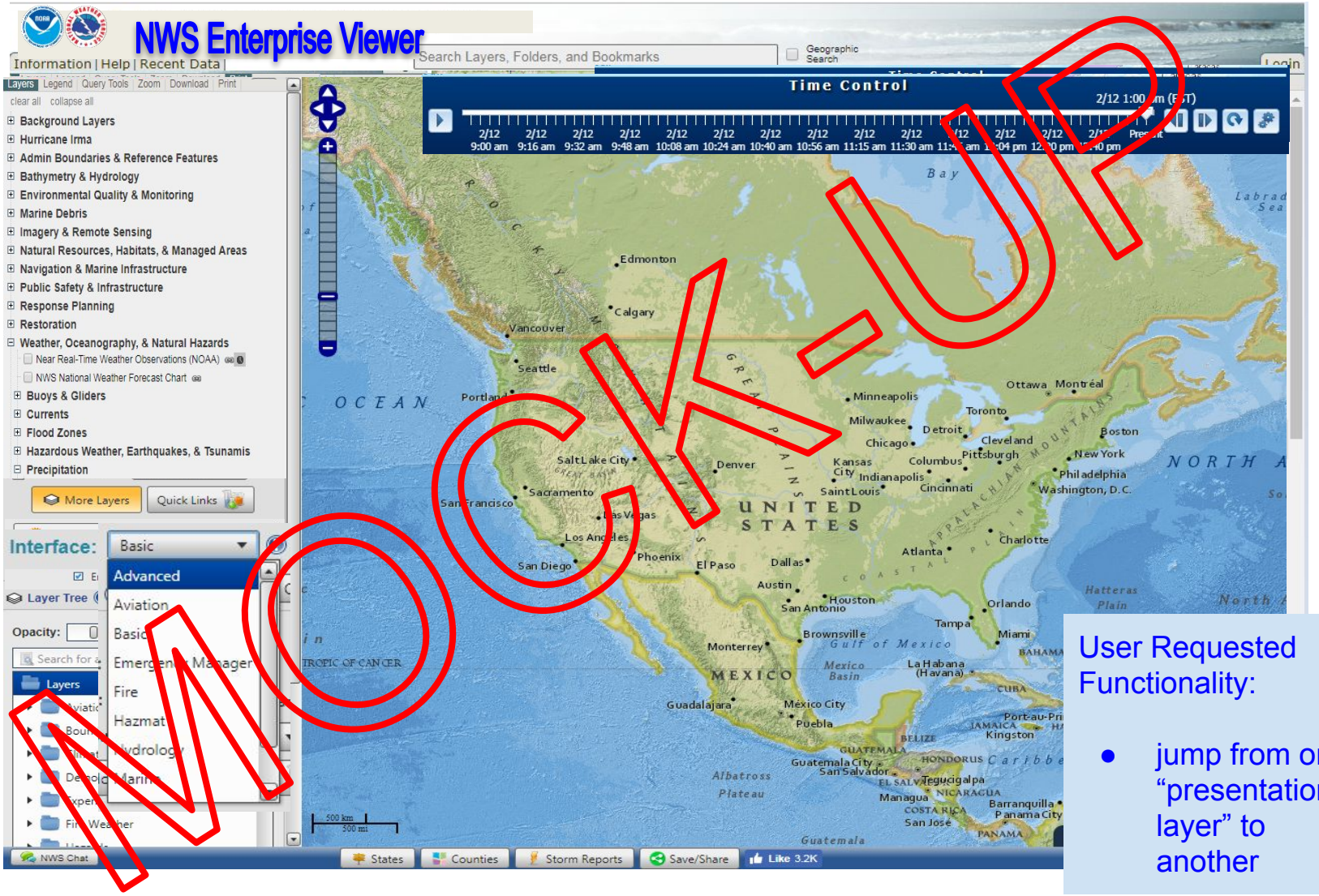


MOCK-UP

User Requested Functionality:

- search for data layers not default in the “presentation layer”

NWS Enterprise Viewer Mock-Up

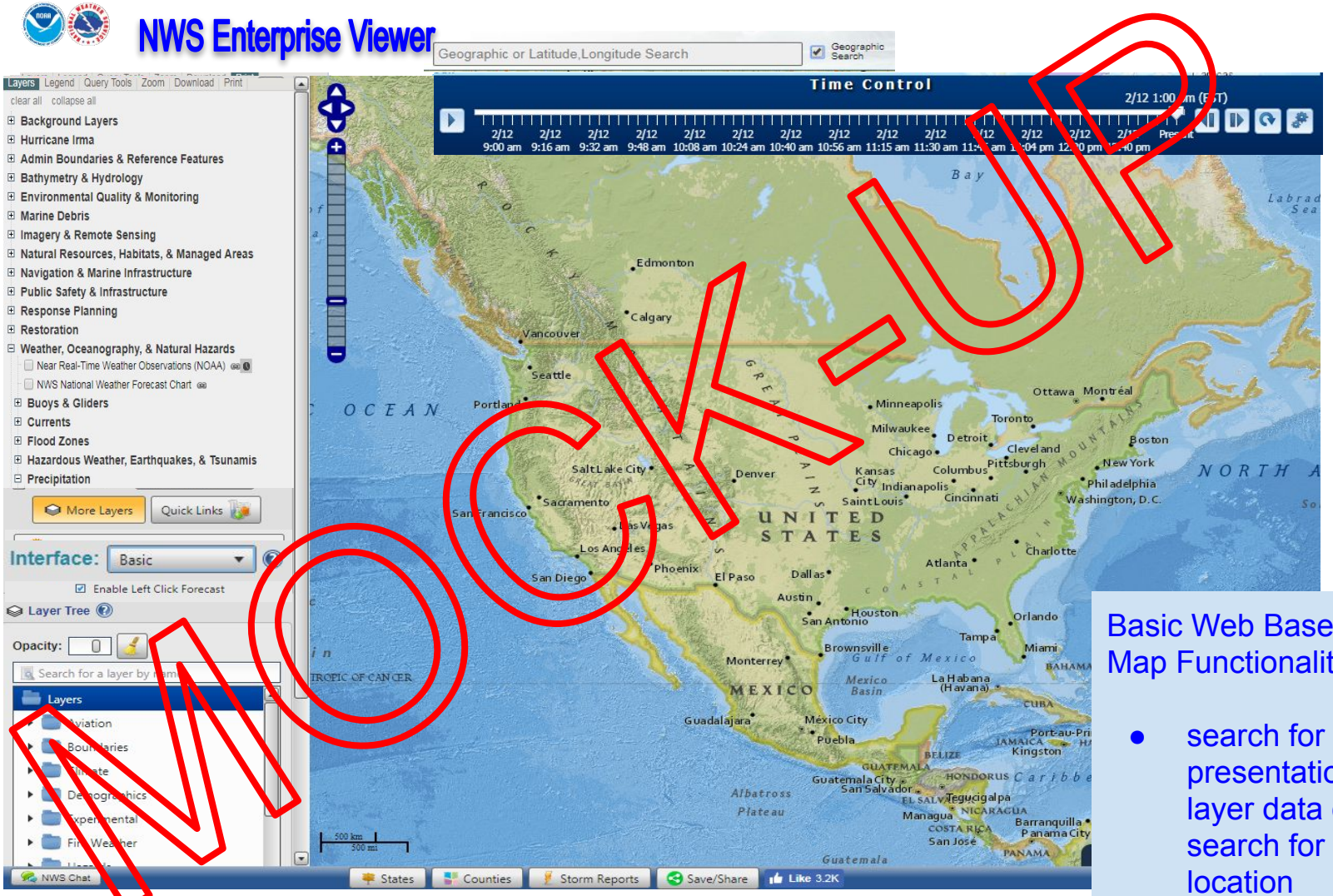


MOCK-UP

User Requested Functionality:

- jump from one “presentation layer” to another

NWS Enterprise Viewer Mock-Up

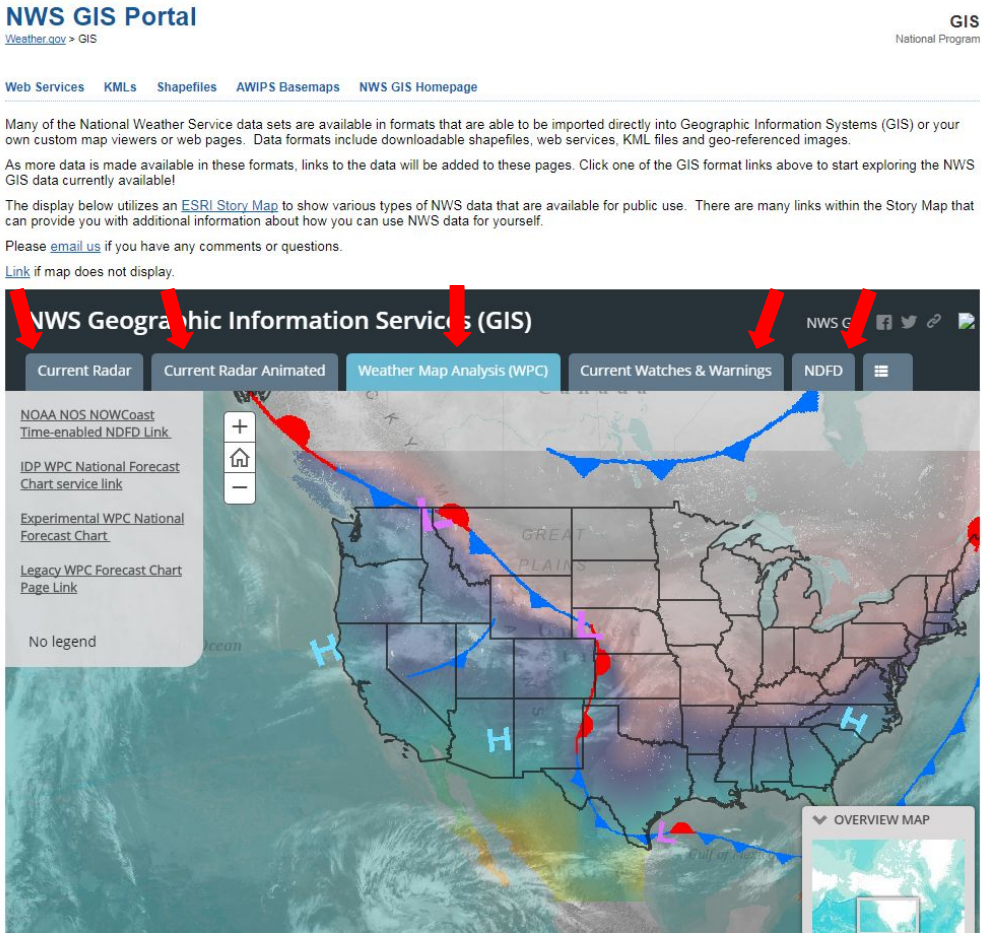


Basic Web Based Map Functionality:

- search for presentation layer data or search for location

Similarities with existing tools

- Common Look & Feel w/customized skins
  - potentially with tabbed navigation similar to [interim NWS GIS page]

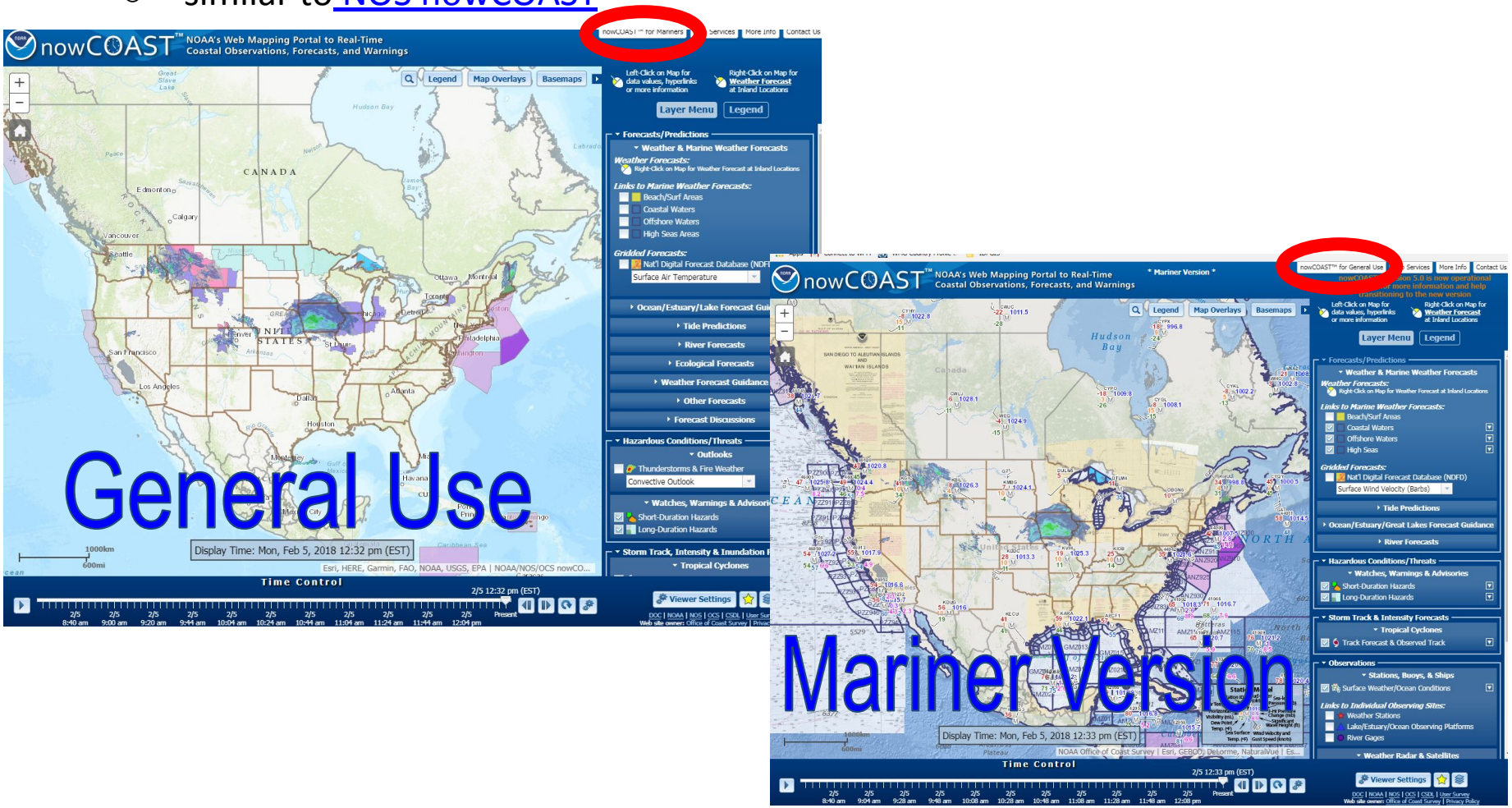


Similarities with existing tools

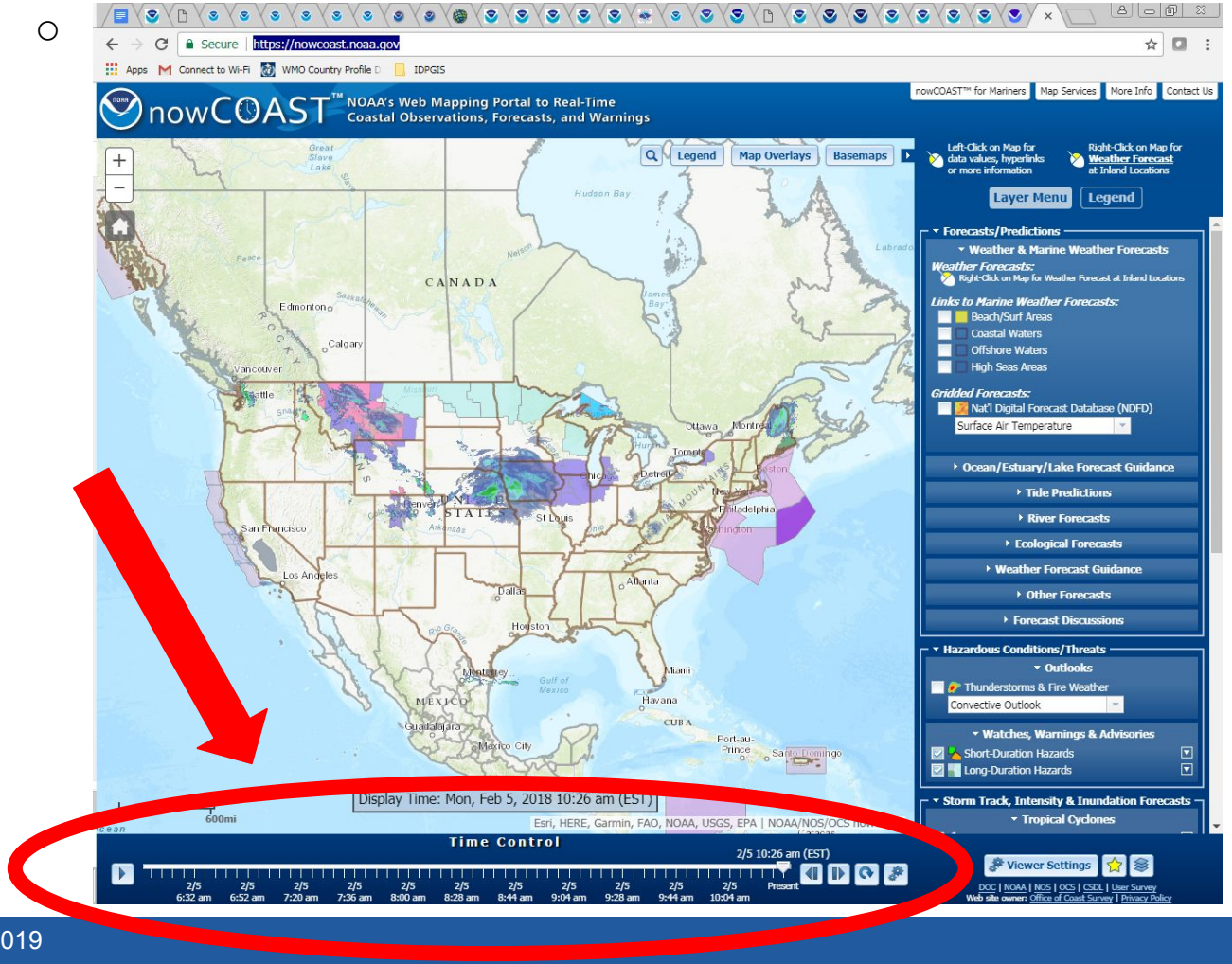
- Common Look & Feel w/customized presentation layers
  - similar to NOS ERMA application

Similarities with existing tools

- Common Look & Feel w/customized presentation layers
  - similar to NOS nowCOAST

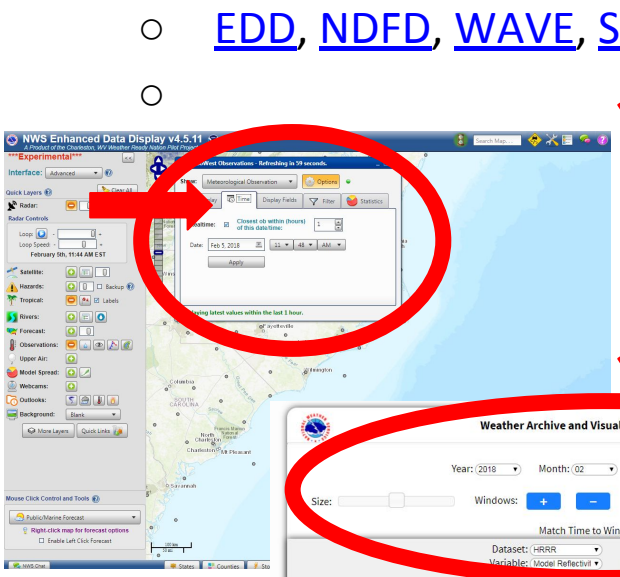


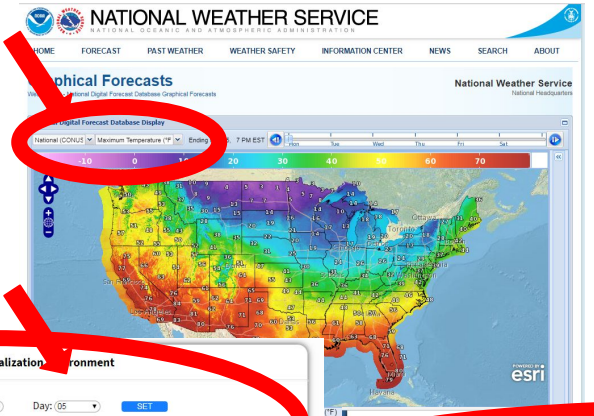
Similarities with existing tools

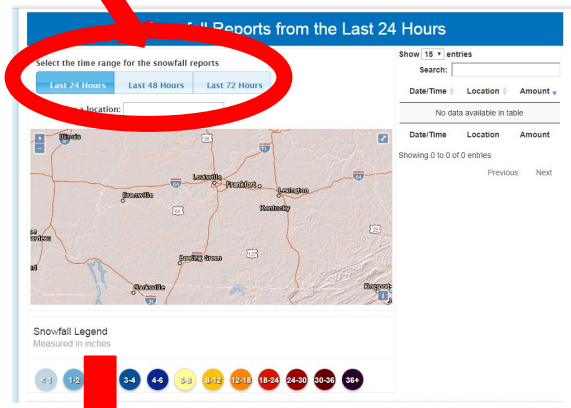
- Key Functionality from current applications
  - time slider NOS nowCOAST
  - 

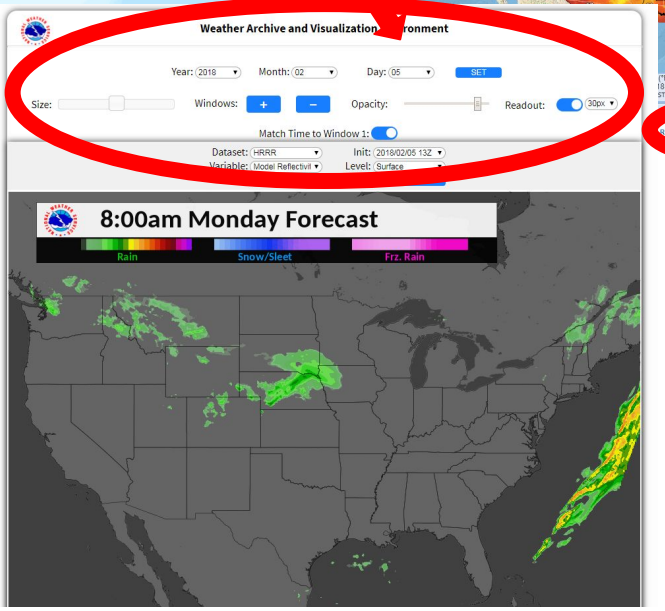
Similarities with existing tools

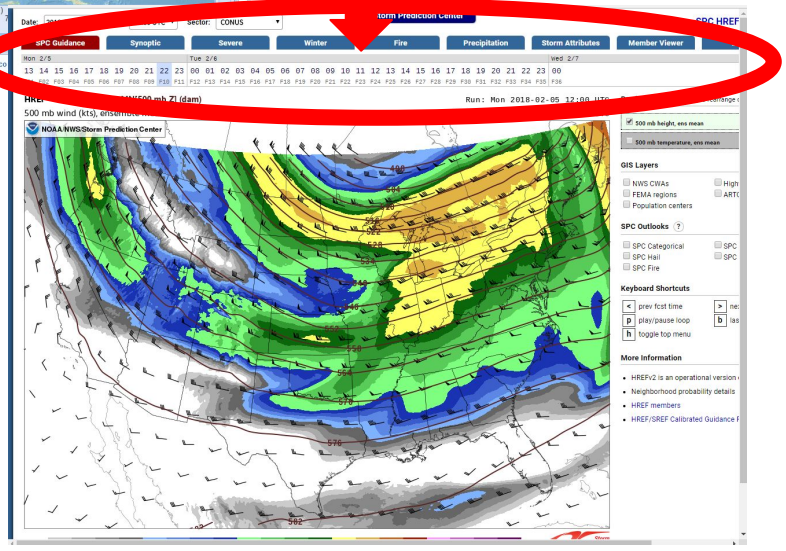
- Key Functionality from current applications - Display Data by Valid Time
  - EDD, NDFD, WAVE, SPC Viewer, Snowfall Reports
  -





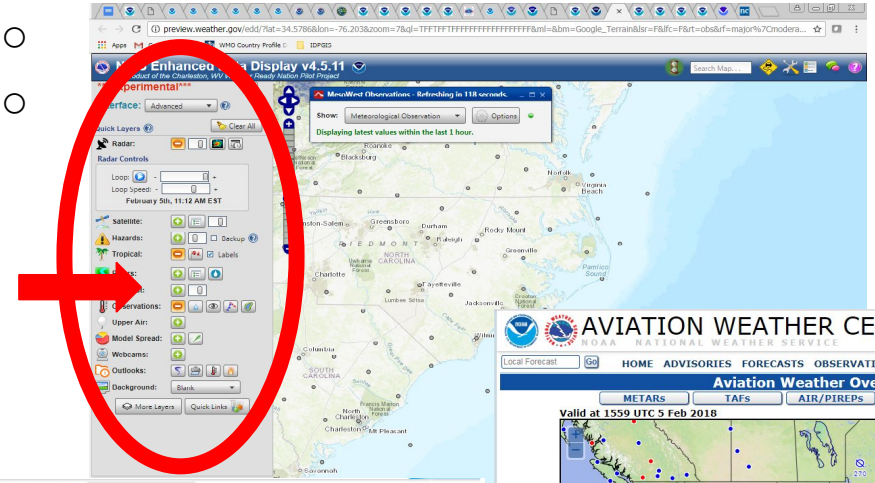


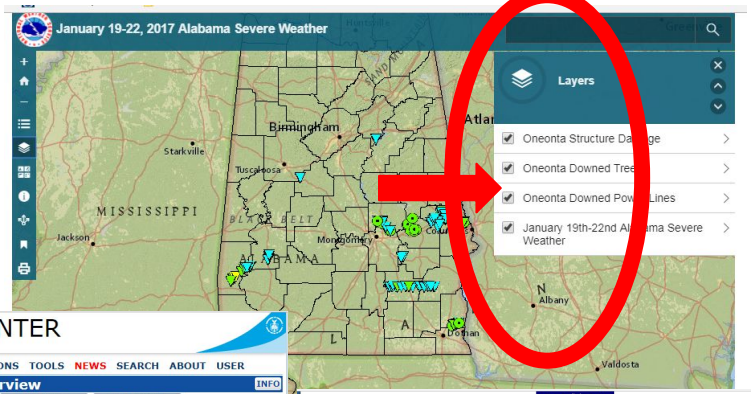


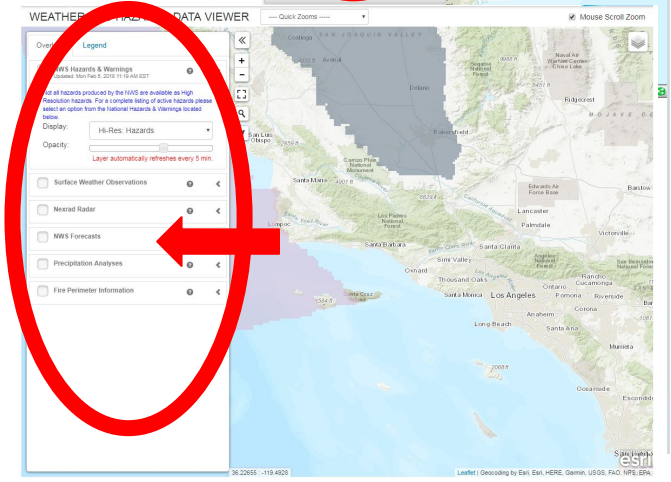


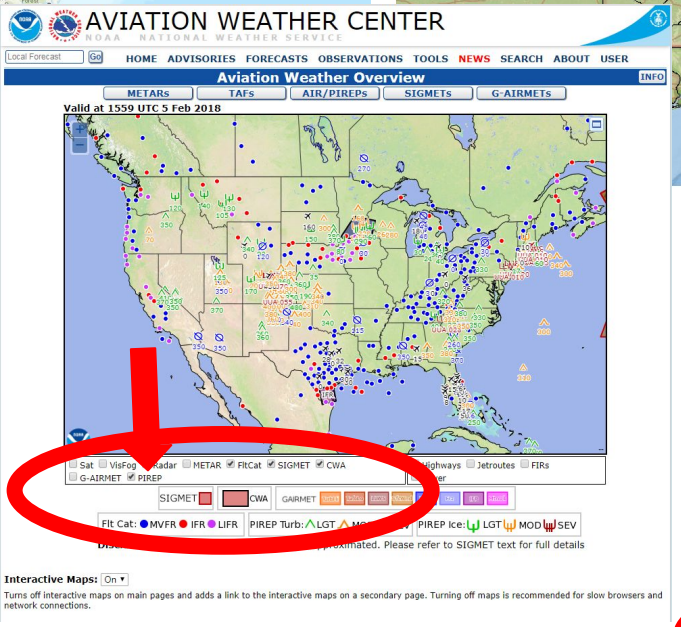
Similarities with existing tools

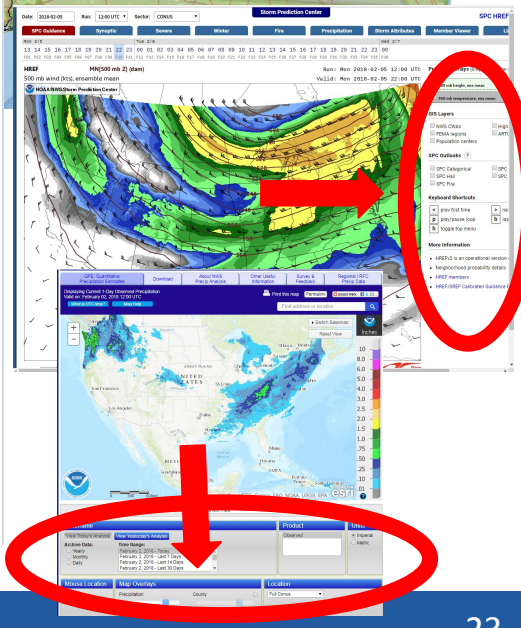
- Key Functionality from current applications - Selectable, Concurrent Layers
  - EDD, Severe Weather Event Maps, SPC Viewer, Aviation Weather Overview, AHPS
  -
  -











BACKUP

Interested in participating in devleoping the NWS Enterprise GIS Viewer with 30% of your time over the next 18 months as part of the Development to Operations (D2O) Team?
Email Kari.sheets@noaa.gov and andrea.hardy@noaa.gov for more information.

Questions?

Benefits

- The NWS benefits from an interactive web-based common map interface, such as the one being described in the following ways:
  - Consistency for IDSS mission and partners
    - Availability & Reliability
      - supported by NWS 24/7/365 operational teams
      - real-time data ingest ensures data updates as NWS releases new products
    - Experience
      - “Look & Feel” is similar between service areas and geographic regions of the NWS
      - Leverages, & when possible provides access to, NWS data in international geospatial data standards (Open Geospatial Consortium - OGC)
    - Flexible
      - Allows for tailoring of content to service areas and regions
      - Allows data being displayed (layers) to be selected “on-the-fly”
  - Consistency for NWS O&M staff
    - Common code and content form the “back-end” for “skins” customized for service areas = only 1 thing to maintain and monitor
    - Streamlines training (internal & external) since both the the front and back-end will be consistent web map experiences across the NWS

Success Criteria

- Collaborative development for updates
  - NWS staff request & contribute functional updates rather than building something else to achieve their goals (less silos/"one-offs")
- Usage Statistics
  - Meet or exceed current usage of "silo" applications via Google web stats or other NWS web monitoring tools
- User Feedback
  - Positive Feedback (including requests for additional functionality) will show that mission need is being met
    - Feedback from Weather Enterprise, other customers, and NWS staff