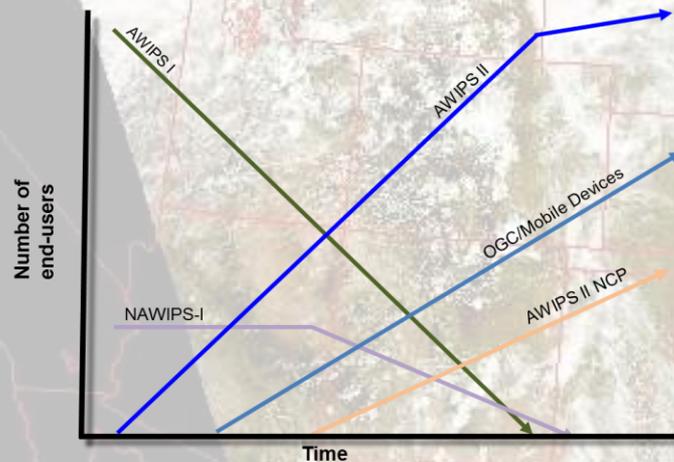


Looking to the Future



Science Advisory Committee Meeting

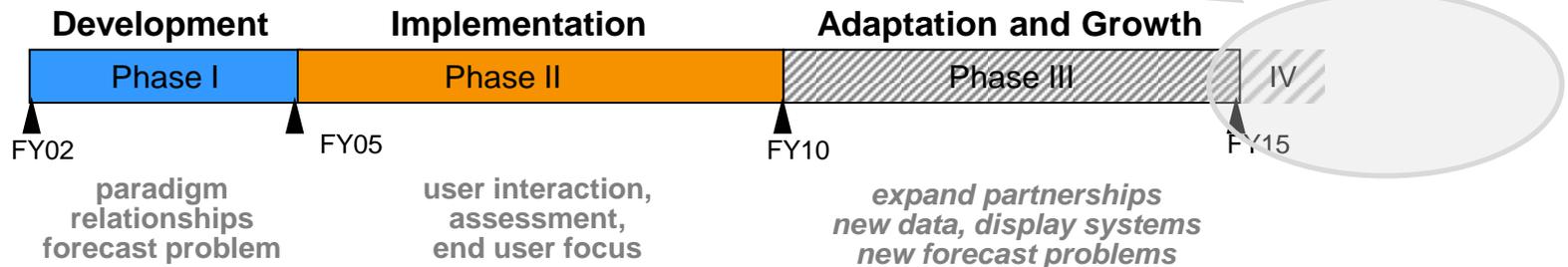
26 – 28 August, 2014

National Space Science and Technology Center, Huntsville, AL

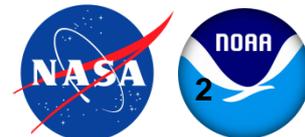
What's Next?

Over the next 2 days you will be immersed in a SPoRT experience. You will learn about unique experimental and research products, how we transition and assess them, and hear from our end users on how SPoRT data is impacting their job.

SPoRT is planning for the future



SPoRT will encounter many new opportunities and face robust challenges in Phase IV of the program. I believe we have the leadership, scientific expertise, and ambition to lead NASA and help NOAA and the broader science community address their research to operations (R2O) / applications (R2A) needs to benefit society.



Mission / Project Goals (2015-2019)

The SPoRT project is focused on transitioning unique NASA and NOAA observations and research capabilities to the operational weather and ***emergency response communities to address environmental conditions associated with natural disasters*** and operational weather forecast problems for societal benefit.

This is accomplished by

- developing an end-to-end framework to develop, test, and transition data and research capabilities
- evaluating and assessing the utility of current and future Earth science satellite data and products, and unique research capabilities
- engaging the ***broad scientific community*** for collaborative science and data dissemination

in order to improve decision making in the national and ***international end user community***.



Programmatic Objectives

- External

- *Expand partnerships* with other domestic agencies and organizations (EPA, DoD, USGS, National Water Center)
- Broaden program scope to include *international agencies and collaborating partners and end users* who could benefit from partnership with SPoRT (e.g., SERVIR, USGEO, WMO, etc.)
- Continue to develop, transition, and train on unique total lightning products to support GLM activities
- *Use unique satellite data for disaster detection, monitoring, response*
- Emphasize use of data and products from future NASA, NOAA, *international and private sector satellite missions*
- Exploit unique polar orbiting data to address high latitude weather issues
- Support program diversified to safeguard against budget fluctuations

- Internal

- Maintain expertise in existing technical areas, enhancing expertise in one deep positions (remote sensing) and *add expertise in emerging fields (air quality, public health, regional climate variability)*
- Enhance professional development opportunities for civil service and supporting research scientists to insure future program leadership



R&T Objectives

- Satellite data and product development
 - More fully exploit *VIIRS DNB on Suomi NPP / JPSS* - refine radiance, reflectance, and RGB products for weather analysis
 - Focus new product efforts to support NOAA on *channel combinations and inter-sensor data fusion* (RGBs, combined products, multi-sensor (OMPS/CrIS, CrIS/VIIRS), GOES)
- Science analysis and forecast issues
 - Develop products to address high latitude forecast issues where polar orbiting data has significant advantages over geostationary observations
 - Create *fused total lightning and radar/satellite products* to better use GLM and ground-based lightning data to support end user forecast issues
 - Develop and / or work with aerosol community to *transition products to address specific air quality problems* over CONUS and transport issues over Pacific ocean from Asia
 - Consider directing some resources to *explore use of satellite data and research capabilities to address emerging issues* such as food security and fresh water availability



R&T Objectives (continued)

- Modeling and data assimilation

- Continue to use unique satellite data to enhance capabilities of the NASA Land Information System (LIS) for improved situational awareness of impending drought / localized flooding and to initialize regional weather forecast models
- Focus data *surface data assimilation activities on soil moisture* from SMAP and other advanced sensing systems
- Demonstrate improved regional weather forecasts by adopting *atmospheric data assimilation approaches to use a suite of NuCAPS retrievals from polar satellites to improve initial conditions over data sparse regions*
- *Support community through implementation of NASA real-time modeling and data assimilation resources for regional applications*

- Disasters

- Continue to *work with NWS partners to integrate unique satellite data and products into the Disaster Assessment Toolkit (DAT)*
- Develop new approaches to use unique high resolution satellite data to detect and *monitor natural and man-made disasters in support of domestic and international relief efforts*



R&T Objectives (continued)

- Data Dissemination

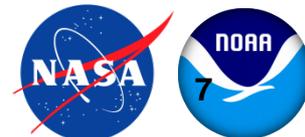
- Implement *open source data dissemination capabilities (e.g. WMS)* to provide SPoRT data to a broader range of end users
- Partner with other organizations for SPoRT data/product distribution (e.g., via Direct Broadcast software, LANCE, SIPS, DAACs etc.)
- Disseminate data to NWS via the *data delivery system* for reduced latency and increased bandwidth

- Enhanced User Training

- Develop and implement a *long-term training plan for external AWIPS II users (ala EPDT) enabling independent software development to effectively ingest, display, and fuse unique data in NWS DSSs*
- Focus end user training on fused products (RGBs, multi-sensor, etc.) and new instrument data using a diverse suite of tools tailored for the end user

- Decision support systems

- Focus AWIPS II software development efforts on integration, synthesis, and data fusion for better use new data
- Develop access and processing capabilities (e.g., “apps”) to view and synthesize SPoRT data and products via hand-held devices



Implementation / Execution

- Refine / publish new strategic plan. Use (along with SAC guidance, and program manager input) to structure direction of project
- Maintain core organizational structure for project execution
- Adhere to successful SPoRT paradigm
- Remain scientifically competitive
- Seek diversification of workforce and funding sources

SPoRT Vision: to be a *Center of Excellence* for the transition of unique Earth science data and research capabilities to a broad user community, enabling efficient use of unique real-time data streams, innovative distribution methods, supporting a variety of decision support systems to address regional climate issues, weather challenges, and disaster applications throughout the world.

