

Experimental Products Development Team (EPDT)

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Transitioning unique data and research technologies to operations



Origins of EPDT

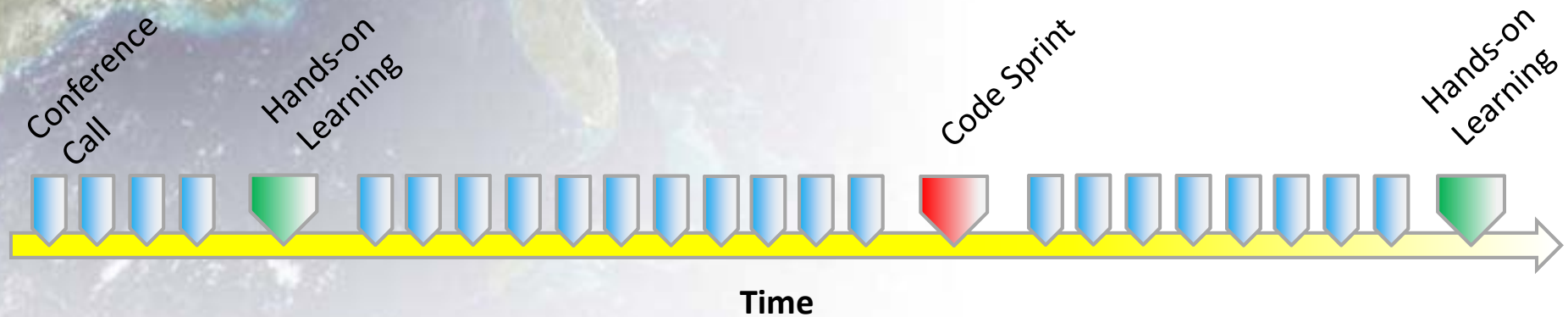
- Originally SPoRT formed EPDT internally to focus on:
 - Creating advanced display capabilities for NASA research data in AWIPS II environment
 - Create training for AWIPS II development
- General need for AWIPS II development training within community
- Expanded EPDT out into the community
- Funded jointly by GOES-R Proving Ground, JPSS, and NASA SPoRT
- Support from the National Weather Service

GOES-R/JPSS Proving Ground EPDT

Objectives:

- Create a community environment to share AWIPS II development knowledge
- Develop technical expertise of AWIPS II within NASA, NOAA's CIs, and NWS
- Create AWIPS II plug-ins for GOES-R proxy and JPSS data
 - Ingest
 - Analysis
 - Display
- Provide feedback to NWS on:
 - External development process
 - Governance of locally developed AWIPS II software

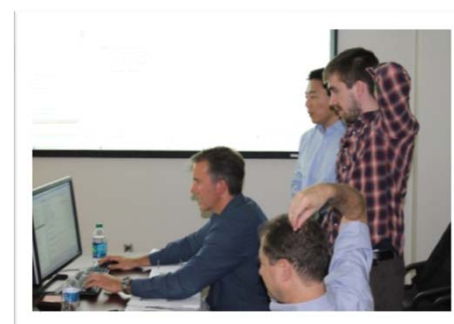
Learning Structure



- Conference Calls
 - Prepare for initial hands-on learning
 - Supplemental topics
- Hands-on Learning
 - Classroom setting learning
 - Learn to develop a plug-in from ingest to display
- Code Sprint
 - Participants pick project and “learn by doing”
 - Work on projects in small groups
 - Groups help each other

Hands-on Learning Training

- Topics covering:
 - Ingest Plug-in EDEX (Day 1)
 - Data Model Plug-in (Day 1)
 - Visualization Plug-in CAVE (Days 2-3)
- Hands-on exercises
- Training was recorded and provided back to NWS



Code Sprint Training

- Team broken into small groups
- Groups actively develop project during sprint
- “Learn by doing” something meaningful
- Produce working AWIPS II feature by end of code sprint
- Continue working on feature after code sprint ends

Group A, B, and C

- Group A (14 Participants)
 - Hands-on Learning March 2013
 - Code Sprint Fall 2013
 - Code Sprint Fall 2014
- Group B (14 Participants)
 - Hands-on Learning April 2014
 - Code Sprint Fall 2014
- Group C (14 Participants)
 - Hands-on Learning May 2015
 - Code Sprint Fall 2015

Participant Breakdown

- Limit size to facilitate group learning and development activities
- Participants are nominated by organizational leaders
- One representative from:
 - NWS Regions
 - Each NOAA Cooperative Institute (and SPoRT)
 - MDL and GSD
 - Raytheon
 - NWS SEC
 - GOES-R PG AWIPS II developer
- **Team Lead/Instructor:** Jason Burks (NASA SPoRT)
- **Instructor:** Max Schenkelberg (Raytheon)
- **Advisor:** Ed Mandel (NWS/OST SEC Development Branch Chief)

Code Sprint Development

- EPDT subgroups worked on projects
 - Tracking Meteogram
 - RGB Recipe
 - mPing ingest and display
 - GOES-R product ingest



RGB Recipe Project

- Identified current deficiency in AWIPS II true color imagery display
- All EUMETSAT Recipes implemented
 - Air mass (VIIRS/CrIS)
 - Dust
 - Nighttime Microphysics
- RGB Composites
 - Natural Color composite
 - Snow Cloud composite
 - VIS/VIS/IR composite
- Can be used in 14.3.1, only localization needed
- Currently tested in WFO HUN
- Working to baseline the python code used to provide ability to wider community
- Testing RGBs in OPG in early Fall 2015



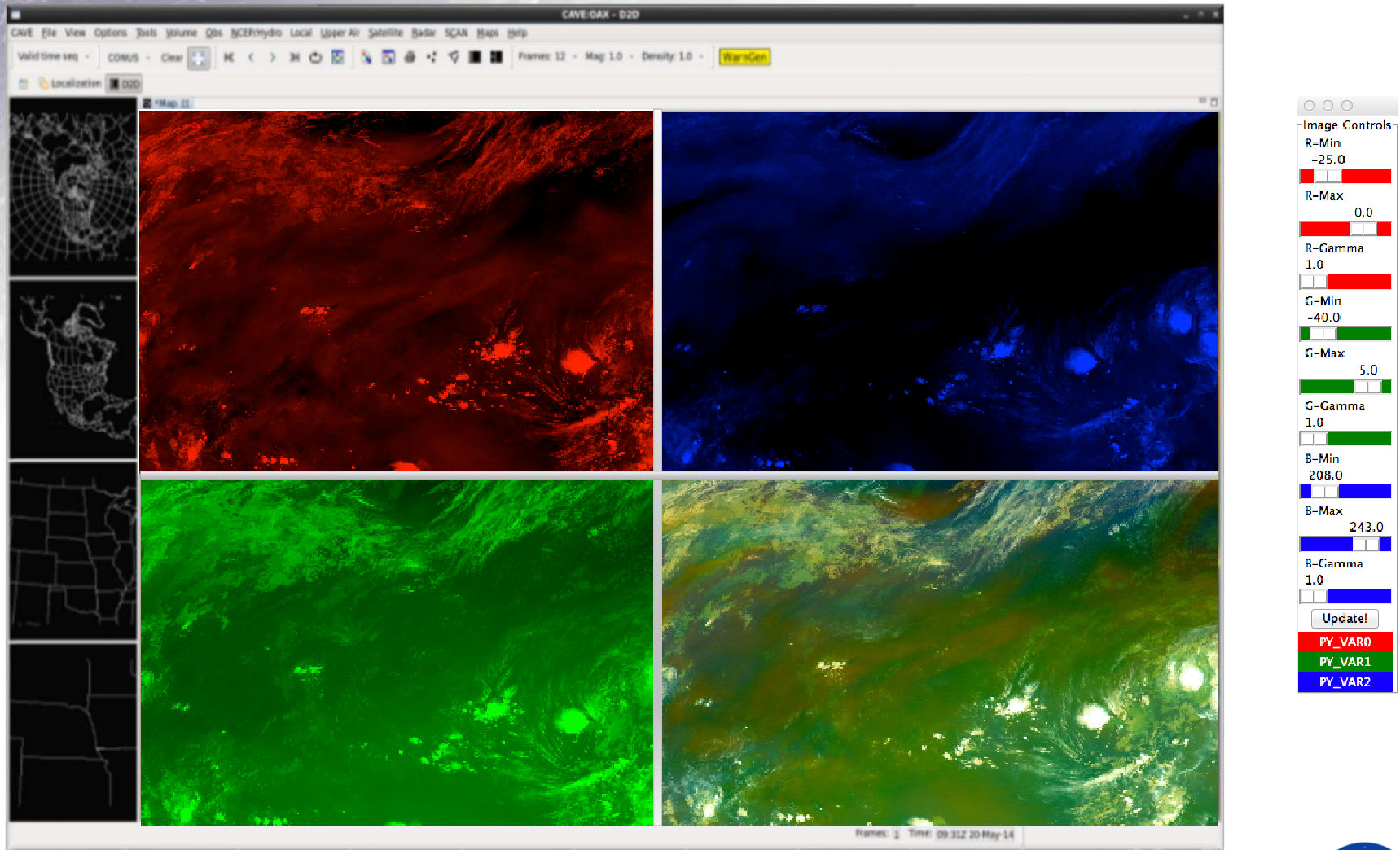
Benefits of EPDT

- Expanded AWIPS II development knowledge in community
- Helps NWS to assist in integration tasks from product developers
- Direct Plugin development
- Continued development keeps community up on technology within AWIPS II

Proposed EPDT Code Sprint development

- RGB Localization Editor
 - Visual manipulation of RGB components
 - Drag and Drop interface
- Just in Time Training plugin for AWIPS 2
- Meet with product developers to address specialized needs

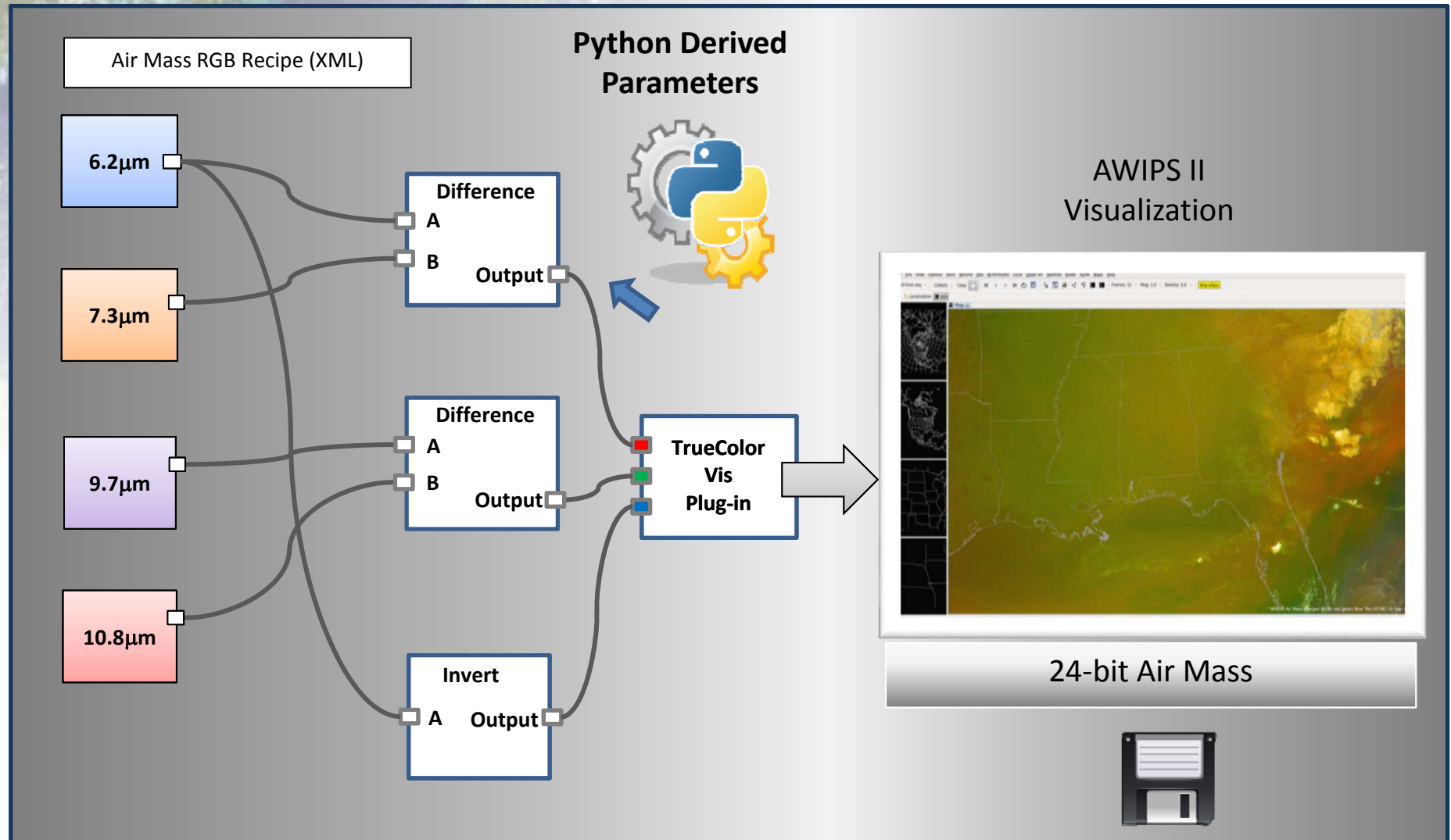
RGB Localization Editor



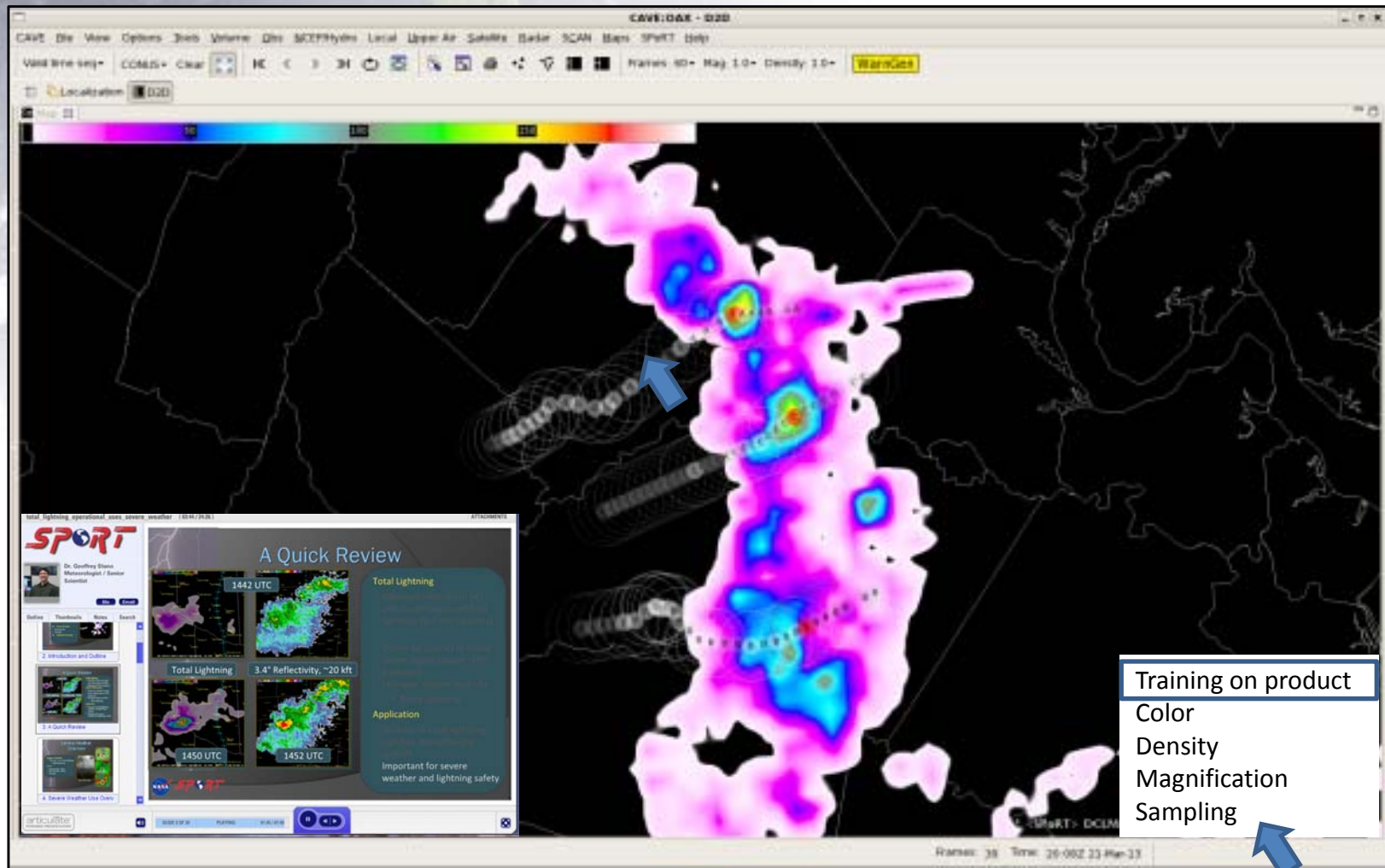
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RGB Localization Editor



Just in Time Training Concept



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Future EPDT

- Group C Code Sprint Fall 2015
- Previous EPDT Members continue to work on AWIPS II
 - Code Sprints to address GOES-R display and ingest needs
 - JPSS funding to host code sprints to address JPSS needs
- Previous EPDT members have real world experience troubleshooting problems in AWIPS II



Questions