Product Training and Assessment

Science Advisory Committee Meeting

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National Space Science and Technology Center, Huntsville, AL
Transitioning to Operations

• SPoRT Paradigm:
  – Interactive partnership
  – Integrate end user’s decision support tools
  – Create product training
  – Perform product assessment

• Why do this?
  – Bridge the “Valley of Death?”
Types of Training

- Site Visits
- Module (~15-30min) / LMS
- Micro-lesson (<15 min)
- Tele-training
- Quick Guides
- Blog posts/examples
- Advocate (peer-to-peer)
- Testbed – leading to assessment
Site Visits

As a group, we initially brought up “site visits” as most successful

• 1-on-1 time with staff allows relationship building as well as Q&A
• Have done this prior to intensive eval. periods to help ensure training
• Have sent SPoRT SME to SPC and AWC to provide total lightning training
• Have coordinated with EUMETSAT to have remote sensing expert train on RGB imagery at NHC
• However, this method is more challenging and occurs less frequently.

While considered a successful method, there are limitations.

1. Lack of trainer time means that visits do not occur everywhere
2. Lack of trainee time means that not every gets to attend training during onsite visits
3. If time were available, likely to have lack of funds for travel or required staffing to fill void.
4. Tend to consider the training task “done” after the visit, but additional contact and engagement is typically needed

So....... Several other methods employed
User-based, Operational Modules

- General methodology is to enter a “testbed” mode with select users to determine product impact
- Examples from users are captured for training module to wider audience (peer-to-peer)
- Focused, short
- Rely on other group’s foundational training
Micro-lesson vs. Module

- Micro-lesson: Ideally less than 8 minutes, goal of less than 15 minutes
- Assumes users have background knowledge
- Easy to digest in short timeframe
- Fast to create vs module
- Easy to reference in operations b/c not large amounts of info. to have to look through
- Regionally focused
  - Made separate S. CONUS vs Alaska training
Quick Guides in Operations Area

- 2-sided, single sheet hardcopy for reference in operations area
- Gained momentum in 2012 with transition of RGB imagery
  - Many other groups copied the idea, although name may have changed
- #1 training reference used by forecasters during SPoRT assessment
- Meant to complement other, more robust training; not necessarily stand on its own
- DANGER: It’s like fast food
  - Easy & quick to create, Too much is unhealthy
Multi-Spectral Imagery Training Experiences

1. **Site visits:** Materials presented over the course of 2013 at Alaska and SR & ER WFOs
   - Focus on Aviation and Cloud Analysis, specifically fog
   - Not all collaborators were visited

2. **Module foundation**
   - Relied on COMET for this
   - MFR already had COMET’s “RGB Imagery Explained” in their plan

3. **Testbed (season, ~3 months)**
   - Transitioned in previous season for CONUS, but not Alaska

4. **Micro-lessons of operational application examples**
   - Separate lessons for Alaska vs CONUS
   - Complemented the existing plan at MFR; largest feedback from them during evaluation period

5. **Teletraining to office “advocates”** (SOO + 1-2 staff)
   - Multiple sessions for differing users
   - SR inland (Fall 2013), SR coastal and High Latitude (Winter 13/14)
   - Involved Application Integration Met.
     - Could this concept be extended to WFOs?

6. **Quick Guide**
   - Alaska and CONUS versions

7. **Intensive Eval. Period** to practice and further refine knowledge/skill as well as share with other users
   - TFX Forecaster scored impact as low initially, but later presented same case in more positive light
   - Indicated additional need for training or different approach
     - NCs can use SEVIRI data. Can WFOs?
NASA-SPoRT Assessment

- Short (4-8 weeks) and intensive (aim for 1 survey per day)
- One or several products that meet similar needs
- Products matched to a forecast problem
- Efficient for forecasters and actionable feedback for product developers and project managers
Means of Collecting User Feedback

- Assessment page
  - Quantitative questions
  - Open comments

- Follow-up Emails/Phone calls
  - All submitted feedback receives a follow-up via e-mail (“Thank You”, and questions). Promotes SPoRT-user interactions.
  - Info exchange with product developers

- Blog
  - Case examples

- Assessment “Wrap-up” Telecon

- Results in an Assessment Report

Example page from Assessment Report
Types of Questions on Assessment Form

• Impact of training:
  – Was the training (QG, modules, etc.) completed?
  – What resources were used during event (e.g., peers, Quick Guide)?

• Confidence in product
  – Likert scale

• Forecast Issue addressed
  – Multiple choice

• Other products complemented or used

• Impact of product on operational/forecast process

• Comments
Example Quantitative Feedback

• While feedback on impact can be qualitative, the “rank” and Likert scale questions help to provide quantitative results.
Actionable Feedback

• AK forecaster: “There have been multiple examples over the past week of similar appearance of fog vs. stratus in this very cold environment. Perhaps the cold sfc temps signal is dominant and not allowing differentiation between the fog and stratus?”

Product modification is needed
Another product fits issue
Additional Training

Ready for full transition

Determine forecast problem

Problem been addressed?

Yes
No

Involve end user in entire process

Assess operational impact

End user training

Develop solution

Match problem to product

Test Bed Environment
In Conclusion

• Training comes in many shapes and sizes
• User involvement in training development is key
• Several points along the transition path use training
• Product assessments are short, focused efforts with a collaborative partner on a specific problem
• Interactive relationship between users and developers is key to assessment “success”
• Assessments provide opportunity to strengthen O2R