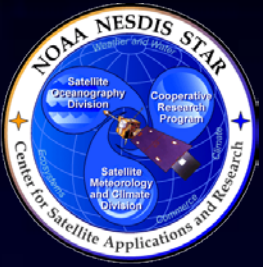




# Comparing the Change Process of JPSS & SPSRB

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Gary Mineart



# Overview

- To compare the change processes between JPSS and Satellite Product and Services Review Board (SPSRB) for NDE projects, you have to take a step back and look at the Lifecycle Process for both





# General Lifecycle Phases

- Basic Research
- Exploration Phase
- Planning Phase
- Design Phase
- Build Phase
- Test and Implementation Phase
- Operations and Maintenance Phase



# Questions

- Are the two process lifecycles the same?
  - » Pretty much
- Are there differences between the two?
  - » Sure
- How so, you ask?
  - » Requirements
  - » Projects are in different phases
  - » Process Lifecycle Tailoring





# Phases of Projects: S-NPP

- Over the past couple of years, the majority of the S-NPP algorithms have been in a maintenance/update phase
- Most of these algorithms are being improved, but the major design reviews have been completed



# Phase of Projects: NDE

- NDE algorithms has been in multiple phases over the past couple of years
- During these phases, algorithms have been:
  - » Developed by STAR
  - » Delivered to NDE
  - » Integrated and tested within the NDE system
  - » Transitioned to operations





# Process Comparison

- Lets compare the overall process lifecycle to show how similar the process for algorithm development are between the two projects



# Process Comparison

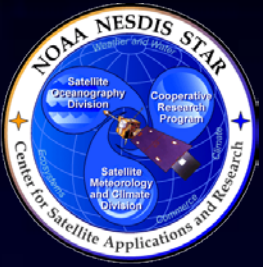
- Both Projects have already been through the *Research and Exploration Phases*
- For each project, the *Planning Phase* is worked as new requirements are addressed
  - » New products
    - CrIS OLR products
  - » New product capability
    - CrIS SDR full resolution updates for J1
    - NUCAPS full resolution capability updates





# Process Comparison

- The *Design Phase* is currently ongoing for both NDE and JPSS algorithms
- During this phase, the reviews that may be seen are:
  - » Requirements Review
  - » Preliminary Design Review
  - » Critical Design Review
- Critical Design Reviews are being conducted for both NDE algorithms and the J1 algorithms with significant changes
  - » NDE: OMPS Limb Profiles CDR was conducted last February
  - » JPSS: Top of Canopy NDVI next week



# Process Comparison

- The *Build Phase* is currently ongoing for both NDE and JPSS algorithms
- During this phase, the reviews that may be seen are:
  - » Code Unit Test Reviews
  - » Software Reviews
  - » Algorithm Readiness Review
- These Reviews are currently being conducted for NDE algorithms and will be conducted starting later this year the J1 algorithms with significant changes
  - » NDE: JPSS Risk Reduction Cloud Mask Code Unit Test Readiness Review was conducted two weeks ago





# Process Comparison

- The *Test and Implementation Phase* is currently ongoing for both NDE and JPSS algorithms
- The scope of testing and implementation by Solers (NDE) and Raytheon (JPSS) is dependent upon the requirements within the associated contracts
- The purpose of the testing and implementation is the same for both projects: to ensure that the algorithm has been implemented correctly and is functioning according to the system requirements



# Process Comparison

- The *Operational and Maintenance Phase* is currently ongoing for both NDE and JPSS algorithms
- Algorithms are running operationally
- The algorithm maintenance updates follow the associated Change Process
- The steps within each Change Process are slightly different, but the purpose is the same – to get algorithm updates and improvements into operations





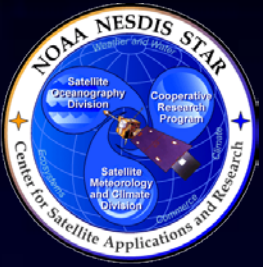
# General Algorithm Change Steps

## JPSS Algorithm Change Steps

- Team develops algorithm offline
- Algorithm integrated and test in ADL
- ADL algorithm tested on GRAVITE
- Algorithm integrated into G-ADA and unit tested
- Raytheon tests algorithm on development machine, chain testing
- Raytheon tests algorithm on Test machine
- Algorithm runs in operations

## NDE Algorithm Change Steps

- Team develops algorithm offline
- Algorithm integrated and test into associated program
- STAR tests algorithm on NDE development machine
- NDE tests algorithm on Test machine
- Algorithm runs in operations



# Summary

- The algorithm lifecycle processes between JPSS and SPSRB (for NDE projects) are pretty much the same – STAR follows the same algorithm development process for both projects (which line up with the STAR Enterprise Process Lifecycle processes)
- Individual process steps may be tailored, dependent upon the requirements
- Documentation and some change process steps may be slightly different, again according to the requirements





## Reference Material:

**Note that this material is in draft form and has not been formally approved**

# JPSS-1 Algorithm/Data Product Life-Cycle

