



# Remote Sensing Applications Division (RSAD)

## CDR Program Office

Weekly Report for Aug 10, 2012  
Ed Kearns, Acting Chief



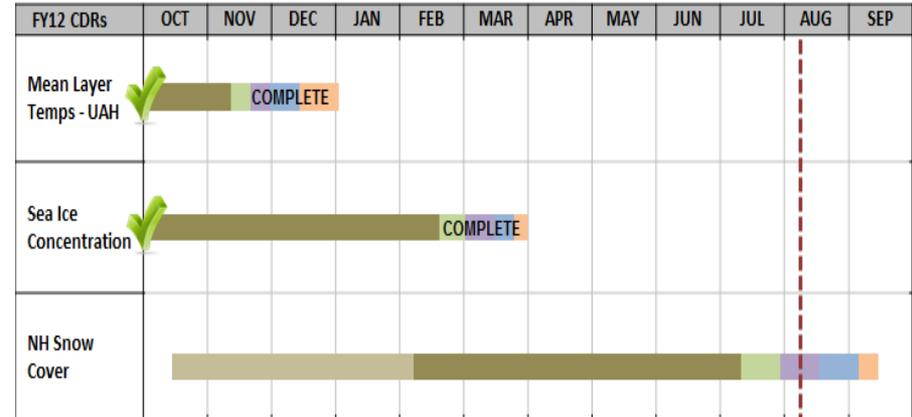
# CDR Program Office

## FY12 Climate Data Records

### Weekly Report – Aug 10, 2012

- ① **Mean Layer Temperatures – Univ of Alabama Huntsville (UAH)**
  - Completed – Nov 17
- ② **Sea Ice Concentration**
  - Completed – Mar 28
- ③ **Northern Hemisphere Snow Cover**
  - Received updated C-ATBD and sample netCDF conversion, still some gridding issues to work out on the file metadata

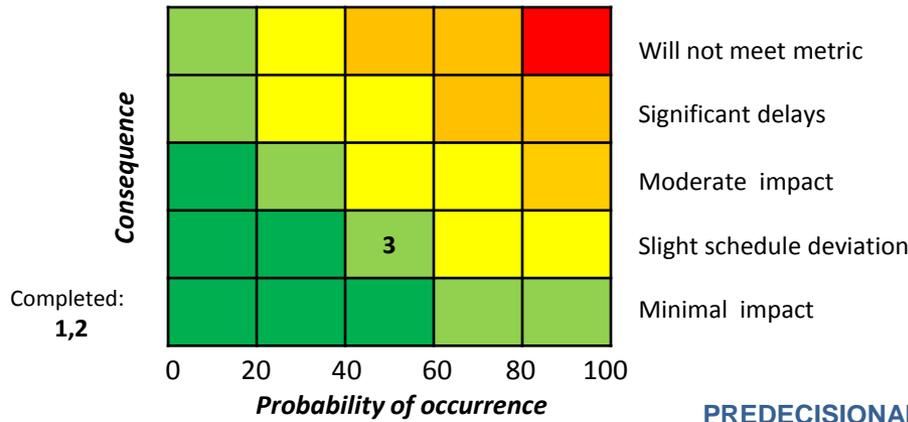
### R2O Schedule



R2O PHASE: ASSESSMENT SUBMISSION PREP TRANSFER VERIFY ARCHIVE ACCESS

• No change   ↑ Increasing Risk   ↓ Decreasing Risk   \*Candidate CDRs

### Risk Matrix



### Risk - Mitigation

- **Snow Cover PI has a lot to accomplish by the end of the FY**
  - Increased IPT meetings to weekly to more closely track progress
  - Gave PI a detailed schedule and he is working to stay on track
  - Continue to transition the MLT-RSS CDR as a back-up
- **No formal QA on product, software, and documentation**
  - ORR will help alleviate some of the risk
  - Will get reviews/input from in house experts as needed
  - Need to formally document the current QA steps being done

PREDECISIONAL DRAFT INFORMATION

# FY12 TCDR - NH Snow Cover

**CDR Product:** TCDR – NH Snow Cover, 1966-2012 (10 GB)

**GEOSS Societal Benefit:** Climate, Water, Ecosystems, Agriculture, Energy

## Project Status

- **Updated frequency of IPT meetings to weekly**
- Received second sample of netCDF dataset
  - File size and array dimensions were fixed
  - **Metadata and projection information still need work**
- PI sent updated Readme – still needs netCDF conversion piece
- **SA on Google docs is nearly complete**
  - **Once operational, PI will deliver complete dataset each month**

NCDC SOW developed for:

- 1) Monthly updates for one year
- 2) QC tools and training

## Next Action/Milestone

- Deliver second sample of netCDF data (7/17) - done
- Send comments back on C-ATBD (7/25) - **done**
- Update README and flow diagram with netCDF info (8/1)



## Project Risks

- Funding (SDS 2008)
  - SS contract submitted to NCAD; pending final decision
- Input data is made with a person in the loop (daily IMS data)
  - Metadata and documentation will detail how the product is created and identify its strengths/weaknesses

ID	Task Name	Status	Start	Stop	FY12 Q1			FY12 Q2			FY12 Q3			FY12 Q4		
					Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	10/17/2011	2/9/2012												
2	Transfer Prep	75	2/6/2012	8/7/2012												
2a	Comment Source Code	50	2/6/2012	5/22/2012												
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	75	3/19/2012	6/11/2012												
2c	Create NetCDF Dataset	85	5/30/2012	8/7/2012												
3	Transfer Code, Docs, and Data	25	4/18/2012	8/16/2012												
4	Verify Code, Docs, and Data	25	4/19/2012	8/23/2012												
5	Archive Code, Docs, and Data	0	5/31/2012	8/31/2012												
6	Provide Access to Code, Docs, and Data	0	6/1/2012	9/10/2012												

PREDECISIONAL DRAFT INFORMATION

# Backup FY12 CDR - Mean Layer Temperature - RSS

**CDR Product:** TCDR – Atmospheric Temperature at Four Layers, 1978-2011 (140 MB)

**GEOSS Societal Benefit:** Energy, Climate, Ecosystems

## Project Status

- PI sent draft C-ATBD (not on template)
  - Dongsoo sent some initial comments back
- PI completed sample netCDF files for all four layers
  - IPT reviewed metadata and provided feedback, **almost there**
- Draft SA available on Google docs for PI and IPT to review
- About 25% of the code has been documented – **way behind**
  - PI will adjust copyright statement to maintain ©, but grant CDRP unrestricted license

NCDC SOW developed for:

- 1) Monthly updates for one year
- 2) QC tools and training

## Next Action/Milestone

- Update C-ATBD (8/10) -
- Send final netCDF sample file for review (8/8) - done
- Send next set of documented code and flow chart (8/10)



## Project Risks

- Funding (SDS 2008)
  - Proposal submitted thru CICS; funding in place.
  - Asked PI if he had received the funding (but no response)

ID	Task Name	Status	Start	Stop	FY12 Q1			FY12 Q2			FY12 Q3			FY12 Q4		
					Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	10/17/2011	2/3/2012	█			█								
2	Transfer Prep	60	2/6/2012	7/24/2012				█			█			█		
2a	Comment Source Code	25	2/6/2012	5/1/2012				█			█					
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	25	3/19/2012	5/22/2012				█			█					
2c	Create NetCDF Dataset	90	5/3/2012	7/24/2012				█			█			█		
3	Transfer Code, Docs, and Data	15	4/18/2012	7/26/2012				█			█			█		
4	Verify Code, Docs, and Data	15	4/19/2012	8/9/2012				█			█			█		
5	Archive Code, Docs, and Data	0	5/31/2012	8/17/2012				█			█			█		
6	Provide Access to Code, Docs, and Data	0	6/1/2012	9/3/2012				█			█			█		

# FY13 CDR - Vegetation Bundle

**CDR Product:** TCDR – Vegetation Bundle, 1981-2012 (2.5 TB)

**GEOSS Societal Benefit:** Agriculture, Ecosystems, Climate, Biodiversity

## Project Status

- **Jessica Matthews met the PI's assistant at the CDR conference**
- Transition slowed while PI works on AVHRR/MODIS jump
- PI sent sample netCDF data
  - Collected feedback on google doc, shared with PI
- PI sent an updated flow diagram
  - much better than first one, still needs some tweaks
- Two CDRs in transition:
  - Deliver Surface Reflectance and NDVI in FY13
  - Postpone LAI and FPAR until more mature (FY13)

## Next Action/Milestone

- Initial Assessment (3/22) – done
- Revised Flow Diagram (4/20) - done
- Samples of documented source code (4/27)
- Draft C-ATBD (6/1)



## Project Risks

- Lots of work to be completed, FY13 priority.
  - sent PI a detailed task schedule, will push PI to stay on track
  - PI received one year extension, no cost.

ID	Task Name	Status	Start	Stop	FY12 Q1			FY12 Q2			FY12 Q3			FY12 Q4		
					Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	10/17/2011	4/6/2012												
2	Transfer Prep	25	3/1/2012	8/21/2012												
2a	Comment Source Code	10	3/1/2012	6/1/2012												
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	25	3/15/2012	6/30/2012												
2c	Create NetCDF Dataset	35	4/30/2012	8/21/2012												
3	Transfer Code, Docs, and Data	10	5/15/2012	8/21/2012												
4	Verify Code, Docs, and Data	10	5/15/2012	8/30/2012												
5	Archive Code, Docs, and Data	0	6/7/2012	9/7/2012												
6	Provide Access to Code, Docs, and Data	0	6/15/2012	9/21/2012												

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# Other CDR Discussion Items

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- Good PI conference this week
  - Many of the PIs were concerned about their funding running out in FY13 and they were not transitioning until FY14-FY16. Assessments may show several are not CDRs and lend a chance to trim the fat.
  - We have a lot of large datasets being transitioned in FY13 (two I heard of were 25TB and 45TB)
    - **How do we make sure we have enough space to store and serve them?**
- We now have version 7 of the RSS SSMI dataset
  - **Access and Archive want to know how we want it served? In addition to v6, replace v6, on HADS or THREDDS?**
- PATMOS-X
  - Received second draft of C-ATBD, looks pretty good (sent to Brian and Tom for final review)
  - Found out that Steve converted all the ascending nodes to netCDF, the non-CDR variables are in a separate file on the NCDC ftp (not enough room on THREDDS)
  - Held discussions with Andy, Tom, and Jesse about user needs
    - decided Andy should converted all the variables to netCDF for the 2009-present delivery and daily updates
    - means some future work to convert pre-2009 data to match
    - not enough room on THREDDS (**how to request more disk space?**)

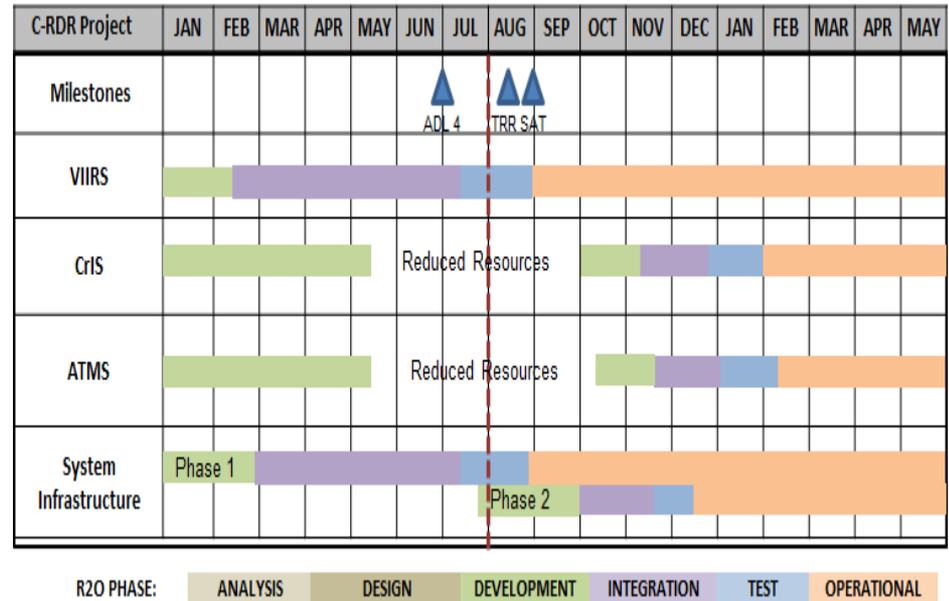


# CDR Program Office

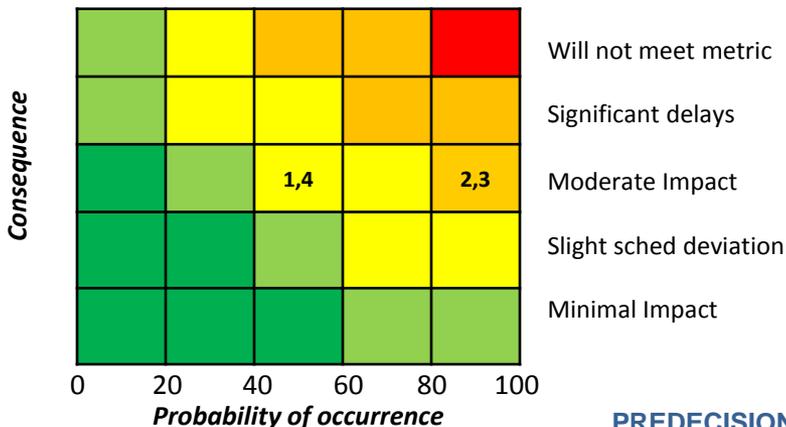
## NPP/JPSS Climate Raw Data Records (C-RDRs) Project

### Weekly Report – August 10, 2012

- ① **VIIRS**
    - Integrating with the system infrastructure.
  - ② **CrIS**
    - Postponed.
  - ③ **ATMS**
    - Postponed.
  - ④ **System Infrastructure**
    - Integrating with the VIIRS C-RDR.
- **Completed Draft VIIRS C-RDR Product Specification.**
  - **Validated post-launch auxiliary files in C-RDR format.**
  - Successfully ran VIIRS data through the C-RDR system infrastructure and C-RDR packer.



### Risk Matrix



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= On-track   
  = Potential management action required   
  = Management attention required

### Risk and Mitigation

- VIIRS, CrIS, ATMS –**
- Resources are being reduced. Delivery of CrIS and ATMS will be delayed.
  - Operational software is under maintenance, updated versions may affect C-RDR ported version.
- System Infrastructure –**
- Reliability of NPP RDRs from CLASS. Need to test ingest of RDRs from CLASS and develop an automated mechanism for re-requesting data.
  - Ability of CLASS to handle the frequency and volume of NPP data. CLASS has been successful during system tests.
  - Archive in CLASS is currently cost prohibitive. Need to identify alternate archive. Plan to store C-RDRs on HPSS until migration to CLASS.

# Visible Infrared Imaging Radiometer Suite (VIIRS)

**C-RDR Product:** Raw sensor measurements with usage and provenance metadata in easily accessible netCDF4 format

**GEOSS Societal Benefit:** Climate, Water, Ecosystems, Agriculture, Biodiversity, Energy

## Project Status

- **Completed Draft VIIRS C-RDR Product Specification.**
- **Completed writing the spacecraft diary portion of the VIIRS C-RDR unpacker (for testing/verification).**
- Generated an image from a VIIRS C-RDR.
- Successfully ran VIIRS data from CLASS through C-RDR packer.
- Completed dynamic C-RDR file-level metadata code.
- Modified the supporting data metadata.
- Implemented and verified netCDF compression.
- Verifying (IDPS) documentation and code changes with DEWG.
- Wrote a test application to dump data from RDR APIDs.
- Completed writing science and spacecraft diary data.
- Completed test of code that writes VIIRS Support Data.

## Next Action / Milestone

- Integrating the VIIRS C-RDR software and the system infrastructure.



## Project Risks

- Complexity of the NPP/JPSS RDRs and operational software
- Operational software is under maintenance, updated versions may affect C-RDR ported version

## Project Schedule

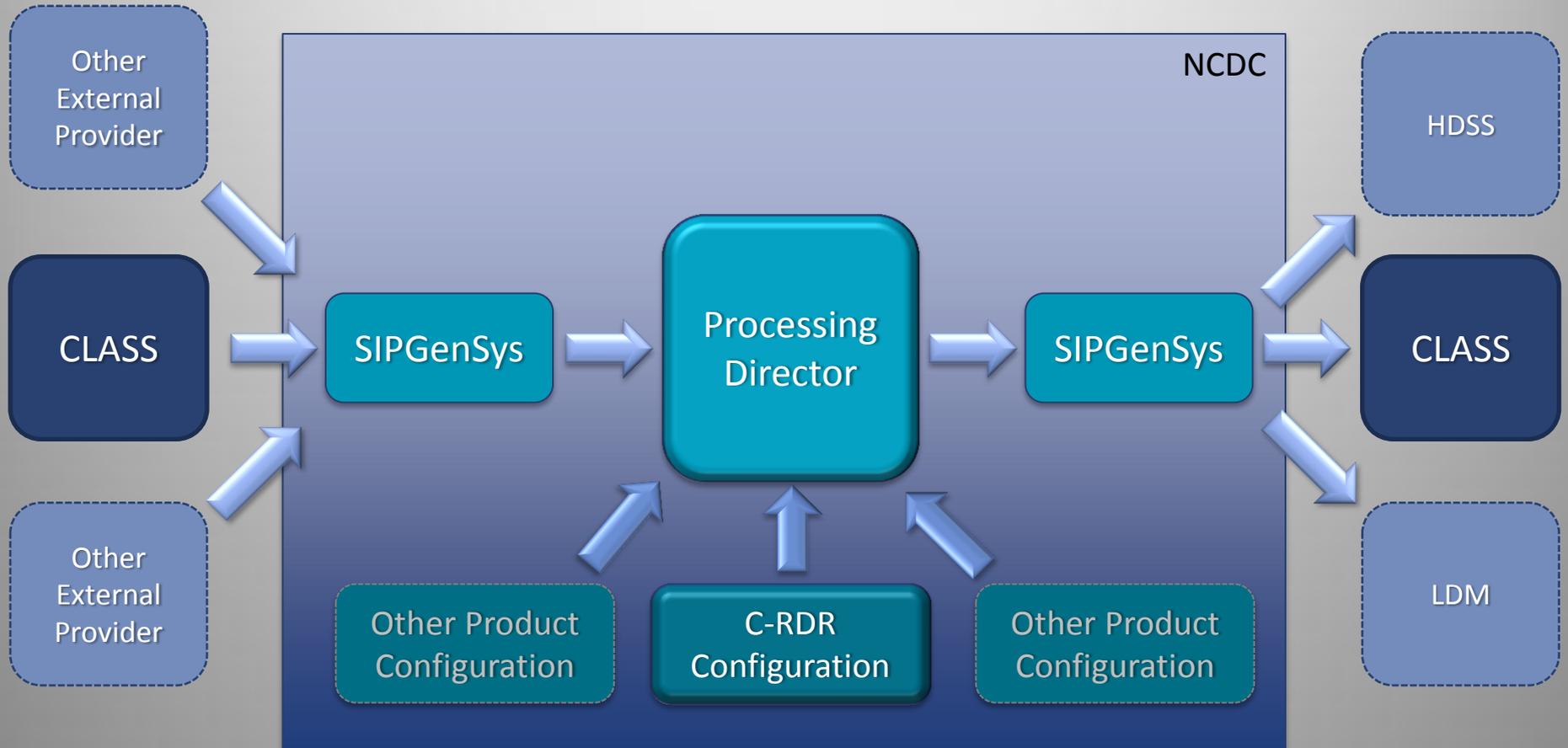
ID	Task Name	Status	Start	Stop	FY12 Q1			FY12 Q2			FY12 Q3			FY12 Q4		
					Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Analysis	Completed	10/23/2009	5/4/2010												
2	Design	Completed	5/6/2010	1/5/2011												
3	Development	95.00%	1/6/2011	1/30/2012												
3a	Develop VIIRS processing component	95.00%	1/6/2011	1/12/2012												
3b	Test VIIRS processing component	95.00%	12/28/2011	1/30/2012												
4	Integration	10.00%	1/31/2012	3/26/2012												
5	Test		3/23/2012	4/12/2012												
5a	Dry Runs		3/23/2012	4/11/2012												
5b	System Acceptance Test		4/12/2012	4/12/2012												
6	Operational		4/13/2012													

Being Reworked

PREDECISIONAL DRAFT INFORMATION

# C-RDR PROCESSING DIRECTOR

## System Context



# C-RDR System Infrastructure

**C-RDR Product:** Infrastructure to automate the production of the C-RDRs.

**GEOSS Societal Benefit:** Climate, Water, Ecosystems, Agriculture, Biodiversity, Energy

## Project Status

- **Completed validation of post-launch auxiliary files in C-RDR format.**
- Completed build of ADL 4.0.
- Using ADL 4.0 code to create required metadata for auxiliary files.
- Setting up the data flow for the integration environment.
- Investigating missing metadata for auxiliary data from CLASS.
- Modified supporting data software for auxiliary data changes.
- Created initial VIIRS C-RDR from CLASS mission data.
- Development environment is set up on the CICS network.
- Working on managing queues and processing jobs.
- Locating, validating, and statusing files for processing.
- Developing code for ingest detection and processing.
- Completed NPP 14 day Ground Operations Exercise (GOE).
- Completed throughput testing for SIPGenSys.

## Next Action / Milestone

- Integrating and testing the system infrastructure.



## Project Risks

- Need to develop an automated re-request mechanism for CLASS.

## Project Schedule

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					Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Analysis	Completed	9/29/2010	4/22/2011												
2	Design	90.00%	4/25/2011	7/8/2011												
3	Development	80.00%	5/31/2011	2/28/2012												
3a	Develop infrastructure	90.00%	5/31/2011	2/14/2012												
3b	Test infrastructure	70.00%	9/27/2011	2/28/2012												
4	Integration (Phase 2)	5.00%	1/31/2012	3/26/2012												
5	Test		3/23/2012	4/12/2012												
5a	Dry Runs		3/23/2012	4/11/2012												
5b	System Acceptance Test		4/12/2012	4/12/2012												
6	Operational		4/13/2012													

Being Reworked

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# CDR Program Office

## OISST Research to Operations Project

### Weekly Report – August 09, 2012

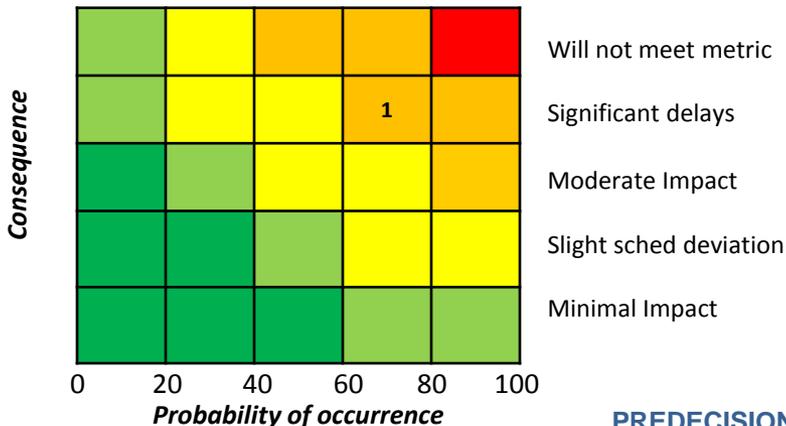
#### 1 OISST – Optimum Interpolated Sea Surface Temperature

- Created list of priority refactoring steps and added to wiki
- Completed testing of static analysis and complexity tools
- Attended CDR Annual Conference.
- Developing tests (module & component) to verify code execution.
- Conducted Technology Review July 25.
- Identifying tasks and developing plan for re-writing/refactoring.
- Initial technical assessment completed. Code requires re-writing for structure and coding issues.
- Established a common baseline and environment for code development.

C-RDR Project	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
Milestones							TAR				IR	TRR,SAT,ORR					
Control Scripts																	
QC																	
Bias																	
OI																	
Output																	
Product Monitoring																	
Integration																	
Test																	

R2O PHASE: ANALYSIS DESIGN DEVELOPMENT INTEGRATION TEST OPERATIONAL

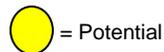
### Risk Matrix



### Risk and Mitigation

- Resource availability for performing the transition.
- Configuration Management (CM) process not defined for operations.
- No Quality Assurance team available.
- Modifying existing software for internal software changes. Product output must remain unchanged for users.
- Common infrastructure for operations is not fully defined.
- OISST processing will be on a 64 bit architecture.

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# CDR Program Office

## Integrated Marine Protected Area Climate Tools (IMPACT)

### Weekly Report – August 9, 2012

#### Data Selection & Subsetting for Gulf of Farallones (Mike U.)

- GridSat 1B, Pathfinder SST, [Sea Surface Height](#), ISSCP Clouds, Ocean Color, NARR subset (28 variables selected by Karsten S.)

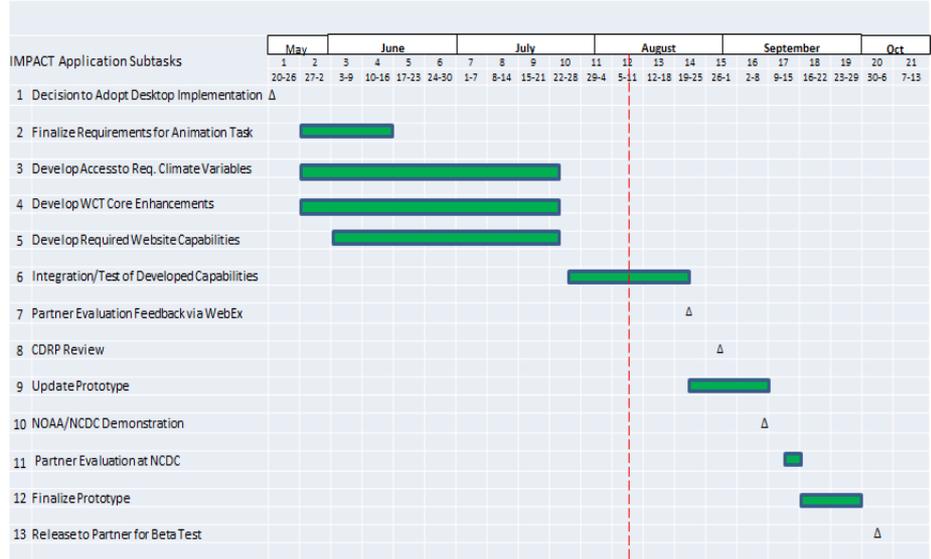
#### Marine Protected Area (MPA) User Interface (John S. & Steve A.)

- Tailored menus & analysis tools
- Visualization capabilities (Animation, split windows)

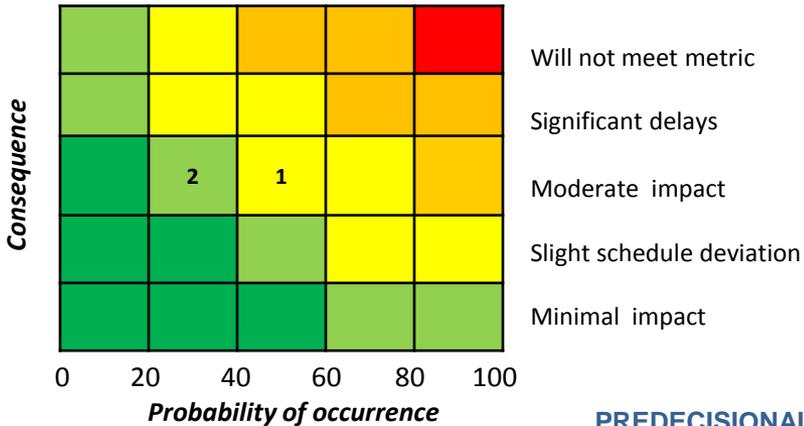
#### End User Interaction (Benet D. & Karsten S.)

- [Provided presentation charts with screen shots to customer](#)
- [Next Full team meeting Friday 8/17/12](#)
- [WebEx demo with customer Thursday 8/23/12](#)

### Prototyping Schedule



### Risk Matrix



### Risk and Mitigation

- ↑ ① Limited resources have other obligations
  - Primary programmer (John S.) out of office 2 weeks
  - Complete most of integration work before travel
  - Request increased time from Steve A. for those 2 weeks
  - Shaida J. asked to support Metadata WG meeting + 3-day workshop
- ② GFNMS has no funds to travel to NCDC for hands-on evaluation in September

● No change    ↑ Increasing Risk    ↓ Decreasing Risk

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