



Remote Sensing Applications Division (RSAD)

CDR Program Office

Weekly Report for Nov 7, 2014
Ed Kearns, Chief

S t a t u s	CDR PI TM		Assessment		Deliver Drafts					Review and Provide Feedback					Deliver Final Versions					Misc		Archive			Release						
			Assemble IPT	Perform Assess- ment	Deliver source code sample and README draft	Deliver Flow Diagram Draft	Deliver C-ATBD Draft	Deliver Maturity Matrix Draft	Deliver Sample netCDF dataset	Deliver SA Draft	Provide feedback on source code and README	Provide feedback on Flow Diagram Draft	Provide feedback on C-ATBD Draft	Provide feedback on Maturity Matrix Draft	Provide feedback on Sample netCDF dataset	Provide feedback on SA Draft	Deliver final source code and README	Deliver final Flow Diagram	Deliver final C-ATBD	Deliver final Maturity Matrix	Deliver final netCDF dataset	Deliver final SA	Create Collection Level Metadata	Conduct Security Review	Archive Code Package	Archive Docs	Archive Data	Make data publicly available	Put data, docs, and code on dev web page	Conduct ORR	
12	Sea Ice Concentration - Daily	Fetterer Peng	x	PI says NO deliverables	12) PI using current funds to modularize existing code; development on SIC-Daily in FY15 via a subcontract to GST																						FY16				
13a	Hydrological Bundle	Ferraro Nelson																													FY16
13b	AMSU-A FCDR	Ferraro Nelson																												FY16	
13c	AMSU-B FCDR	Ferraro Nelson																												FY16	
14	Sea Level	Callahan Zhang																												FY16	
15	Mean Layer Temperature - NOAA	Zou Semunegus																												FY16	
16	Tropospheric Height	Ho Shi																												FY16	
17	Surface Albedo	Matthews			See	Project	Quad	Chart																						FY17	
18	UTH Related FCDR	Lou																												FY17	
19	AVHRR + HIRS Cloud TCDR	Heidinger Knapp																												FY17	
20	ISCCP Energy Budget	Zhang																												FY17	
21a	GPCP Daily	Adler																												FY17	
21b	GPCP Pentad	Adler																												FY17	
22	Ozone	Long																												FY17	



= Complete



= Working



= On Hold due to resources

Other Discussion Items:

1) GridSat vs. ISCCP output

- Life expectancy of GridSat once ISCCP is operational
- Can users easily substitute the two outputs
- Should software rejuvenation efforts shift to ISCCP or another CDR

2) PATMOS LVL2 data

- Input to Menzel (CTP/TPW) and Key (APP/APP-x) CDRs
- Archive options into CLASS (initial estimate submitted was 14 TB)
 - Subset for CTP/TPW (6 TB)
 - Add Key's input and a few other valuable variables (28 TB)
 - Complete LVL2 data (50 TB)

CDRP Open Change Requests

Name of CDR	C-ATBD	Data Flow Diagram	Maturity Matrix	VDD	Source Code	NetCDF sample	Dataset	Request to Archive	Approved for Archive	SA	DSRR
Geostationary IR Channel Brightness Temperature - GridSat B1	Returned to PI with edits	Needed, TBD	Needed, TBD	N/A	√	√	√	√	√	√	Aug-13
Sea Surface Temperature - Pathfinder	Will not be receiving from U of Miami	No change	No change	√	√	√	Having QA issues, will not be delivered until end of CY 2014	√	√	Needed, TBD	Needed, TBD
Mean Layer Temperature - UAH	Returned to PI for edits	√	N/A	√	requested new schedule	requested new schedule	Needed, TBD	Needed, TBD	Needed, TBD	Needed, TBD	Needed, TBD

GST FY14 O&M Subcontracts

PI	CDRs	Impl Plan	QA Procedure	QA Results/ Summary	Annual Report
Christy	Mean Layer Temperature - UAH	√			
Robinson	Snow Cover Extent (Northern Hemisphere)	√			
Sorooshian	Precipitation - PERSIANN-CDR	√			
Zhang	ISCCP Radiation Budget	√	and QA graphic tools		
Wentz	SSM/I(S) Brightness Temperature - RSS	√			
Mears	Mean Layer Temperature - RSS	√			
*Ho is still not in place					



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OISST Rejuvenation Project

Team Lead:
Drew Saunders

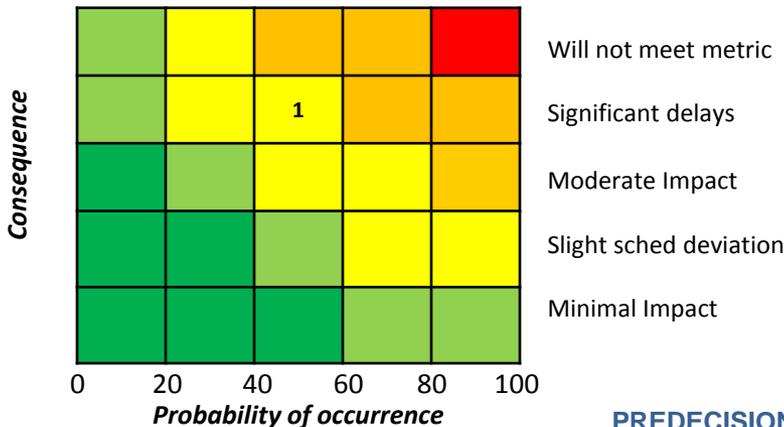
Weekly Report – November 7, 2014

1 ISST – Optimum Interpolated Sea Surface Temperature

- Resolving differences in 32 and 64 bit runs. Identified differences that cause larger result differences and discussed with PI.
- Testing high res ice code to convert to low res ice for SST.
- Obtained Navy SST files from NAVO
 - Verified format, investigating content differences.
- Test validation took longer than expected need to update schedule.
- DEV container created.
- Performing dry runs for the System Acceptance Test (SAT).
- Successfully completed 30 day parallel test.
- Comparing NCDC GTS with NCEP ship/buoy data for use. GCAD is resolving issues but requires new operational code.
- AVHRR data for the 15 day delay product is available from CLASS.
- GSTWG discussing inputs and production of preliminary OISST.
- Created a SOP for operational OISST.
- Completed refactoring of each component.
- Conducted Technology Assessment Review.

Monitor Project	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	NOV
Test																
Dry Run SAT																
Setup DEV																
Verify DEV																
Setup TEST																
Dry Run TEST																
SAT																
FOC																
Reprocessing																
SAs																
SLA																
OAD																

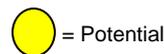
Risk Matrix



Risk and Mitigation

1 Time to progress through the three tier environment. ITB support is required.

PREDECISIONAL DRAFT INFORMATION



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



CDR Program Office

Ingest Monitoring Tool

Team Lead:
Linda Copley

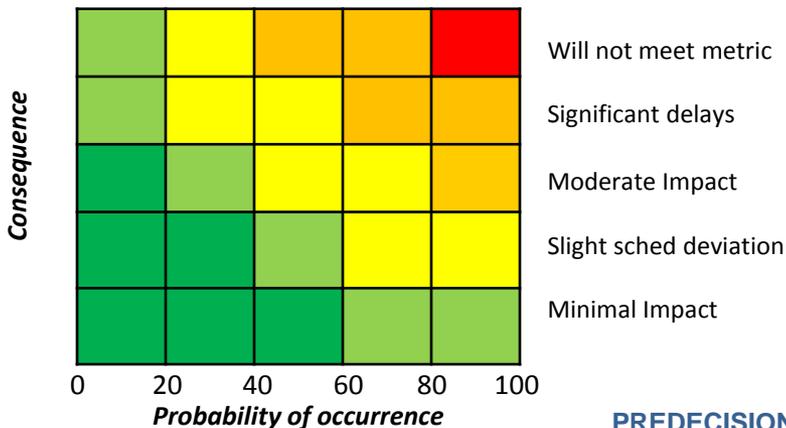
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1 Operations Monitoring Tool development

- Re-engineered design to be compatible with other stat us monitoring efforts.
- Utilizing SIPGenSys infrastructure.
- Designing module to collect status data from iRODS.
- Working on database design.
- Defined requirements for Phase 1 of the project.
- Phase 1 implements basic functionality.
- Additional datasets can be added in later phases.
- Updated the monitoring project plan.
- Monitoring of operational ingest.

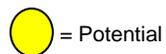
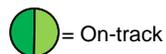
Monitor Project	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	NOV	
Phase 1	[Red bar]																
Status View	[Red bar]																
Dashboard					[Red bar]												
Email Notification						[Red bar]											
Phase II																	

Risk Matrix



Risk and Mitigation

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Federated Archive Search Tool (FAST)

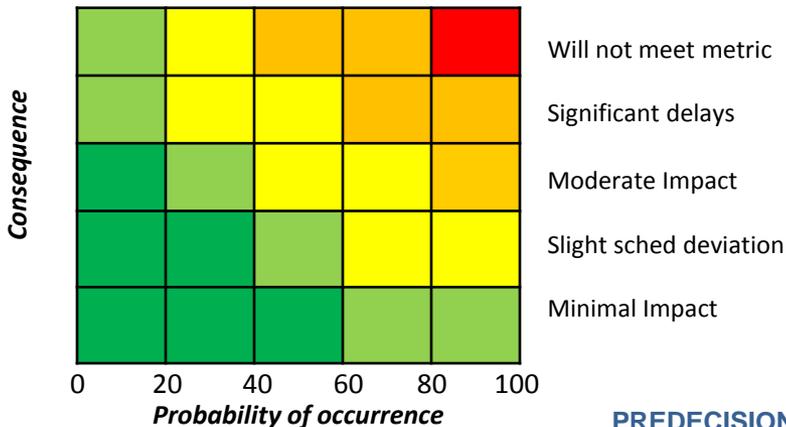
Team Lead:
Linda Copley

Weekly Report November 7, 2014

- Federated Archive Search Tool proof-of-concept**
 - Building application to demonstrate query capability is working.
 - Adding a few query options to better demonstrate the graph database.
 - Update schedule
 - Investigating Hollings Scholar intern opportunity.
 - Working on application to demonstrate query capabilities.
 - Connected all data to geographic and date references.
 - Designed and loaded VIIRS catalog graph data.
 - Designed and loaded Storm Events graph data.
 - Loaded FIPS geographic data.
 - Installed Neo4j graph database with spatial extension.

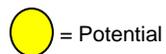
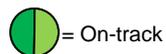
Monitor Project	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	NOV	
Proof-of-concept	[Red bar]																
Demonstrate	[Red bar]																
Analysis				[Red bar]													
Recommendation				[Red bar]													

Risk Matrix



Risk and Mitigation

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Reprocessing VIIRS SDRs

Team Lead:
Jim Biard

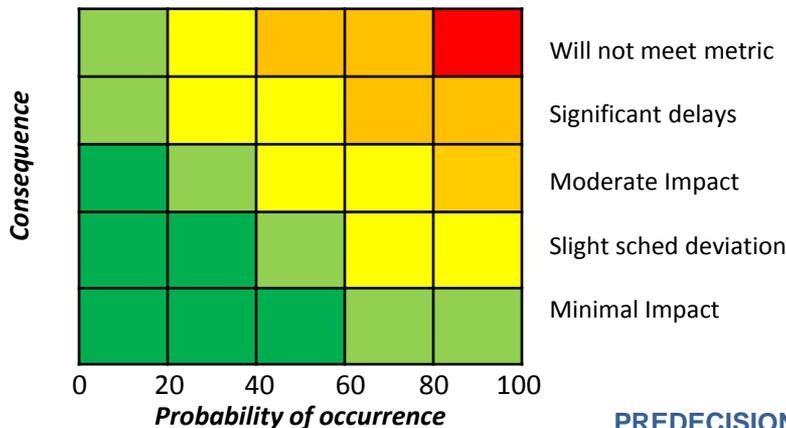
Weekly Report – November 7, 2014

1 Reprocessing VIIRS SDRs

- **On hold as work Obs4MIBs.**
- **Working with Hai-Tien Lee on code review.**
- Defined schedule estimates for project.
- Talking with STAR scientists (Changyong Cao, etc) to identify parrallelization capability of VIIRS algorithms.
- Developed draft white paper to identify issues and scope.
- Have identified parts of the algorithm that need to 'conditioned' during runtime and will affect reprocessing estimates.
- Discussed scope and goals of the project with CDRP scientist.

Milestone	Begin Date	End Date	Effort (Days)
Develop VIIRS SDR granule comparator	TBD	TBD	10
Obtain data and software	TBD	TBD	5
Configure ADL	TBD	TBD	10
Produce matching reprocessed VIIRS SDR granules	TBD	TBD	20
Analyze requirements for parallel reprocessing	TBD	TBD	5
Develop parallel reprocessing management system	TBD	TBD	10
Determine practical limits on parallel reprocessing	TBD	TBD	20
Write a final report	TBD	TBD	5

Risk Matrix



Risk and Mitigation

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



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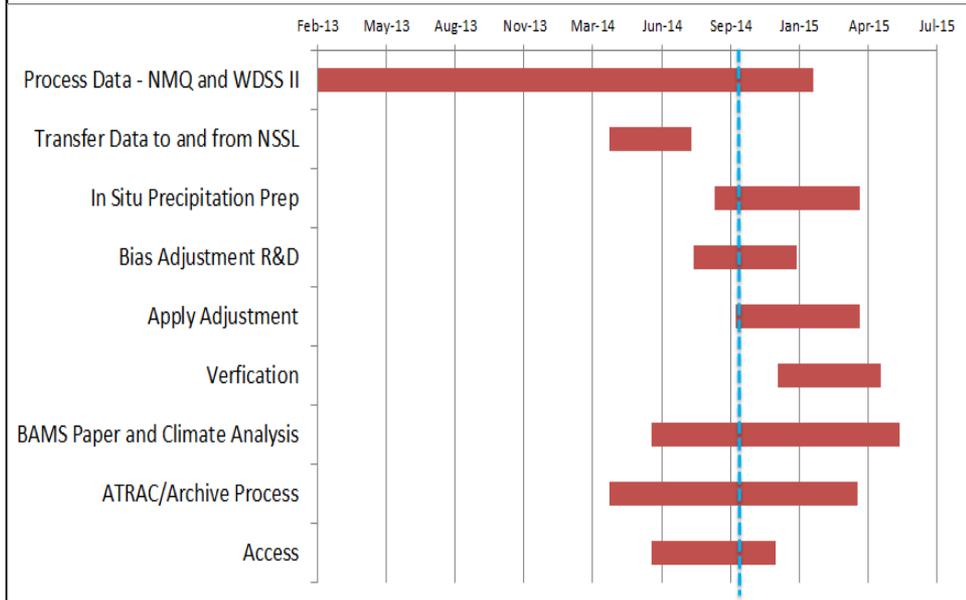
NOAA NEXRAD Reanalysis

Project Manager:
B. Nelson

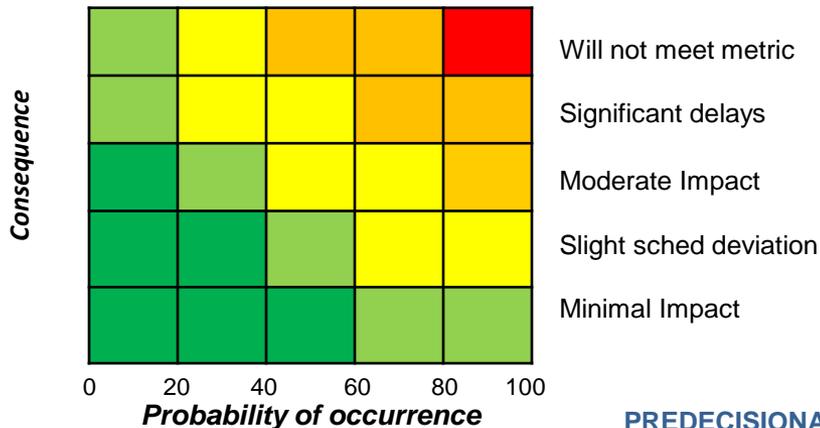
Weekly Report

NNR – NOAA NEXRAD Reanalysis

- Hourly IDW procedure is being implemented
- Assessment of bias at hourly scale is underway for full years (2008-2011)
- Hourly scale idw is being tested and set up for processing for pilot domains
- Re-do daily gauge-radar processing to consider obs time for COOP data - Only minor improvement for daily
- Hourly data for HADS locs has been processed for 4 full years
- [Assessment of Bias at Hourly for 2 months \(4 years\)](#)
- [Assessment of Bias at Daily scale for 4 years \(2008 - 2011\)](#)
- [Gauge radar merging for one year \(2011\)](#)



Risk Matrix



Risk and Mitigation

No Risk at this time

11/06/2014

= On-track

= Potential management action required

= Management attention required

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ISCCP Processing @ NCDC

Project Manager:
A. Young/K. Knapp

Weekly Status Update

- Continuing to pre-process data.
- Ordering replacement data from EUMETSAT
- Sent beta data to users for feedback.
- Preparing ancillary calibration data for processing.
- Working on ISCCP Website for NCDC
- Preparing data for Beta users (preliminary output)
- Prepared space and scripts for ISCCP processing on CICS server.
- Received pre-processing software to QC input files (GEO/B1 & LEO/AVHRR)

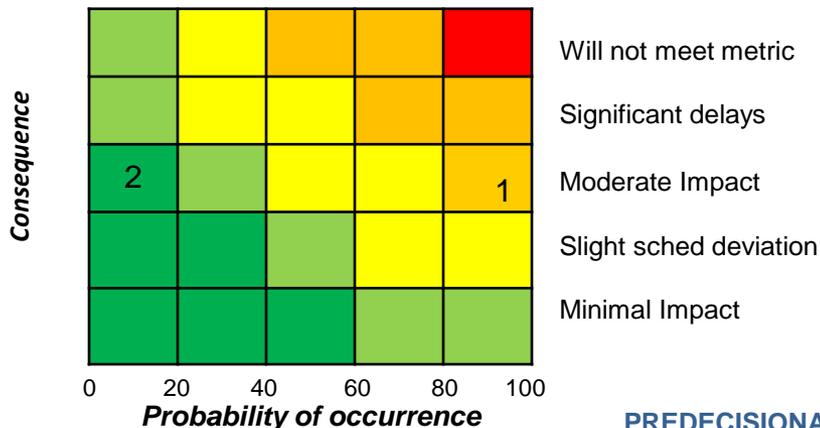
Objectives

Produce ISCCP cloud products at NCDC following IOC R20 procedures. Plan for routine updates to follow.

Schedule

- Start Date 1983? 2003? 2013?
- Begin processing September 2014
- End processing December 2014
- QC & Analysis Jan-Feb 2015
- Archive March 2015
- Routine updates start June 2015

Risk Matrix



Risk and Mitigation

1. Delivery of software late and other delays.
Raised level to moderate impact. Processing will likely start 1 month late. Impact upon completion isn't yet clear.
2. CICS server space

8/7/2014



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= Potential management action required



= Management attention required



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Obs4MIPS

Project Manager:
H. Semunegus

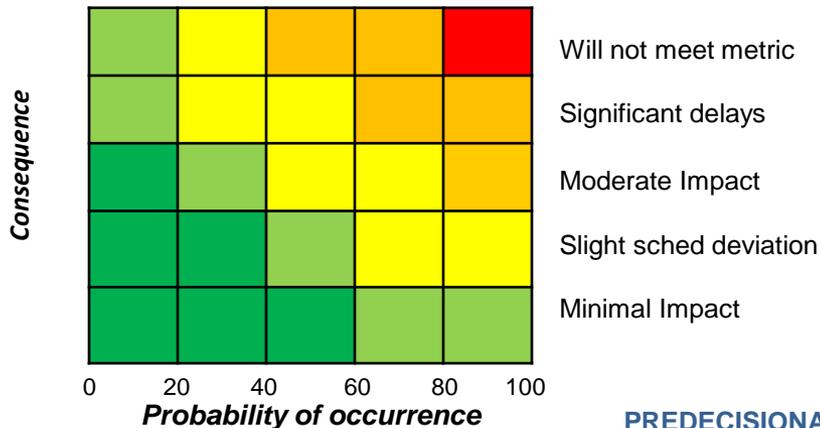
Weekly Status Update

- J. Baird prototyped a conversion utility.
- Scoping out a potential third dataset for initial transition.
- Test data was converted to Obs4MIPS format.
- Planning meeting completed and schedule revised.
- Initial datasets selected for Obs4MIPS: OISST and OLR
- Lots of emails and investigations ongoing.
- Many CDRs can't work in Obs4MIPS: all FCDRs and all Mean Layer Temperatures aren't fit for this purpose.
- Kickoff meeting held 7/18
- Initial plans developed.

Obs4MIPS using CDRs (Project Manager: Hilawe Semunegus)					2014												2015				
Task (team member)	Start Date	End Date	Duration (days)	Percent Complete	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
1.1 Present project plan and time commitment to team members (all)	2014-07-15	2014-07-31	17	100%																	
1.2 Select 3 CDRs for Obs4MIPS conversion (all)	2014-07-15	2014-07-31	17	50%																	
1.3 Assess uncertainty estimates for selected CDRs based on CATBDs (J. Matthews)	2014-07-15	2014-07-31	17	0%																	
1.4 Assess time commitment for writing a "Technical Note Template" (SMEs): https://www.eaathsystemccg.org/site_media/projects/obs4mips/Obs4MIPsTechnicalNoteGuidancev3.pdf	2014-07-15	2014-07-31	17	0%																	
1.5 Determine methodology for temporal and spatial upscaling/downscaling/averaging (SMEs and Jim Bard)	2014-07-15	2014-08-14	31	0%																	
2.0 Analysis (Sampling and validation)	2014-08-15	2014-11-14	92	0%																	
2.1 Create a sample monthly netCDF file for each Obs4MIPS-compliant CDR (Bard and SME)	2014-08-15	2014-09-14	31	0%																	
2.2 Independently compare sample output for scientific validation (SMEs and Bard)	2014-09-15	2014-10-14	30	0%																	
2.3 Validate that all metadata compliances are passed for sample files: CF, Obs4MIPS OMPs and CDR Metadata standards (Bard)	2014-10-15	2014-11-14	31	0%																	
3.0 Implementation (Code and documents)	2014-11-15	2015-02-28	106	0%																	
3.1 Produce Obs4MIPS CDRs for entire period of record (Bard and SMEs)	2014-11-15	2014-12-31	47	0%																	
3.2 Submit Obs4MIPS Data Set Proposal Form (SMEs)	2015-01-01	2015-01-14	14	0%																	
3.3 Write Technical Note for each CDR (SMEs)	2015-01-01	2015-02-28	59	0%																	
4.0 Testing	2015-03-01	2015-04-30	61	0%																	
4.1 Test data scientifically (SMEs and Programmer)	2015-03-01	2015-03-31	31	0%																	
4.2 Test for monthly production (regular updates) of CDRs (within 10 days of succeeding month)	2015-03-15	2015-04-30	47	0%																	
5.0 Deployment (Archive)	2015-04-15	2015-10-31	200	0%																	
5.1 Complete Archive Request Form or ATRAC (SMEs, PM and Archive)	2015-04-15	2015-04-29	15	0%																	
5.2 Complete all Archive requirements (SMEs, PM and Archive)	2015-05-01	2015-07-31	92	0%																	
5.3 Serve CDRs via GFDL or NCDC ESG node (NCMADS-DAAD)	2015-08-01	2015-08-31	31	0%																	
5.4 UESB Product Briefing (SMEs)	2015-09-01	2015-09-15	15	0%																	
5.5 Add Obs4MIPS project to CDRP website																					

Initial datasets: Daily OLR, OISST, Sea Ice

Risk Matrix



TBD

Risk and Mitigation

8/7/2014



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



CDR Program Office

UW HIRS Processing @ NCDC

Project Manager:
A. Young

Weekly Status Update

- Found space to temporarily store 10 TB of 10 yrs of product.
- Waiting for final code delivery from Wisconsin.
- Preparing plan for processing on CICS server.
- Working on finding space for the 10TB of input data (pixel level cloud data).

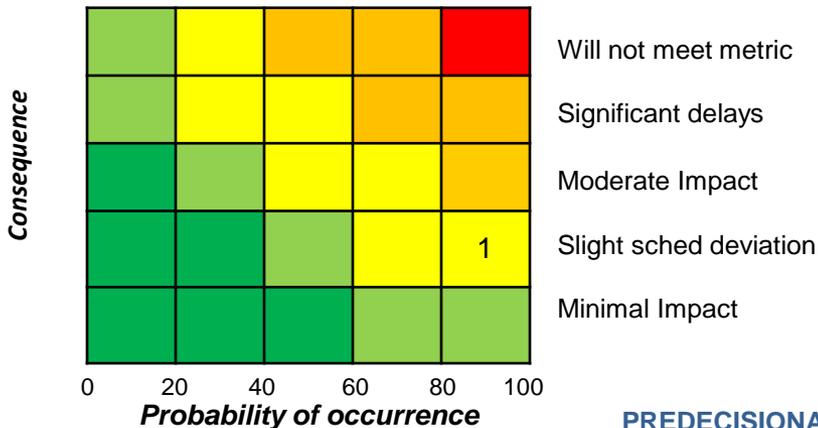
Objectives

Produce global total precipitable water and cloud top pressure estimates from HIRS data using the UW algorithm (P. Menzel).

Schedule

- Start Date TBD
- End Date TBD

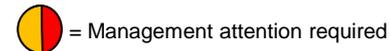
Risk Matrix



Risk and Mitigation

1. Programmer was assigned to another task. Impact: Schedule may slip.

8/7/2014



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Albedo of the Americas

Project Manager:
J. Matthews

Weekly Status Update

- Continued validation via collaboration with SAMSI (at NCSU).
- Loaned 42 TB of disk space allocation to ISCCP Project

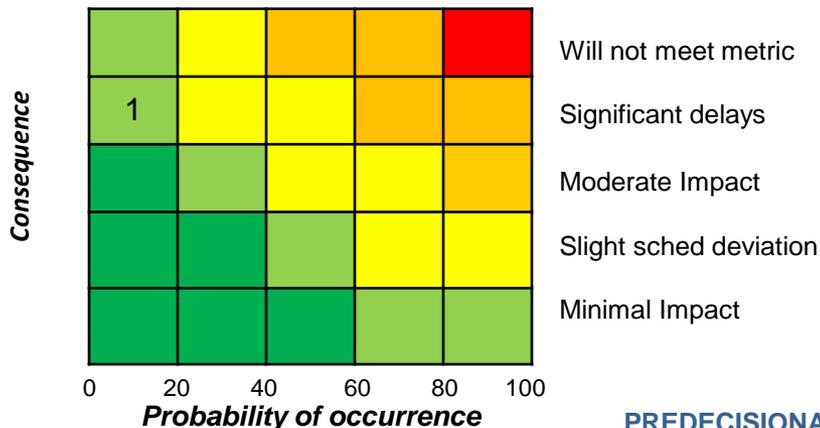
Objectives

Produce a daily land surface albedo product over North and South America from GOES-GVAR observations for 1995-2014.

Schedule

- Start Date: January 2015
- End Date: June 2016

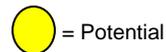
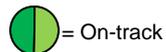
Risk Matrix



Risk and Mitigation

- Loaned disk space is not returned
 - * Could cause delays. Unlikely since more disk space is planned.

8/7/2014



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