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This is a report on the 2006 Operational Analysis for NOAA, due February 15, 2007.

Operational Analysis (OA) is required for IT investments classified as “Major” by OMB Circular-11 guidelines, for portions of work that is considered Steady State, technology refresh, or operations and maintenance. OA focuses on an investment's operational state as of December 31, covering the past year, analyzing achievement and performance over the most recent calendar year.

This report provides our review of OA evaluation criteria; see the Section “Comparison and Assessment of NOAA 2006 Reports”. The majority of OA reports submitted to NOAA OCIO from Line Offices met the evaluation criteria. We forward those seventeen OAs with this memo. For the remaining eight OA, we are asking the Line Office and PMs to make OA improvement, and to respond again within two weeks. We also want to acknowledge six programs for a job well done on their 2006 OA report: NNDC and SARSAT in NESDIS; Geodetic Support and Nautical Charting in NOS; NWS AWIPS; and the OAR Scientific Computing Support.

This report includes these sections:

- [List of NOAA 2006 IT Investments that require OA Reports](#)
- [Comparison and Assessment of NOAA 2006 OA Reports](#)
- [Lessons Learned](#)

LIST OF NOAA 2006 IT INVESTMENTS THAT REQUIRE OA REPORTS

This list was derived from a report that queried the current eCPIC Exhibit 300 database for NOAA’s Major Investments, where the Summary of Spending Table indicated O&M spending in FY 2006.

- NESDIS Comprehensive Large Array-data Stewardship System (CLASS)
- NESDIS Environmental Satellite Processing Center (ESPC)
- NESDIS GOES, Ground System (GS)
- NESDIS NOAA National Data Centers (NNDC)
- NESDIS POES, Ground System (GS)
- NESDIS Satellite Operations Control Center Command and Data Acquisition (SOCC/CDA)
- NESDIS Search and Rescue Satellite-Aided Tracking (SARSAT)
- NOAA OCIO Financial Management IT Operations (FMS)
- NOAA OCIO Grants On-line
- NOAA OCIO Non-Core CBS Financial Management System (PCS)
- NOAA OCIO R&D High Performance Computing System (HPCC)
- NOS Geodetic Support System
- NOS Nautical Charting System
- NOS PORTS & NWLON
- NWS Advanced Weather Interactive Processing System (AWIPS)
- NWS Dissemination Systems (NDS)
- NWS National Weather Service Telecommunication Gateway (NWSTG) System
- NWS NDBC Ocean Observing System of Systems (NOOSS)
- NWS Next Generation Weather Radar (NEXRAD) System Operations and Maintenance (O&M)
- NWS Office of Hydrologic Development (OHD)
- *NWS Profile Network (NPN)



- NWS Regions & Field
- NWS/NCEP Weather and Climate Computing Infrastructure Services (WCCIS)
- NWS/NCEP Weather and Climate Operational Supercomputer Systems Primary and Backup (WCOSS)
- OAR NOAA Scientific Computing Support (SC)

In addition, NOAA OCIO delegated these two programs to provide NOAA’s input to the DOC Consolidated IT Infrastructure OA. These two submissions will be merged into a single NOAA IT Infrastructure OA:

- NOAA OCIO IT Infrastructure
- NMFS IT Infrastructure

* Non-major, submitted optionally. Not in the original OA data call.

COMPARISON AND ASSESSMENT OF NOAA 2006 OA REPORTS

Table 1 is an OA checklist that lets you compares evaluation criteria across the reports.

Table 1 – OA Report Rating

Major IT Investment	DOC Criteria				NOAA Guidance				Other			
	Customer Results	Strategic & Business Results	Financial Performance	Innovation	Used NOAA template	LO CIO sent cover letter	NOAA Informed of LO OCIO Review	Table of Contents	Total Pages	Used internet hyperlinks	Used graphics	Good Showcase OA Example
NESDIS CLASS	Y	Y	Y	Y	Y	N	Y	Y	8	1	3	
NESDIS ESPC	Y	Y	Y	Y+	Y	N	Y	Y	13	2	3	
NESDIS GOES GS	Y	Y	Y	Y	Y	N	Y	Y	8	1	3	
NESDIS NNDC	Y+	Y+	Y	Y+	Y	N	Y	Y	17	11	8	Y+
NESDIS POES GS	Y	Y	Y	Y	Y	N	Y	Y	9	N	3	
NESDIS SOCC/CDA	Y	Y	Y	Y+	Y	N	Y	Y	9	1	3	
NESDIS SARSAT	Y	Y+	Y	Y+	Y	N	Y	Y	16	N	5	Y
NOAA OCIO FMS	Y	Y	Y	Y	Y	N	N	Y	16	1	5	
NOAA OCIO Grants OL	Y	Y	Y	Y	Y	N	N	N	10	N	3	
NOAA OCIO PCS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
NOAA OCIO HPCC	Y+	Y	Y	Y	P	N	N	N	12	N	4	
NOS Geodetic Support	Y+	Y+	Y	Y+	Y	N	N	Y	50	~21	~22	Y+
NOS Nautical Charting	Y+	Y	Y	Y	Y	N	N	Y	13	3	3	Y
NOS PORTS & NWLON	Y	Y	Y	Y	Y	N	N	Y	18	N	5	
NWS AWIPS	Y	Y	Y	Y	N	N	N	N	10	N	6	Y
NWS NDS	P	P	P	P/N	N	N	N	N	2	N	1	
NWS NWSTG	Y	Y	Y	Y	N	N	N	N	4	N	1	
NWS NOOSS	P/N	Y	Y/P	Y/P	N	N	N	N	2	N	1	
NWS NEXRAD O&M	P	Y/P	Y	P	N	N	N	N	3	N	1	
NWS OHD	P	P	Y	Y	N	N	N	N	2	N	2	



NOAA 2006 OPERATIONAL ANALYSIS

	DOC Criteria				NOAA Guidance				Other			
	Y/P	Y	Y	P	N	N	N	N		N		
*NWS Profiler Network	Y/P	Y	Y	P	N	N	N	N	3	N	1	
NWS Regions & Field	Y/P	Y/P	Y/P	Y/P	N	N	N	N	2	N	N	
NWS/NCEP WCCIS	Y	N	P	N	N	N	N	N	3	N	1	
NWS/NCEP WCOSS	Y	N	P	N	N	N	N	N	3	N	1	
OAR SC	Y+	Y+	Y+	Y+	Y	N	Y	Y	24	60	8	Y+
NOAA OCIO IT Infra.	P	Y	Y	P	Y	N	Y	Y	19	N	5	
NMFS IT Infra.	Y/P	Y	Y/P	Y	Y	Y	Y	Y	9	N	3	

Legend: Y = Yes; N = No; P = Partial; “+” = superlative; n/a = not available; * = non-major.

One investment, PCS, is still outstanding – and did not undertake OA in past years. Two OA, the NMFS and NOAA OCIO IT Infrastructure, are merged into one OA report for NOAA IT Infrastructure. Also, we are asking NWS to improve any of their OA reports that did not fully meet OA evaluation criteria.

The 2006 OA reports have a wide range of depth or detail. OA quality appears to increase with OA quantity. Four reports were two pages long; those OAs do not provide an in-depth analysis of operations in their short space. One report was 50 pages long; it provided a wealth of detail and examples on business and IT operations in 2006. An average of 10-15 pages seems to provide adequate OA coverage. For comments on the OAs, explaining the ratings given above in Table 1, please see the Table 2.

Table 2 – Comments on the OA Reports and Ratings

Topic	Comments
All NOAA & Line Offices	<ul style="list-style-type: none"> Except for OAR – and possibly NMFS – the impression is that PMs wrote the OAs independently without a large degree of cross-organization collaboration or input, and CIO involvement. See Notes #1 (at bottom of table). Most projects showed data from Exhibit 300s. See also Note #2. OA should reference and reuse existing sources, rather than create analysis from scratch – such as from CasaNOSA or Exhibit 300. Except for the NMFS CIO, no LO/SO sent their OA under CIO cover letter as requested by the NOAA guidance.
All NESDIS	NESDIS has uniform and satisfactory quality across all its OA.
All NWS	<ul style="list-style-type: none"> See Notes #1, 2, & 3 (at bottom of table). NWS OA were too brief. Some OAs raised analytical points or operational constraints (e.g. funding cuts), but more detailed background info would be helpful. At an average report length of 2-3 pages, the OAs are not able to develop significant, in-depth qualitative or quantitative analysis. The NWS OAs did not follow the NOAA-recommended template. It appears that some PM/OA authors did not read or follow the NOAA OA guidance.



NOAA 2006 OPERATIONAL ANALYSIS

Topic	Comments
<ul style="list-style-type: none"> • NESDIS: NNDC & SARSAT, • NOS: Geodetic Support & Nautical Charting, • NWS AWIPS • OAR SC 	<ul style="list-style-type: none"> • Good explanation of business mission and IT program management. • Excellent coverage of OA criteria. • Interesting and fun reading! • Successful in business mission. • PMs worked with LO OCIO or NOAA OCIO to discuss OA. • Recommend the LO OCIO and PMs internally discuss their model for best practice, using these as examples. • These programs are good candidates for best practices in NOAA for OA. Would like (1 or more) to present OA at upcoming NOAA OCIO. • Wonderful maps and graphic images in Geodetic Support and SC.
NOAA OCIO PCS	Did not submit an OA as of this writing.
NOAA OCIO HPC	Excellent discussion of Customer Results in 2006.
NWS NWSTG	See Note #4 (at bottom of table). Excellent overview, but would like to see more. Could serve as OA model for NWS if it included more analysis and data.
NWS Regions & Field	<ul style="list-style-type: none"> • The strategy and concepts introduced here are extremely important to NWS, if not to NOAA-wide, strategy. • This deserves more attention and visibility. What are the new or ongoing program management initiatives to implement these ideas? • Would like to see tie-in with ongoing program management plans, budget control & review boards, and other logistics to see these initiatives to fruition. • See Notes #2, 3 & 4 (at bottom of table).
OAR SC	Collaboration across OAR SC for this OA, results in an OA that's useful from OAR to DOC.
NOAA OCIO IT Infra.	OA reflects an "acquisition strategy", i.e. STRIPES, and not a business program.
NMFS IT Infra.	<ul style="list-style-type: none"> • See Note #1-4. • Good customer and control board explanations. • Since this represents the umbrella for bulk of NMFS activities, would like to see more detailed/granular performance measures – specific to the many more management programs in NMFS – and also more detailed data on financial performance.
Note #1	Would like to see future use (in 2007 OA) of more hyperlinks to network online information.
Note #2	Want use of more quantitative and tabular data, especially when able to associate with information in the Exhibit 300. Would like to see quantitative data presented as graphics, tables, or charts, if possible.
Note #3	Where "P" is assessed, the OA report generally did not describe the 2006 operations in enough meaningful or quantitative analysis, or did not mention data specific to achievements in 2006. Sometimes a section or topic was mentioned in the context of general program objectives, but not specific to 2006.
Note #4	Excellent ideas were introduced. Add more detail, tables, and charts would greatly improve the OA presentation.



LESSONS LEARNED

Overall, a majority of the OA reports meet guidance criteria. At NOAA, we are committed to improving the quality of our program management. The NOAA guidance on OA is one step in that direction. We are continuing to follow-up on several internal recommendations, including:

1. Have an OA debriefing with LO IT Liaisons &/or PMs to discuss the 2006 OAs.
2. Suggest using the OA as a valuable communications tool – to demonstrate to customers a program’s annual performance and achievements. The PMs invested good effort into writing these reports, and the OA should be leveraged for more than a data call. The OAs by NOS, OAR, and NESDIS especially, are written to reach a broad audience.
3. Where the NOAA guidance is not followed by LO/PMs, there are two options: (1) either the guidance should be changed to drop the criteria (i.e. using the OA template, or having CIO review); or (2) the guidance should better understood by LOs and enforced by NOAA OCIO.
4. Incorporate lessons learned and suggestions from LOs in the next year’s (2008) guidance for 2007 OAs.
 - a. Better IT Infrastructure OA reports will be possible if NOAA initiates strategies to manage and consolidate IT Infrastructure. Until then the IT Infrastructure OA reports will reflect the loosely federated IT Infrastructure, which is either an “acquisition strategy” or a strategy to support an Exhibit 300 data call.
 - b. OAs, if sent as Word files, should be sent with “Track Changes” turned off and with all changes accepted. Preferably, read-only PDF files should be sent from LOs.