ITDASHBOARD.gov MENU

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Business Case

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Section A: Investment Summary Information

Investment Name

NOAA/NESDIS/ Comprehensive Large Array-data Stewardship System (CLASS).

Unique Investment Identifier

006-000320500

Investment Description

The CLASS program efficiently manages high volumes (petabytes) of satellite and in situ data and automates data ingest, quality control and access. CLASS is one of several NOAA environmental data management responses to related requirements in numerous acts of legislation, including the Federal Records Act of 1950, National Climate Program Act of 1978, Global Change Research Act of 1990, Federal Data Quality Act of 2001, and Ocean and Coastal Observation System Act of 2005, and other requirements such as U.S. National Archives and Records Administration Records Management, Office of Management and Budget, and Federal Geographic Data Committee Regulations and standards. As part of that response, CLASS currently provides Open Archival information System Reference Model standard storage and online access to NOAA large-array satellite data and satellite-derived products.

Agency

Department of Commerce

Point of Contact

Andre Mendes - CIO

email 202-482-4797

Investment Type

Major IT Investments

Bureau

National Oceanic and Atmospheric Administration

Mission Support

Not Applicable

Shared Service Category

Not Applicable

Shared Service Identifier

Not Applicable

Date Investment First Submitted

09/20/2021

Date of Last Investment Detail Update

05/31/2022

Section B: Investment Detail

1. Briefly describe the investment's return on investment, including benefits internal and external to the government and outcomes achieved or planned.

   As an enterprise solution, CLASS will reduce anticipated cost growth associated with storing environmental datasets by providing common services for acquisition, security, and project management for the IT system supporting NOAA Archives, consolidating stove-pipe, legacy archival storage systems and, lastly, relieving data owners of archival storage-related system development and operations issues. The ROI over the 16 year life of the investment is $6,400M.

Section C: Investment and Contracts

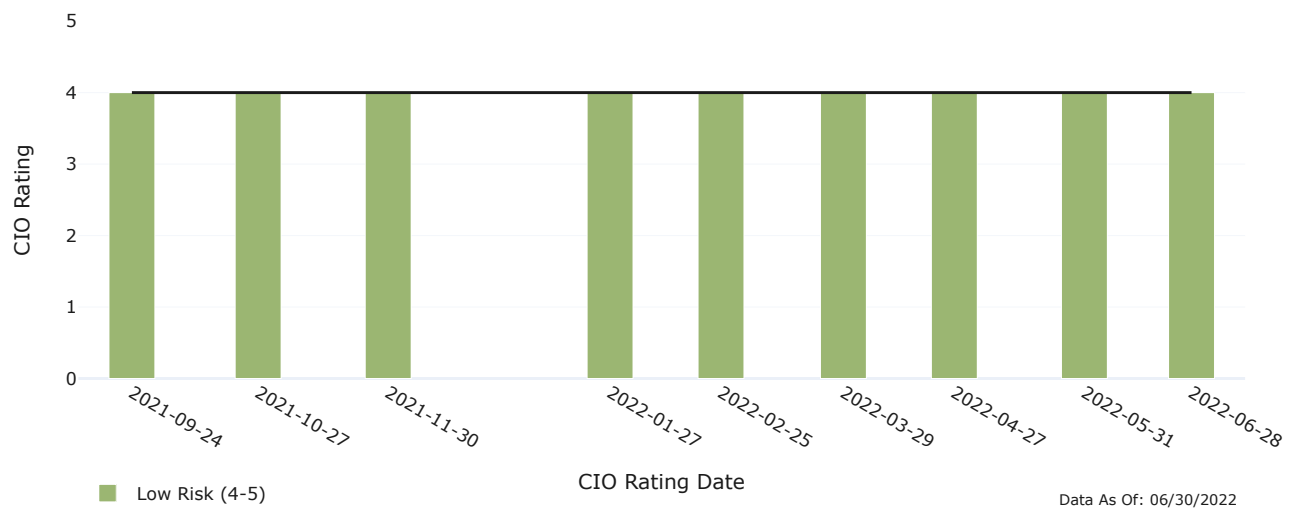
Public URLs

- **http://www.class.noaa.gov**

Contracts

- **NNG15SC87B**
- **NNG15SD01B**
- **DOCYA132316BU0005**
- **NNG15SD74B**
- **DOCSS130118BU0005**
- **GS35F0537U**
- **DOCSP133E17CN0106**
- **NNG15SD09B**
- **NNG15SD25B**
- **47QTCA18D006H**
- **NNG15SD01B**
- **NNG15SC65B**

Section D: Historic CIO Rating



CIO Rating	Date	Comments
4	Jun 28, 2022	CLASS is the designated primary archive for most of NOAA environmental data sets. CLASS accomplishments for this month include: Held data Operational Readiness Review with NCEI to support new processes to send data to CLASS. Completed decommission of the CLASS node in Boulder, CO. Performance metrics: Added 18.66M new catalog files to the archive in May 2022 exceeding the 11M files target. All (100%) actual technical issue responses exceeded the 95% target of responding within 2 business days. The investment is executing as expected.
4	May 31, 2022	CLASS is the designated primary archive for most of NOAA environmental data sets. CLASS accomplishments for this month include: Held data Operational Readiness Review with NCEI to support new processes to send data to CLASS. Completed decommission of the CLASS node in Boulder, CO. Performance metrics: Added 15.68M new catalog files to the archive exceeding the 11M files target. All (100%) actual technical issue responses exceeded the 95% target of responding within 2 business days. Operational Availability was 96.78% exceeding target. The investment is executing as expected.
4	Apr 27, 2022	-CLASS is the designated primary archive for most of NOAA environmental data sets. CLASS accomplishments for this month include: Completed Release 8.3 implementation activities and promoted release to test environment, started Release 8.3 testing and successfully completed the Annual Continuity of Operations exercise in the cloud. Performance metrics: Added 15.7M new catalog files to the archive in March, exceeding the 11M files target. All (100%) actual technical issue responses exceeded the 95% target of responding within 2 business days. The investment is executing as expected.
4	Mar 29, 2022	CLASS is the designated primary archive for most of NOAA environmental data sets. CLASS accomplishments for this month include: Completed code reviews and unit testing for Release 8.3. Performance metrics: Added 15.12M new catalog files to the archive in February 2022, exceeding the 11M files target. All (100%) actual technical issue responses exceeded the 95% target of responding within two business days of request, exceeding metric. The investment is executing as expected.
4	Feb 25, 2022	CLASS is the designated primary archive for most of NOAA environmental data sets. CLASS accomplishments for this month include: 1. Promoted Release 8.2.5 into operations and continued Release 8.3 analysis and implementation. 2. Performance metrics: Added 15.12M new catalog files to the archive in January 2022, exceeding the 11M files target. All (100%) actual technical issue responses exceeded the 95% target of responding within two business days of request thus exceeding the metric. The investment is executing as expected.
4	Jan 27, 2022	CLASS is the designated primary archive for most NOAA environmental data sets. CLASS accomplishments include: 1. Completed Release 8.2.5 development & began testing and continued Release 8.3 analysis and implementation. 2. Performance metrics: Added 17M new catalog files to the archive in December 2021, exceeding the 11M files target. All (100%) actual technical issue responses exceeded the 95% target of responding within two business days of request. The investment is executing as expected.
4	Nov 30, 2021	CLASS is the designated primary archive for most NOAA environmental data sets. Accomplishments for October 2021 - FY22: Completed implementation and testing of Release 8.2.4 and Promoted Release 8.2.4 into operations. Performance metrics: Added 13.5M new catalog files to the archive in October, exceeding the 11M files target. All (100%) actual technical issue responses exceeded the 95% target of responding within two business days of request. Operational Availability: 98.49%. Executing as expected.
4	Oct 27, 2021	CLASS is the designated primary archive for most NOAA environmental data sets. Although the target (5% Reduction in Cost Per Terabyte of Data Archived Annually) was not met as the Cost Per Terabyte increased in FY 21 by 1% due to planned tech refresh, since 2014 the overall cost reduction per terabyte is 51%. This reduction is well above the target eight-year reduction (2014-2021) goal of 40%. Accomplishments: Performance metrics: Added 13.3M new catalog files to the archive in August, exceeding the 11M files target. Customer Response: All (100%) actual technical issue responses exceeded the 95% target of responding within two business days of request. Data Delivered: The FY 21 target is delivery of 4 PB annually. The actual performance was 7.9 PB for FY 21.
4	Sep 24, 2021	The CLASS program efficiently manages high volumes (petabytes) of satellite and in situ data and automates data ingest, quality control and access. Accomplishments for August:. Performance metrics: Added 13M new catalog files to the archive in August, exceeding the 11M files target. Customer Response: All (100%) actual technical issue responses exceeded the 95% target of responding within two business days of request.

Data Last Updated On: 06/30/2022

Section E: Investment Spending

Table 1: Distribution by Spending Type

Spending Type	PY 2021	CY 2022	BY 2023
DME Costs	0	0	0
O&M Costs	19.154164	17.393006	16.67375
Total	19.154164	17.393006	16.67375

Table 2: Distribution by Cost Pools

Cost Pools	PY 2021	CY 2022	BY 2023
Internal Labor	1.133	1.07689	1.117488

Cost Pools

Cost Pools	PY 2021	CY 2022	BY 2023
External Labor	11.572408	11.923218	11.161401
Outside Services	0.515	1.075	0.996972
Hardware	2.804281	1.21441	1.349383
Software	1.483587	1.182783	0.92865
Facilities & Power	0.523914	0.420705	0.430381
Telecom	0.732	0.5	0.506
Other	0.389974	0	0.183475
Internal Services	0	0	0
Totals	19.154164	17.393006	16.67375

Cost in millions (M)

Table 3: Distribution by IT Towers

IT Towers

IT Tower	PY 2021	CY 2022	BY 2023
Security & Compliance	2.261717	2.087907	1.195914
IT Management	2.340078	2.310092	2.682433
Network	1.173155	1.147498	1.192805
Data	0	0	0
Compute	1.227606	1.761229	1.810322
Storage	2.433781	0.650324	0.751648
End User	0.117708	0.068465	0.092422
Output	0	0	0
Application	3.646682	2.169969	0.92865
Delivery	5.160827	6.47307	7.277482
Platform	0.268696	0.303747	0.311693
Data Center	0.523914	0.420705	0.430381
Totals	19.154164	17.393006	16.67375

Cost in millions (M)

Data Last Updated On: 05/31/2022

Section F: Project and Activities Detail

Table 1: Project Details

Project Name	Project UID	Status	Project Life Cycle Cost ($M)	Cost Variance (%)	Start Date	End Date	Schedule Variance (%)	Schedule Variance (Days)
CLASS Sustainment	3205D12014	In Progress	81.7	5.1	2016-03-31	2024-09-30	0	0

Low Medium High

Table 2: Activity Details

Unique Project ID	Activity Name	Activity Description	Planned Start Date	Projected Start Date	Actual Start Date	Planned Completion Date	Projected Completion Date	Actual Completion Date	Planned Total Cost ($M)	Projected Total Cost ($M)	Actual Total Cost ($M)

Unique Project ID	Activity Name	Activity Description	Planned Start Date	Projected Start Date	Actual Start Date	Planned Completion Date	Projected Completion Date	Actual Completion Date	Planned Total Cost ($M)	Projected Total Cost ($M)	Actual Total Cost ($M)
3205D12014	Core Operations Sustainment and Maintenance	Activities that support current Core operations and system sustainment, including quarterly software releases, testing, and, and technology refreshes.	2016-09-01	2016-09-01	2016-09-01	2023-10-31	2023-10-31		84.58	77.875969	61.54
3205D12014	Core CLASS Release 7.1.2	Core activities supporting Release 7.1.2 and testing.	2016-09-01	2016-09-01	2016-09-01	2016-10-12	2016-10-12	2016-12-31	1.26	1.264812	1.39
3205D12014	Core CLASS Release 7.2	Core activities supporting Release 7.2 and testing.	2016-10-12	2016-10-13	2016-10-13	2017-03-31	2017-05-01	2017-05-01	2.79	2.792852	3.07
3205D12014	Core CLASS Release FY18 Q2	Core activities supporting FY18 Q1 and Q2 Release and testing.	2017-10-01	2017-10-01	2017-10-01	2018-03-31	2018-03-31	2018-03-31	5.25	5.250182	4.96
3205D12014	Core CLASS Release FY18 Q4	Core activities supporting FY18 Q3 and Q4 Release and testing.	2018-04-01	2018-04-01	2018-04-01	2018-09-30	2018-09-30	2018-09-30	9.92	9.916265	10.35
3205D12014	Core CLASS Release FY19 Q1 and Q2	Core activities supporting FY19 Q1 and Q2 Release and Testing	2018-10-01	2018-10-01	2018-10-01	2019-03-31	2019-03-31	2019-03-31	5.83	4.1693	4.11
3205D12014	Core CLASS Release FY20 Q3 and Q4	Core activities supporting FY20 Q3 and Q4 Release and Testing	2020-04-01	2020-04-01	2020-04-01	2020-09-30	2020-09-30	2020-09-30	7.31	6.590342	6.32
3205D12014	Core CLASS Release FY19 Q3 and Q4	Core activities supporting FY19 Q3 and Q4 Release and testing.	2019-04-01	2019-04-01	2019-04-01	2019-09-30	2019-09-30	2019-09-30	7.72	6.907234	6.97
3205D12014	Core CLASS Release FY23 Q1 and Q2	Core activities supporting FY23 Q1 and Q2 Release and Testing	2022-10-01	2022-10-01		2023-03-31	2023-03-31		4.32	4.31879	0
3205D12014	Core CLASS Release 8.0	Core activities supporting Release 8.0 and testing.	2017-04-01	2017-04-01	2017-04-01	2017-06-30	2017-08-31	2017-08-31	0.87	0.865896	0.93

Unique Project ID	Activity Name	Activity Description	Planned Start Date	Projected Start Date	Actual Start Date	Planned Completion Date	Projected Completion Date	Actual Completion Date	Planned Total Cost ($M)	Projected Total Cost ($M)	Actual Total Cost ($M)
3205D12014	Core CLASS Release FY21 Q1 and Q2	Core activities supporting FY21 Q1 and Q2 Release and Testing	2020-10-01	2020-10-01	2020-10-01	2021-03-31	2021-03-31	2021-03-31	4.82	4.819413	5.27
3205D12014	Core CLASS Release FY20 Q1 and Q2	Core activities supporting FY20 Q1 and Q2 Release and Testing	2019-10-01	2019-10-01	2019-10-01	2020-03-31	2020-03-31	2020-03-31	5.66	3.929164	4.26
3205D12014	Core CLASS Sustainment Release	Core activities supporting Sustainment Release and testing.	2017-07-01	2017-07-01	2017-07-01	2017-08-15	2017-09-30	2017-09-30	0.8	0.80286	0.79
3205D12014	Core CLASS Release FY23 Q3 and Q4	Core activities supporting FY23 Q3 and Q4 Release and Testing	2023-04-01	2023-04-01		2023-10-31	2023-10-31		7.77	7.77204	0
3205D12014	Core CLASS Release FY22 Q3 and Q4	Core activities supporting FY22 Q3 and Q4 Release and Testing	2022-04-01	2022-04-01	2022-04-01	2022-09-30	2022-09-30		6.94	5.6691	0.87
3205D12014	Core CLASS Release FY21 Q3 and Q4	Core activities supporting FY21 Q3 and Q4 Release and Testing	2021-04-01	2021-04-01	2021-04-01	2021-09-30	2021-09-30	2021-09-30	8.75	7.753019	7.36
3205D12014	Core CLASS Release FY22 Q1 and Q2	Core activities supporting FY22 Q1 and Q2 Release and Testing	2021-10-01	2021-10-01	2021-10-01	2022-03-31	2022-03-31	2022-03-31	4.57	5.0547	4.88

Table 3: Project Related Details

CLASS Sustainment

1. Are information technology investments adequately implementing incremental development methodology? (Y/N)

   Yes

2. What is the frequency of incremental development iterations? (ex. 1 month, 3 months, 6 months, 12 months or greater)

   Months

3. Please describe the iterative development methodology being employed. (500 characters or less)

   The CLASS Program delivers incremental releases within waterfall project management methodology.

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