

NOAA/NESDIS



NESDIS-PLN-1314.1 CONFIGURATION MANAGEMENT PLAN

September 2020

COMPLIANCE IS MANDATORY



Prepared by:

U.S. Department of Commerce

National Oceanic and Atmospheric Administration (NOAA)

National Environmental Satellite, Data, and Information Service (NESDIS)



NESDIS

Configuration
Management Plan

NESDIS-PR-1314.1

Effective Date: Sept 30, 2020

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Approval Page

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NESDIS

Configuration
Management Plan

Table of Contents

- 1. Introduction7
 - 1.1. Purpose.....7
 - 1.2. Applicability7
 - 1.3. Authority.....7
 - 1.4. Applicable Documents7
- 2. Roles and Responsibilities8
 - 2.1. NESDIS Assistant Administrator.....8
 - 2.2. Director, Office of Systems Architecture and Advanced Planning.....8
 - 2.3. NESDIS Configuration Control Board Coordinator.....8
- 3. NESDIS Configuration Management Process.....9
 - 3.1. NESDIS CCB.....9

3.2. Configuration Identification.....9

3.3. Configuration Change Management10

3.4. Configuration Status Accounting.....12

3.5. Configuration Verification and Auditing13

Appendix A: Glossary.....15

Appendix B: Acronyms17

Appendix C: Compliance Matrix18

Appendix D: NESDIS Configuration Change Request (CCR) Template22



NESDIS
 Configuration
 Management Plan

5
 NESDIS-PR-1314.1

Effective Date: Sept 30, 2020

Expiration Date: Sept 29, 2025

Table of Figures

Figure 1: NESDIS CCM Process.....12

Table of Tables

This document contains no tables.



NESDIS

Configuration
Management Plan

6

NESDIS-PR-1314.1

Effective Date: Sept 30, 2020

Expiration Date: Sept 29, 2025

1. Introduction

1.1. Purpose

- a. The National Environmental Satellite, Data, and Information Service (NESDIS)

Configuration Management Plan (CMP) describes how NESDIS implements the configuration management process defined in NESDIS-PR-1304.1 to perform NESDIS-level Configuration Management (CM).

- b. NESDIS envisions all NESDIS Level Configuration Items (CIs) to be top-level documents (see Section 3.2) that require approval either by the NESDIS Assistant Administrator (AA) or by more than one NESDIS Office Directors. However, NESDIS international and interagency arrangements will not be controlled by the CCB process, but instead will be handled through the NESDIS International and Interagency Affairs Division (IIAD) processes, which comply with Department of State, Department of Commerce (DOC), and NOAA processes. Final, signed NESDIS international and interagency arrangements will be added to the NESDIS Configuration Management Repository provided by this Plan.
- c. This document:
 - Describes the CM roles and responsibilities at the NESDIS level; • Describes the structure and functions of the NESDIS Configuration Control Board (CCB);
 - Defines the NESDIS Configuration Baseline and identifies the documents that are controlled by the NESDIS CCB;
 - Describes how Configuration Change Management (CCM) is performed; and
 - Describes how Configuration Status Accounting (CSA) and Configuration Verification and Audit (CVA) are performed.

1.2. Applicability

This document applies to NESDIS Headquarters Offices that develop and manage documents controlled by the NESDIS CCB. It also applies to NESDIS Offices, Programs, employees, and contractors that support development of documents controlled by the NESDIS CCB.

1.3. Authority

NESDIS-PD-1110.1, NESDIS Systems Engineering and Program Management Policy

1.4. Applicable Documents

- a. NESDIS-PD-1100.1, NESDIS Enterprise Directives Publication Policy
- b. NESDIS-PR-1300.1, NESDIS Systems Engineering Procedural Requirements
- c. NESDIS-PR-1304.1, NESDIS Configuration Management Procedural Requirements



NESDIS

Configuration
Management Plan

7

NESDIS-PR-1314.1

Effective Date: Sept 30, 2020

Expiration Date: Sept 29, 2025

2. Roles and Responsibilities

2.1. NESDIS Assistant Administrator

- a. The NESDIS AA is the NESDIS CCB Chair.
- b. The NESDIS CCB Chair will approve responsibilities for implementing the CM process.
- c. The NESDIS CCB Chair will approve or disapprove proposed changes to the documents under NESDIS CCB Control.
- d. For externally approved documents other than those managed by IIAD, the NESDIS CCB Chair will forward the change request to the appropriate approving bodies, which may include the NOAA Observing System Council (NOSC), Deputy Under Secretary for Operations (DUS/O), or DOC.

2.2. Director, Office of Systems Architecture and Advanced Planning

- a. The Director of the Office of Systems Architecture and Advanced Planning (OSAAP) is the NESDIS CCB Manager.
- b. The NESDIS CCB Manager ensures that appropriate CM processes are planned and implemented.
- c. The NESDIS CCB Manager will operate the NESDIS CCB.
- d. The NESDIS CCB Manager will appoint someone in OSAAP as the NESDIS CCB Coordinator.

2.3. NESDIS Configuration Control Board Coordinator

- a. The NESDIS CCB Coordinator supports the NESDIS CCB Manager in establishing and implementing the CM process.
- b. The NESDIS CCB Coordinator will determine, acquire, and manage the necessary resources including CM personnel, CM tools, and the Configuration Library.
- c. The NESDIS CCB Coordinator will manage changes to the NESDIS Configuration Baseline.
- d. The NESDIS CCB Coordinator will prepare configuration status reports and support the configuration verification audit. The NESDIS CCB Coordinator will coordinate with the Document Owner (Book Boss) to ensure that change requests are complete and understandable. The CCB Coordinator does **not** have the authority to reject a change request.



3. NESDIS Configuration Management

Process 3.1. NESDIS Configuration Control Board

- a. The purpose of the NESDIS CCB is to review, edit, and ultimately approve (or disapprove) the documents that are controlled by the NESDIS CCB.
- b. The NESDIS CCB members are:
 - NESDIS AA, Chair
 - NESDIS Deputy Assistant Administrator (DAA)
 - NESDIS Deputy Assistant Administrator, Systems (DAAS)
 - All NESDIS Office/Program Directors
- c. The NESDIS CCB approves the NESDIS Configuration Baseline (see Section 3.2.c). Only items in this baseline will be controlled by the NESDIS CCB.
- d. The NESDIS CCB disposes all NESDIS Configuration Change Requests (CCRs).
- e. For externally approved documents other than those managed by IIAD, the NESDIS CCB Chair will forward those CCRs that require NESDIS-external approval to the appropriate office.

3.2. Configuration Identification

- a. The configuration items controlled by the NESDIS CCB are high-level documents that require signature from the NESDIS AA or documents outside of the scope of a Program/Office that require more than one Office/Program Director signature. These would include:
 - NESDIS Strategic Plan;
 - NESDIS Strategic Implementation Plan;
 - NESDIS Enterprise-level Requirements Documents;
 - NESDIS-controlled Program-level Requirements Documents (formerly known as Level 1 Requirements);
 - NESDIS-controlled Project-level Requirements Documents. These are requirements documents not derived from a Program Requirements Document;
 - NESDIS Architecture documents;
 - NESDIS Flyout Charts;
 - NESDIS Integrated Master Schedules;
 - NESDIS Policy Directives, Procedural Requirements, and Charters;
 - NESDIS Enterprise Risk Register;
 - Non-NESDIS documents that do not fall into the IIAD purview; and
 - Other documents as required.
- b. The NESDIS CCB will review and approve the list of documents selected for NESDIS CCB control.



- c. NESDIS international and interagency arrangements will not be approved by this CCB process, but instead will be handled through the NESDIS IIAD processes, which comply with the Department of State, DOC, and NOAA processes. Final, signed NESDIS international and interagency arrangements will be added to the NESDIS Configuration Management Repository.
- d. The NESDIS CCB Baseline includes a list of all documents under NESDIS CCB control and the associated information such as the document number, document owner, release date, revision number, expiration date, and whether the document has restricted access. Documents with restricted access may be stored in specialized repositories other than the configuration library.
- e. Once the NESDIS Configuration Baseline is created, the NESDIS CCB Coordinator will initiate Configuration Status Accounting (CSA). Section 3.4 provides more information on CSA.
- f. NESDIS documents are numbered using the NESDIS document-numbering schema described in Appendix B of NESDIS-PD-1100.1, NESDIS Enterprise Directives Publication Policy. The NESDIS CCB Coordinator will assign the document numbers.
- g. NESDIS projects may have their own CCB and CM structure. Project-specific documents do not fall under the NESDIS CCB as long as they are not signed by the AA or more than one Office/Program Director.
- h. The NESDIS CCB Coordinator will establish and manage a single configuration library to store and manage all documents that do not have access restrictions. This repository may also support version control of other important documents leaving NESDIS that do not require the CCB process.

3.3. Configuration Change Management

Figure 1 shows the NESDIS CCM process. This process is used for the initial approval of a new document as well as for subsequent changes to a baselined document.

- a. The CCR Originator submits a CCR form (Appendix D) to the NESDIS CCB Coordinator. It is recommended that the CCR Originator coordinate with the Document Owner prior to submitting the CCR.
- b. The CCB Coordinator performs the initial assessment of the CCR. If the CCR is incomplete, the CCB Coordinator will request additional information from the CCR Originator. The CCB Coordinator may also collaborate with others (including the Document Owner and other subject matter experts) to complete the initial assessment. Based on the Assessment, the CCR Originator may decide to revise or withdraw the CCR. The CCB Coordinator will seek the CCB Manager's support in implementing a broader impact assessment.
- c. The CCB Coordinator will contact all Office/Program Directors, and determine the signatories, the review team for impact assessment, and the review period. (In



NESDIS

Configuration
Management Plan

Effective Date: Sept 30, 2020

Expiration Date: Sept 29, 2025

- some cases, the impact assessment may have been performed by other NESDIS Offices/Programs prior to submitting the CCR to NESDIS CCB.)
- d. If the priority of the CCR is “Urgent”, the CCB Coordinator will fast-track the CCR through the CCB.
 - e. The NESDIS CCB Coordinator will work with the CCR Originator and other subject matter experts to prepare a review package to formalize the request for approval. The NESDIS CCB Coordinator will then provide the review package to the NESDIS CCB Manager.
 - f. The NESDIS CCB Manager will review the package for readiness to forward to the NESDIS CCB members. The NESDIS CCB will review the package and provide a recommendation to the NESDIS CCB Chair. This may happen either in person, through teleconference, or through email. (Note: A consensus among the CCB members is required. If a consensus is not reached, the CCB Chair may call a “Special CCB” with additional subject matter experts. The final decision will be made by the CCB Chair).
 - g. The NESDIS CCB Chair will review the package and provide a disposition (revise, approve or disapprove the CCR).
 - h. If NESDIS-external approval is required, the NESDIS CCB Chair will forward the CCR to the appropriate office. Note that IIAD documents do not fall in this category.
 - i. The final result of CCR disposition is sent to the CCB Coordinator, who will record the decision in the CSA System and communicate to the CCR Originator, CCB members, and others as needed.
 - j. After the approved changes are implemented, the updated documents are provided to the CCB Coordinator. The CCB coordinator will store the new version of the document in the Configuration Library and update the configuration status.

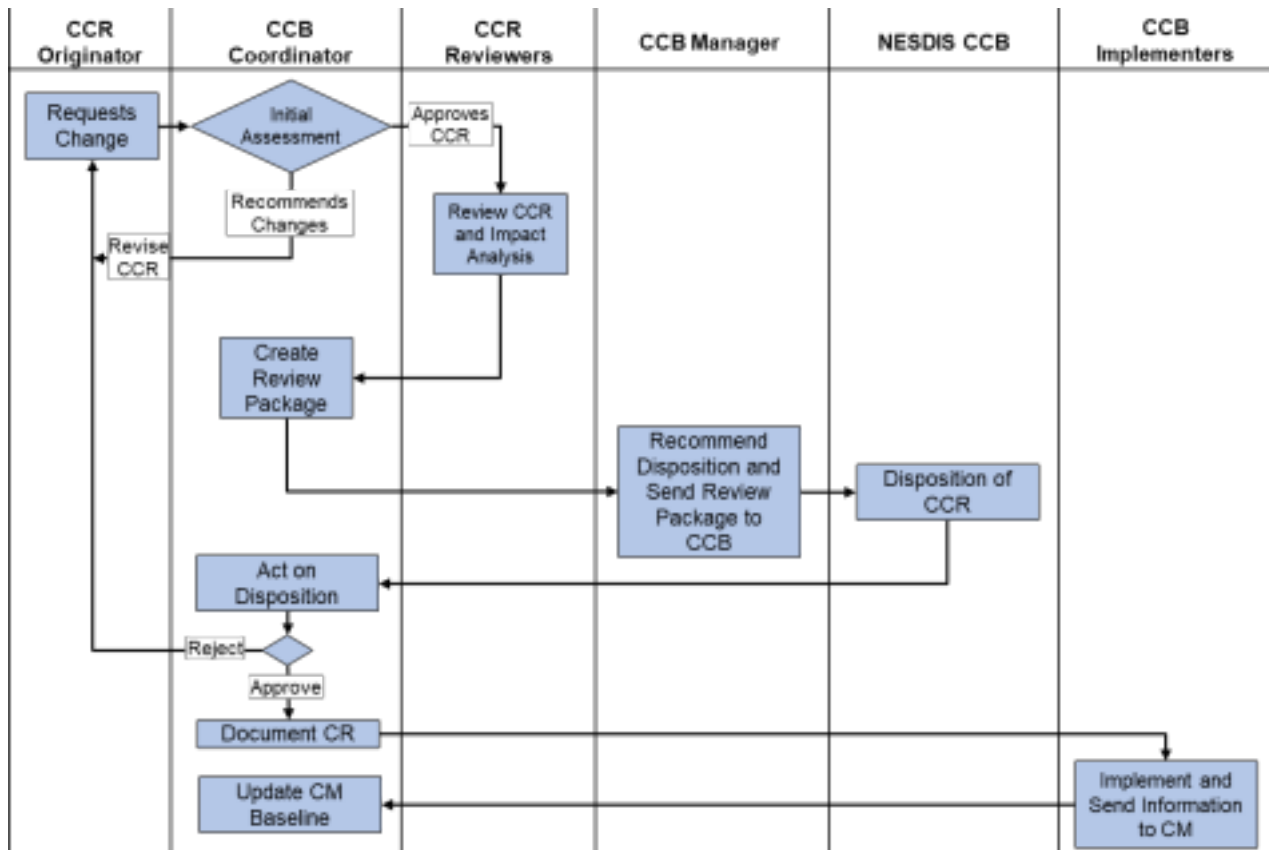


Figure 1: NESDIS CCM Process

3.4. Configuration Status Accounting

- a. The NESDIS Configuration Baseline and the configuration controlled documents will be tracked in the CSA System. Two types of CSA reports will be provided: (1)

Routine: Routine CSA reports will be provided monthly to support the NESDIS CCB meetings. This report provides a list of documents controlled by NESDIS CCB and a list of CCRs along with the status of the CCRs.

(2) **On-demand:** On-demand reports are provided to support specific requests by the NESDIS CCB.

b. Examples of CSA reports:

(1) **NESDIS Configuration Baseline Report:** This is a list of all documents in the NESDIS Configuration Baseline.

NESDIS Configuration Baseline

| Document Number | Revision Number | Title | Effective Date | Expiration Date | Status | Document Owner | Restricted Access (Y/N) |
|-----------------|-----------------|-------|----------------|-----------------|--------|----------------|-------------------------|
| | | | | | | | |

12

NESDIS-PR-1314.1



NESDIS

Effective Date: Sept 30, 2020

Configuration Management Plan

Expiration Date: Sept 29, 2025

(2) **CCR Report:** This report provides a list of CCRs for a given period.

NESDIS Change Tracking Status Report

| CCR Number | Title | Submission Date | Priority | CCR Originator | Status | Disposition Date | Assigned to | Restricted Access (Y/N) |
|------------|-------|-----------------|----------|----------------|--------|------------------|-------------|-------------------------|
| | | | | | | | | |

3.5. Configuration Verification and Auditing

The CVA is performed to ensure that:

- The CCM process described in this document is being followed to baseline the documents and control changes to the documents.
- The documents under the control of the NESDIS CCB and the associated document information are accurate and complete.
- All approved changes have been completed and documented in the CM system.

The CVA is performed yearly or on-demand by the CCB Manager (or designee). The CCB Manager will review the information available in the CSA System and Configuration Library to conduct the CVA. The CCB Manager may request additional information to support the CVA.



NESDIS

Configuration
Management Plan

13

NESDIS-PR-1314.1

Effective Date: Sept 30, 2020

Expiration Date: Sept 29, 2025

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Appendix A: Glossary

Approval: Authorization by a required management official to proceed with a proposed course of action.

Baseline: An agreed-to set of requirements, designs, budget, schedule, or documents that will have changes controlled through a formal approval and monitoring process.

Configuration Control Board: A panel of personnel with managerial decision-making authority and technical subject matter expertise, convened to assess proposed or realized changes to the system, subsystem or other baselined configuration-controlled item. The CCB will assess the impact of the change on the system, make a decision whether to implement a proposed change, and take steps to ensure the change is applied and flowed correctly throughout the system, with baselined documents and other items updated accordingly.

Decision Authority: The individual authorized to make important decisions for programs and projects under their authority.

NESDIS Office(s): A term used in the widest sense to include NESDIS Headquarters Offices, NESDIS Operations and Acquisitions Offices, and the National Centers for Environmental Information (NCEI). For a list of NESDIS Headquarters Offices and NESDIS Operations and Acquisitions offices, please refer to the NESDIS Organizational Chart.

Process: A set of activities used to convert inputs into desired outputs to generate expected outcomes and satisfy a purpose.

Product: In the context of Configuration Management, products include documents, facilities, firmware, hardware, software, tools, materials, processes, services, and systems.

Program: A strategic investment that has defined goals, objectives, architecture, funding level, and a management structure that supports one or more projects.

Project: A specific investment that has defined goals, objectives, requirements, life cycle cost, a beginning, and an end. A project yields products or services that directly address NESDIS' strategic needs. In this document, the term 'project' applies in the widest sense, to include projects, programs, portfolios, and major initiatives.

Requirement: A statement that identifies a system, product, or process characteristic or constraint. A requirement statement must be clear, correct, feasible to obtain, unambiguous in meaning, and able to be validated at the level of the system structure at which it is stated.



NESDIS

Configuration
Management Plan

NESDIS-PR-1314.1

Effective Date: Sept 30, 2020

Expiration Date: Sept 29, 2025

Risk: In the context of mission execution, the potential for shortfalls, which may be realized in the future, with respect to achieving explicitly established and stated requirements.

System: The combination of elements that function together to produce the capability required to meet a need. The elements include all hardware, software, equipment, facilities, personnel, processes, and procedures needed for this purpose.



NESDIS
Configuration
Management Plan

Appendix B: Acronyms

NESDIS-PR-1314.1
Effective Date: Sept 30, 2020
Expiration Date: Sept 29, 2025

| | |
|-----|---------------------------------|
| AA | Assistant Administrator |
| CCB | Configuration Change Board |
| CCM | Configuration Change Management |

| | |
|---------|---|
| CCR | Configuration Change Request |
| CI | Configuration Item |
| CM | Configuration Management |
| CMP | Configuration Management Plan |
| CSA | Configuration Status Accounting |
| CVA | Configuration Verification and Audit |
| DAA | Deputy Assistant Administrator |
| DBD | Data by Design |
| DOC | Department of Commerce |
| DUS/O | Deputy Under Secretary for Operations |
| FCA | Functional Configuration Audit |
| IIAD | International and Interagency Affairs Division |
| MOA | Memorandum of Agreement |
| MOU | Memorandum of Understanding |
| NA | Not Applicable |
| NASA | National Aeronautics and Space Administration |
| NCEI | National Centers for Environmental Information |
| NESDIS | National Environmental Satellite, Data, and Information Service |
| NESDOCS | NESDIS Directives Online Collaboration System |
| NOAA | National Oceanic and Atmospheric Administration |
| NOSC | NOAA Observing Systems Council |
| OSAAP | Office of System Architecture and Advanced Planning |
| PCA | Physical Configuration Audit |
| PD | Policy Directive |
| PDR | Preliminary Design Review |
| PR | Procedural Requirements |
| SEP | Systems Engineering Plan |
| SRR | System Requirements Review |



Appendix C: Compliance Matrix

This appendix shows compliance of this document with NESDIS-PR-1304.1. The column titled "Section" refers to sections within this document.

| REQ# | Requirement | Compliance | Section |
|------|--|------------|---------|
| 001 | OSAAP ensures compliance with this PR. | Y | 2.2 |
| 002 | NESDIS Office Directors establish policies, processes, and procedures within their Office to execute the requirements of this PR. | Y | NA |
| 003 | The Project Manager allocates adequate resources to meet the requirements of this PR commensurate with the scope, size, and complexity of the project. | Y | 2.3 |
| 004 | Implement a comprehensive CM process that incorporates the CM functions described in this PR. | Y | 3.0 |

| | | | |
|-----|---|--|-----|
| 005 | Develop a CMP that defines how the CM functions will be implemented in accordance with the CM process described in this PR. | Y | All |
| 006 | Provide configuration documentation to support technical reviews described in the program/project Systems Engineering Plan (SEP). | NA This applies to program or project level CMPs. | |



NESDIS
Configuration Management Plan
NESDIS-PR-1314.1

Effective Date: Sept 30, 2020 Expiration Date:
Sept 29, 2025

| REQ# | Requirement | Compliance | Section |
|------|--|------------|---------|
| 007 | Generate a list of appropriate CIs and the configuration information for the CIs. | Y | 3.2 |
| 008 | Establish configuration baselines and generate the configuration information that defines the configuration baselines. | Y | 3.2 |

| | | | |
|-----|---|---|-----|
| 009 | Apply configuration control to CIs, associated configuration information, and the established configuration baselines. | Y | 3.2 |
| 010 | Define a Configuration Change Management (CCM) process to support changes and variances to the configuration baselines. | Y | 3.3 |
| 011 | Establish CCB(s) to review, evaluate, and approve proposed change requests and variance requests. | Y | 3.1 |
| 012 | Establish a CSA function that provides accounting of configuration information for each CI, configuration baselines, changes to configuration baselines, and status | Y | 3.4 |



| REQ# | Requirement | Compliance | Section |
|------|---------------|------------|---------|
| | of in-process | | |

| | | | |
|-----|---|--|-----|
| | changes. | | |
| 013 | Perform configuration audits to verify that the appropriate configuration baselines have been established and the CM processes are in place to maintain traceability and consistency between the CIs and their configuration information. | Y | 3.5 |
| 014 | Conduct and/or participate in FCAs and PCAs. | NA This applies to program or project level CMPs. | |
| 015 | Prepare a configuration audit report after each configuration audit. | Y | 3.5 |
| 016 | Determine the appropriate level within the system structure at which CMP is to be developed, taking into account factors such as number and complexity of interfaces, operating environments, and risk factors. | Y | 3.0 |
| 017 | The CMP must be consistent with higher level CMPs and the project plan. | NA This is the highest level CMP in NESDIS. | |

| | | | |
|-----|---|--|--|
| 018 | Baseline the CMP per the NESDIS procedures and policies at the SRR and update until the | NA This applies to program or project level CMPs. | |
|-----|---|--|--|



NESDIS
Configuration Management Plan
NESDIS-PR-1314.1

Effective Date: Sept 30, 2020 Expiration Date:
Sept 29, 2025

| REQ# | Requirement | Compliance | Section |
|------|--|--|---------|
| | PDR. | | |
| 022 | If applicable, develop an information system security specific CMP in accordance with the NESDIS SecCM Policy. | NA This is not applicable to this CMP. | |
| 019 | Requests for tailoring are submitted through the NESDIS configuration change management process. | NA No requests for tailoring have been submitted. | |
| 020 | The results of tailoring are documented in the Requirements Matrix (Appendix C) and submitted to OSAAP for approval along with supporting rationale. | NA No requests for tailoring have been submitted. | |

| | | | |
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| 021 | The results of the tailoring will be documented in the next revision of the CMP. | NA No requests for tailoring have been submitted. | |
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NESDIS
Configuration Management Plan
NESDIS-PR-1314.1

Effective Date: Sept 30, 2020 Expiration Date:
Sept 29, 2025

Appendix D: NESDIS Configuration Change Request (CCR) Template

NESDIS Configuration Change Request Form

Instructions: Items 1–13 (page 1) completed by CCR Requestor

Items 14–20 (page 2) completed by Coordinator, Manager, and Chair of NESDIS CCB

1) CCR#: 2) Date:

| | |
|---|---|
| 3) CCR Title: | |
| 4a) CCR Originator: | 5) Priority: Routine Request does not have a specific time limit. Urgent Request must be acted upon by . (Date) |
| 4b) Email: 4c) Phone: | |
| 4d) Office: | |
| 6) Affected Organizations: | 7) Related CCRs/Other Documents: |
| 8) Rationale for Change: | |
| 9) Summary of Recommended Change: | |
| 10) Benefit of Proposed Change: | |
| 11) Summary of Initial Impact Assessment: | |

12) Documents Affected:

13) Attachments/References/Supporting Material: (Cite in this section & append to end of this form or make sure to associate with this CCR)



NESDIS
 Configuration
 Management Plan

22
 NESDIS-PR-1314.1

Effective Date: Sept 30, 2020

Expiration Date: Sept 29, 2025

NESDIS CCB STAFF USE ONLY

14) Offices Required to Review: CCR#:

| | | |
|-------------------------|------------------|--------------|
| ACIO-S CFO/CAO CIO IIAD | Senior Scientist | OPPA STAR |
| JPSS NCEI OSGS OSPO | CoS | GOES-R OSAAP |

15) NESDIS CCB Manager Recommendation:

- Recommend for CCB Review/Approval
- Recommend for CCB Review Pending (Add reason)
- Recommend for CCB "Out-of-Board" Review/Approval (Administrative changes)
- Defer/Hold Pending (Add reason)
- Withdraw
- Reject
- Other (Add reason)

16) Final Impact Assessment and Recommendation:

17) Signed:

Director, Office of Systems Architecture
 and Advanced Planning

**NESDIS CCB CHAIR USE
 ONLY**

18) NESDIS CCB Chair Decision:

CCR#: Concur
 Non-concur
 Concur with change
 Date

19) Reason for Non-Concur or Concur with Change, if Applicable:

20) Signed:

Assistant Administrator for Date
Satellite and Information Services



NESDIS
Configuration
Management Plan

23
NESDIS-PR-1314.1
Effective Date: Sept 30, 2020
Expiration Date: Sept 29, 2025

END OF DOCUMENT

