

# NOAA Institutional Repository Annual Operating Report

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*Fiscal Year 2020*

Jennifer Fagan-Fry<sup>1</sup>, Sarah Davis<sup>1</sup>, Jan Thomas<sup>2</sup>, Jeff Rey<sup>1</sup>

<sup>1</sup> NOAA Central & Regional Libraries

<sup>2</sup> LAC Group, on assignment at NOAA Center for Weather and Climate Prediction Betty Petersen Memorial Library

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## Executive Summary

The NOAA Institutional Repository (IR) was created in 2015 in response to the White House Office of Science and Technology Policy Memorandum Increasing Access to the Results of Federally Funded Scientific Research and the subsequent NOAA-authored plan to increase access to scholarly research carried out with NOAA funding entitled NOAA Plan for Increasing Public Access to Research Results (PARR Plan). The NOAA Institutional Repository ensures that NOAA published research is preserved and made available for all present and future researchers, and allows for better assessment of the current and future impact of NOAA research. As of October 1, 2020 the NOAA IR contains 23,988 full text items including journal articles, technical memorandum, reports, and policy documents.

In FY2020, the NOAA IR experienced the largest surge in submissions ever, with a 99% increase over FY2019 with 5,006 publications submitted for inclusion. NOAA's FY2020 PARR compliance rate (the number of peer-reviewed for journal articles subject to the NOAA PARR Plan that have been submitted divided by the number of total number of peer-reviewed journal articles produces that are subject to the PARR Plan) jumped to 23.72%, an increase of 59% over the FY2019 compliance rate of 14.9%. Despite the gains, this indicates that offices, authors, and grantees are still not fully complying with the NOAA PARR Plan.

Key accomplishments in FY2020 by the NOAA Institutional Repository Team are as follows:

- Removed barriers to PARR compliance represented by Section 508 requirements by offering weekly Section 508 Office Hours; and thanks to increased Direct Bill funding, began to offer direct remediation services for accepted manuscripts;
- Conducted NOAA-wide user survey and structured usability testing sessions with NOAA staff to discover needed front-end improvements. With over 750 responses this data resulted in NOAA's request for improved functionality to our software partner, the Centers for Disease Control & Prevention(CDC);
- Created three new collections based on office requests;
- Expanded metadata elements to help identify compliance; link publications to NRDD project IDs; and to increase access through additional document type designations.

In November 2019, the Government Accountability Office (GAO) released a report<sup>1</sup> on the federal response to the 2013 Office of Science and Technology Policy (OSTP) memo on federally funded research results identifying two broad issues among all agencies' implementation progress: compliance enforcement and inter-agency coordination. To improve coordination, the NOAA Central Library worked to establish agreements with the National Institute of Health's repository, PubMed Central (PMC) to harvest NOAA authored or funded content and with Clearinghouse for the Open Research of the United States (CHORUS) to further identify NOAA-funded publications not located in Web of Science. The NOAA Central Library recommends that the NOAA Science Council review and update the NOAA PARR Plan to include more explicit language detailing author and office responsibilities related to submission of PARR materials, and repercussions for non-compliance to address the second recommendation from GAO.

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<sup>1</sup> Federal Research: Additional Actions Needed to Improve Public Access to Research Results. GAO-20-81: Published: Nov 21, 2019. Publicly Released: Nov 21, 2019. <https://www.gao.gov/products/GAO-20-81>

## Introduction

This FY2020 annual operating report provides information on the developments, processes, challenges, outcomes and statistics of all aspects of the NOAA Institutional Repository operations as performed by the NOAA Central Library staff. In addition to a listing of new features and developments, a portion of this report discusses action items presented to the agency through the GAO Report on Additional Actions Needed to Improve Public Access to Research Results<sup>2</sup> and how the IR team has worked to address these recommendations. A breakdown of NOAA IR statistics including submission, ingest, and compliance figures are provided at the agency level. A new feature of the report starting this year will be compliance figures at the line office level as well as for the NOAA Cooperative Institutes (as a collection, not per CI).

## Section I. System Developments and Enhancements

### *NOAA IR Usability Testing and User Survey*

In order to understand how the IR is being used and viewed by the NOAA community, the IR team devised a survey and usability test. The survey was sent out to all NOAA employees (both federal and contract staff) to gauge the level of engagement between the NOAA community and the repository, focused on the user's experience with front end search functionality and the submission process.

Over 750 people participated in the survey and the vast majority (62.88%) indicated that they had little familiarity with the IR. Those that were familiar, indicated that they utilized both the basic and advanced search, though they wished there was a Keyword option to search. The other aspects of the search functionality that participants highlighted were how they used facets, the viability of the document landing page and tabs, and the frustration resulting from inaccurate or confusing search results.

Additional survey comments focused on the submission process with the majority of participants having submitted to the IR using the Google form, and primarily accessing it from the home page. A large number of comments were focused on how onerous the Section 508 requirements were for authors and offices. Some respondents expressed frustration in finding submission information on the IR homepage and advocated for a "For Authors" page. A full summary of the [responses to the User Survey](#) can be found on the NOAA Central Library's server.

The responses from the survey were used to inform the tasks provided to the participants in the usability testing. The usability sessions included participants from each line office with varying degrees of familiarity with the IR. The tasks focused on user interaction with the IR interface and feedback on a proposed redesign of the IR that CDC mocked up. While completing the tasks, participants were required to utilize different aspects of the IR including search functionality, facets, submissions and documentation. Each session was recorded for analysis.

The team of librarians running the usability testing would meet after each participant completed the tasks to parse out relevant feedback based on their answers and our observations of how they interacted with the interface and the questions they posed. Some patterns of behavior and questions emerged during the analysis of the tasks that were outlined in a report prepared for the CDC and the other consortia members. The report was segmented into short term and long term changes that could be enacted by NOAA and then short term and long term goals that we'd like to see tackled by the CDC team. The specific recommendations can be found in the [IR User Survey and NOAA IR Usability report](#).

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<sup>2</sup> Federal Research: Additional Actions Needed to Improve Public Access to Research Results. GAO-20-81: Published: Nov 21, 2019. Publicly Released: Nov 21, 2019. <https://www.gao.gov/products/GAO-20-81>

In FY2020 the following features were added to the Stacks system:

### ***Front-end developments***

- ***Quick Links.*** Through the IR User Survey and Usability Testing sessions it was clear users unable to locate vital information on IR requirements, processes, policies and procedures. Working with the CDC, the IR team was able to quickly implement a feature that had long been in development; the addition of Quick Links on the IR homepage to help aid visitors to the site in locating submission information (i.e. Section 508 requirements, DOI Request Forms, and our new Manuscript Remediation Request) and link to other useful NOAA resources, such as NOAA OneStop (for datasets) and the NOAA IR API GitHub page.
- ***Addition of 3 new collections.*** While searching is the primary function of the NOAA IR, the repository staff look for ways to enhance browsing capability; most notably through our Collections page. Below is a list of the three collections that were added to the repository this year:
  - **Cooperative Institutes:** While a majority of new collections and facets begin as requests, the Cooperative Institute Collection was discussed within the repository team first as a method to better analyze and categorize NOAA's extramural research. The IR team worked with the Cooperative Institute Program Office (CIPO) to ensure we had accurate program information before creating the collection and associated tags which were added to all applicable items in the IR. The IR staff continues to work with CIPO to further establish tagging policies related to CI name changes and streamlining the submission process for CI staff.
  - **Cooperative Science Centers:** Initially, the Cooperative Institute Collection included publications from all Cooperative Science Centers; however, after launching the collection, the NOAA IR team was contacted by CSC staff to discuss pulling out these publications into their own collection. These discussions led to the creation of the independent CSC collection and a formalization of all CSC facet terms. This year also marks the first time the IR has received publication lists from any of the Cooperative Science Centers, due in large part to the creation of this dedicated collection.
  - **Weather Research and Forecasting Innovation Act ("The Weather Act"):** Working with the OAR Weather Act Liaison (Tamara Battle-WPO), NOAA IR staff began working on including Weather Act Reports to Congress late in FY2019; with the first items appearing in October 2019. To complement the items in the NOAA IR, the NCL also created a dedicated Subject Guide to further highlight the Weather Act, providing links to the legislation, NOAA requirements, and to all related publications in the NOAA IR. Throughout the year, and as more reports were sent to the IR, it was requested that a Collection be developed to better highlight these reports. The Weather Act Collection was officially launched in May 2020 and features all Reports to Congress submitted thus far as well as some related documents (i.e., corresponding studies and white papers).

### ***Backend and metadata developments***

- ***Submission Status Field.*** In an effort to better track what has been submitted to the NOAA IR, and to provide more granular compliance statistics, a submission status field has been added to all IR record metadata. This field indicates if an item was either *Submitted* to the NOAA IR by the author/office, acquired through our collaboration with *PMC* or *CHORUS*, or whether the NOAA Central Library identified and added the document through either our initial ingests or via our

digitization projects. We hope to further leverage this information to provide more comprehensive compliance information to leadership.

- NRDD Project ID. This new field allows IR staff to indicate corresponding records within the NOAA Research & Development Database (NRDD) by recording their unique NRDD Project ID numbers. The NOAA IR staff has begun working with NRDD staff to identify the best way to share data between the two systems; with the current method of sending full metadata reports back and forth as a first attempt. Continuing through FY2021, we are hoping to further refine the process, and update all funded publications with links to their NRDD records.
- Expanded Document Types. A recurring comment we had received during our usability sessions with users was related to the document type categorizations that the NOAA IR uses (Technical Memorandum, Professional Papers, etc.). Many found this to be confusing, or were unsure of where particular documents would be categorized. To address this, the NOAA IR team worked to create a more comprehensive list of document types for all the items in the repository. To date, we have added an additional 7 types (including Data Report, Cruise Report, Manuals & Handbooks, Program & Policy Documents, etc.) Furthermore, we have consolidated some of the previous document types into these new categories (i.e., moving Lesson Plans under Instructional Materials).
- Unpaywall Linking. Unpaywall is an extension for Chrome that automatically looks for an open access version while the user is browsing; displaying a green open lock when one is found in the index of over 27 million articles. These open access versions are made available via publisher and repository sites. The NOAA Central Library worked with Unpaywall to ensure that the NOAA Institutional Repository is being indexed.

## Section II. Interagency Collaboration

In November 2019, the GAO released their report on the federal response to the 2013 OSTP memo on federally funded research results. The report, “examine[d] the extent of agencies’ (1) progress implementing plans to increase public access to federally funded research results and (2) coordination on public access plan implementation”<sup>3</sup>. Overall GAO made 37 recommendations to 16 agencies, with NOAA receiving 2 of these.

The first of these recommendations suggested that NOAA “fully develop and implement a mechanism to ensure researcher compliance with the public access plan and associated requirements” (GAO, p.44). In providing a response to GAO for the study, NOAA indicated the challenges faced when trying to enforce compliance noting resource constraints, the variety of repositories researchers could submit publications to, and the need for additional internal policies on enforcement; specifically those related to submission of intramural publications, but also extends to NOAA-funded publications as well. While the NOAA IR team has worked closely with CIPO to ensure we are notified of all CI publications, there are still gaps in our knowledge of program/office funded publications that are not conducted through the cooperative institutes or science centers. While the NOAA IR has leveraged existing NOAA Central Library’s bibliometrics program data, this too has limitations since the program relies on articles indexed within Web of Science (WoS), and therefore misses those publications that are not indexed by the service.

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<sup>3</sup> Federal Research: Additional Actions Needed to Improve Public Access to Research Results. GAO-20-81: Published: Nov 21, 2019. Publicly Released: Nov 21, 2019. <https://www.gao.gov/products/GAO-20-81>

The second recommendation from GAO to NOAA states that the agency “should take steps to fully implement leading practices that enhance and sustain collaboration” (GAO, p.45), a suggestion that was given to a number of agencies listed in the report. While in the response to GAO, the IR staff indicated that we do have a shared repository system; we also participate in the OSTP Subcommittee for Open Science Publications Working Group (SOS-WG), working with other agencies to share best practices for implementation and compliance. Despite this, GAO recommended additional efforts should be made to further increase collaboration and, if possible, reduce duplications of efforts.

After the release of the Report, the SOS-WG began work on a framework of Models for Streamlining Deposit of Articles into Agency Public Access Repositories. The document lists 5 methods to increase collaboration and reduce duplication between agencies which include:

- Use of common repositories and submission systems;
- Use of common software for repository services;
- Multi-agency submission routing tools;
- Content redistribution among agency repositories and;
- Linked records between repositories.

The NOAA IR is already part of a common software package, utilizing the Center for Disease Control’s (CDC) STACKS platform along with the Department of Transportation (DOT) and Federal Deposit Insurance Corporation (FDIC). After conducting some searches in other federal repositories the NOAA IR team determined that NOAA does have co-funded materials with a number of other object based repositories (e.g. NIH and DOE), thus making the IR a good candidate for content redistribution.

#### ***Letter of Agreement with PubMed Central***

It was determined that NIH’s public access repository PubMed Central (PMC)<sup>4</sup> would be an ideal starting point to begin working on content redistribution. Initial searches identified over 4,000 publications within PMC that had either NOAA author or funding attributions. After comparing those titles to what already existed in the NOAA IR, over 1,200 PARR required publications were determined to have not been received through our submission channels; including both open access articles and accepted manuscripts.

Working with NIH/PMC representatives, a letter of agreement to share not only metadata, but also publications (including those accepted manuscripts that were submitted to PMC for non-open access articles) was drafted. Signed in July 2020, the agreement enables NOAA to harvest PMC publications via the National Library of Medicine’s (NLM) Open Archives Initiative Protocol for Metadata Harvesting (OAI\_OMH). From this harvest the NOAA IR staff will then identify those publications that have accepted manuscript versions and send a formal request to NLM for these documents, which will then be provided via a secure FTP server. Open access publications are downloaded directly from the publishers’ sites; a process which the NOAA IR team started early in 2020. To-date we have added 913 OA articles that were identified via PMC to the NOAA IR. Work on harvesting manuscripts is slated to begin in FY2021.

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<sup>4</sup> PubMed Central from US National Library of Medicine. Available at <https://www.ncbi.nlm.nih.gov/pmc/>.

### ***CHORUS Collaboration***

While the GAO report emphasized inter-agency collaboration, the NOAA Central Library also looked to non-federal entities to aid in ensuring PARR compliance, partnering with the Clearinghouse for the Open Research of the United States (CHORUS)<sup>5</sup> (as was originally suggested in the NOAA PARR Plan), signing an agreement late in 2019. CHORUS is a public-private partnership between publishers, academic institutions, libraries, and government agencies to make funded research more accessible. Focusing on identification, discoverability, access, and preservation CHORUS leverages existing infrastructure to help with reporting on funded research.

Since late 2019, CHORUS has been working with publishers to help identify NOAA-funded publications (utilizing data within the Crossref Open Funder Registry). These reports are available to the public on the [NOAA Dashboard via the CHORUS website](#). Currently we are running these reports against our bibliometrics data and what already exists within the NOAA IR, in order to identify what items/publishers we have been missing to date. Harvesting is expected to begin in FY21.

### **Section III. Line Office Support & Outreach**

The NOAA IR team recognizes that fulfilling PARR requirements by submitting to the NOAA IR can be a difficult process. Determining internal and external publishing requirements, understanding licensing options, and dealing with accessibility for documents only scratch the surface of all the elements that authors must navigate. To aid NOAA staff and grantees, the NCL instituted a number of programs to help researchers and offices to not only easily submit to the NOAA IR, but to also better understand the publishing lifecycle as a whole.

#### ***NOAA IR & Section 508 Office Hours***

Section 508<sup>6</sup> requirements continue to pose problems for a large number of submitters. The survey conducted revealed that though the IR team and library had compiled a wide variety of resources on Section 508 compliance, including webinars and a [LibGuide](#), submitters still felt unprepared and overwhelmed by the requirements. In an effort to alleviate user concerns and offer more comprehensive assistance, the IR team created and staffed Office Hours. A virtual meeting space is staffed every week by librarians to provide real time assistance to NOAA authors and staff who have questions about Section 508 Compliance or anything related to submissions. In addition, members of the IR team have coordinated individual instructional sessions on request with submitters.

#### ***Section 508 Remediation Services***

Feedback from a number of NOAA entities has told us that the main reason offices and authors are not submitting accepted manuscripts was due to the need for Section 508 remediation work to be performed prior to submission. In an effort to combat this, the NCL requested additional funding via the NOAA Direct Bill to run a trial program to offer 508 remediation services for those submitting manuscripts. Manuscripts were chosen since they are typically formatted similarly (regardless of publisher) and have images that contain descriptive captions, reducing the need for the creation of alternative text, something that non-SME would have a difficult time creating.

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<sup>5</sup> Clearinghouse for the Open Research of the United States (CHORUS) available at: <https://www.chorusaccess.org/>.

<sup>6</sup> Section 508 is an amendment to the US Workforce Rehabilitation Act of 1973--a federal law that mandates all federal agencies make their electronic and information technology (such as publications, presentations, software and websites) accessible to people with disabilities. For more information please visit the General Service Administration's comprehensive government-wide Section 508 page available at <https://section508.gov/>.



The service is available for both NOAA authors as well as grantees and Cooperative Institute partners. Once a manuscript (PDF format preferred) is sent to the NOAA IR via our Remediation Request form, the IR staff will remediate the document, submit it to the NOAA IR on behalf of the author, process/catalog the item, and upload it to the system. This process has significantly reduced the amount of work on submitters when they are sending manuscript versions of their publications. In addition to the creation of the remediation form, a link between NMFS's Research Publication Tracking System (RPTS) and the remediation request form has also been created, further streamlining the submission process.

### ***NOAA Publications Group***

In August of 2019, the NOAA Central Library established the NOAA Publications Group to provide a regular meeting for those working with publications to discuss issues and best practices related to both NOAA publishing and scholarly communications. The bi-monthly meeting hosted by the NOAA Central Library is attended by librarians from across NOAA, technical writers, editors, researchers, and other program and office staff. A frequent topic of discussion is the NOAA IR, and the IR team regularly asks Publication Group members for feedback on the submission process, metadata updates, and search functionality. Much of this feedback is then incorporated into changes within the system, most notably our recent upgrades to the submission form language and the addition of a way to re-submit documents and make metadata correction requests.

Other topics this year have been focused on open access publishing, NOAA policies related to fundamental research communications, NOAA series publications, plain language training, and more. At the request of the group, the NCL staff created the [Publishing & Scholarly Communications Guide](#); a way to collocate all this information related to scientific and academic publishing. Sections of the guide include: open access, copyright and author rights, measuring impact, mandates and policies, and author services available at the NCL. Since it went live in May of 2020 the guide has garnered nearly 600 views.

### ***Publishing@NOAA Webinar Series***

In conjunction with the request for a subject guide on publishing, the NOAA Publications Group participants also requested an accompanying webinar series. The Publishing@NOAA series is a monthly series covering a number of topics related to publishing, with the first session being held in May 2020 (coinciding with the release of the Publishing & Scholarly Communications Guide). Topics covered thus far include: open access, predatory publishing, the NOAA IR (as a mandate and as a research tool), and NOAA technical series. Topics are suggested by the Publications Group and with future sessions look to cover scientific integrity, author services, bibliometrics, and more.

## **Section IV. Metrics**

### ***Agency-Wide***

#### ***Publication Availability***

As of October 1, 2020, the NOAA Institutional Repository contains 23,988 full text items. The NOAA IR contains a number of pre-PARR NOAA documents that the Library has either collected from NOAA offices or produced through in-house scanning projects, as identified using the NOAA IR Document Policy. Per these guidelines, the NOAA IR contains 18,773 NOAA produced documents (professional papers, atlases, technical reports, technical memorandums, policy documents, etc.). The NOAA IR also contains 4,681 peer-reviewed journal manuscripts or publisher articles that were published after October 1, 2015 as required by the NOAA PARR Plan.

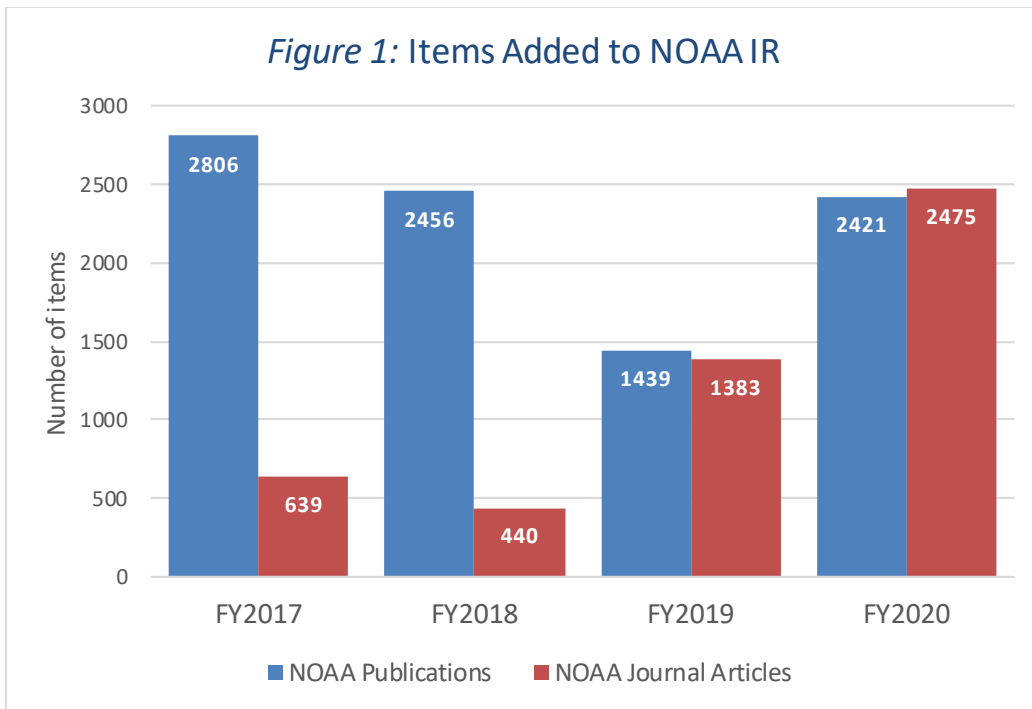
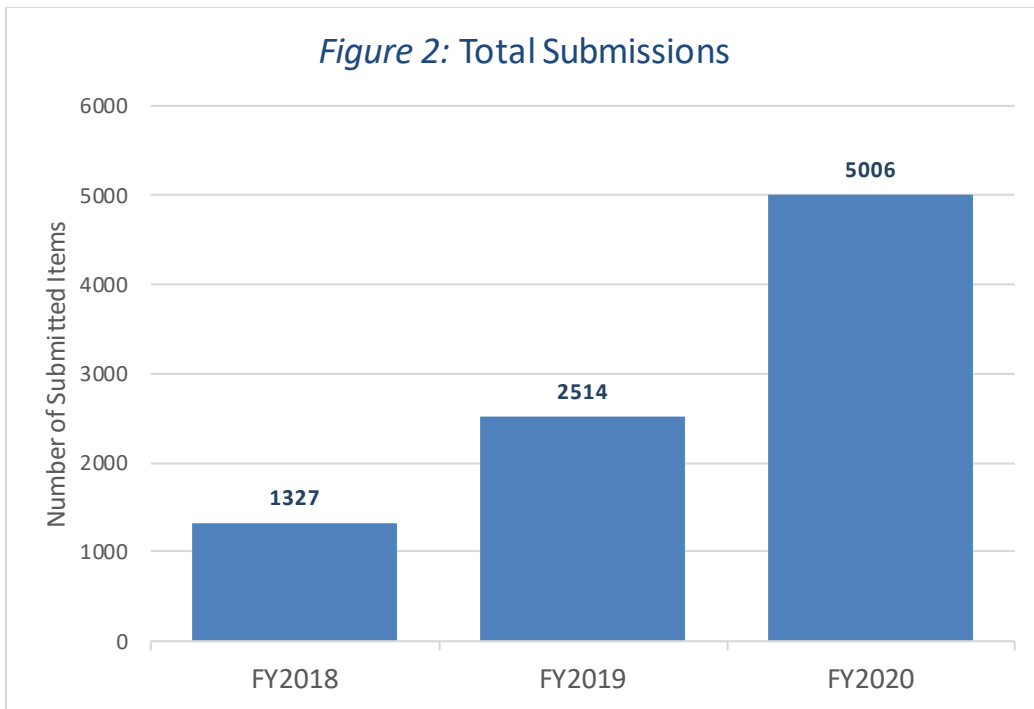


Figure 1. A non-cumulative comparison of NOAA Publications and journal articles added annually to the NOAA IR from FY2017 through FY2020.

### Submissions

Per the NOAA PARR Plan, all intramural and extramural researchers are required to submit their publications to the NOAA Institutional Repository, and NOAA Central Library staff are tasked with working with offices to facilitate collection of these materials. Submissions refers to both NOAA publications and journal articles that are either NOAA-authored or NOAA-funded research and are used to estimate compliance rates (see Compliance section below). Here, we are defining a submission as a publication that has been sent to the NOAA IR via one of the following methods:

1. NOAA IR Submission Form via Google Drive
2. Email sent to [noaa.repository@noaa.gov](mailto:noaa.repository@noaa.gov)
3. Through the Research Publication Tracking System (implemented in NMFS and some OAR offices)
4. Via NMFS’s ECO tracking system for Biological Opinions (see NMFS Publication Availability for more information)
5. Through the Manuscript Remediation Form (journal article manuscripts only)



*Figure 2. Number of total submissions to the NOAA IR through all submission methods, illustrating a steady increase in the overall number of submissions each fiscal year beginning with FY2018 culminating in 5,006 submissions processed in FY2020.*

Not all submissions are accepted/added to the NOAA Institutional Repository and that these numbers indicate the total number of items that were sent to and processed by NOAA IR staff to determine if the documents fall under the NOAA IR Document Policy and for Section 508 compliance. If issues with 508 compliance are identified, the submitter is notified; once a revised version is sent and passes all accessibility checks it will then be added to the NOAA IR. In these instances, this is still considered one submission.

Submissions for FY2020 show a 99% increase over FY2019, due to a large number of email batch submissions from multiple NOAA offices and programs, but most notable from all NOAA Cooperative Institutes. Additional factors contributing to the large increase include offices transferring large backlogs to the repository from localized websites and a newly established Manuscript Remediation Submission Form. Through the Remediation Form, authors are able to submit manuscript versions of journal articles and NOAA Central Library staff will perform remediation services as well as process the item for inclusion in the NOAA IR. This limited service was made possible through increased funding via the NOAA Direct Bill and is something we plan to continue long-term.

### Compliance

For the purposes of this report compliance is defined as the ratio of: (1) the number of peer-reviewed scholarly articles subject to the agency's public access policy that have been submitted and accepted to the NOAA IR (including those still under embargo) divided by (2) the total number of peer-reviewed scholarly articles that are subject to the agency's public access policy, and will be expressed as a percentage. This method of calculation stems from the reporting requirements that have come from the Office of Science and Technology Policy (OSTP) and we have opted to carry over that method to this report.

The NOAA Central Library estimates the number of published articles by searching Web of Science (WoS) for NOAA-produced and NOAA-funded journal articles. This count underestimates the number of publications due to two factors. First, WoS contains most but not all of the journal titles in which NOAA publishes, so it will always lack an unknown but assumed small number of publications. Second, there is sometimes a lag of several months between publication and the appearance of a citation in WoS. The number of peer-reviewed publications given represents an actual count of WoS articles identified by the NOAA Central Library as NOAA-produced or NOAA-funded published October 2015 to present.

Another reason for limiting the scope of publications included in compliance rate estimations to journal articles is the NOAA Central Library's limited capabilities for tracking and gathering NOAA publications. Since there is no centralized NOAA publishing entity or authority, the total number of NOAA publications that are produced in a given year remains unknown. Furthermore, the category of NOAA publications includes a wide range of publication types, adding to the variability of this metric. Until a process for tracking all NOAA publications is devised, either through the establishment of a publishing clearinghouse within the agency or office level reporting on these publications, we will not be able to include them in our compliance figures. Due to the nature of the submission process we are unable to calculate the compliance rate at the line office level at this time.

For the purpose of calculating compliance we have included articles identified and pulled from PubMed Central (PMC) because those articles were submitted to a federal repository. The decision to count these articles towards the overall rate of compliance was made as part of an effort to decrease the burden on authors and offices and allow them to avoid having to submit publications to multiple repositories. However, as these articles are not submitted directly to the IR through either the submission form or via email, they are not included in any counts of submissions or figures illustrating those counts.

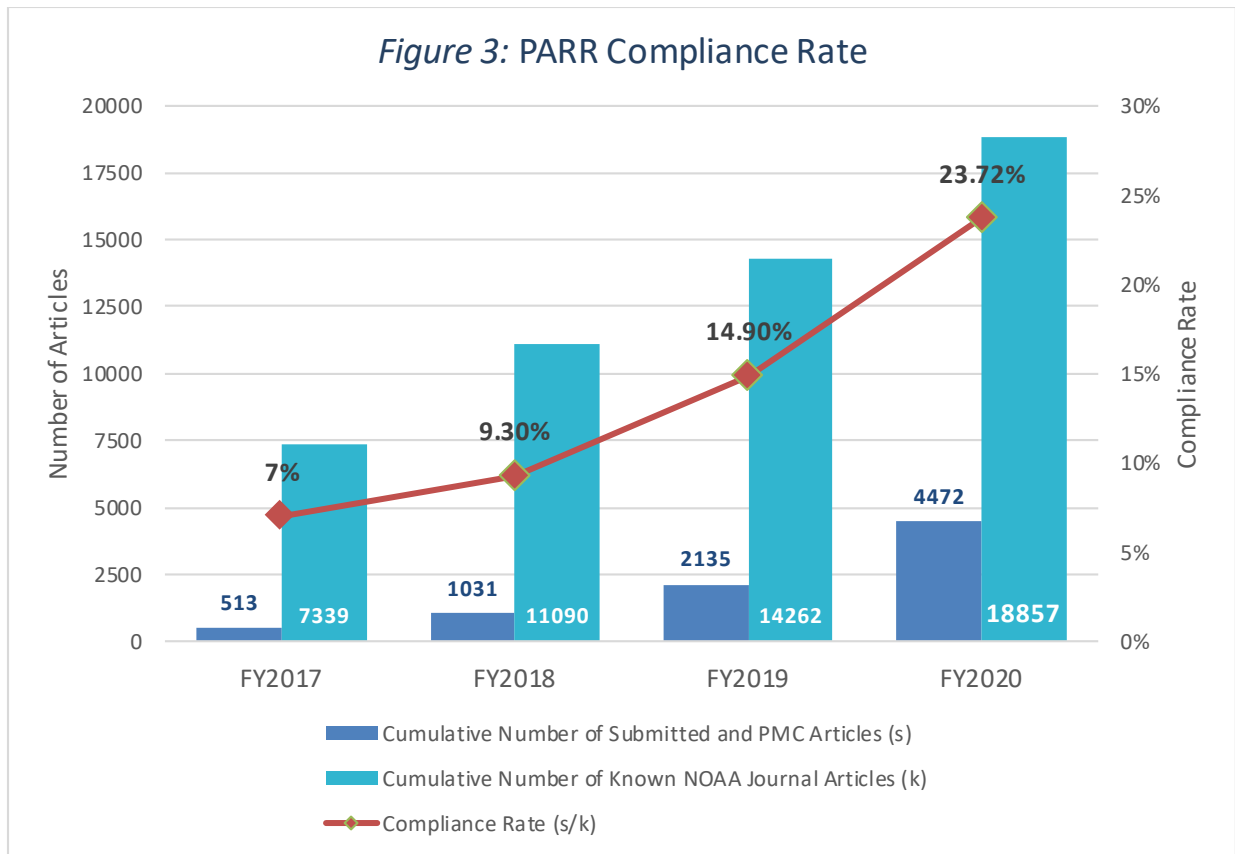


Figure 3. Cumulative number of journal articles submitted for inclusion in the NOAA IR compared to the cumulative number of known journal articles published since FY2016 (October 2015). Also shown is the rate of compliance as reported to the OSTP for each fiscal year.

Submissions of journal articles authored by NOAA employees, contractors and grantees has doubled annually for the past two fiscal years while the total number of articles known to have been published by NOAA employees, contractors and grantees has increased at a steady rate of approximately 3,500 articles annually (Figure 3). The rate at which articles are submitted has increased, while the rate at which they are published has held steady, which has resulted in NOAA’s overall rate of compliance as reported to the OSTP more than doubling between FY2017 and FY2019. The rate of submission has likely been effected negatively by the implementation of Section 508 compliance requirements in January 2018 and the federal shutdown in January 2019 but positively affected through outreach to NOAA’s Cooperative Institutes which resulted in a large number of articles dating back to FY2016 being submitted to the IR.

Line Office and CI Compliance

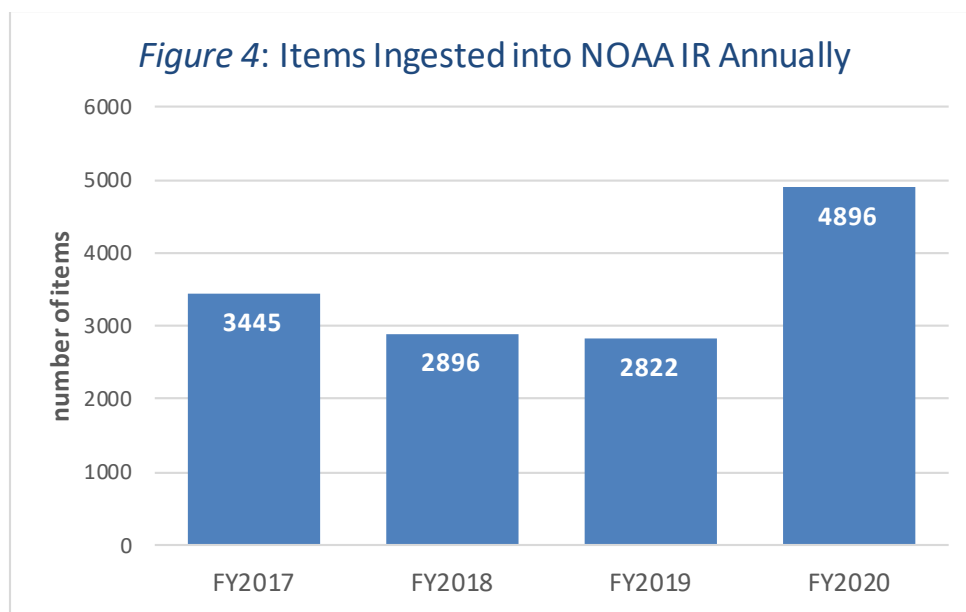
At this time we are unable to calculate compliance at the line office level due to a number of factors, despite making strides towards this goal (i.e., establishing compliance metadata within the NOAA IR to determine what publications have been submitted vs. those that have been harvested by the). Although the Bibliometrics program has been tracking funded and authored publications since NOAA Central Library 2012, it was not until FY2018 that metadata was added to indicate Cooperative Institute involvement and office specific metadata is not currently added as part of the standard workflow. This is further complicated by inconsistencies in funding acknowledgements and author affiliations stated within publications due to a lack of standardization or agency wide policy for attribution.

## Ingests

Ingest is the process by which publications are added to the NOAA IR, but the term is also often used to refer to the number of items that have been added to the repository within a given time period.

Ingesting publications is a multi-step process that includes:

1. Assigning metadata including author, office, and keyword elements;
2. Uploading the metadata and corresponding document to the CDC's Stacks system;
3. A quality check of each item to ensure metadata has been transferred correctly and that all documents (including any supporting documents or links to datasets) are accessible via the staging environment;
4. A full system index or data migration as the system refers to it, is performed to update all instances of the repository (there are 3 sets of servers on a bi-coastal system that maintain backups of the NOAA IR and its contents).

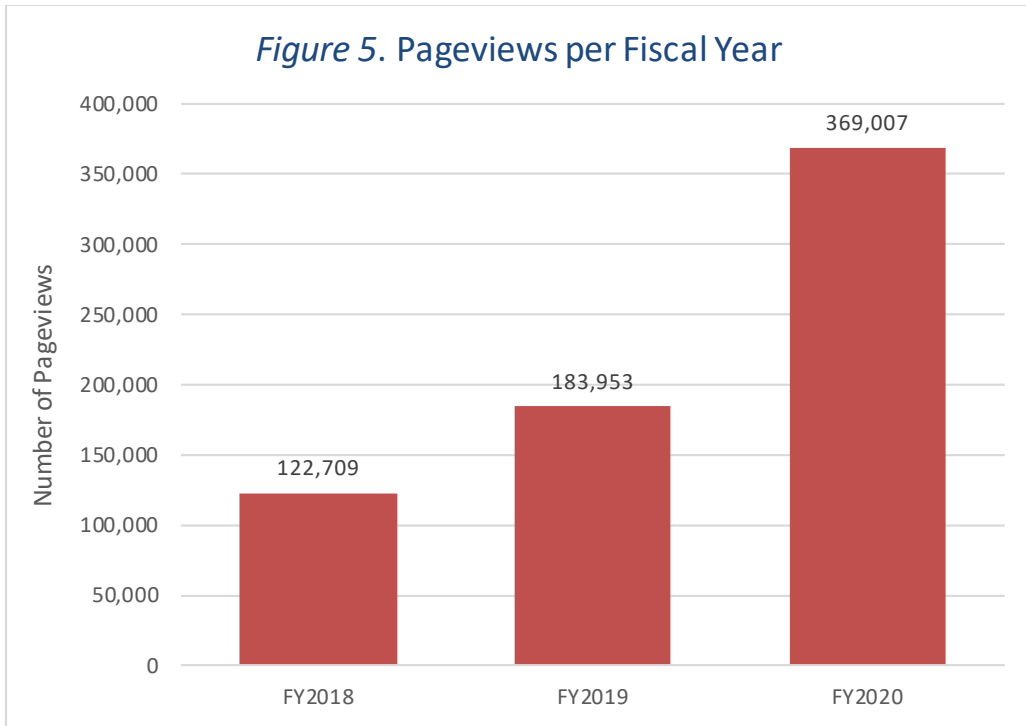


*Figure 4. Non-cumulative comparison of the number of total items, regardless of document type, ingested into the NOAA IR per fiscal year.*

As shown in Figure 4, after a dip in ingested items, FY2020 showed a large jump in items added to the NOAA IR. This was due to a number of factors including: 1) the NOAA Central Library has been working to digitize historical NOAA Technical Reports and Memorandum from its physical collection, with final scans being added to the NOAA IR; 2) in accordance with our newly established agreement with PubMed Central, the IR team began to harvest open access publications from PMC; and 3) a large jump in submissions of journal articles from offices and, most notably all Cooperative Institutes and Cooperative Science Centers.

### Pageviews and Downloads

Currently, the NOAA Central Library reports usage metrics obtained through Google Analytics; however, Google Analytics were not fully operational until FY2018, thus this figure is not available for FY2017. The numbers provided reflect annual pageviews for the NOAA IR. Due to a change in CDC metadata practices, we are no longer able to determine pageviews per collection.



*Table 1. Total pageviews for NOAA IR from FY2018 through FY2020*

At this time, download data is obtained through server end reporting offered to the NOAA Central Library via monthly reports from the CDC. This reporting capability is new and we are working to assess its accuracy and clarify data gathering practices before making that data available to stakeholders.

### ***Line Offices***

#### **NESDIS**

##### **Publication Availability**

In contrast to previous years, and due to the large number of Cooperative Institute submissions, the number of NESDIS journal article submissions more than doubled. Additionally, a number of journal articles sponsored by NESDIS were identified through PMC further adding to the total. Late in the year, the NOAA IR staff also began working with NCEI to begin work on establishing a new series of Technical Information series documents, with the hopes of adding these new items into the IR in FY2021.

## Line Office Specific Metrics

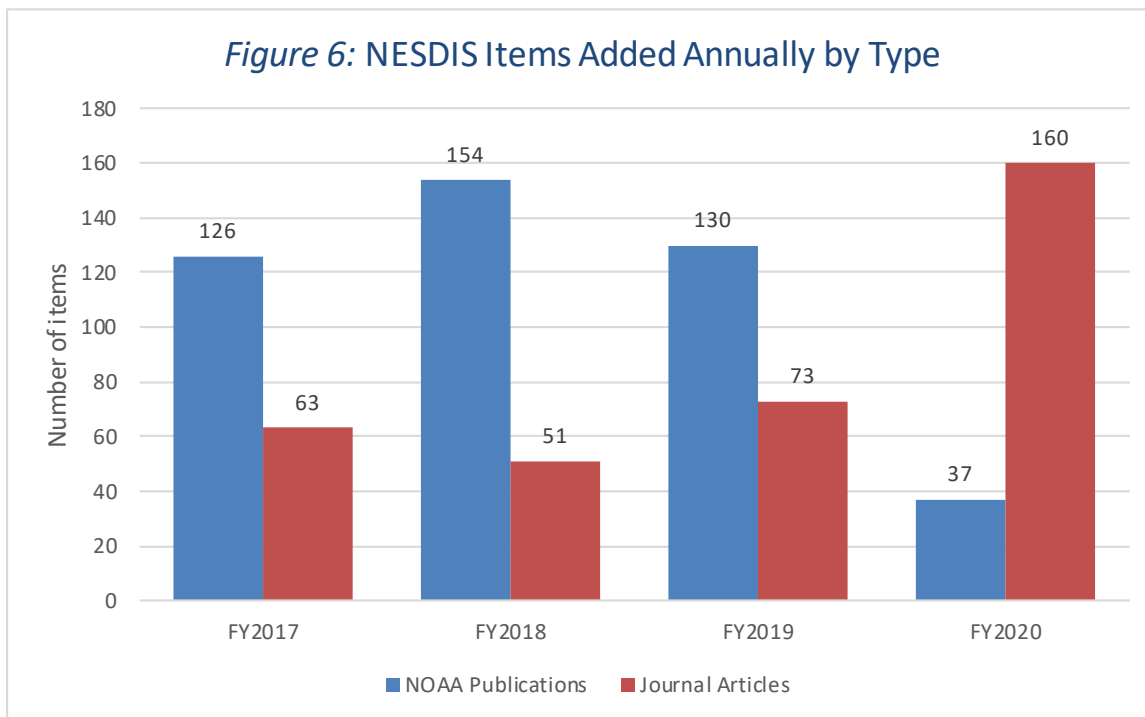


Figure 6. Non-cumulative comparison of NOAA publications and journal articles produced by NESDIS employees, contractors, and grantees that were added to the NOAA IR in each fiscal year with a total of: 189 items added in FY2017; 205 in FY2018; 203 in FY219; and 197 in FY2020.

NESDIS Collection	Count
<b>NOAA Publications</b>	880
<b>NOAA Assigned Digital Object Identifiers (DOIs)</b>	105
<b>Journal Articles</b>	347

Table 1. Breakdown of the number of Technical NOAA publications within the NESDIS collection as well as the number of digital object identifiers assigned to NESDIS publications by the NOAA Central Library. It should be noted that DOIs are not assigned to publications produced prior to 2015.

## NMFS

### Publication Availability

The National Marine Fisheries Service (NMFS) Collection remains the largest within the NOAA IR. The IR team has continued to work with the Office of Protected Resources to further refine and streamline the submission process for Biological Opinions, resulting in 238 new BiOps being added to the NOAA IR this year including those dating back to 2015, with DOIs being assigned for all of these publications. While there are still some issues, mostly related to Section 508 compliance, IR staff is in close contact with PRD at HQ to communicate needs and issues to the regions. The increase in journal articles is due to the large number of Cooperative Institute submissions as well as those that were identified through PMC.



## Line Office Specific Metrics

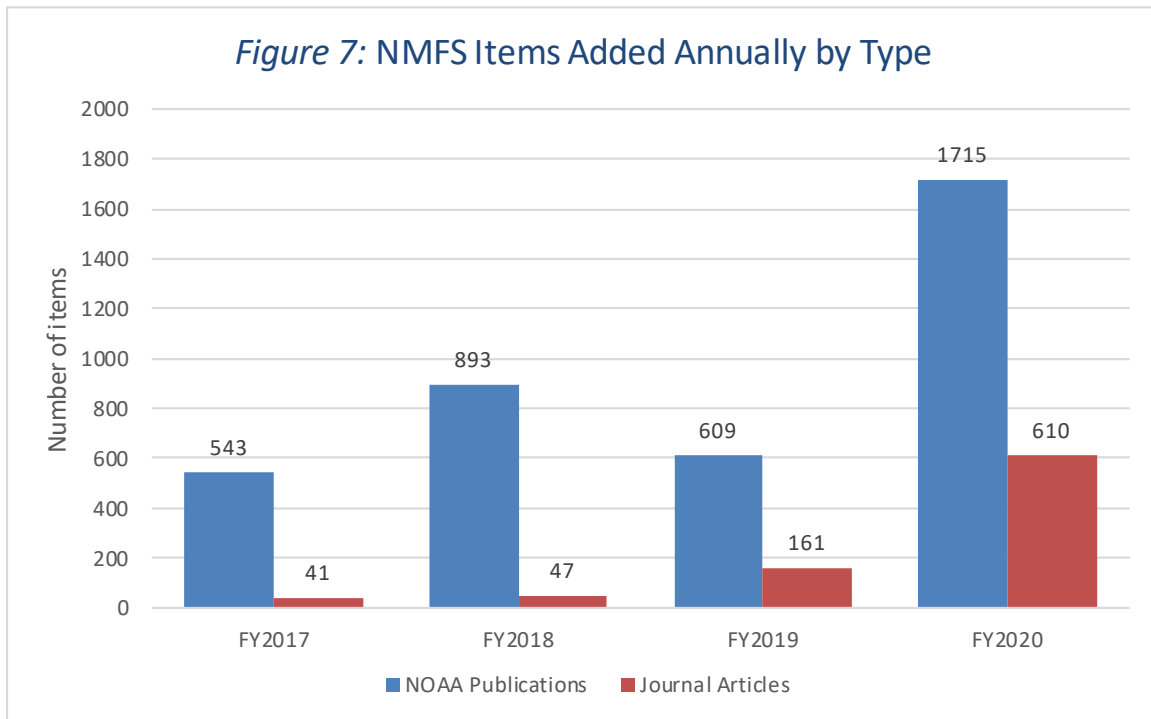


Figure 7. Non-cumulative comparison of NOAA publications and journal articles produced by NMFS employees, contractors, and grantees that were added to the NOAA IR in each fiscal year with a total of: 584 items added in FY2017; 940 in FY2018; 770 in FY2019; and 2,325 in FY2020.

NMFS Collection	Count
<b>NOAA Publications</b>	7,472
<b>NOAA Assigned Digital Object Identifiers (DOIs)</b>	1,530
<b>Journal Articles</b>	859

Table 2. Breakdown of the total number of Technical NOAA publications within the NMFS collection as well as the number of digital object identifiers assigned to NMFS publications by the NOAA Central Library. It should be noted that DOIs are not assigned to publications produced prior to 2015.

## NOS

### Publication Availability

Beginning last year the NOAA Central Library has worked to identify physical materials within our holdings from NOS series to include in our current digitization project, making these publications a priority. After some initial delays due to Section 508 compliance issues and after a lengthy delay due to COVID-19 closures at the vendor, initial batches of these scans were added to the NOAA IR in the 4th quarter of FY2020. As with the other line offices, NOS also benefited from the large number of CI submissions and our PMC open access articles.

## Line Office Specific Metrics

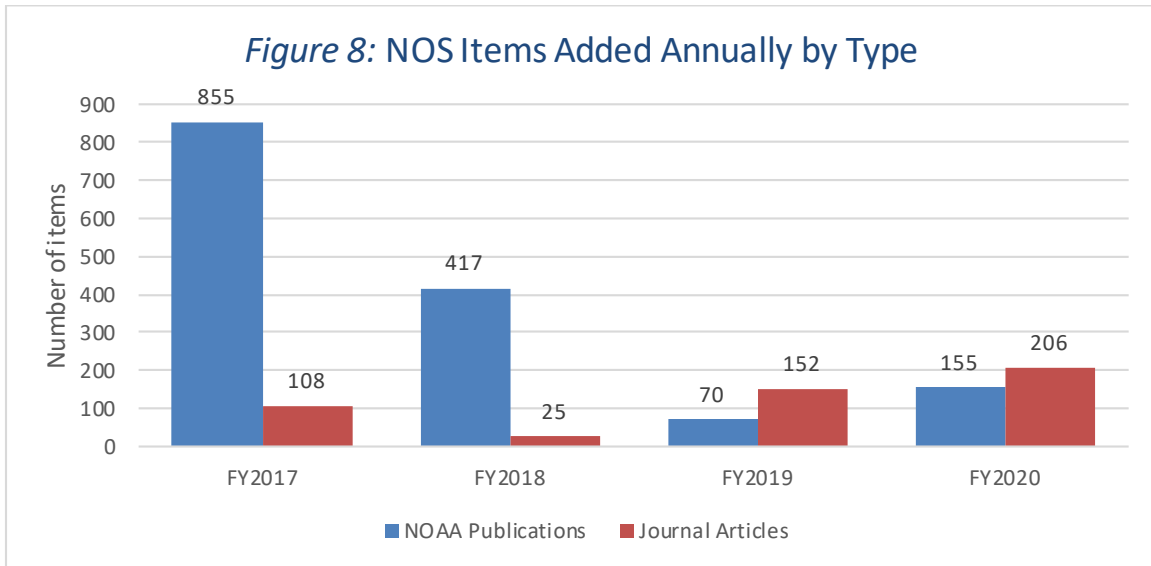


Figure 8. Non-cumulative comparison of NOAA publications and journal articles produced by NOS employees, contractors, and grantees that were added to the NOAA IR in each fiscal year with a total of: 961 items added in FY2017; 443 in FY2018; 222 in FY2019; and 361 in FY2020.

NOS Collection	Count
<b>NOAA Publications</b>	3,951
<b>NOAA Assigned Digital Object Identifiers (DOIs)</b>	159
<b>Journal Articles</b>	491

Table 3. Breakdown of the number of Technical NOAA publications within the NOS collection as well as the number of digital object identifiers assigned to NOS publications by the NOAA Central Library. It should be noted that DOIs are not assigned to publications produced prior to 2015.

## NWS

### Publication Availability

Much like NOS, the NOAA Central Library has worked to identify physical materials within our holdings from NWS series to digitize as well as working with MDL to acquire a large number of physical materials that were added to the digitization project. Journal articles were also identified through PMC and the Cooperative Institutes; however, in doing regular maintenance, IR staff was able to identify some existing IR publications that were missing NWS affiliation tags, whose records and collection information were updated.

Line Office Specific Metrics

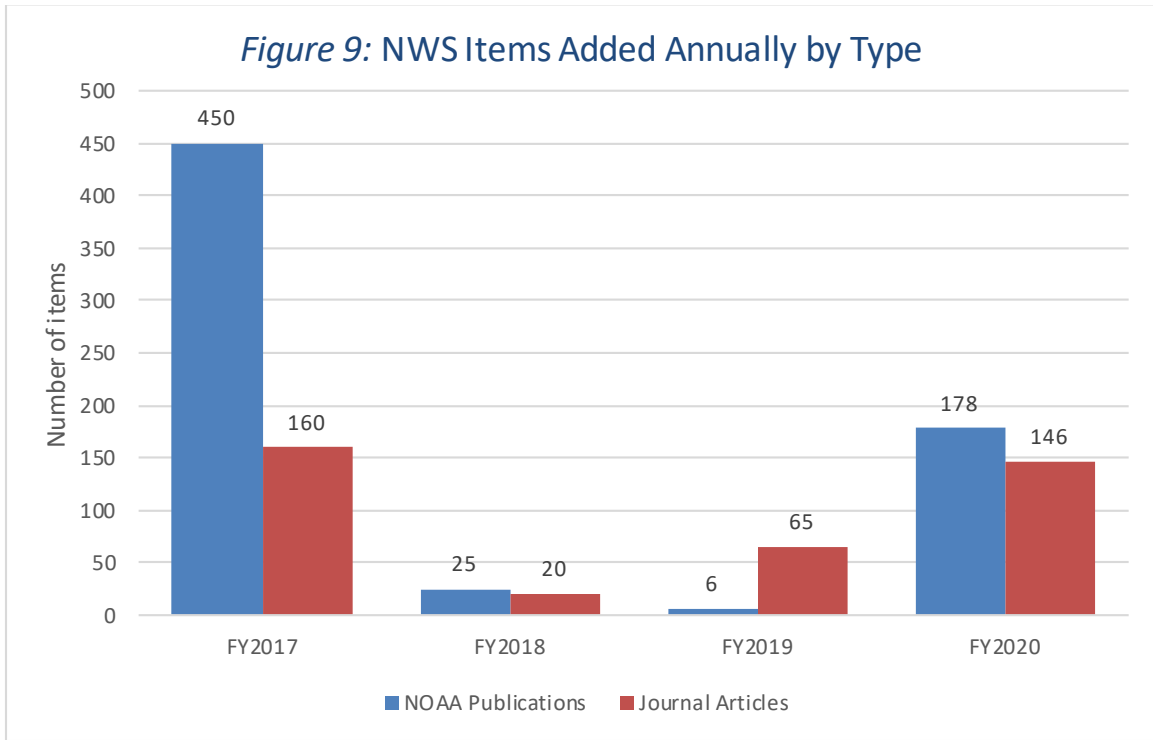


Figure 9. Non-cumulative comparison of NOAA publications and journal articles produced by NWS employees, contractors, and grantees that were added to the NOAA IR in each fiscal year with a total of: 610 items added in FY2017; 45 in FY2018; 71 in FY2019; and 324 in FY2020.

NWS Collection	Count
<b>NOAA Publications</b>	1,831
<b>NOAA Assigned Digital Object Identifiers (DOIs)</b>	57
<b>Journal Articles</b>	391

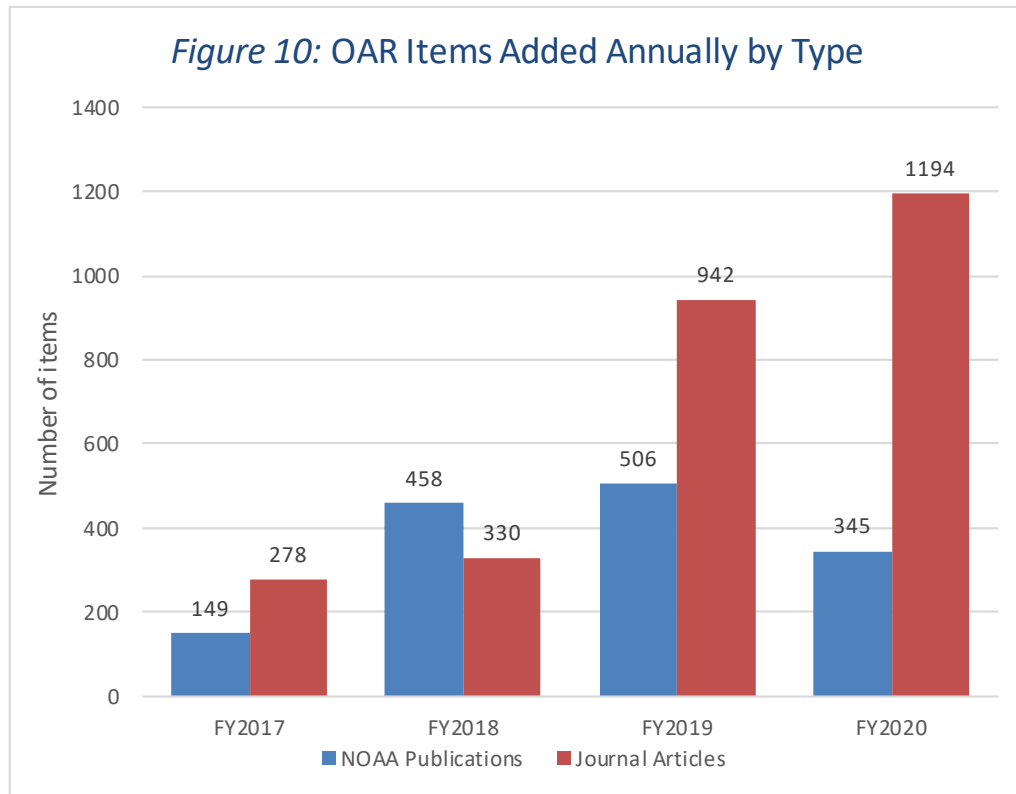
Table 4. Breakdown of the number of Technical NOAA publications within the NWS collection as well as the number of digital object identifiers assigned to NWS publications by the NOAA Central Library. It should be noted that DOIs are not assigned to publications produced prior to 2015.

## OAR

### Publication Availability

The bulk of OAR's publications come in the form of journal articles, again with a large portion of those items coming from Cooperative Institute submissions, but also via PMC open access articles. The dip in NOAA publication additions to the NOAA IR is in part due to the completion of the NOAA Central Library's historic digitization project that focused on OAR technical series. Of these NOAA publications, those of particular note include: Reports to Congress mandated by the Weather Research and Forecasting Innovation Act (The Weather Act); OER dive and cruise reports; and a number of publications created by the NOAA Research Council (soon to be NOAA Science Council) such as the NOAA R&D Vision Areas document.

### Line Office Specific Metrics



*Figure 10. Non-cumulative comparison of NOAA publications and journal articles produced by OAR employees, contractors, and grantees that were added to the NOAA IR in each fiscal year with a total of: 427 items added in FY2017; 788 in FY2018; 1,448 in FY2019; and 1,539 in FY2020.*

OAR Collection	Count
NOAA Publications	2,229
NOAA Assigned Digital Object Identifiers (DOIs)	362
Journal Articles	2,744

Table 5. Breakdown of the number of Technical NOAA publications within the OAR collection as well as the number of digital object identifiers assigned to OAR publications by the NOAA Central Library. It should be noted that DOIs are not assigned to publications produced prior to 2015.

### Cooperative Institutes

#### Publication Availability

The IR staff had been trying to identify ways to better categorize funded publications within the NOAA IR, especially those funded through the NOAA Cooperative Institutes, resulting in the creation of the new Cooperative Institute collection. These CI affiliations were determined by examining author affiliation(s) as well as checking funding acknowledgements. Starting in FY2019, we began receiving lists of self-reported publications directly from the CIs, with many providing lists dating back to 2015. As these lists began to come in this year, the IR team began work with CIPO to standardize the batch submission template to further streamline the process for both the CI submitters, but also IR staff in an effort to reduce processing time. This revised template is scheduled to be available for CI submitters in FY2021.

#### CI Specific Metrics

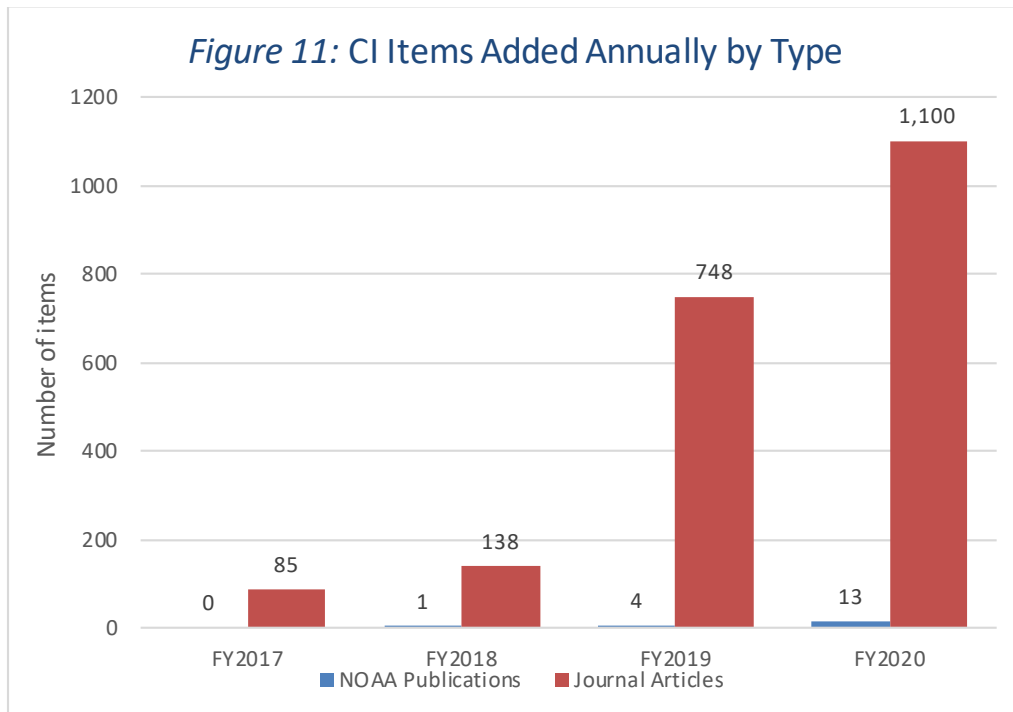


Figure 11. . Non-cumulative comparison of NOAA publications and journal articles produced by CI employees, contractors, and grantees that were added to the NOAA IR in each fiscal year with a total of: 85 items added in FY2017; 139 in FY2018; 752 in FY2019; and 1,113 in FY2020.

Cooperative Institute Collection	Count
NOAA Publications	20
NOAA Assigned Digital Object Identifiers (DOIs)	15
Journal Articles	2,071

*Table 6. Breakdown of the number of Technical NOAA publications within the Cooperative Institute collection as well as the number of digital object identifiers assigned to CI publications by the NOAA Central Library. It should be noted that DOIs are not assigned to publications produced prior to 2015.*

## Section V. Next Steps

FY2020 proved to be a banner year for the NOAA IR through the inclusion of new metadata sources and methods for identifying PARR required publications. The IR team hopes to further build on that throughout FY21 by establishing regular schedules and harvesting procedures for both CHORUS and PMC. Additionally, the NOAA Central Library has begun the process of acquiring a new tool, Dimensions, which may allow us to identify those publications that are not indexed by WoS; however, we have not run any comparisons at this point between our WoS data and Dimensions.

Another focus for the upcoming year will be to continue to implement system improvements based on our user survey and UX session data. A planned website redesign in the works for all of the CDC's Stacks platforms including the NOAA IR featuring a new homepage and document landing page layout, improved search results and more is scheduled to go live in the fall of 2020. With this redesign the NOAA IR will also feature a Submission Information page, providing details for NOAA employees and grantees on requirements and how to submit materials. The NOAA IR team is also working with CDC to improve help documentation related to searching the repository and navigating our developer tools (API, JSON).

Priorities for the IR team shifted throughout the year to focus more on existing metadata updates and due to the large number of submissions, simply processing articles. As a result, little headway was made in regards to linking datasets, grant information, and NRDD data. For FY21, data linking will be a focus once again, with the hopes of making better progress thanks to additional sources of information such as our CHORUS partnership, Dimensions, and the growing trend of publisher's including data availability statements. Furthermore, IR staff has been in touch with NRDD staff to figure out best practices for sharing/exchanging data between the two systems, with the first batch of NRDD information being sent to the NOAA IR team at the beginning of October.

## Appendix A.

### **NOAA IR User Survey Questions**

Introduction: The purpose of this survey is to gauge how people are using and interacting with the NOAA Institutional Repository. We are looking to gather information on user habits and preferences to create and implement a long-term plan for system improvements.

This survey should take approximately 5 minutes.

If you have any questions or concerns about this survey please contact:

Jennifer Fagan-Fry (jennifer.fagan-fry@noaa.gov)  
NOAA Central Library, NOAA Institutional Repository Manager

NOAA IR Service account (noaa.repository@noaa.gov)

#### **Section 1. Introduction**

1. What Line office are you with?
  - a. NOS
  - b. NWS
  - c. Staff office
  - d. NMFS
  - e. NESDIS
  - f. OAR
  - g. OMAO
  - h. Cooperative Institute
  - i. Other \_\_\_\_\_
2. What is your job title?
  - a. Open answer
3. Are you familiar with the NOAA Institutional Repository, or NOAA IR (<https://repository.library.noaa.gov/welcome>)?
  - a. Yes
  - b. No (Skip to #17)

#### **Section 2. Searching the NOAA Institutional Repository**

4. Have you used the NOAA IR to locate research articles or documents?
  - a. Yes
  - b. No--Skip to #14
5. How often have you used the NOAA IR in the past 12 months to locate documents/articles?
  - a. Daily
  - b. Weekly
  - c. Monthly
  - d. Every couple months
  - e. Once or Twice
  - f. Never

6. When you search for documents/articles in the NOAA IR, which search method do you use?
  - a. Basic (skip to #8)
  - b. Advanced (Skip to #7)
  - c. Depends on what I am looking for (Skip to #7)
  - d. I don't know which I use (Skip to #8)
7. When using the advanced search, which options do you search by? (Select all that apply)
  - a. Title
  - b. Author
  - c. Corp Author
  - d. Conf Name
  - e. Description
  - f. Subject
  - g. Doc Type
  - h. Pub Date
  - i. Lang
  - j. Source
  - k. DOI
  - l. Funding
  - m. PID
8. After searching, do you use the "Narrow Results" options (sometimes called Facets), featured on the left side of the results page?
  - a. Yes
  - b. No
9. Which of the "Narrow Results" options have you used? (Check all that apply)
  - a. Year Published
  - b. NOAA Program & Office
  - c. Document Type
  - d. Subject
  - e. Name as Subject
  - f. Place as Subject
  - g. I don't use any of these
10. What, if any, options do you think would be helpful in the Narrow Results? (Free text)

### Section 3. Document Display Page

11. When looking at a document's page in the NOAA IR, do you use the tabs to locate additional information about the document? (insert image--if possible)
  - a. Yes
  - b. No (skip to #14)
12. Which tabs do you use?
  - a. Details
  - b. Supporting documents
  - c. Related documents
13. What types of information are you looking for when using these tabs?



- a. DOI information
- b. Author names
- c. Dataset links
- d. Subject or Keyword terms
- e. Related documents
- f. Series information
- g. Other \_\_\_\_\_

**Section 4. Submissions**

14. Have you submitted anything to the NOAA IR?
- a. Yes
  - b. No-Skip to #18
15. If yes, how did you submit your document(s)?
- a. Submission Form
  - b. Email
  - c. RPTS
  - d. Other \_\_\_\_\_
16. If you have used the submission form, how did you access the form?
- a. Via the NOAA IR homepage
  - b. Saved/Bookmarked link
  - c. NOAA IR FAQ page
  - d. NOAA Central Library site
  - e. Other \_\_\_\_\_
17. How easy was it to submit your document(s) to the IR?
- a. Difficulty scale...

**Section 5. Follow up Questions**

18. Do you know enough about the NOAA IR?
- a. No, I do not know and I would like to
  - b. Yes, I know what the NOAA IR is and can provide (Skip to #20)
  - c. The NOAA IR is not relevant to my work (Skip to #20)
19. If you said No, to the previous question, how would you like to find out more about the NOAA IR?
- a. Targeted emails from the NOAA Library or IR Team to employees
  - b. Regularly offered webinars
  - c. I want to reach out when it's convenient for me to ask
  - d. Other (please tell us): \_\_\_\_\_
20. Is there anything else you would like to share with us about the NOAA IR that we didn't cover?  
Please tell us: (free text -- Open text box for free-text answer)

## Appendix B.

### *Letter of Agreement with National Library of Medicine*



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
Silver Spring, MD 20910

OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH

July 10, 2020

Jerry Sheehan  
Deputy Director  
National Library of Medicine  
National Institutes of Health  
8600 Rockville Pike  
Bethesda, MD 20894-3808

Mr. Sheehan,

I am writing to confirm discussions among our staff about developing a framework of cooperation between the National Library of Medicine (NLM) and the National Oceanic and Atmospheric Administration (NOAA) that will enable NOAA to retrieve from PubMed Central (PMC) and include in the NOAA Institutional Repository author manuscripts that result from NOAA-funded research. This framework aims to reduce the burden on researchers whose author manuscripts are subject to the NOAA Public Access Policy and available in PMC. It would eliminate the need for the authors to submit those publications to the NOAA Institutional Repository. Note that PMC also contains other content in PMC that is funded by NOAA that NOAA may harvest using NLM's PMC Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) service.

NLM's well-established author manuscript deposit system and workflows process more than 5,000 author manuscripts on a monthly basis deposited by publishers, other PMC partner funders, and authors. Some of these manuscripts result from research funded by NOAA and are also subject to the NOAA Public Access Policy, which requires their submission into the NOAA Institutional Repository.

The mutual benefit of this framework for both parties is that researchers supported by NOAA and whose manuscripts are available in PMC will have a streamlined manuscript deposit experience that simplifies compliance with the NOAA public access policy. It would allow for an author manuscript submitted to PMC to be distributed to the NOAA Institutional Repository, eliminating the need for the author to perform a duplicative manuscript submission to NOAA.

NLM will create an FTP site from which NOAA can retrieve, individually or in bulk, copies of PMC author manuscripts identified as being supported by NOAA awards, contracts, or intramural research program; provide the identified PMC author manuscripts in the PMC standardized archival format (NLM will not provide NOAA with software to create human readable views of these manuscripts); and provide a PDF of the PMC author manuscript with the branding of the Department of Health and Human Services or another PMC partner funder that supported the work. NLM will not create new PDFs with NOAA branding.

NOAA will make explicit on its public website that the NOAA public access policy requires that any author manuscript supported by NOAA funds to be deposited and archived in the NOAA Institutional Repository; and NOAA authors or NOAA-funded authors whose

manuscripts are deposited into PMC do NOT need to submit the author manuscript separately to the NOAA Institutional Repository to be compliant with the NOAA Publications Policy, as referenced in the NOAA Public Access Policy. NOAA will identify, at regular intervals and with a high degree of accuracy, which PMC author manuscripts were supported by NOAA awards, contracts, or intramural research program and are subject to the NOAA public access policy, and submit a structured request (i.e., PMCID's or DOI's) to an FTP site operated by NLM; ensure PMC author manuscripts, if made publicly accessible in the NOAA Institutional Repository in either human-readable or machine-readable formats, are made available in a manner consistent with copyright law; address any questions from a publisher or copyright holder regarding the inclusion of the PMC author manuscript in the NOAA Institutional Repository; remove from the NOAA Institutional Repository any PMC author manuscripts that are identified in error and determined to not fall under the NOAA public access policy.

Either NOAA or NLM may terminate this framework upon 30 days written notice to the other party. This letter of understanding can be modified only by a written amendment signed by both NLM and NOAA. If NLM or NOAA terminate the framework, NOAA may keep all PMC author manuscripts that have been retrieved from PMC for inclusion in the NOAA Institutional Repository as of the date of termination. Activities undertaken pursuant to this framework shall be at the expense of the respective agencies, subject to availability of funds.

Please sign and return this letter as evidence of your agreement of the terms and conditions contained herein.

Sincerely,

Dr. Gary C. Matlock  
Deputy Assistant Administrator for Science  
Office of Oceanic and Atmospheric Research  
National Oceanic and Atmospheric Administration  
U.S. Department of Commerce  
1315 East West Highway  
Silver Spring, MD 20910  
(301) 734-1184

Agreed and Accepted by:

The National Library of Medicine

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## Appendix C.

### Approved CHORUS Agreement

*After careful review of the Agreement and acceptance of its terms and conditions, please execute two (2) copies and return the document to CHORUS at the address in Section 19.*

#### Funder Agency Agreement

This participation agreement ("Agreement") is by and between CHOR, Inc., a nonprofit corporation organized under the laws of Delaware, and doing business as CHORUS ("CHORUS") and National Oceanographic and Atmospheric Administration (the "Agency") and shall be deemed effective as of November 1, 2019 (the "Effective Date"). Each of CHORUS and Agency are referred to herein as a "Party" and collectively as the "Parties".

1. **Introduction.** CHORUS manages and maintains a service to increase public access to publications that report on certain research funded by the United States Government or other US-based funding bodies ("Articles") by featuring links to such publications and highlighting publisher practices and commitments to such public access (collectively, including without limitation, associated software and know-how, the "CHORUS Service"). The CHORUS Service covers the identification of Articles reporting on research funded by US federal agencies with at least \$100 million in annual research and development expenditures and may expand to cover other funders in the future. Under the CHORUS Service, participating publishers ("Publisher Members"): (i) collect and report on funding sources through Crossref's Open Funder Registry system, with respect to Articles reporting on research funded by Agency as indicated by authors, (ii) make a version of record ("VOR") or accepted manuscript ("AM") of each such Article publicly accessible on the relevant Publisher Member's website, following an embargo period of Publisher Member's selected duration, if any, in its sole discretion (the "Embargo Period"); (iii) before the end of the Embargo Period, send to Crossref the DOI for the publicly accessible version of the Article paired with the URL for a re-use license with an appropriate start date commensurate with the Embargo Period; (iv) permit the publicly accessible AM or VOR, or a VOR behind a paywall, to be available for indexing from the date of publication by Agency; and (v) archive Articles at a dark archive with which CHORUS has an agreement related to the CHORUS Service ("Archive").
2. **Fees.** The CHORUS Service is provided free of charge to US federal funding agencies and the public, and is supported by publisher membership fees. Participating funding agencies may elect to subscribe to customized services on a fee-basis, which would be addressed under an addendum to this Agreement.
3. **Agency Benefits.** As a benefit of participation in the CHORUS Service, Agency shall be entitled to the following privileges:
  - a) Agency may nominate a representative to the CHORUS Technical Working Group or a CHORUS Advisory Group which provides recommendations to CHORUS's Executive Director and Board of Directors on the structure and implementation of the CHORUS Service.
  - b) Agency may harvest publicly accessible AMs or VORs, or VORs behind a paywall

that report on Agency-funded research, from Publisher Member websites for the purpose of indexing from the date of Article publication, subject to the terms set forth in Section 4; provided, however, that in the event that a Publisher Member does not permit machine(s) to harvest AMs or VORs from its website, Publisher Member shall provide Agency with alternative mechanism(s) to obtain AMs or VORs, and Agency shall only use such alternative mechanism(s).

- c) Agency may harvest publicly accessible AMs or VORs that report on Agency-funded research from Publisher Member websites for the purpose of maintaining a dark archive, subject to the terms set forth in Section 4; provided, however, that in the event that a Publisher Member does not permit machine(s) to harvest AMs or VORs from its website, Publisher Member shall provide Agency with alternative mechanism(s) to obtain AMs or VORs, and Agency shall only use such alternative mechanism(s). This is in addition to the CHORUS-provided dark archive solution described in Section 6 below.
- d) Agency may direct an Archive to make Articles publicly accessible upon certain trigger events as described in Section 6.

4. **Agency Obligations.** Agency agrees to:

- a) Include the CHORUS Service as one of the tools by Agency to facilitate access to published Articles in the implementation of its public access plans.
- b) Allow CHORUS to communicate Agency's participation in the CHORUS Service as set forth in Section 10.
- c) Use Crossref's Open Funder Registry data to standardize Agency's name and related grant information and make efforts to ensure that information held about it in Crossref's Open Funder Registry at <https://www.crossref.org/services/funder-registry/> is correct. Specifically, Agency should (i) review and update if necessary the names Crossref's Open Funder Registry holds for its organization, and the component parts of its organization which award grant funding; and (ii) inform Crossref of any hierarchy for these names (e.g., Unit X is a sub-component of Department Y) that Agency would like Crossref's Open Funder Registry to use. For the avoidance of doubt, inclusion in Crossref's Open Funder Registry is free of charge to Agency.
- d) Display Publisher Member-supplied VOR digital object identifiers (DOIs) in Agency's portal titled NOAA Institutional Repository ([repository.library.noaa.gov](https://repository.library.noaa.gov))
- e) Link via DOIs from NOAA Institutional Repository in a prominent manner to the AM or VOR made available on a Publisher Member's website as follows:
  - (i) If a Publisher Member makes a VOR publicly accessible on its website, Agency will link to the VOR, and Agency will not separately link to a VOR or AM on a different site.
  - (ii) If a Publisher Member does not make a VOR publicly accessible on its website, but does make an AM publicly accessible on its website, Agency will link to the AM.

- f) When a Publisher Member has given Agency access to an AM or VOR through the CHORUS Service for purposes of indexing (as described in Section 3b), not allow third-party access to and not redistribute such Publisher Member-supplied AM or VOR.
- g) If Agency uses AMs or VORs obtained through the CHORUS Service for purposes of creating its own dark archive (as described in Section 3c) separate from an Archive (as defined in Section 1), Agency will not allow third-party access to and not redistribute such Publisher Member-supplied AM or VOR except under the following conditions: (i) the relevant Article has been made publicly accessible by the relevant Publisher Member after an embargo period selected by the Publisher Member in its sole discretion and is no longer publicly accessible, (ii) Agency's Main Contact listed on Appendix A informs CHORUS, which in turn shall promptly inform the Publisher Member (with a copy of such notice to Agency) of such unavailability, (iii) the Publisher Member fails to restore public access within thirty (30) days of such notice from CHORUS, (iv) following (i)-(iii), the Agency may make the archived Article accessible under the public access license under which the Publisher Member originally made the Article accessible, (v) concurrent with (iv), Agency shall provide notice to CHORUS of making the Article bright, (vi) once public access is restored by the Publisher Member, Agency shall make the Article dark again (meaning, not publicly accessible). Agency and CHORUS agree to work in good faith to develop a mutually agreeable notice, tracking and appeals process. This paragraph 4(f) shall not apply to any Articles that are suspended or withdrawn from the Publisher Member's website for legal reasons or a result of a publishing misconduct.
- h) For AMs and VORs made accessible by Publishers through the CHORUS Service (e.g., through links to the Publisher Member website), reproduce, transmit or otherwise use such AMs and VORs only as permitted by the relevant re-use license, copyright law, or the express written permission of the copyright holder.

In addition, Agency is encouraged to utilize ORCID (Open Researcher and Contributor Identifier) persistent identifiers and associated metadata for standardizing the identity of individual researchers and their associated research institutions. (Additional information about ORCID identifiers is available at [www.orcid.org](http://www.orcid.org).)

5. **CHORUS Obligations.** CHORUS shall undertake the following with respect to the CHORUS Service:
- a) Enter into agreements with publishers ("Publisher Members") containing the publisher obligations set forth in Section 1 above. A list of Publisher Members, as updated from time to time, is available on the CHORUS website at [www.chorusaccess.org](http://www.chorusaccess.org).
  - b) Enter into agreements with one or more dark Archives to which Publisher Members deposit relevant articles for long-term preservation and public access in response to certain trigger events as further described in Section 6 below.

- c) Publicly communicate on the CHORUS website Publisher Member compliance with public access commitments.
6. **Public Access Trigger Event.** If either Agency or CHORUS identifies that an Article reporting on research funded by Agency that has been made publicly accessible by the relevant Publisher Member is no longer publicly accessible after the Publisher Member's selected Embargo Period, the relevant dark Archive shall have the right pursuant to separate agreements with the Publisher Member to make the Article bright. To affect such a trigger, the Agency's Main Contact listed on Appendix A or CHORUS shall contact the Archive, which in turn shall contact the Publisher. If access cannot be restored within thirty (30) days, either Agency's Main Contact and/or CHORUS may direct the relevant dark Archive to make the VOR or AM deposited in the dark Archive (or an archival version thereof created by the dark Archive) accessible to the public under the terms of the relevant dark Archive's license, until Publisher Member restores public access through its own website. The specific mechanisms for depositing Articles, making Articles bright, and any appeals process are set forth in agreements directly between Publisher Members and the dark Archive, based on the dark Archive's form agreement with publishers. This Section shall not apply to any Articles that are suspended or withdrawn from the Publisher Member's website for legal reasons or as a result of publishing misconduct.
7. **Metrics.** The Parties agree to explore the mutual advantage of sharing aggregated usage statistics from Agency and CHORUS Publisher Member websites.
8. **Enforcement.** The optimal functioning of the CHORUS Service relies in part on compliance of Publisher Members and the Archive with the terms and conditions of their respective agreements with CHORUS. In addition to the procedures set forth in Section 6, should Agency discover any problems with compliance, Agency may bring such issues to CHORUS's attention, in which case Agency and CHORUS shall work in good faith to resolve such issues, including CHORUS exposing Publisher Member non-compliance with the terms of its obligations under the CHORUS Service on the CHORUS dashboard and/or termination of Publisher Member in CHORUS's sole discretion. Notwithstanding the foregoing, Agency acknowledges that CHORUS does not control Publisher Members or the Archive and further that Agency may not seek to compel CHORUS to act against any Publisher Member or Archive.
9. **Intellectual Property.** Agency acknowledges that, as between itself and CHORUS, CHORUS has all right, title and interest in and to the CHORUS Service, including all related copyrights, database compilation rights, trademarks, trade names, and other intellectual property rights, currently in existence or later developed solely by CHORUS.
10. **Promotion.** CHORUS and Agency may each use the other's name(s) to identify the status of Agency as participating in the CHORUS Service in a manner such as to not imply an endorsement of CHORUS, including featuring Agency's name on the CHORUS website home page, on the CHORUS dashboard, and in the CHORUS search engine. Each Party shall adhere to such guidelines as may be provided by the other Party from time to time regarding the use of name(s). Any other use of the name(s) and mark(s) of the other Party may only be made with the prior written consent of such

Party.

11. **Term; Termination.**

- a) This Agreement for basic CHORUS Service shall commence upon the Effective Date and shall continue through December 31 of the current year, and thereafter shall automatically be renewed according to the terms of the then-most recent version of this Agreement for consecutive twelve (12) month periods unless terminated in accordance with the terms of this Agreement. However, automatic renewals of any Agreement with customized services provided on a fee-basis and addressed in addenda are expressly prohibited, as such renewal may violate the Anti-Deficiency Act 31 U.S.C. 1341(a)(1)(B).
- b) Agency may terminate this Agreement upon ninety (90) days prior written notice.
- c) CHORUS may terminate this Agreement upon one hundred eighty (180) days prior written notice, or upon notice for failure to cure a material breach of this Agreement within thirty (30) days of notice of such breach. CHORUS's Board shall review and approve any decision to permanently terminate this Agreement. As part of such review, Agency shall have an opportunity to be heard under such reasonable procedures as the Board may determine in its good faith. The decision to so terminate, however, shall rest solely with CHORUS.
- d) The Parties may mutually agree to terminate this Agreement at any time and shall close out all activity by no later than sixty (60) days after agreement is reached to terminate the Agreement.
- e) Notwithstanding the foregoing, CHORUS reserves the right to temporarily suspend any part of the CHORUS Service or to temporarily or permanently remove links to any Article upon determination in CHORUS's sole discretion that the continuation of such aspect of the CHORUS Service (generally or with respect to a specific Publisher Member) or linking to any such Article could result in legal risk to CHORUS or upon request of a Publisher Member that such linking or Article may infringe the rights of a third Party or otherwise present a legal risk to the Publisher Member.

12. **Actions Following Termination.**

- a) Upon termination or expiration of this Agreement, each Party shall immediately cease using the other Party's name(s) and mark(s) to indicate that Agency participates in the CHORUS Service. CHORUS shall have the right, but not the obligation, to continue to provide links to Articles reporting on research funded by Agency and otherwise cover such Articles in the CHORUS Service.
- b) Upon termination of this Agreement by either Party, the dark archive described in Section 4f shall remain permanently dark with respect to AMs and VORs obtained through the CHORUS Service, except if a separate agreement is reached directly between Agency and Publisher Member.

13. **Disclaimer.** CHORUS SHALL TAKE COMMERCIALY REASONABLE STEPS IN OPERATING THE CHORUS SERVICE. EXCEPT AS OTHERWISE



**EXPRESSLY STATED HEREIN, THE CHORUS SERVICE IS OFFERED "AS IS" WITHOUT ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND WHATSOEVER, INCLUDING REPRESENTATIONS AND WARRANTIES RELATED TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR THE ACCURACY OF ANY INFORMATION FEATURED IN THE CHORUS SERVICE OR CONTAINED ON THE CHORUS SITE GENERALLY.**

14. **Limitations of Liability.** NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES OR LOST PROFITS ARISING OUT OF OR RELATING TO THIS AGREEMENT, EVEN IF IT HAS BEEN INFORMED IN ADVANCE OF THE POSSIBILITY OF SUCH DAMAGES. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR (I) ANY LOSS, CORRUPTION OR DELAY OF DATA, (II) ANY LOSS, CORRUPTION OR DELAY OF COMMUNICATIONS WITH OR CONNECTION TO RELATED PRODUCTS OR CONTENT, OR (III) ANY VIRUS, BUG OR OTHER HARM THAT IS INTRODUCED THROUGH THE USE OR PROVISION OF THE CHORUS SERVICE. AGENCY ACKNOWLEDGES AND AGREES THAT CHORUS SHALL NOT BE LIABLE FOR (I) ANY ACTIONS TAKEN BY ANY THIRD PARTY, INCLUDING, WITHOUT LIMITATION, ANY PUBLISHER MEMBER OR ANY ARCHIVE WITH RESPECT TO THE CHORUS SERVICE, AND (II) ANY INACCURATE OR INCOMPLETE INFORMATION FEATURED IN THE CHORUS SERVICE OR CONTAINED ON THE CHORUS SITE GENERALLY. IN NO EVENT SHALL THE LIABILITY OF EITHER PARTY HEREUNDER BE GREATER THAN \$100.
15. **No Waiver.** No delay or omission by either Party to exercise any right or power hereunder shall impair such right or power or be construed to be a waiver thereof. A waiver by either of the Parties of any of the covenants to be performed by the other or any breach thereof shall not be construed to be a waiver of any succeeding breach thereof or of any other covenant contained herein.
16. **No Partnership.** Neither Party is or shall become as a result of this Agreement, an agent, representative, or Agency of the other Party.
17. **No Third-Party Beneficiaries.** Except as expressly set forth herein, neither Party intends that this Agreement shall benefit, or create any right or cause of action in or on behalf of, any person or entity other than CHORUS or Agency.
18. **No Assignment.** Neither Party may assign this Agreement, in whole or in part, without the prior written consent of the other Party, which consent shall not be unreasonably withheld, delayed, conditioned or denied. Any transfer to the contrary shall be null and void.
19. **Notices.** Written notice under this Agreement shall be effective if sent to the Party's address as follows: (i) by personal service on the same day, (ii) by internationally recognized courier (e.g., FedEx, UPS) on the next business day following the scheduled

delivery date; or (iii) by email, with a confirmation receipt, on the next business day following the date sent.

If to CHOR:                   Howard Ratner  
Executive Director  
CHOR, Inc.  
72 Dreyer Avenue  
Staten Island, NY 10314

Email: [hratner@chorusaccess.org](mailto:hratner@chorusaccess.org)

If to Agency, to the name and address listed as the Main Contact on Appendix A.

20. **Survival.** Sections (and the corresponding subsections, if any) 4[e, and] g, 9, and 11 through 25 shall survive the expiration or termination of this Agreement for any reason.
21. **Headings.** The headings of the sections and subsections used in this Agreement are included for convenience only and are not to be used in construing or interpreting this Agreement.
22. **Severability.** If any provision of this Agreement is held to be invalid, illegal, or unenforceable, such invalidity, illegality, or unenforceability will be reformed to be enforceable to the maximum extent permitted under applicable law, and whether or not it may be so reformed, it will not affect any other provision of this Agreement, unless the unenforceability of the applicable provision would materially impair either Party's ability to obtain substantial performance of the other Party.
23. **Entire Agreement.** The terms and conditions of this Agreement and any appendices supersede all prior oral and written agreements between the Parties with respect to the subject matter of this Agreement and shall constitute the entire agreement between the Parties with respect to the matters contained herein.
24. **Agreement Modifications.** In order to account for the evolution of CHORUS, CHORUS reserves the right to modify this Agreement upon notice to Agency, provided that (i) any material modification (as determined by CHORUS) shall be approved in advance by the CHORUS Board; (ii) no such modification shall be retroactive; and (iii) CHORUS will provide Agency with sixty (60) days' advance written notice of any such modifications. If Agency objects to any such modification, Agency may terminate this Agreement (effective as of effective date of the modification) by providing written notice to CHORUS prior to the effective date. If Agency does not object to such modification prior to the effective date, this Agreement shall be so modified. This Agreement also may be modified by mutual written consent of the Parties.
25. **Counterparts; Electronic Signature.** This Agreement and any amendments may be executed in one or more counterparts, each of which shall be deemed an original, but all of which shall constitute one agreement. **EACH PARTY MAY USE A HARD COPY (INK AND PAPER) OR ELECTRONIC SIGNATURE, EACH OF WHICH SHALL BE DEEMED TO BE AUTHENTIC AND EQUALLY ENFORCEABLE.**

In witness whereof, a duly authorized representative of each of the Parties has signed below as of the Effective Date.

CHOR, INC.

National Oceanographic and Atmospheric  
Administration

\_\_\_\_\_

Gary C. Matlock

Name:

Name: Dr. Gary C. Matlock

Title:

Title: Deputy Assistant Administrator for Science

Date:

Date: 10-23-19

**Appendix A: Agency Designation of Representatives (Required)**

Agency must provide the following information to CHORUS and promptly notify CHORUS if there are any changes. Agency may update this information from time to time upon written notice to CHORUS, including by email.

It is preferable to list two separate individuals as contacts below.

**Main Contact.** The following individual will be the main representative of Agency for purposes of this Agreement, providing guidance and direction in operational and participation matters:

Name: Deirdre Clarkin	Company: NOAA
Street Address: SSMC3, 1315 East West Highway	
City: Silver Spring	State: MD
Post Code: 20910	Country: US
Phone: 301-713-2606	Fax: N/A
Email: deirdre.clarkin@noaa.gov	

**Technical Contact.** The following individual will be the representative of the Agency for general technical matters and information.

Name: Sarah Davis	Company: NOAA
Street Address: SSMC3, 1315 East West Highway	
City: Silver Spring	State: MD
Post Code: 20910	Country: US
Phone: 301-713-2600, ext. 135	Fax: N/A
Email: sarah.davis@noaa.gov	

## Glossary of Terms

### Compliance

For the purposes of this report compliance is defined as the ratio of: (1) the number of peer-reviewed scholarly articles subject to the agency's public access policy that have been submitted to the agency's designated repository/system (including those still under embargo) divided by (2) the number of total number of peer-reviewed scholarly articles that are subject to the agency's public access policy, and will be expressed as a percentage. This method of calculation stems from the reporting requirements that have come from the Office of Science and Technology Policy (OSTP) and we have opted to carry over that method to this report.

### Items added

This refers to the publications and their associated metadata that have been ingested into the NOAA Institutional Repository. This number does not necessarily mirror the submissions numbers for a given year due to previous fiscal year carry over and work done by the NOAA Central Library to identify and add publications that have not been submitted by offices/authors. An example of these efforts would be the digitization projects NOAA Central Library staff have conducted scanning and ingesting of older NOAA technical memorandum and report series from all line offices.

### Submission

A submission is a publication that has been sent to the NOAA IR via one of the following methods:

- 1) NOAA IR Submission Form via Google Drive
- 2) Email sent to [noaa.repository@noaa.gov](mailto:noaa.repository@noaa.gov)
- 3) Through the RPTS system
- 4) Via NMFS's ECO tracking system for Biological Opinions

### Ingest

Ingest is the process by which publications are added to the NOAA IR and include a series of steps including:

- 1) Metadata creation
- 2) Metadata and file upload to the cloud
- 3) Quality checks and item approvals by data manager(s)
- 4) System indexing or data migration to push all metadata and associated files "live" making them available via the NOAA Institutional Repository page.

### NOAA publications

NOAA publications are publications as defined in [NAO 201-32G](#) and can include the following areas:

- 1) *NOAA Authored Publications* refer to those publications that have been written by NOAA employees or NOAA contractors, and were written as part of their official duties.
- 2) *NOAA peer-reviewed scholarly publications* are defined as research results that are published in peer-reviewed or refereed journals; meaning the process includes a review of the research by independent scholars, experts, etc. in the field who agree that the article in question represents properly conducted research and/or writing. Within this report these will also be labeled as journal articles. For the purposes of this report and our calculations, journal articles figures will exclude those still under embargo, but include those that are not subject to the NOAA PARR Plan.
- 3) *NOAA Funded Publications* can refer to two different kinds of publications: those produced through grant funding, most often, but not exclusively by universities via the NOAA Cooperative Institute Program; and those publications produced by companies contracted by NOAA.

**Publication Availability**

Availability is defined as how researchers and the public gains access to NOAA publications (including journal articles, series documents, and funded publications).