

2018 Organizational and Membership Report

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Message from the Executive Director

This past year, 2018, was a year of transition and new beginnings. After a very productive three and a half years at the helm, Meredith Morovati stepped down from her post as Executive Director. A several-month recruitment resulted in my

appointment in August when I was required to hit the ground running given all of the exciting changes happening.

The most transformative engagement Dryad launched in 2018 would be our ground-breaking partnership with the California Digital Library. Our shared goal is to incentivize data publishing best practices while facilitating a modern open source/open science community solution for data curation and publishing. Our joint effort better leads us to this goal by enabling Dryad to make much needed enhancements to core technology and to create a more sustainable business model. Working together is mutually beneficial as we pool our respective resources, share complementary areas of expertise, and play a strategic role in each other's mission. To be clear, Dryad remains an independent, non-profit, community-owned 501(3)c accountable to our Board of Directors, while CDL remains a department of the University of California accountable to its institutional setting. No formal or legal status for either entity has changed. There is no financial investment to or from either party.

The partnership has meant the Dryad repository will be fully upgraded and is moving from D-Space technology to the more nimble Ruby on Rails. Working in an Agile framework means Dryad functionality will be more responsive to the changing needs of our core constituency: researchers. The system enhancements also mean institutions and publishers will be able to engage with Dryad in new ways which has led us to offer new types of memberships. Earlier this year we launched an enhanced membership with multiple benefits to institutions and will be rolling out new opportunities for publishers towards the end of the calendar year. Stay tuned!

While we have been very focused on relaunching our technology, we have remained steadfast in the core services and activities we have always performed. In 2018 we curated and published close to 5000 datasets and we witnessed almost 45,000 downloads of the 24,000 datasets in Dryad. That's over 100 downloads - reuses - daily of the data made freely available through the support of our members.

In 2018 Dryad also completed migration of its datasets to the long-term preservation partner Data Archiving and Networked Services (DANS), to ensure that functionality of Dryad Digital Object Identifiers (DOIs) is maintained for the long term.

Throughout 2018, Dryad was sustained by the support of the U.S. National Science Foundation (NSF), via a three-year grant expiring in 2019 and we were pleased to contribute (and be a sub-awardee) to a Robert Wood Johnson Foundation-sponsored collaboration with the Odum Institute at the University of North Carolina, "Increasing the Value of Open Access through Open Data Publication Policies."

On behalf of Team Dryad, I want to thank each and every one of our members for your vital support. We are grateful to work in such a collaborative community and look forward to sharing the next steps in Dryad's journey with all of you.

My Best,

— Melissanne Scheld, Executive Director

Partner journals

Dryad prides itself on strong collaboration with journals, including submission integration. Submission integration is a free service that allows journal publishers to coordinate the submission of manuscripts with submission of data to Dryad, used by over 140 partner journals. Dryad supports submission integration for any organization that publishes a scientific journal irrespective of whether the organization sponsors submissions through a payment plan or is a member of Dryad. The submission integration process works with many different online manuscript processing systems. It is lightweight, customizable to each journal's needs, and brings a number of benefits:

- Simplifies the process of data submission for authors.
- Allows authors to deposit gigabytes of data files in their original formats to a single repository.
- Reduces the rate of noncompliance with journal data policy.
- Gives the option of making data available for editorial or peer review, via secure access for editors and reviewers.
- Ensures bidirectional links between the article and the data, and increase visibility for both.
- Ensures that the data is accessible once the article becomes available online.
- Gives authors the option to embargo public access to data for a limited time after publication, if permitted by the journal's data policy.

New partner journals in 2018

Title	Workflow	Sponsorship
Alpine Entomology	basic	no
Check List	basic	no
Communications Biology	review	no
Diversity and Distributions	basic	yes
Evolutionary Systematics	basic	no
Global Ecology and Biogeography	basic	yes
Italian Botanist	basic	no
JAMIA Open	review	yes
Journal of Biogeography	basic	yes

Journal of Orthoptera Research	basic	no
Metabarcoding and Metagenomics	basic	no
Rethinking Ecology	basic	no

Data packages published in 2018

Dryad published 4,983 data packages in 2018, a 7.7% increase from 2017. They were associated with articles from about 350 different journals. Dryad also continued to receive a small number of data packages associated with books and theses.

There were an average of 3 files per data package, while the average size per data package was 675 MB, about the same as the prior year. Only 3.5% of data packages contained files embargoed for one year or longer.

The ten journals with the most data packages published in 2018

Journal	Data packages
Ecology and Evolution	370
PLOS ONE	345
Royal Society Open Science	323
Proceedings of the Royal Society B	277
Molecular Ecology	196
Evolution	163
Behavioral Ecology	156
Functional Ecology	145
Journal of Applied Ecology	144
Journal of Ecology	131

Membership

Membership is open to any stakeholder organization, including but not limited to journals, scientific societies, publishers, research institutions, and funding organizations. Members help

advance Dryad's mission, receive valuable benefits, have a say in the governance of the organization through nomination and election of its Board of Directors, and voting on amendments to its Bylaws at the Annual Meeting.

2018 Dryad members:

- American Association for the Advancement of Science
- American Society of Naturalists
- The American Genetic Association
- Association for Tropical Biology and Conservation
- Botanical Society of America
- British Ecological Society
- BMJ Publishing Group, Ltd.
- <u>Cambridge University Press</u>
- European Society for Evolutionary Biology
- German National Library of Medicine
- Oikos
- Oxford University Press
- The Royal Society
- Society for the Study of Evolution
- Society of Systematic Biologists
- United States Fish and Wildlife Service
- <u>University Library, University of Illinois at Urbana-Champaign</u>
- Wiley

Data Publishing Charges

Payment plans

Independent of membership, organizations may contract with Dryad to provide a valuable service to researchers: allowing them to deposit data without paying a deposit fee at the time of submission. To do this, Dryad offers flexible payment plans, all of which provide a volume discount. If no payment plan is in place, authors pay a \$120USD fee at the time of archiving, with the exception of researchers from developing countries, for whom the fee is waived. Payment plan options are the following:

- **1. Subscription Plan.** A journal (or journals) with an active Subscription Plan may make an unlimited number of submissions for a fixed cost. This cost is calculated based on the total number of research articles published by the journal(s) in the prior year, or a reasonable estimate of anticipated volume for new titles.
- **2. Usage Plan.** Payment is based on the actual number of data submissions Dryad receives, with prepaid or deferred options:

- **Prepaid option**: Organizations can purchase a block of vouchers for future submissions at an additional discount. The minimum purchase to receive a volume discount is 25 vouchers. Vouchers can be used on any submission for any publication.
- Deferred payment option: Organizations are invoiced quarterly for the number of packages submitted by their authors in the previous quarter. Participants must enter into a contract of at least one year in duration and may cap the number of submissions for which they are charged.

While base DPCs cover the entire cost of most submissions, additional charges apply when data packages are in excess of the 20GB size limit. Submitters are charged \$50 for each additional 10GB, or part thereof. (Packages between 20 and 30GB = \$50, between 30 and 40GB = \$100, and so on).

Summary of 2018 payment plan options

Payment plan	For Sustainer/ Supporter members	For all others
Subscription	annual fee based on \$40 per published research article	annual fee based on \$50 per published research article
Usage: Prepaid	\$95 per data package	\$105 per data package
Usage: Deferred	\$105 per data package	\$115 per data package

Sponsoring organizations

As of 2018, more than 30 organizations sponsor DPCs on behalf of researchers and authors. The publishing organizations in this list collectively sponsor DPCs for 83 titles, while the research organizations sponsor DPCs on behalf of their affiliated researchers wherever they choose to publish. An up-to-date list of journals with sponsored DPCs is available at http://datadryad.org/pages/journalLookup. Sponsoring organizations:

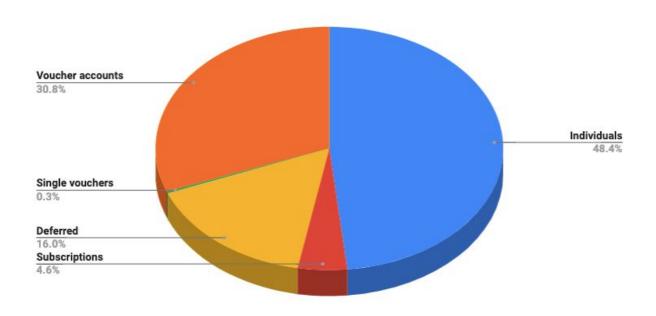
- ACSESS (Alliance of Crop, Soil, and Environmental Science Societies)
- American Genetic Association
- American Medical Informatics Association
- American Society of Naturalists
- American Society of Plant Biologists
- American Society of Plant Taxonomists
- Association for Tropical Biology and Conservation
- Behavioral Ecology
- British Ecological Society
- British Editorial Society of Bone and Joint Surgery
- Canadian Healthy Oceans Network (CHONe)
- Diversity and Distributions

- Ecological Society of America
- Ecology and Evolution
- eLife
- European Respiratory Society
- European Society for Evolutionary Biology
- Evidence-Based Preclinical Medicine
- Evolutionary Applications
- German National Library of Medicine
- Global Ecology and Biogeography
- Journal of Biogeography
- Journal of Consumer Research
- Journal of Experimental Botany
- Journal of Systematics and Evolution
- Kellogg Biological Station
- Molecular Ecology
- Molecular Ecology Resources
- NIOO-KNAW
- Nordic Society Oikos
- Oxford University Press
- Society for the Study of Evolution
- Society of Systematic Biologists
- The Genetics Society
- The Palaeontological Association
- The Paleontological Society
- The Royal Society
- Toxicological Sciences
- University of Chicago Press
- University of Rochester
- US Fish and Wildlife Service

Revenue, by payment plan, 2018 (in USD)

	Q1	Q2	Q3	Q4	Total
Subscription Plan	\$43,533	\$37,050	\$29,913	\$27,593	\$138,089
Prepaid Plan	-	5,250	2,375	13,825	21,450
Deferred Plan	28,672	14,490	19,740	22,470	85,372
Single vouchers	-	-	2,625	-	2,625
Individuals	42,050	44,400	51,000	43,200	180,650
Total	\$114,255	\$101,190	\$105,653	\$107,088	\$428,186

2018 data packages by payment plan type



Fee waivers

Fee waivers are granted upon request for submissions originating from researchers based in countries classified by the World Bank as low-income or lower-middle-income economies. Waivers were granted for 88 data packages in 2018, compared with 98 in 2017.

Grants

In addition to the budget for the nonprofit, a three-year \$762K sustaining award from the US National Science Foundation started in September 2016. Dryad was also the subrecipient of approximately \$20K from the Robert Wood Johnson Foundation for a collaborative project with the Odum Institute entitled "Increasing the Value of Open Access through Open Data Publication Policies." The University of North Carolina at Chapel Hill partnered with Dryad on these awards.

Downloads and web traffic

There were approximately 44,000 data file downloads in 2018. Although most activity from automated "bots" has been filtered out of these statistics, they may still include counts from programmatic access and individual users downloading files multiple times.

The five most frequently downloaded data packages published in 2018

Data	Publication	Downloads
Jeffrey NW, et al. Data from: Genome-wide evidence of environmentally mediated secondary contact of European green crab (Carcinus maenas) lineages in eastern North America. https://doi.org/10.5061/dryad.bq27d	Jeffrey NW, et al. Genomewide evidence of environmentally mediated secondary contact of European green crab (Carcinus maenas) lineages in eastern North America. Evolutionary Applications. https://doi.org/10.1111/eva.12601	2,075
Stafford KM, et al. Data from: Extreme diversity in the songs of Spitsbergen's bowhead whales. https://doi.org/10.5061/dryad.1ck400f	Stafford KM,et al (2018) Extreme diversity in the songs of Spitsbergen's bowhead whales. <i>Biology Letters</i> . https://doi.org/10.1098/rsbl.2018.0056	580
Bennett JM, et al. Data from: GlobTherm, a global database on thermal tolerances for aquatic and terrestrial organisms. https://doi.org/10.5061/dryad.1cv08	GlobTherm, a global database on thermal tolerances for aquatic and terrestrial organisms. <i>Scientific Data</i> . https://doi.org/10.1038/sdata.2018.22	455
Faraut MCM, et al. Data from: Dataset of human medial temporal lobe single neuron activity during declarative memory encoding and recognition. https://doi.org/10.5061/dryad.46st5	Faraut MCM, et al. Dataset of human medial temporal lobe single neuron activity during declarative memory encoding and recognition. <i>Scientific Data</i> . https://doi.org/10.1038/sdata.2018.10	429
Storchová L, Hořák D. Data from: Life-history characteristics of European birds. https://doi.org/10.5061/dryad.n6k3n	Storchová L, Hořák D (2018) Life-history characteristics of European birds. <i>Global Ecology and Biogeography</i> . https://doi.org/10.1111/geb.12709	355

Web traffic

Dryad collects a variety of web analytics for https://datadryad.org, but pays particular attention to the number of "sessions," or visits from the same user with gaps of no more than 30 minutes between subsequent hits. The number of sessions increased 13%, from 348,875 in 2017 to 392,754 in 2018, with growing usage worldwide.

Sessions by language (top 5)

Language	Percentage
English	61%
Chinese	9%
Spanish	3%
Portuguese (Brazil)	2.5%
French	2%

Sessions by country (top 10)

Country	Percentage
United States	31%
China	8.5%
United Kingdom	7%
Japan	4%
Germany	4%
Canada	4%
Australia	3.3%
India	3%
France	3%
Brazil	3%

Outreach

"News & Views" blog

There were 12 posts to http://blog.datadryad.org in 2018, and the blog received about 8,600 views from about 5,700 visitors, an increase from the previous year.

Blog posts from 2018, in reverse chronological order

• Five-ish Minutes With: BOD Chair Charles Fox

- Dryad celebrates international data
- The way forward at Dryad
- Technical update Schema.org and Google Dataset Search
- Dryad welcomes Scheld as new Executive Director
- Introducing the Dryad BOD Class of 2021
- Open data tips from the Dryad curation team | Part 2: Endangered species
- Dryad partnering with CDL to accelerate data publishing
- Dryad and the GDPR
- Dryad to join launch of the Data Curation Network
- Open data tips from the Dryad curation team | Part 1: Human subjects
- Dryad Executive Director to pursue new opportunities

Blog readership, by country (top 5)

Country	Number of visits
USA	4,343
UK	605
China	360
Germany	299
Canada	276

Twitter

The @datadryad Twitter following continues to grow. Our account had roughly 13,000 followers by the end of 2018 (up 7% from the year before). We also continue to post all new data packages, and Featured Data, to @datadryadnew.

Conferences and events

Dryad had a presence at the following events in 2018:

- American Geophysical Union Annual Meeting, 14 December, Washington DC
- CNI 2018 Fall Meeting, 11 December, Washington DC
- SciDataCon-IDW/RDA, 5-8 November, Botswana
- AAU-APLU Workshop on Accelerating Public Access to Research Data, 29-30 October, Washington DC
- Workshop on Research Objects (RO2018), 29 October, Amsterdam, Netherlands
- FORCE18, 11 October, Montreal Canada
- COASP annual meeting, 19 September, Vienna Austria
- NLM/NIH Conference, June, Bethesda, MD
- Society for Systematic Biologists annual meeting, 1-4 June, Columbus OH
- Society for Scholarly Publishing annual meeting, 29 May, Chicago IL