

Practical tips for Open Science in Ornithology

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Dr. Steffi LaZerte

Analysis and Data Tools for Science



Resources
English slides
Diapositive françaises

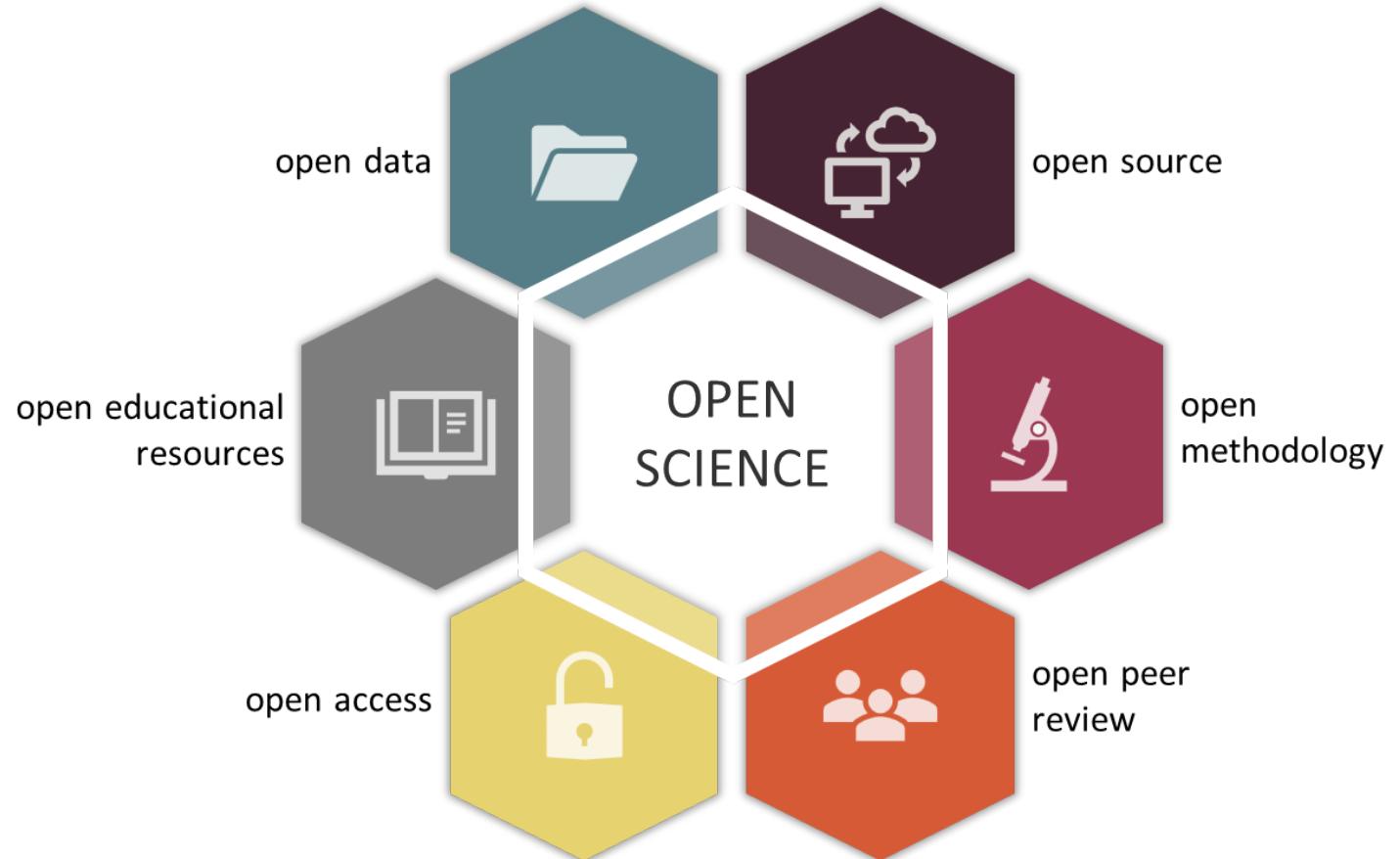


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What is Open Science?

Transparent and accessible

- Data
- Methodology
- Code
- Peer Review
- Paper Access



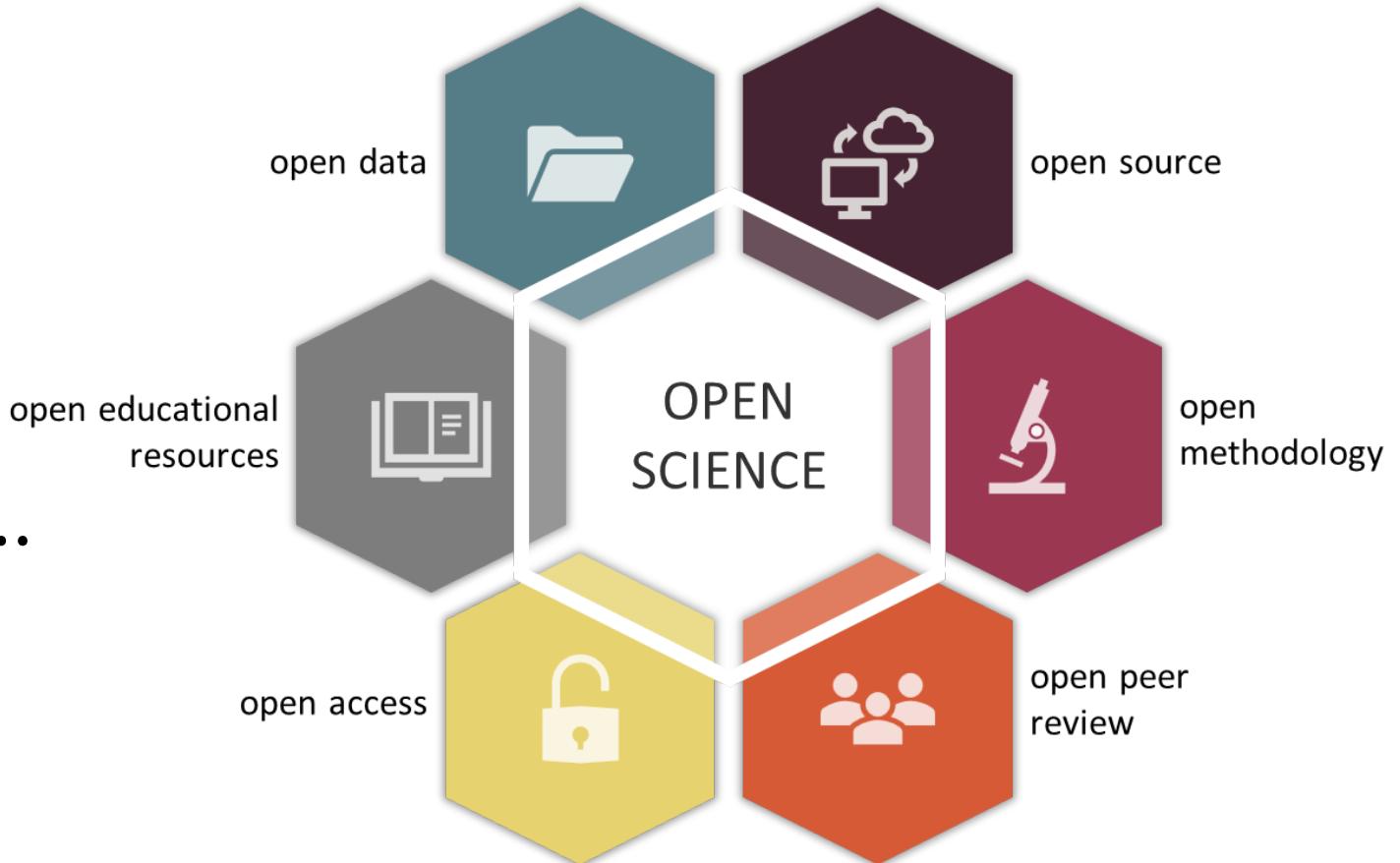
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Implementing this can be hard...

- Takes time
- Takes skill
- Takes \$\$\$ (sometimes)
- Takes courage



Whoa! That's a lot

Why do Open Science?



[Grey-crowned crane](#) - Kuribo, CC BY-SA 2.0

Why do Open Science?

Good for Science  (and Ornithology)

Eurasian eagle owl - Robert C.



Why do Open Science?

Good for Science (and Ornithology)

- Support science and research everywhere
 - Small non-profits, labs/groups with less funding

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- Science is more robust and reliable
 - Complex analyses and best practices (e.g., genetics, eBird)

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Why do Open Science?

Good for Science (and Ornithology)

- Support science and research everywhere
 - Small non-profits, labs/groups with less funding
- Science is more robust and reliable
 - Complex analyses and best practices (e.g., genetics, eBird)
- Improves collegiality and collaboration
 - Avian Conservation & international collaborations

Eurasian eagle owl - Robert C.



Why do Open Science?

Good for You !

- Visibility, show your skills
- Get credit for *all* your work (SOPs, complex analyses)
- Portfolio pieces

You might have to 😊

- Required by granting agencies and government



How do we *do* Open Science?

Open Data, Methodology & Code

1. Get it online!

- Post in a repository: data, code, or catch-all

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2. Aim for long-term storage

Open Data, Methodology & Code

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3. Consider how you work

- Data and catch-all:  [Dryad](#),  [figshare](#),  [Zenodo](#), etc.
- Project-based:  [Open Science Framework \(OSF\)](#); Quarto Manuscripts on  [GitHub](#)
- Code-based:  [GitHub](#) (when paired with  [Zenodo](#))

For example...

 GitHub with  Zenodo

steffilazerte / bluebird_migration

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DOI 10.5281/zenodo.6885688 status published

Rapid shifts in migration routes and breeding latitude in North American bluebirds

Published in *Ecosphere* 2022

Jared Sonneitner¹, Steffi LaZerte², Ann E. McKellar³, Nancy J. Flood¹, and Matthew W. Reudink^{1,*}

* Corresponding Author

¹ Department of Biological Sciences, Thompson Rivers University, Kamloops, BC V2C 0C8, Canada

² Department of Biology, Brandon University, Brandon, MB R7A 6A9, Canada

³ Wildlife Research Division, Environment and Climate Change Canada, Saskatoon, SK S7N 0X4, Canada

Scripts for the manuscript and publication: Rapid shifts in migration routes and breeding latitude in North American bluebirds

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- Consider open reviews



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Avian Conservation & Ecology



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July 2025

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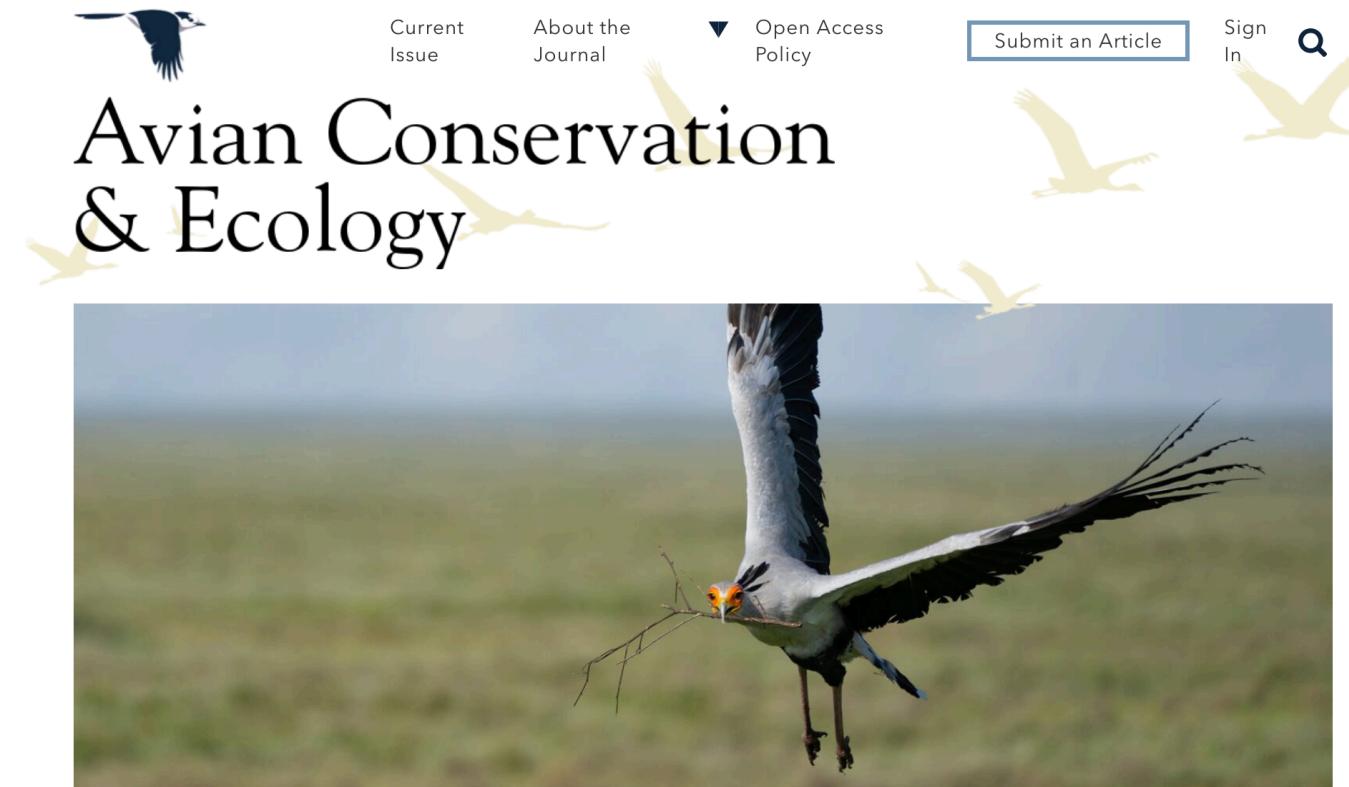
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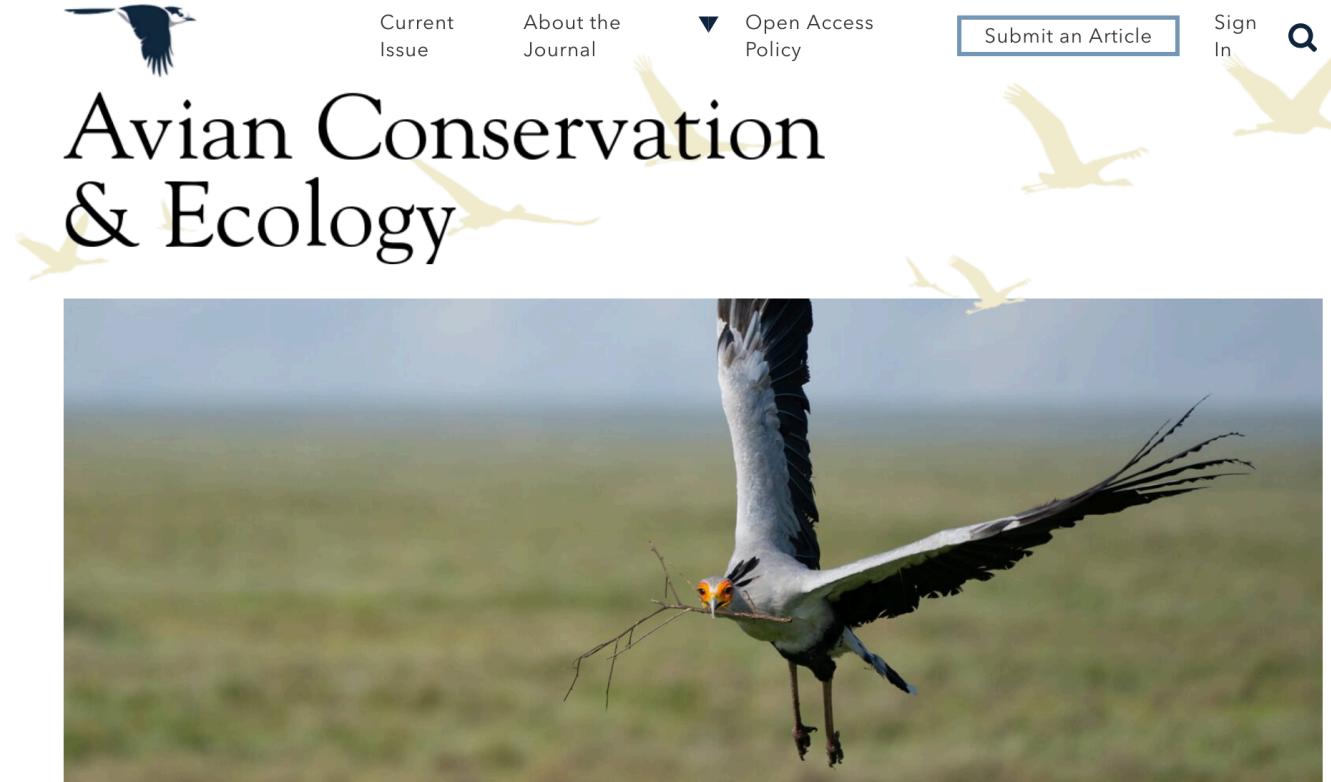
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Open Access (with some \$\$\$)

- Write funds into your grant
- Look for non-profit journals



The image shows the cover of the journal "Avian Conservation & Ecology". At the top left is a small blue bird logo. To its right are links for "Current Issue", "About the Journal", and "Open Access Policy". Further right are buttons for "Submit an Article" (in a blue box) and "Sign In". A magnifying glass icon is at the far right. The title "Avian Conservation & Ecology" is centered above a large photograph of a Secretary bird in flight, carrying twigs in its talons. Several smaller birds are visible in the background sky.

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Now for some tips...

Tip 1

Don't try to do everything

Tip 1: Don't try to do everything

“Perfect is the enemy of good” – Voltaire

- Be kind to yourself, don't expect perfection
- You're allowed to start small



and grow!



Tip 2

Do one new thing

Tip 2: Do one new thing

On every project, expand your skill set, just a little bit

A code example...

- 1st time - keep a script of your analysis
- 2nd time - share the script in a data repository
- 3rd time - share on GitHub (with the browser upload)
- 4th time - share on GitHub (with git!)

Next thing you know, you're sharing code *and* learning new tools



Tip 3

It's okay to be nervous

Tip 3: It's okay to be nervous

and remember you're awesome!



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“What if I make a mistake?”

- Mistakes happen -> But you’re being transparent!



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“What if someone steals my data/idea?”

- It’s easier to make up data than to steal data
- You have a record!



Tip 3: It's okay to be nervous

and remember you're awesome!

“What if I make a mistake?”

- Mistakes happen -> But you’re being transparent!

“What if someone steals my data/idea?”

- It’s easier to make up data than to steal data
- You have a record!

It’s also okay to keep it private to start



Tip 4

Work with others

Tip 4: Work with others

Organizations / Communities



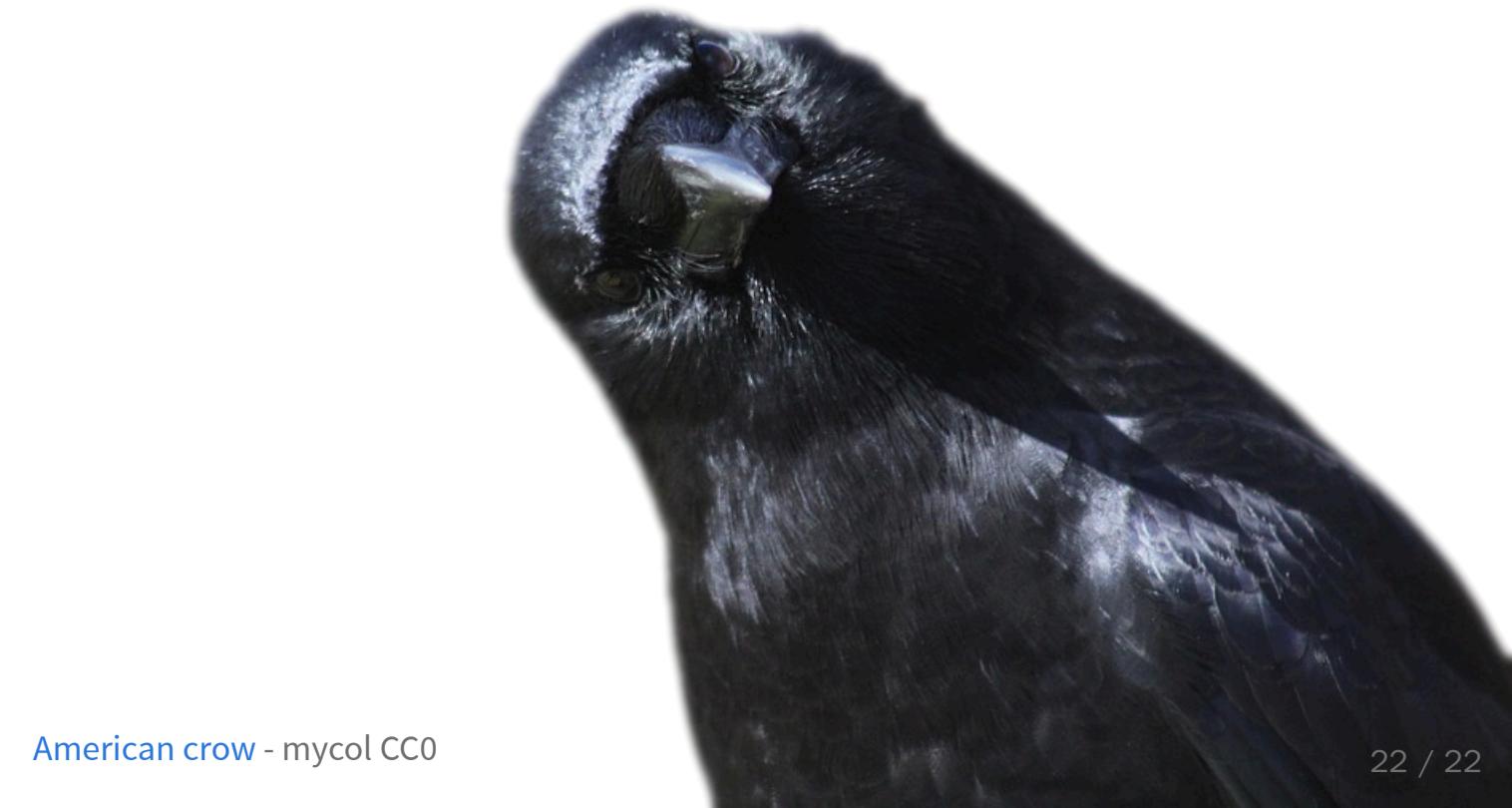
SCO-SOC!

- Networking Mixer - Coming up soon!



Open Science for Ornithologists!

- Tip 1: Don't try to do everything
- Tip 2: Do one new thing
- Tip 3: It's okay to be nervous
- Tip 4: Work with others



American crow - mycol CC0

Open Science for Ornithologists!

- Tip 1: Don't try to do everything
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- Tip 3: It's okay to be nervous
- Tip 4: Work with others

Thanks to Alex Koiter for ideas and brainstorming!

(See Alex's talk, [Open and Reproducible Soil Science](#))

Thank you!

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