

Recipe for the discussion of a data paper

Data papers are the most typical scientific paper – i.e., the ones in which you present and analyse data. They usually follow a standard intro, methods, results, discussion format.

Each point below should be covered in 1-3 paragraphs; some can be merged, depending on context, and the conclusion is often just 1-2 sentences.

1. Summarize the main results. 'Our results show that...' in one or two paragraphs of plain, easy-to-understand English without accompanying statistics. Do NOT start the discussion by repeating what you've done; if the reader doesn't know by now, they clearly haven't been paying attention and they can go back and read the methods section.
2. Say a bit more about anything unusual or unexpected about the results, or of particular interest in your context. Emphasize novelty.
3. Explain why you think you got the results that you did. Do they support a particular hypothesis, are there multiple mechanisms, etc.
4. Discuss how the results relate to the work of others - i.e., have other scientists analysed this problem before, and did they get the same result? If not, what explains the difference(s)? This shouldn't be a massively detailed review, just a few paragraphs about the most relevant pieces of research that is similar to yours. It's fine to be critical, but being obnoxiously rude about other people's work (read: potential reviewers) doesn't help you to get your own work published.
5. Mention any concerns or potential weaknesses in your own analysis, being careful not to shoot yourself down. You could also merge this with #3.
6. Finish off by indicating how future research can build on what you've done
7. Offer a strong concluding statement that presents a take-home message from the paper.