

How to publish a statistical paper in hydrology?

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Introduction

- **Why should we write a paper?**
 - To communicate findings
 - Make it available – so that others can build on it
 - Get credit for your research
 - It is good for your career
 - Required by sponsors



Introduction

- **Statistical papers**
 - Based on data
 - Assumptions
 - No or little about processes
 - Little on numerical solutions



General elements of paper writing

- **Title**
- **Abstract**
- **Introduction**
- **Methods (Data)**
- **Results**
- **Conclusions**



Title

- **Precise – indicating the contents**
- **Attractive**
- **Condensed message of the paper**
- **Not very technical (complicated terms)**
- **Good for search engines**



Title

- **Abstract:**
 - Motivation and goals
 - Hypothesis
 - Approach
 - Findings
- **Introduction**
 - Hypothesis
 - Relation to state of the art



Methods / Data

- **Describe the approach**
 - Clear assumptions and rational
 - Reproducible form
 - Describe data and context



Results

- **Describe how the methods worked**
 - Goal reached or not
 - Only relevant information
 - Do not overload
 - Not a technical report or a thesis!
 - Do not only select the best results
 - Not honest → misleading others
 - Tables and Figures for illustration



Conclusions

- **Message of the paper**
 - Goals reached?
 - How to go further
 - Short!



Figures and Tables

- **Figures**

- Condense results

- Clear and easy to understand
 - Self explaining and labeled
 - Not ART

- **Tables**

- Precise information

- Not too much

- Right format (decimals ...)



Others

- **Acknowledgements**
 - It does not reduce the work if you acknowledge contributors
 - Authors (?)
- **References**
 - Only those which are relevant
 - Reference papers which may contain parts (?)



Others

- **Co-authors**
 - Contribution to the paper
 - Order
 - First – main author
 - Last – second most important
- **Reviewers suggestions**
 - Select knowledgeable scientists
 - Friends (?)



Others

- **No Plagiatism !!!!!**
 - Methods
 - Data
 - Text
- **No cherry picking**
- **Language**
 - If not sure look for help



Specific for statistical papers

- **What is a statistical paper in hydrology**
 - Experiment data
 - Observation data
 - Properties
 - Prediction
 - Extremes
 - Climate change
 - Forecasting



Clear formulation of the
Study goals
Scientific hypothesis
Methodology

Remember that all models are wrong; the practical question is how wrong do they have to be to not be useful.



- **The reader of the paper**
 - May know less theoretically
 - Certainly knows less about your case
- **Describe what is necessary**
 - Data
 - Assumptions
 - Methods



Intuition

- **Why did you select your topic**
 - Specific properties of the data
- **Why are the methods appropriate**
 - Small examples as illustration



Equations

- **Equations**
 - Precise
 - Compact
 - Notations
 - Symbols have to be explained
- **Not all readers like equations**



Practical remarks

- **Do the research first**
 - Document as much you can (avoid repetition)
 - Prepare precise description of methodology
 - If you use ready software
 - Know what it is doing
 - Understand the assumptions
 - Acknowledge
 - Write the paper as a draft first
 - Document what you think
 - Reformulate for final version



Publication process

- **Submit manuscript**
 - If you are sure about the quality
 - Select the appropriate journal
 - JoH, WRR, HESS, HSJ, AWR, HP, HR, Water
 - Follow the instructions (format)
 - Be patient



Revision

- **Editors decision**
 - With or without review
 - Appropriate for the journal
 - New and general
 - Supported by results and discussion
 - Reviews:
 - Some are superficial
 - Aggressive
 - Precise and useful
- **Take some time before you react!**



Revision

- **Resubmitting a paper**
 - Different journal
 - Can use the same reviewers
 - Better to take the comments into account

