Peer Review Checklist – Climate Science

Created by Linda van Garderen – lindavangarderen.com

Initial Review Setup

☐ Check availability and time commitment
☐ Confirm no conflicts of interest with authors
☐ Skim introduction, figures, and conclusion
☐ Note early red flags (overreach, gaps, unclear claims)

Abstract & Expectations

☐ Read abstract carefully
☐ Write down expectations for methods, data, claims
☐ Note immediate questions to follow up later

Full Paper Review

☐ Identify the core scientific claim
☐ Assess whether methods support the claim
☐ Check if data and scale match the research question
☐ Evaluate clarity, transparency, and reproducibility of methods

Figures and Results

☐ Check if figures support the text and are well-labeled
☐ Verify color scale is intuitive and colorblind-friendly
☐ Assess whether uncertainty is shown (error bars, shading)
☐ Ensure captions are self-contained and descriptive

Discussion and Claims

☐ Check for overinterpretation of results
☐ Confirm uncertainties are acknowledged and discussed
☐ Look for unsupported leaps in reasoning or conclusions

Literature and Limitations

☐ Evaluate how well the paper is embedded in existing literature
☐ Check whether limitations are clearly and honestly discussed

Final Review Summary

☐ Write a brief, neutral summary of the paper's purpose and findings
☐ List main strengths
☐ Note major comments or concerns
☐ List minor comments, organized by paper section