

Writing Abstracts

Use this worksheet to practice what is discussed in

- **Information sheet 1: Writing Abstracts – The Basics and 1a: Writing Abstracts – Verb Tense and Reducing Word Count.**

Task

Step 1. Read the abstract below.

Step 2. Answer the questions on the next page.

For convenience, the sentences have been numbered and the main (finite) verb(s) – the one attached to the subject(s) of the sentence - has (have) been underlined.

Abstract (Adapted from: <https://doi.org/10.1175/JAS-D-18-0296.1>)

The Influence of Vertical Wind Shear on Moist Thermals

Peters, John, M. 2019. *Journal of Atmospheric Science*.

1) Although it is well established that vertical wind shear helps to organize and maintain convective systems, there is a longstanding colloquial notion that it inhibits the development of deep convection. 2) To investigate this idea, the vertical momentum budgets of sheared and unsheared moist thermals were compared in idealized cloud model simulations. 3) Consistent with the idea of vertical wind shear inhibiting convective development, convection generally deepened at a slower rate in sheared simulations than in unsheared simulations, and the termination heights of thermals in sheared runs were correspondingly lower. 4) These differences in deepening rates resulted from weaker vertical acceleration of thermals in the sheared compared to the unsheared runs. 5) Downward-oriented dynamic pressure acceleration was enhanced by vertical wind shear, which was the primary reason for relatively weak upward acceleration of sheared thermals. 6) This result contrasts with previous ideas that entrainment or buoyant perturbation pressure accelerations are the primary factors inhibiting the growth of sheared convection. 7) A composite thermal analysis indicates that enhancement of dynamic pressure acceleration in the sheared runs is caused by asymmetric aerodynamic lift forces associated with shear-driven cross flow perpendicular to the direction of the thermals' ascent. 8) These results provide a plausible explanation for why convection is slower to deepen in sheared environments and why slanted convection tends to be weaker than upright convection in squall lines.

Questions

1) Abstract Structure - Which sentences answer Questions 1-4 in Information Sheet 1: Writing Abstracts - Basics?

Question 1)	Answered by Sentence(s) ...
Question 2)	Answered by sentence(s) ...
Question 3)	Answered by Sentence(s) ...
Question 4)	Answered by sentence(s) ...

2) Verb Tense - The text books suggest using the following verb tenses in an abstract

- Background information and challenge – present tense (or present perfect)
- Methods – simple past tense (or present perfect)
- Results – simple past tense
- Discussion/conclusion – simple past and present tense (or present perfect)

Is this advice followed?

3) Reducing Word Count - Can you shorten the text without losing information?

Answers

Question 1)

Question 1) is answered by sentence 1

Question 2) is answered by sentence 2

Question 3) is answered by sentences 3, 4, 5, 7

Question 4) is answered by sentences 6, 8

Question 2

Yes, generally, the abstract does follow the suggested verb tense. However, Sentence 7 is written in the present tense, leaving it unclear as to whether the analysis was conducted or a factual statement is being made.

Question 3)

Here are ideas for shortening some of the sentences

Sentence 1) Although it is ~~well~~ established that ... helps ~~to~~ organize ..., there is a ~~longstanding colloquial~~ notion that it inhibits the development of deep convection ~~from developing~~.

Sentence 3) Consistent with the idea of vertical wind shear inhibiting ...

Sentence 6) This result contrasts with ~~previous~~ ideas that ...

Sentence 7) A composite thermal analysis indicates that ~~enhancement of~~ dynamic pressure acceleration in the sheared runs is *enhanced by* ...

Sentence 8) These results ~~provide a plausible explanation for~~ *plausibly explain* why ...