

Dear Sir,

I am writing to let you know about some mistakes that were only noticed later. Please note the following errors:

1) (TS3)

A typo has been spotted in the “turbulent transport” term in equation 2 on page 4, which relates to turbulent kinetic energy. As this term behaves similarly to the “advection” term, replacing the plus symbol with a minus symbol should correct the equation.

$$\frac{\partial e}{\partial t} = \underbrace{-\frac{1}{\rho_{\text{ref}}} \frac{\partial}{\partial x_j} (\rho_{\text{ref}} e \overline{u_j})}_{\text{Advection}} - \underbrace{\overline{u'_i u'_j} \frac{\partial \overline{u_i}}{\partial x_j}}_{\text{Shear}} + \underbrace{\frac{g}{\theta_{v,\text{ref}}} \overline{u'_3 \theta'_v}}_{\text{Buoyancy}} - \underbrace{\frac{1}{\rho_{\text{ref}}} \frac{\partial}{\partial x_j} \left(\overline{\rho_{\text{ref}} u'_j \frac{u_i'^2}{2}} + \overline{u'_j p'} \right)}_{\text{Turbulent transport}} - \underbrace{\epsilon_e}_{\text{Dissipation}}$$

In addition, the correct formulation for the «K-Gradient» term (on page 4, line 38) is:

$$\overline{u'_j \frac{u_i'^2}{2}} = -C_{2m} L_m e^{\frac{1}{2}} \frac{\partial e}{\partial x_j}$$

(The requested changes are written in red in the preceding equations.)

This does not change the paper's content. It is only a typo.

2) (TS4 and TS10)

In figures captions 4 and D1, the units displayed are $\text{m}^2 \text{s}^{-3} \times 10^5$ in the paper. However, it should be $10^5 \times \text{m}^2 \text{s}^{-3}$ instead (a minus sign has been omitted).

It is a typo. It does not affect anything in the paper.

3) (TS5)

A typo has been spotted in equation 24 on page 11. The turbulent kinetic energy equation is written as follows:

$$\frac{\partial e_u}{\partial z} \simeq -\frac{\epsilon}{1 - a_u} \left(e_u - e - \frac{1}{2} \left(1 + \frac{a_u^2}{1 - a_u} \right) \sum (\overline{u_{iu}} - \overline{u_i})^2 \right)$$

However, it should be written as follows:

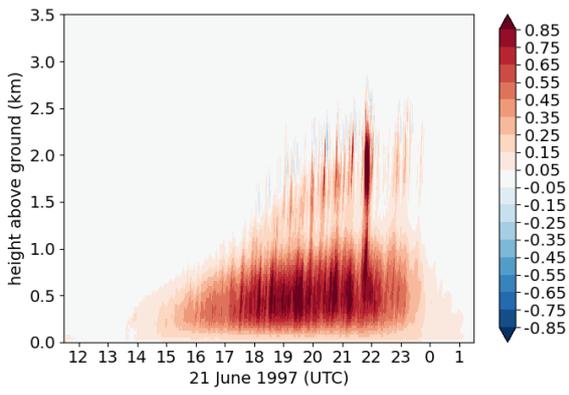
$$\frac{\partial e_u}{\partial z} \simeq -\frac{\epsilon}{1 - a_u} \left(e_u - e - \frac{1}{2} \sum (\overline{u_{iu}} - \overline{u_i})^2 \right)$$

(Removal of the bracketed factor for the last term.)

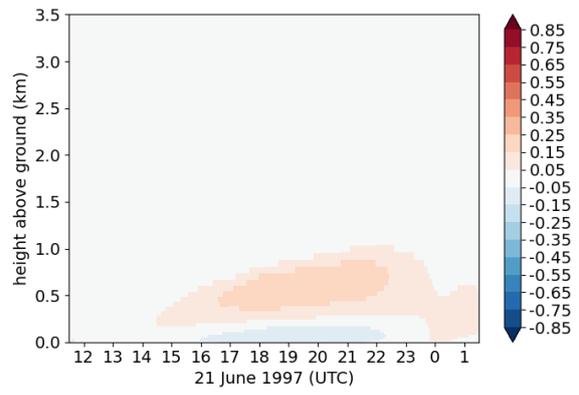
The removed term does not appear in our results because it is just a typo that occurred when the manuscript was created.

4) (TS6)

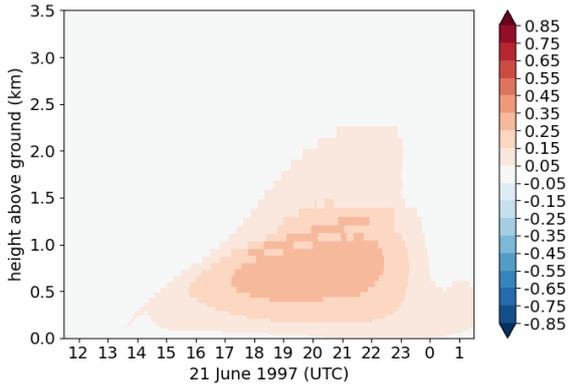
In Figure 5 on page 12, we unintentionally provided the incorrect Figure for Panel 5 (c) only. Currently, the Figure given in the article is:



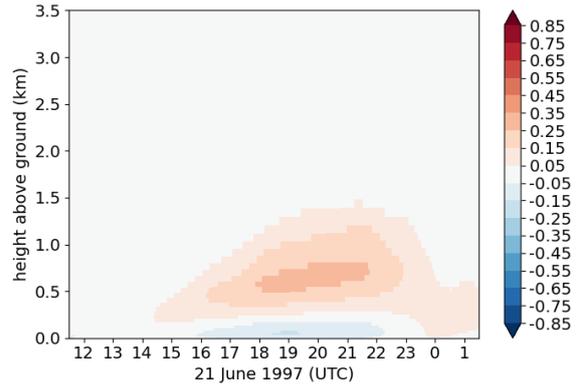
(a) LES



(b) CTRL

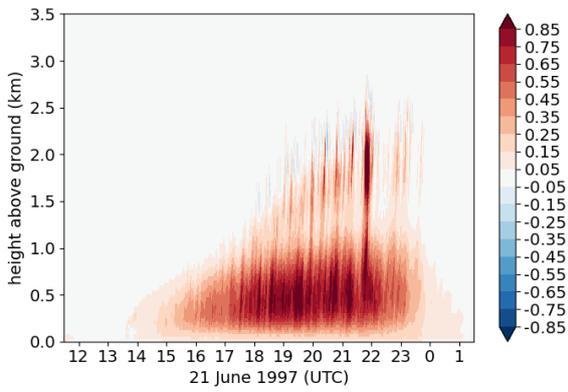


(c) CTRL + Eq. (23)

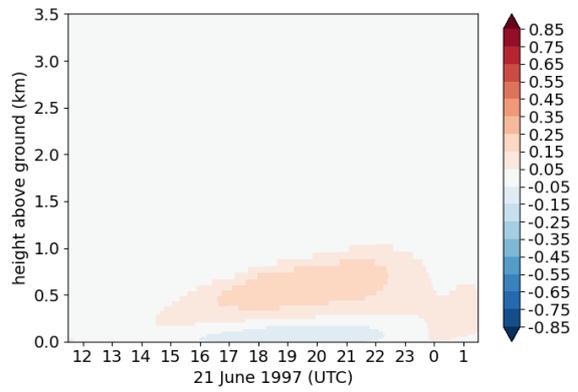


(d) CTRL + Eq. (25)

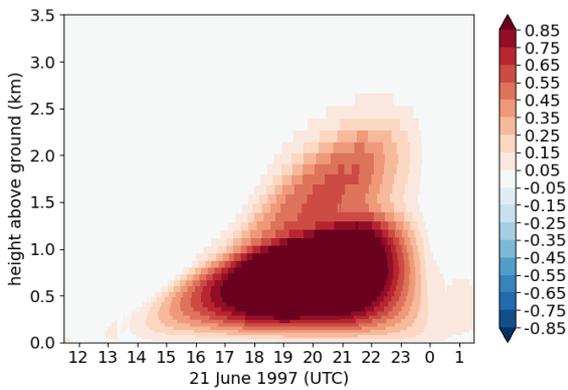
And the updated Figure should be:



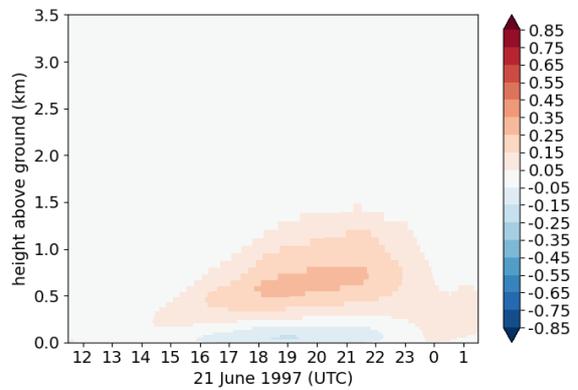
(a) LES



(b) CTRL



(c) CTRL + Eq. (23)



(d) CTRL + Eq. (25)

In the text, this Figure is only used in two places (page 11, line 9-21 and page 18, line 13-16) to justify the relevance of term $\sum (\overline{u_{iu}} - \overline{u_i})^2$, which is often omitted in the literature. The turbulent flux distribution is not changed, only its intensity has increased, which is consistent with the text (due to common “mass flux” biases). Therefore, this change does not affect the scientific content of the paper.

Apart from these two places, Figure 5 (c) is not reused in the rest of the paper.

I remain at your disposal for any further comments or discussions.

Kinds regards,

Adrien Marcel