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Interactive comment on "Distinct wind convergence patterns due to thermal and momentum forcing of the low level jet into the Mexico City basin" *by* B. de Foy et al.

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The authors would like to thank the referees for their thoughtful review and valuable suggestions. These will help to tighten up and improve the paper, especially the discussion section.

The major comment from referee #1 covers comments 6-9 of referee #2. The discussion was modified to better distinguish gap flows from low level jets, including a change in title for the final version to: "Distinct wind convergence patterns in the Mexico City basin due to the interaction of the gap winds with the synoptic flow".

Vertical profiles of wind speed and direction in the Chalco passage and at CENICA

have been added to better analyse the presence and morphology of the gap winds and to provide a better indication of jet thickness. “Jet strength” and “Jet time” were replaced with “Influx strength” and “Influx time”. This better reflects what is being measured and broadens out the discussion to sweeping southerly flows through the basin. The link with the work of Doran and Zhong (2000) was clarified. In particular, due to differences in data availability, the present study does not focus on lower level jets exclusively but looks at the broader category of gap winds. Therefore, while the discussion on thermal forcing does not contradict the work of Doran and Zhong, it does highlight the importance of momentum forcing for the conditions during MCMA-2003.

Minor comments are also on target and have been addressed in the revised version. A new figure was added for model/observation time series comparison at CENICA. Cloud formation in the model was found to agree qualitatively with satellite imagery, and plots of cloud have been added to the vector plots. Determination of jet thickness was better described and illustrated by the vertical profiles at CENICA and in the passage. The paper of Jazcilevich et al.(2005), which studies the same phenomenon, was added to the literature review.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 11055, 2005.