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Interactive comment on “Atmospheric pollutant outflow from southern Asia: a review” by M. G. Lawrence and J. Lelieveld

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Lawrence and Lelieveld’s review paper on air pollution outflow from southern Asia is well structured, well written, and a pleasure to read. The division of the paper into sections discussing outflow during three periods (winter monsoon, summer monsoon, and monsoon transition) makes sense, although the differences in literature availability for the three periods results in greatly varying section lengths. The emphasis of the review on wintertime marine outflows reflects the focus of past research and available literature (anchored around INDOEX and follow-up missions), highlighting the gaps in knowledge for other periods and other outflow paths. The concluding discussion of knowledge gaps and open questions is very valuable and could be expanded further.

Initially the reader is left with some confusion about the authors’ definition of Southern

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Asia as the sum of what is usually referred to as South Asia and Southeast Asia. Perhaps the reference to Figure 1 could be moved up a page or two.

The discussion about ABC observations and effects in the Himalaya region (pages 9526, 9529-30,) would benefit from the inclusion of recent and forthcoming papers in ACPD describing observations and modeling in the Nepal Himalaya.

The review paper is long and comprehensive enough that it will serve as a reference for years to come. It will not only be read straight through in one sitting. That creates a problem with the widespread use of acronyms that are only defined in-text at the time of first use. I suggest adding a table of acronyms.

In addition, I have the following specific comments about tables and figures:

Table 1 and 2: “Source” is misspelled.

Figures 2, 10, 22, 26, 31, 32, 36, 42, 43, and 44, are too small. Enlarge at least to the point where the axis labels and other labels are font size 9 or 10 points.

Explain acronyms (such as BFB, BMB, FFB in Figure 4, SAW-ABC in Figure 9) in the captions so as to make figures self-explanatory. This is important in a paper of this length, where searching through the text for a definition can take too long.

Figure 9 should list the date of the image..

Figures 12, 21, 26, 28, 29, 30, 33, 38, 48 appear to be a bad quality scans. Both resolution and color contrast need to be increased.

In Figure 20b, the labels for clean air mass and polluted air mass are too small.

In Figure 20c, it is confusing whether the arrow on the lower left represents a wind vector, or whether it is pointing out the leading edge of the pollution front.

In Figure 21, the labels look crooked (scanned from a curved book?)

Figure 27 shows extremely distorted international borders (see for example Bhutan).

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I recommend redrawing the figure “adapting” it from the original source, rather than reproducing an original with distorted borders.

In Figure 40, the red color of the label “Monthly Mean: August 2001” is distracting. Since both figures are for the same month, and this is mentioned in the caption, I suggest removing the label.

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