

Interactive comment on “Atmospheric deposition of toxics onto the Seine Estuary, France: example of polycyclic aromatic hydrocarbons” by A. Motelay-Massei et al.

Anonymous Referee #2

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General comments:

The paper presents interesting and new data on the deposition of PAHs in the Seine Estuary. The data are presented in a concise and straight forward way, but more attention should be paid to the technical presentation of the results. A very critical comment concerns the use of English in the paper. This needs to be improved. A native English speaking person or a language professional should correct the text and title of the paper.

Specific comments:

1352 I. 19 Concerning the 600 chemicals stated: Are they purely anthropogenic or

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both natural and anthropogenic?

1354 I. 11 Exactly which uncertainties are the authors referring to?

1354 I. 14 to 19 I suggest that this paragraph on meteorological data is moved since it appears in the middle of a description of sampling and analysis of PAHs.

1354 I. 24 Please describe more clearly the procedure for shaking of samples. It is unclear how the shaking was actually performed. Was it for 20 minutes three times?

1355 I. 2 In what form was mercury added? How much was added?

1355 I. 5 If the purpose is to exchange hexane with acetonitrile why is more hexane added and in higher proportion than acetonitrile? Or does 3/1/1 refer to the final composition of the samples? Please clarify.

1355 I. 15 How many times were the recovery efficiency checked?

What is the stability of PAHs in rainwater during sampling and storage? How was this checked?

1357 I. 11 The data of this study is considerably lower than the data of Halsall et al. This is explained by a winter/summer variation. Could the deposition fluxes be calculated from the data of Leuenberger et al. for comparison?

1357 I. 15 to 22 It will be very helpful to state the number of inhabitants in the towns and cities of the study, maybe in the description of sampling sites. Is Evreux a town or a city? If it is a city, the site is probably not rural.

1358 I. 10 to 11 Please state more precisely exactly which emissions are increased. Emissions of PAHs? There has been large changes in automobile motor technology since 1983. Is the statement valid for today's cars?

The mean values are sometimes calculated and the numbers given in the text. Since the numbers cover large ranges for example 8.7 to 672 (p. 1356), the mean value may

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not accurately describe the distribution of the data and it is useful to give the median values as well. Giving the median values in Figure 6 would probably illustrate the difference between heating and nonheating seasons even better.

Conclusions: The conclusions should more precisely reflect the results of the study. Statements like, deposition fluxes of PAHs were found to vary spatially in Seine Estuary, likely due to the location of the site and to the influence of meteorological parameters, are too general and the results should be described in more details.

Technical comments:

1352 I. 23 respectively should be moved to the end of the sentence.

1353 I. 2 They instead of There. The sentence should be more clear.

1353 I. 6 air instead of atmosphere

1353 I. 14 the statement seemed to be interesting leaves the reader considering whether or not it turned out to be interesting. A more direct statement such as, it was interesting... is better.

1353 I. 19 Please clarify and correct the sentence These one were chosen so as to be able to...

1354 I. 15 Please define Mto France.

1354 I. 22 Write PAH analysis not PAHs analysis

1354 I. 23 Write Of the total volume not On the total volume

1355 I. 2 There should be a period after mercury and before no.

1355 I. 22 Does the sentence refer to the results displayed in the paper? If so please clarify the statement.

1356 I. 5 which should replace such

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1356 I. 9 see comment for 1352 I. 23

1356 I.14 No capitals in spring and summer

1356 I.17 Start new paragraph.

1356 I.21 Carcinogenic PAHs are referred to in three different ways. Here Sum of PAHcarc in Table 1 as PAHCARC and in Figure 3 as CANC. Please use the same notation during the whole paper.

1357 I. 6 see comment for 1352 I. 23

1357 I. 23 to 27 This paragraph is unclear due to imprecise language.

Figure 2. The caption should state that the figure depicts wind directions.

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