

Co-Editor's comments

Line 18: "TE" is not defined

[Response] It is defined now "trace element (TE)..."

Line 22: delete "that"

[Response] Deleted.

Line 74: "Inaccurate statistical information"?

[Response] This has been changed to "...inaccurate inventories and emission factors..."

Reviewer #2 comments

L20: "likely" is redundant.

[Response] "likely" was remove.

L22-24: The last sentence of the abstract mixes a conclusion ("this new record demonstrates that...") with a policy recommendation ("mitigation policies should be enforced..."). These are separate things. The conclusion belongs in the abstract, the policy recommendation does not.

[Response] Done. The policy recommendation "mitigation policies should be enforced..." was removed.

Introduction: Throughout the text, the words "significant" or "significantly" are used where "large", "strong" or such words would do just as well. It is best to reserve the use of the words "significant" or "significantly" to specific statements about statistical strength.

[Response] This has been changed throughout the text.

L26: "Atmospheric EMISSIONS [or LEVELS] of trace elements (...) have dramatically increased..."

[Response] Changed to "Atmospheric levels of trace elements..."

L59: Maybe "slower" instead of "lower"?

[Response] It has been changed to slower.

L99: I suggest: "Then timescale was constructed by annual layer counting, also constrained by three reference horizons (...)"

[Response] The sentence was changed as suggested.

L149: "...using the upper continental CRUST background..."

[Response] "Crust" was added.

Results and discussion:

Why is the symbol rho used for pairwise correlations in some parts of the text, and the symbol r used elsewhere? It seems inconsistent.

[Response] The Spearman correlation "r" is denoted with rho as opposed to the Pearson's correlation coefficient which is denoted with "r". We have added "Spearman correlations (correlation coefficient ρ)" in Sect. 2.4 Statistical Analysis to clarify.

L180: "A factor analysis method was performed ..."

[Response] We are not sure what the Reviewer wanted to suggest here. We changed that part of the sentence to "Factor analysis was used to assess....".

L224: "...and that overprinting DISTURBANCE of the TE records..."

[Response] Disturbance was added as suggested.

L248: This sentence should not begin by "While", but maybe by "Meanwhile, biomass ...".

[Response] "While" was replaced by "Meanwhile,..." as suggested.