

## ***Interactive comment on “Global Annual Mean Atmospheric Histories, Growth Rates and Seawater Solubility Estimations of the Halogenated Compounds HCFC-22, HCFC-141b, HCFC-142b, HFC-134a, HFC-125, HFC-23, PFC-14 and PFC-116” by Pingyang Li et al.***

### **Anonymous Referee #2**

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This work the authors compile a large set of data to investigate the atmospheric history, growth rates, seawater solubility of a series of halocarbons. These are useful information to start understanding the suitability for these gases to be used as tracers. The paper is well-written, although I found that since a major motivation for the authors to investigate all these parameters was to assess the possibility to use these halocarbon as tracers, the title should be modified to reflect this. This paper presented an important initial step to assess new generation of ocean tracers and should be published

C1

after minor revisions. My specific comments are listed below.

Page 5 lines 3 to 5: the terminology of “mid-February” and “mid-August” used to define means from January to March and July to September is confusing. I suggest the authors use a different terminology for these.

Page 6 line 33: should read “The firn air data. . .”

Page 12 line 23: should read “Based on this, we reconstructed. . .”

Page 12 lines 30 to 33: Similar to Page 5, why use such terminology? The “mid-year” mean definition for average of the monthly means also sound confusing.

Figures 2 through 9 and 12, a and b should be labeled.

Page 13 line 30: Define “S-Shape” here, as later in the paper, the authors mentioned it means Sigmoidal, and this should be defined before the “S-shape” terminology is used.

Page 21 line38: suggest revise to “because it is extremely volatile, therefore, it is difficult to trap and separate chromatographically”

Page 21 line 41: suggest revise to “. . .are only two of the many requirements. . .”

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C2