

Interactive comment on “Birch and conifer pollen are efficient atmospheric ice nuclei” by B. G. Pummer et al.

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Interesting that northern climates have higher IN as found in the leaf derived nuclei we studied at the University of Wyoming 40 years ago. With respect to the temperature ranges of the pollen ice nuclei and labeling them as being efficient I might note that when we were screening biological materials including pollens we did not classify any as good ice nuclei unless they were active (T50 in a 100 drop sample) of 260K or warmer. IN bacteria were T50 at 270K, most good leaf litters had a T50 of 265K and good marine nuclei a similar T50. We generally did not continue testing a material that had a T50 colder than 258K as there were so many better than that temperature. The pollen you tested are active at much colder temperatures. Maybe the IN community could come up with a scale where say for instance biological materials active at warmer

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than 270K are call extraordinarily active; 270-267K are highly active; 267-263K are active; 263-258K weakly active and colder than -258K relatively inactive.

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