

# ***Interactive comment on “Enjoying the ice. Dutch Winter landscapes, weather and climate in the Golden Age, 17th century” by Alexis Metzger***

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## General comments

I would like to thank the three reviewers for their remarks. All of them invite to a substantial work with major revisions. I try to answer here the main points that are, for R1, R2, R3 or all reviewers problematic.

## Specific comments

1)Written and paleoclimatic sources

About the written source first, I would have to use very precise information about the weather, if possible at a daily scale. As my main objective is to show if yes or no the

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winter paintings have truly depicted the weather conditions during this phase of the LIA, I think I cannot use other paleoclimatic data with sufficient precisions regarding the time scale. Tree rings may be useful to estimate some general climatic condition each year in the past but certainly not at a daily scale. As Christian Pfister, Pierre Alexandre or more recently Dagomar Degroot have demonstrated, written sources are the only paleoclimatic data showing climatic variabilities during days, weeks. . . So, I disagree with the comment of R1 “In my view, the paleoclimatic record could have enriched the author’s description of winter weather and climate in the seventeenth-century Low Countries. At the very least, the author should cite paleoclimatologists – not just historians”. My purpose is to show the main weather conditions that are represented in the paintings and to interrogate this representation, this imagery.

## 2) Fabricius’ diary and Buisman’s books

I am completely sure that the original source (Fabricius’ diary) would have been precious and more relevant for this paper. Buisman’s books are a secondary source and cannot have the precision of the diary. But since my PhD I have tried to find some colleagues or students who would like to analyse Fabricius’ diary and unfortunately it was not efficient. In fact, I have scanned all the diary (more than 350 pages) but it is very hard to read it. Even colleagues in medieval studies could not help me and I have no the good eyes to read that kind of source. I think it would be fantastic for a postdoc or a PhD student to decipher and analyse the diary but I don’t have a position allowing that engagement. Attached is reproduced one page of the diary. So, it is not “due to the author’s decision not to consult the primary sources Buisman described” (R1). So, I have decided to use Buisman’s books but I must say that Fabricius’ diary is quoted with a high degree of precision. Buisman has not reproduced all the diary but give, I am quite sure of that, sufficient information to produce the little statistic analyse of winter weather I produce in table 1. Even if it is not the same period, de Kraaker showed annual number of ice coverage days of canals in and around Haarlem (1670–1730) – cf. comment of R2. It was also during a cold phase of the LIA. His analyse shows that

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for this period canals were covered by ice during ca. 28 days (average of the period). I can quite seriously suppose that during March and even April some days were also frozen. Hence, as I focus only on the 3 winter months (DJF) in my paper, the average would be lower, maybe around 20 days (for 89 days DJF). It is quite similar with the percentage of frost days given by my analysis of Fabricius' diary in Buisman's book (22%).

### 3) Other sources and Degroot's studies

Of course, to respond R1, I have consulted a lot of different sources and not only Buisman's book. Degroot's Dissertation and book are rich of different sources showing how cold is experiencing by Dutch people, notably during Wars. But it was not in this paper the purpose to compare the sources and give other precisions about the diversity of winter experiences and testimonies. Furthermore, I disagree with R1 when he/she writes that : "Most seriously, the author does not cite Dagomar Degroot, *The Frigid Golden Age: Climate Change, the Little Ice Age, and the Dutch Republic, 1560-1720* (Cambridge University Press, 2018), although he does cite Degroot's dissertation. The book contains extensive passages that explore whether Dutch winter landscapes really depicted weather as it was". Of course, I have read this very interesting book but it doesn't show if the weather is truly depicted in the paintings. P. 264-268 for example there is no description of the weather, of the clouds, the snow, the ice. . . Degroot writes that "we can therefore consider them genuine cultural responses to the Little Ice Age" p. 267. In this book, cultural testimonies of the LIA are not looked with a geo-climatologist lens. That is what I would like to add in my demonstration. Moreover, I disagree with the remark "The reason that painters did not represent a weather event recorded in a diary may simply be that that weather event did not affect their locality" (R1). It is not convincing, considering the synoptic climate of the Netherlands. If Fabricius lived in a particular place, he has with any doubt experimented the diversity of winter weather that the painters (in Amsterdam, Haarlem, Kampen. . .) have also experienced. I have consulted a lot of documents written by the KNMI and it is clear that even if they

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are some gradients of temperature and precipitation in the Netherlands, the climate in Aurich (where Fabricius lived) and Amsterdam and the surroundings are not very different.

#### 4) The corpus of paintings

Indeed, the corpus of paintings is limited and it is always difficult to build a corpus. I could have selected other paintings and I wondered if it was better to build only a corpus of Avercamp's paintings, on paintings in one Museum, on paintings more specific to a period during the 17th century. . . I have weighed the pros and cons of this choices. But it appears that the exhibition in 2000-2001 showed a certain diversity of artists. I cannot demonstrate it, but I have looked at more than 1000 Dutch winter paintings in different exhibition catalogues, museums. . . I think that they are quite representative but I don't know ho to prove it more scientifically... Avercamp is not overrepresented (4 paintings) and Aert van der Neer is included (also 3 paintings). Prints were not added in the corpus in order to maintain a certain coherence (R3). For sure there is a high amount of winter landscape prints. . . But sometimes the skies (and the clouds) are not represented and the interpretation would be more restrictive. So, I hope to answer the commentary "While it is not necessary for the author to examine more paintings, a more convincing explanation should be given for the size of the sample" and "I'm curious because if one or several artists are disproportionately represented, then would not their artistic conventions (also the ups and downs of their careers) have outsized influence on the study?" (R3). I think it is not the case and I propose to add the list of 49 paintings in a supplementary material.

#### 5) State of the art – climate reconstructions with paintings

I am totally ready to add more information about different previous works that have question Dutch landscapes or more generally paintings and past images for climatic reconstructions (R2). It is one of my research field and I have published papers (in French) focusing on other paintings, related with climate issues (Sisley and the floods,

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Alexandre Hogue and the Dustbowl. . .). I also have discussed the different methods useful to analyse landscape paintings with climatic interpretations. It could be added in this paper and I totally agree with R3 when he/she writes that “it may be useful to think about how this research program has change over time and where, specifically, the author sees their own contributions intersecting its most important concerns”. But I am not sure that, as R1 writes, “Given the explosion of new scholarship in climate history, far more publications should be cited, by more diverse authors”. What is the utility of citing more and more authors instead of focusing in the main works? About J Walsh’s analyses (R3), I am not totally convinced by his remarks and commentaries about the reality of skies in Dutch paintings. With closer eyes, I am often quite sure that the skies could be *À* real *À*. Looking at the different clouds, it is totally coherent and van Ruysdael’s painting in fig. 1 (sorry for the mistake you are absolutely right) is not an exception. Here, on the contrary, I agree with Stanley David Gedzelman and his analyses of Dutch skies. He shows with very convincing arguments how they could be explained by our contemporary knowledges of weather patterns.

#### 6) The religious argument

About the different arguments in part 4, I think that the religious argument is not removable, even if it has to be more nuanced. I agree with R2 when he/she writes that “The examples given for a negative winter experience seem to be taken by pure chance and we have plenty of opposite examples both for the Middle Ages and for Early Modern Times”. I have looked at different books showing how winter was depicted in the medieval images (e.g. Pearsall and Salter, see also my paper here : [https://www.projetsdepaysage.fr/premi\\_res\\_neiges\\_le\\_paysage\\_d\\_hiver\\_dans\\_les\\_enluminures\\_xive\\_xvie\\_si\\_cle\\_](https://www.projetsdepaysage.fr/premi_res_neiges_le_paysage_d_hiver_dans_les_enluminures_xive_xvie_si_cle_)). But I emphasize that numerous images of snow appeared (in books of hours for example) but never icy landscapes. So, the imagery of “enjoyable” winter has probably changed between the medieval and catholic time (snow has positive values in different catholic texts) and the 17th century in the Reformed Netherlands. Now, ice seems to be appropriated, even if symbolic images and interpretations are possible. Calvin

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himself wrote that leisure activities were not reprehensible. I agree here with R3: “Skating, at least according to Van Suchtelen (2001), symbolized recklessness and the transience of life for instance”. R2 and R3 are totally right when they speak about art market and the mode of winter landscapes. I will add a short development in this direction.

Thank you also for your comments about minor corrections.

I will correct my paper and submit a second version.

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Interactive comment on Clim. Past Discuss., <https://doi.org/10.5194/cp-2020-81>, 2020.

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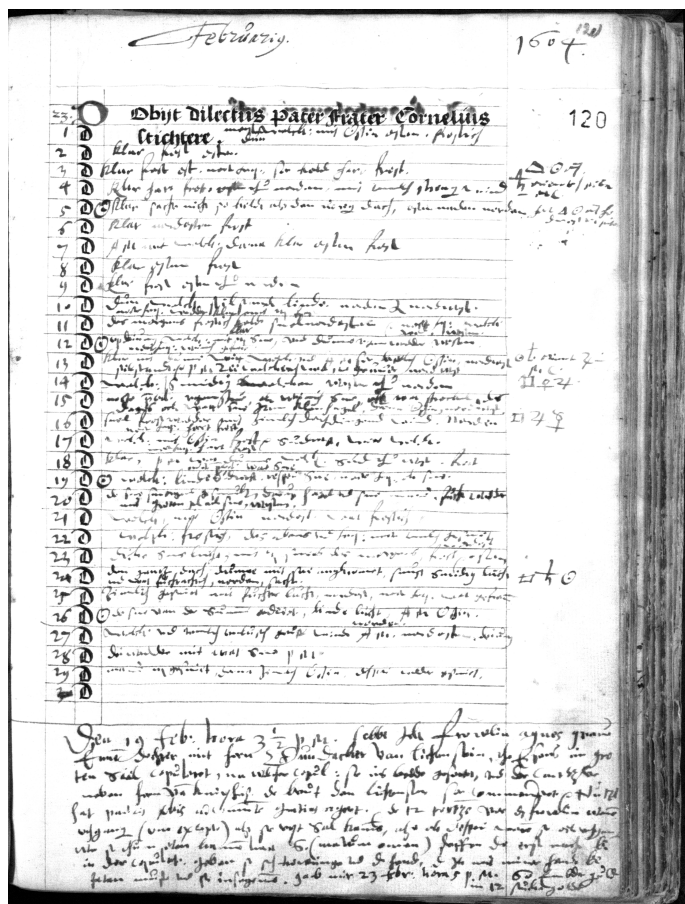


Fig. 1.