We thank Mr. Fromm for his comments (in red).

The title is specific and restrictive to tropospheric water vapor. This, and the fact that their Part I paper is similarly entitled, implies intent to limit the scope thusly. However the body of the paper includes stratospheric as well as tropospheric water vapor observations. E.g. Page 25881, L14-25; P25885, L4-5. If the authors' intent is to reflect the title, the entire stratospheric part of the paper is out of scope. Otherwise the titles and motivation of both papers need to change.

Our intent is not to only reflect the title with every sentence of the manuscript. The title cannot contain all of the intended material in a paper. Based on comments by the other reviewers, the Nabro section has been deleted, meaning that no part of the paper is out of scope. The discussion phase for the companion paper is closed so Mr. Fromm is out of place and out of time to comment on that paper.

Regarding VEI - No citation is given for the VEI construct.

We now cite Newhall and Self (1982).

VEI is not discussed in the cited Smithsonian report for Puyuhue Cordon Caulle.

VEI is quoted under the "Eruptive History" tab of the website provided. This information was present at the time of submission of this manuscript.

The manuscript is not changed based on this comment.

Moreover, VEI is qualitatively proportional to injection height, with VEI of 5 or more being strictly stratospheric. Of what relevance is a 5+ VEI to upper tropospheric water vapor?

VEI is qualitatively proportional to injection height but this statement is not complete. VEI is based on the volume of ejecta and the column height. A larger VEI implies a larger volume of water emitted into the atmosphere as a whole as well as greater capability to entrain ambient water vapour in the lower atmosphere. When a volcano erupts to a height of 15 km, for example, not every emitted or entrained molecule reaches 15 km. This is especially true for water vapour which condenses as it rises through the troposphere.

The manuscript is not changed based on this comment.

The abstract gives information that is found nowhere in the paper and which is incorrect: that the Cordon Caulle eruption was "the most explosive eruption in the past 24 years." Clearly several volcanic eruptions since 1991 have been more explosive, including Pinatubo.

24 years was obtained by subtracting 2015-1991 with the eruption of Cerro Hudson (August 1991, VEI=5) defining the start of this 24 year period. Our manuscript was accepted into ACPD on 6 September 2015 and there have been no major eruptions since then so the statement is still accurate. Pinatubo erupted in June 1991. There were later significant eruptions (with heights of

10 km) until September before the 1991 Pinatubo eruption eventually stopped. We note that the 2015 Calbuco eruption has not been assigned a VEI to date. In any case, the period from September 1991 to April 2015 rounds up to 24 years.

No change to the manuscript is necessary based on this comment.

The authors inexplicably ignore the high-latitude Grimsvotn (Iceland) eruption of May 2011. The Grimsvotn material was in the UTLS at high latitudes even before Nabro woke up. It would seem that any discussion of volcanoes and UT water vapor at high northern latitudes in 2011 has to involve Grimsvotn, which had both a head start and preferable latitude w.r.t. Nabro.

The opening sentence of Sect 3.2 clearly states that July 2011 had little indication of enhanced water vapour in the northern high latitude upper troposphere. This eliminates the local eruption of Grímsvötn as the major contributor in September 2011. At 5.5 km (the lowest available altitude level for ACE), there are only three years in which MAESTRO has a significant sample size in May and no such years for ACE-FTS due to perpetual, optically thick clouds. So not much can be said about Grímsvötn at 5.5 km and the three available years from MAESTRO are all within ±3.5% of the average of the three. Above 5.5 km, there is no suggestion of a significant positive anomaly (>6% and >1 standard deviation large than climatology) in northern high-latitude MAESTRO water vapour data that persists from May 2011 to July 2011 at any altitude (6.5-19.5 km).

No change is made to the manuscript based on this comment since the normality of July 2011 had already been discussed in Sect. 3.2.

Regarding "recent eruptions such as Kasatochi" (in the paper's wrap-up section) the authors claim that these other eruptions had little impact on stratospheric water vapor. Several issues with respect to this: 1. the authors presented no analysis of these other eruptions, 2. they give no citation, and 3. the stratosphere is of questionable relevance to the theme of upper tropospheric water vapor.

1. We presented only the eruptions which most obviously perturbed high-latitude UTWV. Puyehue was the only eruption in the southern hemisphere that was outstanding. We looked for monthly median relative anomalies that ranked first in terms of magnitude at a particular height as compared to other positive anomalies from all months of both MAESTRO and ACE-FTS high latitude data records. This led to the selection of Puyehue (July 2011, 8.5 km), Nabro (Sep 2011, 12.5-13.5 km), and Eyjafjallajökull (May 2010, 9.5 km). No other eruption met this criterion. The highest ranking negative anomalies did not appear to coincide with volcanic activity. Using this criterion essentially means that any other volcano did not enhance water vapour by ~50% over a month or in one case (6.5 km, July 2008, possibly related to Okmok), that only one instrument (MAESTRO) was able to see this low altitude frequently enough, so we chose to skip it.

2. This sentence has been deleted.

3. Mr. Fromm is correct that this statement is of questionable relevance to the main theme of the paper.