

Data Paper

Alberto Foppiano, Manuel A. Bravo, Carlos U. Villalobos, Guillermo V. Concha. Ionosonde observations at King George Island, Antarctica: 1986-1991. *Polar Data Journal*. 2020, 4, p.30-44. <https://doi.org/10.20575/00000011>

(Received 3/12/2019; Accepted 8/30/2019)

1st submission

Editor Start Date: 3/17/2019

Editor Stop Date: 6/29/2019

Reviewer #1 (5/20/2019–6/29/2019)

Reviewer #2 (5/23/2019–6/4/2019)

Reviewer #1: Yamagishi Hisao

The observation site was suitably located to form a unique network for upper atmosphere physics study. The data base is well organized, and it is worth to be published in *Polar Data Journal*. I would like to request following revisions.

1. Characters in Fig.1 are too small and cannot be recognized. It is necessary to mark the the observation site clearly in the map.

2. Figure 2 consists of four photos and pictures. Figure 2 is referred three times in Section 3. Methods, but it is not clear which photo, or picture is referred. It is better to identify each photo, or picture by marking them Fig.2(a), Fig.2(b), Fig.2(c), and Fig.2(d).

Explanations in Section 3 and figure caption of Fig.2 should be revised accordingly using Fig.2(a)~Fig.2(d).

3. In the figure caption of Fig.2, "CTR display" must be "CRT display".

4. In Table 3, column numbers from 18 to 74 are inconsistent with the table in page 6. These numbers must be 17 to 73 (subtract 1).

5. In References, order of 15 and 16 must be exchanged. In the text of this paper, IPS42 (page 3, line 14) is referenced to as 15, and Apple Graphics Tablet (page 4, line 13) is referred to as 16. Therefore, in References, 15 should be IPS42, and 16 should be Apple Graphics Tablet.

6. In References, the paper 11 should be deleted because it is not published. It is difficult to read unpublished paper. The text should be revised accordingly (Sporadic Es, bottom line of page 2). If this correction is made, reference numbers in my comment 5 should be changed.

7. It seems that explanations in Section 4. Data Records are too simple, especially those in page 5. It takes considerable time for me to understand the data format. I prepared an example of explanations (attached file) that can be replaced with those in page 5.

8. Page 1, line 4 from the bottom: "a ionospheric" should be "an ionospheric"

Page 4, line 15: "standard 13 ionospheric" should be "standard 12 ionospheric"

Page 4, line 5 from the bottom: "files names" should be "file names"

Reviewer #2: Anonymous

The paper introduces ionosonde data for 1986-1991 at King George Island, Antarctica. It is well-organized and the content is well suited to Polar Data Journal. However, the manuscript does not provide sufficient information on the data. I listed up the unclear points in the manuscript. I hope it helps to revise the manuscript.

(1) Figure 1 does not provide sufficient information on the location.

A) The sizes of characters are too small.

B) Please add geographic/geomagnetic longitudes/latitudes information in the map.

C) Please add some explanations on the red squares on the map.

(2) In the abstract, ionospheric observations at Argentine Islands, Port Stanley, and Halley Bay was addressed. However, no information was found on these data. Is it possible to add the information?

(3) From the title, readers would assume that the data is available from 1986 to 1991. But in the directory (<http://www2.dgeo.udec.cl/IONO/IPS42/islareyjorge/>), the number of files are less than 100. Why is it? It is better to explain that the data is not available for a few months.

2nd submission

Editor Start Date: 7/2/2019

Editor Stop Date: 8/6/2019

Reviewer #1 (7/8/2019–8/6/2019)

Reviewer #2 (7/3/2019–7/17/2019)

Reviewer #1

Thank you for accepting the reviewers' comments and revise the manuscript accordingly. I looked through the revised manuscript and tables, and found several points still need correction.

1. In page 6, two lines above the table (Again, rows 1 to 12,), and one line beneath the table (The meaning of numbers) are duplicated in the newly created explanation in page 5 (lines 4 and 5 from the bottom). Therefore, I would like to propose the following.

(a) Delete two lines above the table, and one line beneath the table in page 6.

(b) Move the table in page 6 to the position which is 4 lines from the bottom of page 5.

After the revision, it looks like; no heading rows are given. "the table in page 6 " The meaning of numbers

2. Author said that standard ionospheric characteristics are not 12, but 13. However, number of rows in some tables are still based on 12 characteristics. Following points should be revised.

(a) Bottom line in page 5: "36 rows" should be "39 rows" ($13 \times 3 = 39$)

(b) The first line in page 6: "12 ionospheric" should be "13 ionospheric"

(c) The second line in page 6: "rows 1 to 36" should be "rows 1 to 39"

(d) The third line in page 6 should be as follows.

rows 40 to 78. That is, rows 1 to 39 give monthly data in 00 to 11 LT, and rows 40 to 78 in 12 to 23 LT.

(e) Row number in column 0 in the table in page 6:

"1,2,3,.....36 37,38,39,.....72" should be "1,2,3,.....39 40,41,42,.....78"

(c) Column number in Table 2: "69, 70 & 71" should be "74, 75 & 76" "72 & 73" should be "77 & 78"

3. Column 12 & 13 in the table in page 6 indicates code of the ionospheric characteristic shown in Table 1. However, order of these codes (00, 03, 10, 20, 34) is different from that in Table 1 (00, 03, 04,10,42). Order of the codes in the table should be revised to be consistent with that in Table 1.

Authors Response:

We are grateful for the referee's detailed corrections suggested. They have been respectfully considered. We have tried to address all the raised points. Our replies are indicated in the following pages (in blue) and the text changes are highlighted (in red) in the new version which we are submitting now.

Response to reviewer #1;

1. In page 6, two lines above the table (Again, rows 1 to 12,), and one line beneath the table (The meaning of numbers) are duplicated in the newly created explanation in page 5 (lines 4 and 5 from the bottom). Therefore, I would like to propose the following.

- (a) Delete two lines above the table, and one line beneath the table in page 6.
- (b) Move the table in page 6 to the position which is 4 lines from the bottom of page 5.

After the revision, it looks like;

no heading rows are given. "the table in page 6 " The meaning of numbers

2. Author said that standard ionospheric characteristics are not 12, but 13. However, number of rows in some tables are still based on 12 characteristics. Following points should be revised.

- (a) Bottom line in page 5: "36 rows" should be "39 rows" ($13 \times 3 = 39$)
- (b) The first line in page 6: "12 ionospheric" should be "13 ionospheric"
- (c) The second line in page 6: "rows 1 to 36" should be "rows 1 to 39"
- (d) The third line in page 6 should be as follows.

rows 40 to 78. That is, rows 1 to 39 give monthly data in 00 to 11 LT,
and rows 40 to 78 in 12 to 23 LT.

- (e) Row number in column 0 in the table in page 6:

"1,2,3,.....36 37,38,39,.....72" should be "1,2,3,.....39 40,41,42,.....78"

- (c) Column number in Table 2: "69, 70 & 71" should be "74, 75 & 76"

"72 & 73" should be "77 & 78"

The detailed suggestions provided in comments #1 and #2 are probably related to our lack of clarity in the text of pages 5 and 6 (the red new text on revision 1). In fact, there are no duplicated text and all numbers are correct. The trouble arises because we did not emphasize enough that the hourly values files (.dat) include 13 ionospheric characteristics but the monthly median files (.pch) do not include Types of Es, i.e. there are only 12 characteristics. Also, there was some confusion between rows and

columns when referring to the tables. In the new text proposed (five last lines of page 5 and 6 initial lines of page 6) we included two sentences, deleted or included other words to make this point clear and thus confirm all the numbers.

3. Column 12 & 13 in the table in page 6 indicates code of the ionospheric characteristic shown in Table 1. However, order of these codes (00, 03, 10, 20, 34) is different from that in Table 1 (00, 03, 04, 10, 42). Order of the codes in the table should be revised to be consistent with that in Table 1.

The order in which the codes for the different characteristics are listed in the hourly values files is not the same for that of the monthly mean values files, thus it is not possible to have both being consistent in Table 1. No changes are proposed.

Other comments

While checking all the manuscript again we came across with one mistake. In Table 1 the line “Virtual height F1-layer/ h’F1/14/1 km” it should say “Virtual height F-layer/h’F/16/1km”.

Furthermore, as indicated via e-mail to the Editor and confirmed by the Editorial office (Yasuo Saito) we would appreciate a name change in the Acknowledgements section, namely, change “Herwin Hernández” to “Herwing Herrera”.

Finally, we added a project number for a new the granting agency.

Editorial Office’s note

Calculate checksum date: 11/27/2019

Algorithm:SHA256

Hash: 3c292202195829c89c635f73fca6bb334febd129f28254dbfa580176a7d3ecf7

Path:

<https://ads.nipr.ac.jp/portal/kiwa/ProductsSelect.action?referer=summary&downloadList=ADS%3AA20191128-001%3A1.00>

Original Data

Alberto, F., Manuel, B., Carlos, V., Guillermo, C. Ionosonde observations at King George Island, Antarctica: 1986-1991, 1.00, Arctic Data archive System (ADS), Japan, 2019. <https://doi.org/10.17592/001.2019112801>

Postscript by editorial office,

The above Path had been not available. (accessed 2020-10-12)

Please refer instead: <http://id.nii.ac.jp/1434/00000011>