



International Civil Aviation Organization

THE THIRD MEETING OF IONOSPHERIC STUDIES TASK FORCE (ISTF/2)

15 – 17 October 2013, Seoul, Republic of Korea



Agenda Item 5: Review of progress of tasks and related action items

(a) Task 1- Data Collection

CATEGORIZATION OF DATA SOURCES

(Presented by Japan)

SUMMARY

This working paper presents the results of categorization of ionospheric delay and data sources by their magnetic latitudes in response to the Action Item 4 identified by the second meeting of the Ionospheric Studies Task Force (ISTF/2).

1. INTRODUCTION

1.1 The second meeting of the Ionospheric Studies Task Force held in Bangkok, Thailand from 15 to 17 October 2013 identified an Action Item:

ACTION ITEM 4: Task Lead, Task – 1 should categorize the ionospheric delay measurements and scintillation measurements into geographical region to confirm an even spread of all the observation sites in the region. Target date for the Action Item was agreed as January 2013.

1.2 By the end of April 2013, 580 stations are nominated data sources of ionospheric delay measurements. 37 tations are nominated data sources of ionospheric scintillation measurements. This working paper reports the results of categorization of ionospheric delay and scintillation data sources, respectively.

2. DISCUSSION

2.1 The data sources are categorized by their magnetic latitudes into three classes including the low (magnetic latitude $< 20^\circ$), mid- ($20 \leq$ magnetic latitude $< 55^\circ$), and high (magnetic latitude $\geq 55^\circ$) magnetic latitude regions, respectively.

2.2 For ionospheric delay data, there are 119, 422, and 49 stations in the low, mid-, and high magnetic latitude regions, respectively. The distribution of the ionospheric delay data sources are summarized in Figure 1.

2.3 For ionospheric scintillation data, there are 21, 14, and 2 stations in the low, mid-, and high magnetic latitude regions, respectively. The distribution of the ionospheric scintillation data sources are summarized in Figure 2.

2.4 Majority of the ionospheric delay data sources are in the mid-latitude region. Low latitude scintillation data are concentrated in India.

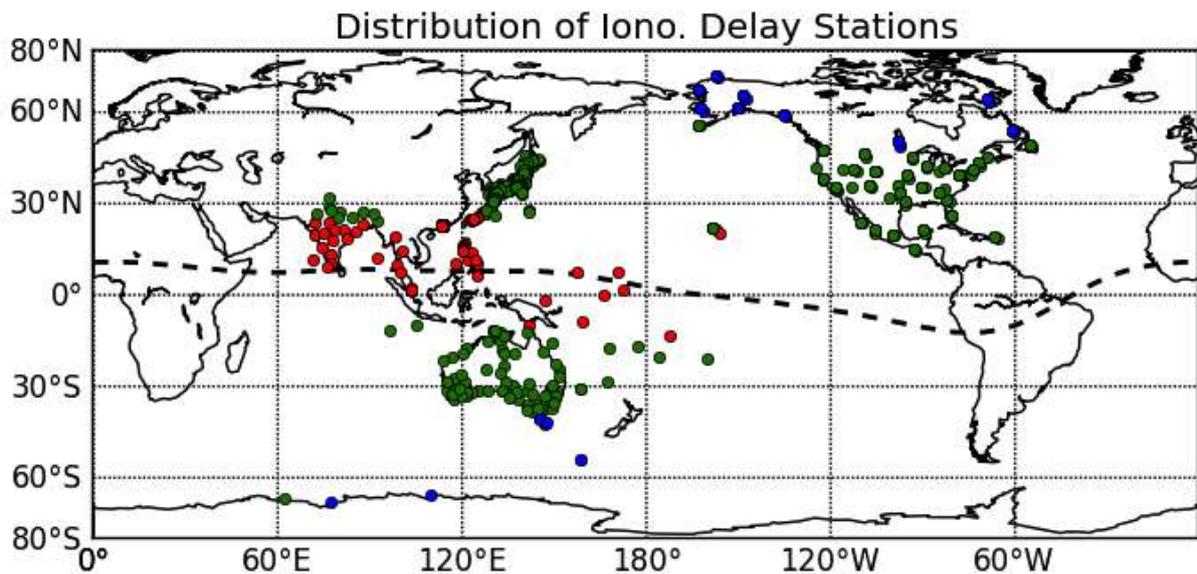


Figure 1. Distribution of ionospheric delay data sources. Red, green, and blue dots indicate stations in low (magnetic latitude < 20°), mid- (20 ≤ magnetic latitude < 55°), and high (magnetic latitude ≥ 55°) magnetic latitude regions, respectively.

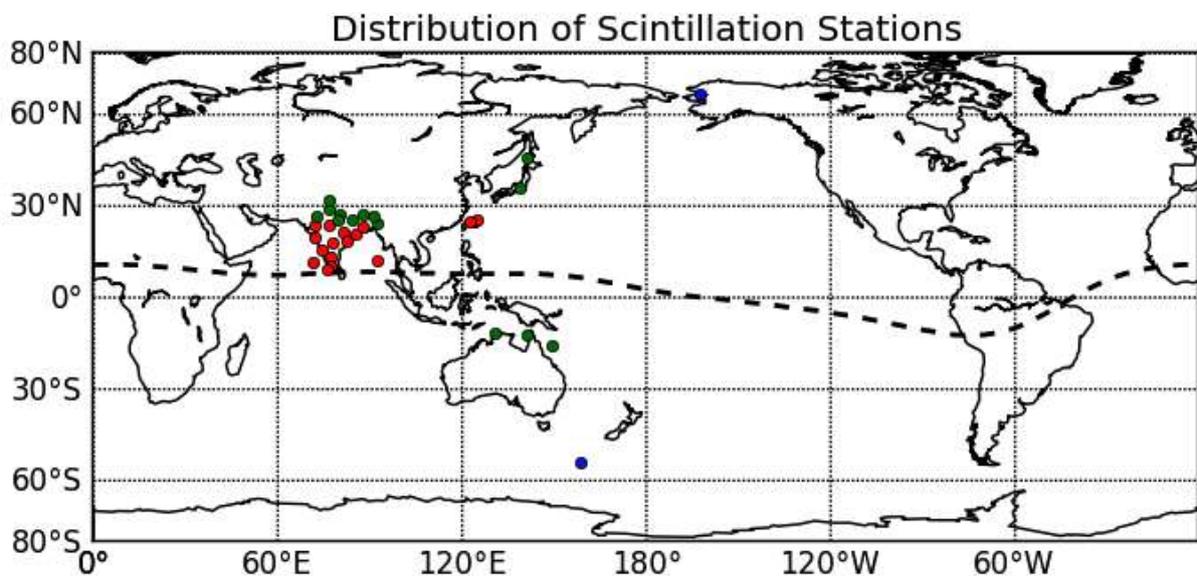


Figure 2. The same as Figure 1, but the distribution of ionospheric scintillation data sources are shown.

3. ACTION REQUIRED BY THE MEETING

3.1 The meeting is invited to do the following:

- a) recognize the distribution of data sources; and
- b) discuss any relevant matters as appropriate for effective data collection.
