

Summary of Ionospheric Session Discussion

Three Working Teams:

- **Global & Regional TEC**
(<https://ccmc.gsfc.nasa.gov/assessment/topics/iono-tec.php>)
- **Scintillation**
(<https://ccmc.gsfc.nasa.gov/assessment/topics/iono-scintillation.php>)
- **Ionosphere Plasma Density**
(<https://ccmc.gsfc.nasa.gov/assessment/topics/iono-disturbances.php>)

Overview of the progress

- Review of previous model validation efforts
- Impact of uncertainties in ionospheric observations on metrics (e.g, biases in the data, plasmaspheric contribution)
- Impact of the selection of the background conditions on metrics
- Need of different metrics for science and applications
- Physical quantities (vTEC, sTEC, S4, foF2/NmF2, hmF2, **MUF**)
- Data sources
 - *Ionosondes*
 - *Incoherent Scatter Radars (ISRs)*
 - *GNSS receivers*
 - *Radio occultation data*

Interaction with Other Teams

- ***Before the meeting***

Interaction with the Information Architecture for Interactive Archives (IAIA) Working Team (Data registration / Metadata)

- ***During the meeting***

Three joint meetings:

- ✓ Ionosphere and Neutral Density with Solar Indices team
- ✓ Ionosphere and Neutral Density with Geomagnetic Activity Indices team
- ✓ Ionosphere and Neutral Density with Aurora team

Better understanding of the limitations imposed by important drivers in ionospheric modeling (e.g., solar, geomagnetic and magnetospheric indices and proxies).

Issues or Problems Impeding Progress

- Lack of reliable drivers for the prediction of the scintillation day-to-day variability
- Different model upper boundary altitudes for the calculation of TEC
- Sparse observation coverage of the topside ionosphere

Team plans for the rest of the week

Meetings scheduled for Thursday, April 6 2017

- One joint meeting with Neutral Density Team
- Three team meetings
 - *Selection of the test time intervals*
 - *Fine tuning of the metrics*