



Asia Oceania Space Weather Alliance-3

Ongoing Space Weather Program in Taiwan

What we have, What we done, and What we will be.



I-Te Lee(itlee@cwb.gov.tw)

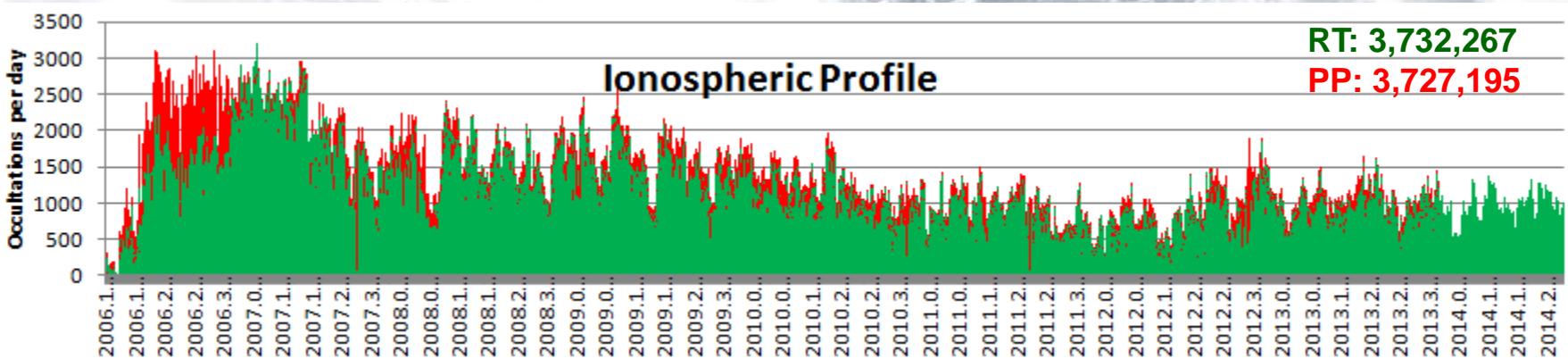
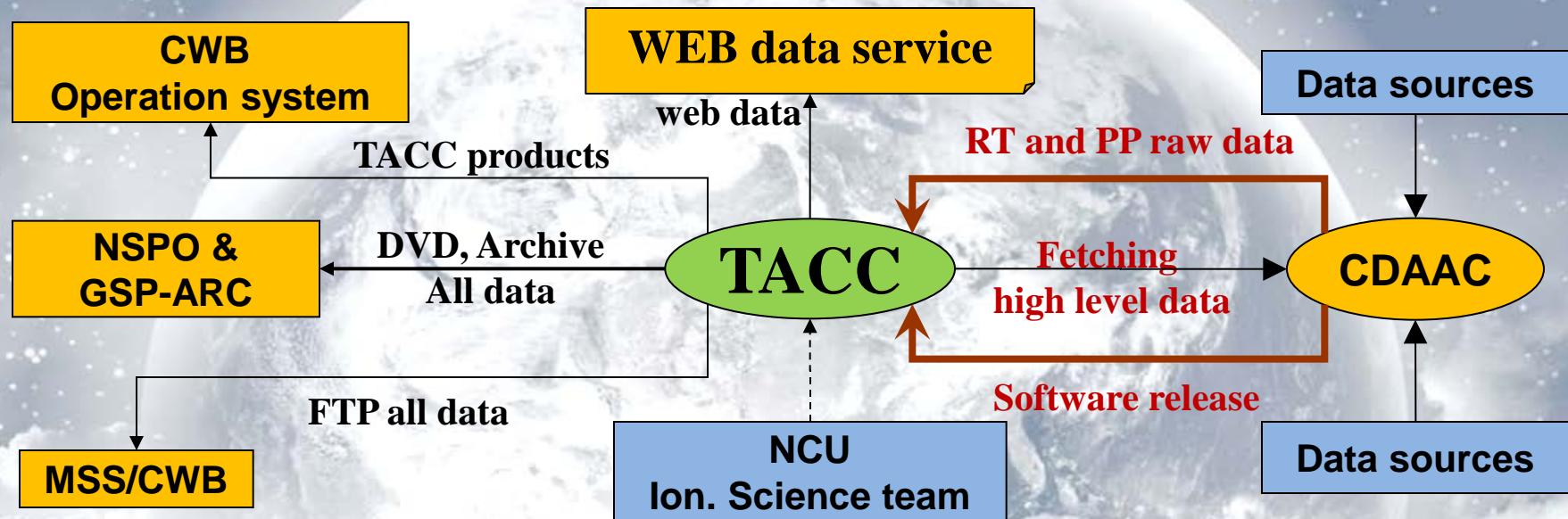
Mark Cheng, Jann-Yenq Tiger Liu, Hsu-Hui Ho, Base Hsu, Phil Huang

中央氣象局太空天氣作業辦公室

Space Weather Operational Office, Central Weather Bureau

TACC

Taiwan Analysis Center for COSMIC



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Space Weather Operational Office (SWOO)

(Observation)

1. Solar imager
2. Ionosonde
3. Ionospheric Doppler Sounder
4. All Sky Imager
5. FORMOSAT-3/COSMIC
6. GROUND GPS-TEC
7. Magnetometer

(Simulation)

1. Ionospheric Model
2. Communicational Model
3. Magnetopause Model

(Forecasting)

1. Assimilation Model for Ionosphere and Thermosphere
2. Model for Magnetopause

(Education)

1. Website
2. General Knowledge
3. Outreach Activities

International

Finding any possible cooperation!

NOAA, NCAR,
NICT, KSWC,
WDC...etc



CWB



Astronomical Observatory,
TACC,
R&D Center,



Domestic

NSPO,

Research Center,
University,
Institute,



Available Observations

<http://swoo.cwb.gov.tw/> coming soon!

104年03月01日10時30分

太空天氣作業辦公室
Space Weather Operational Office

太空天氣指標

資料來源 NOAA
昨日 狀態 本日 最新
無線電中斷 Radio Blackouts
Geomagnetic Storms
太陽輻射 Solar Radiation storms

臺灣地區全電子含量

最新太陽影像

太空環境參數

太陽活動指數
太陽黑子數(SSN): 58
輻射強度(F10.7): $123 \text{ sfu} (10^{-22} \text{W/m}^2\text{Hz}^1)$

太空環境參數
太陽風速度: 460.5 km/s
太陽風密度: 6.4 proton/cm^3

地磁擾動指數
高緯地磁指數: $K_p=5$
低緯地磁指數: $Dst=\text{暫無資料}$

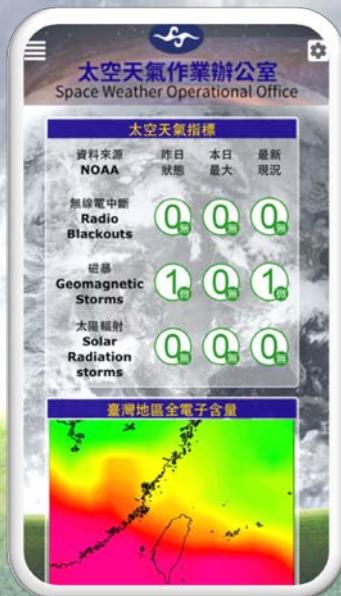
國內外太空新知
一顆冥王星的面貌：新視野號醒來了

福爾摩沙衛星三號

今日太空天氣
[2014.08.14]
近幾天因太陽活動指數達，因此無劇烈的太空天氣變化。太陽輻射值與日冕均質跡射發生的機會較低，不會對無線電通訊造成干擾，但也因為如此，極光活動會較弱，預測指數僅為3，但只有少數地區可以觀測到極光現象。台灣地區上空電離層預估最大電子濃度為 $0.8-2.2 \times 10^{16} \text{ e/cm}^3$ ，全電子含量平均值約為 $10-55 \text{ TECU}$ 。

fafacebook粉絲團
SOS 地球展示系統
新增內容[Carbon Dioxide Concentration GEOS-5 Model]: <http://sos.noaa.gov/Datasets/dataset.php?id=499>

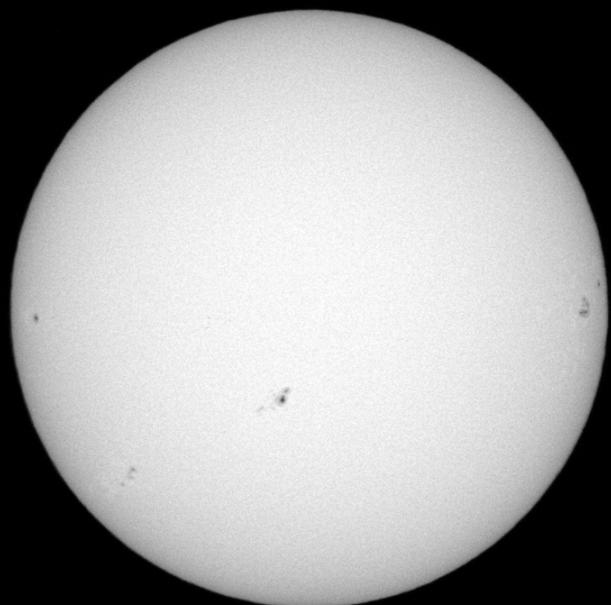
維權: (02)2349-1000(代表號) 下列內容受版權保護: 臺灣標準時間TST(GMT +08:00) 中華民國交通部中央氣象局版權所有, 並經授權禁止轉載, 請駁回網站管理員 地址: 10048臺北市中正區公園路64號



Solar Images (Light & H α)

White-light

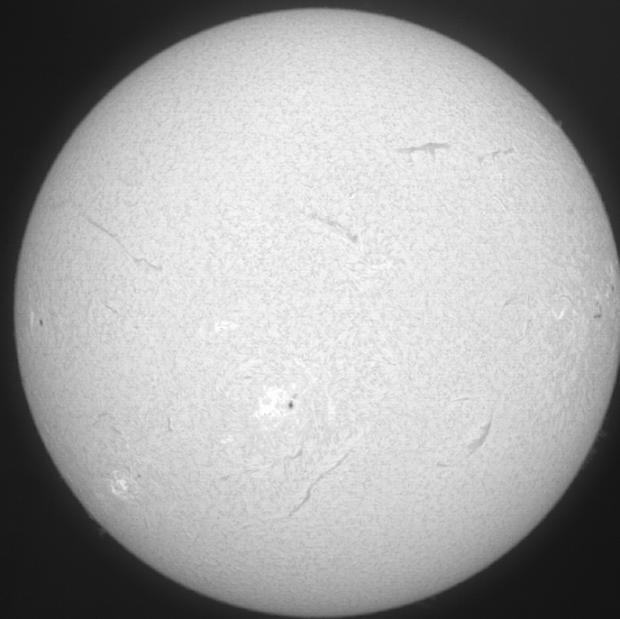
2014-11-25 06:26:36 UT



H-Alpha

H-Alpha

2014-11-25 06:18:53 UT



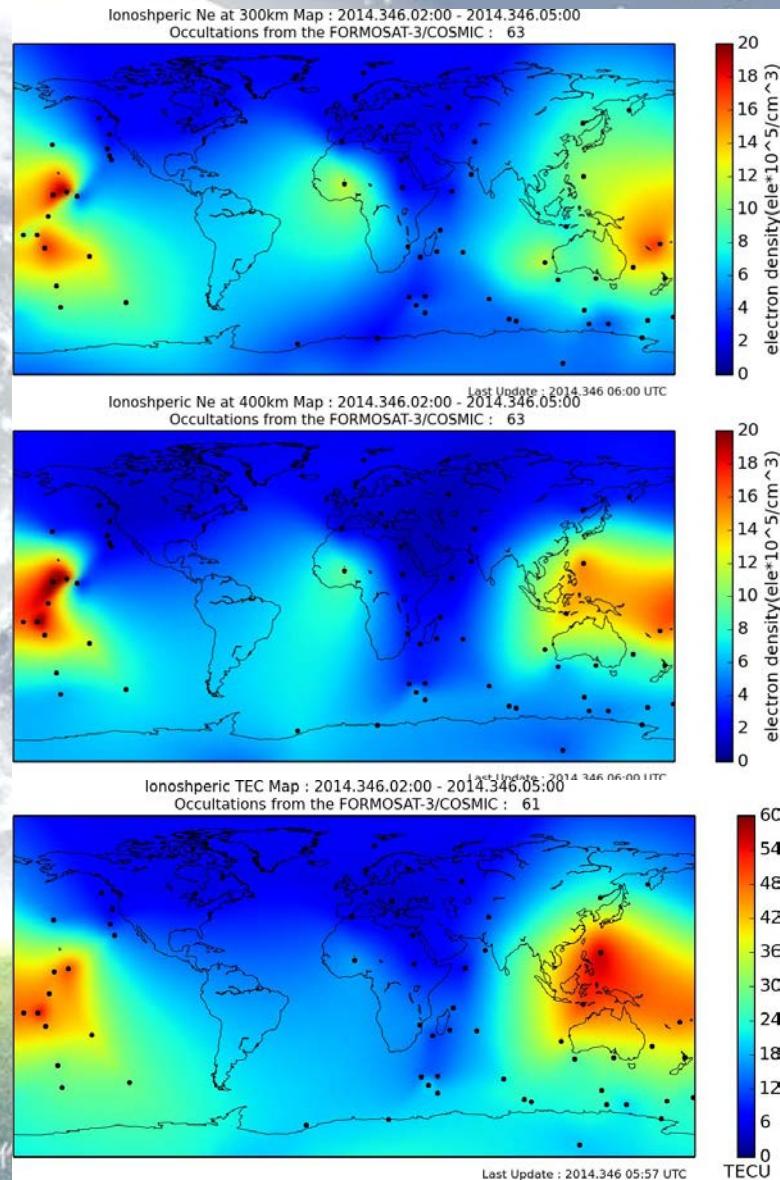
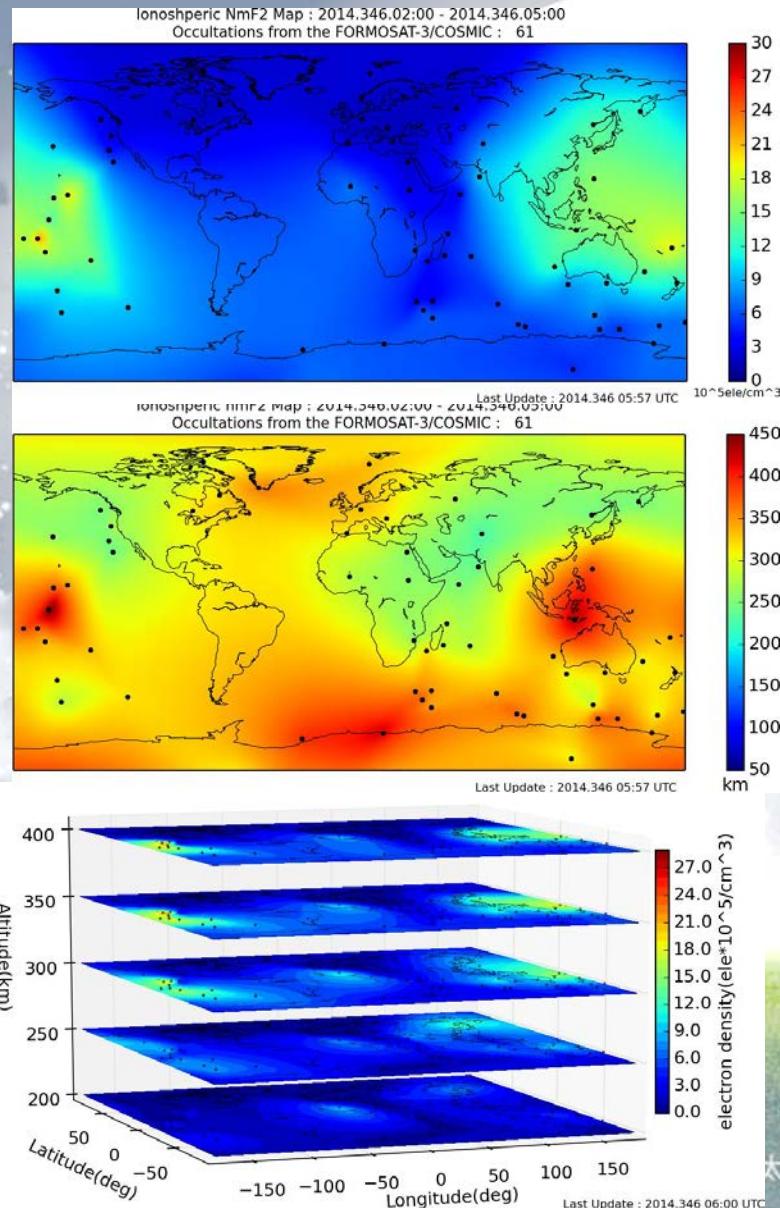
Astronomical Observatory
Central Weather Bureau, Taiwan (R.O.C.)

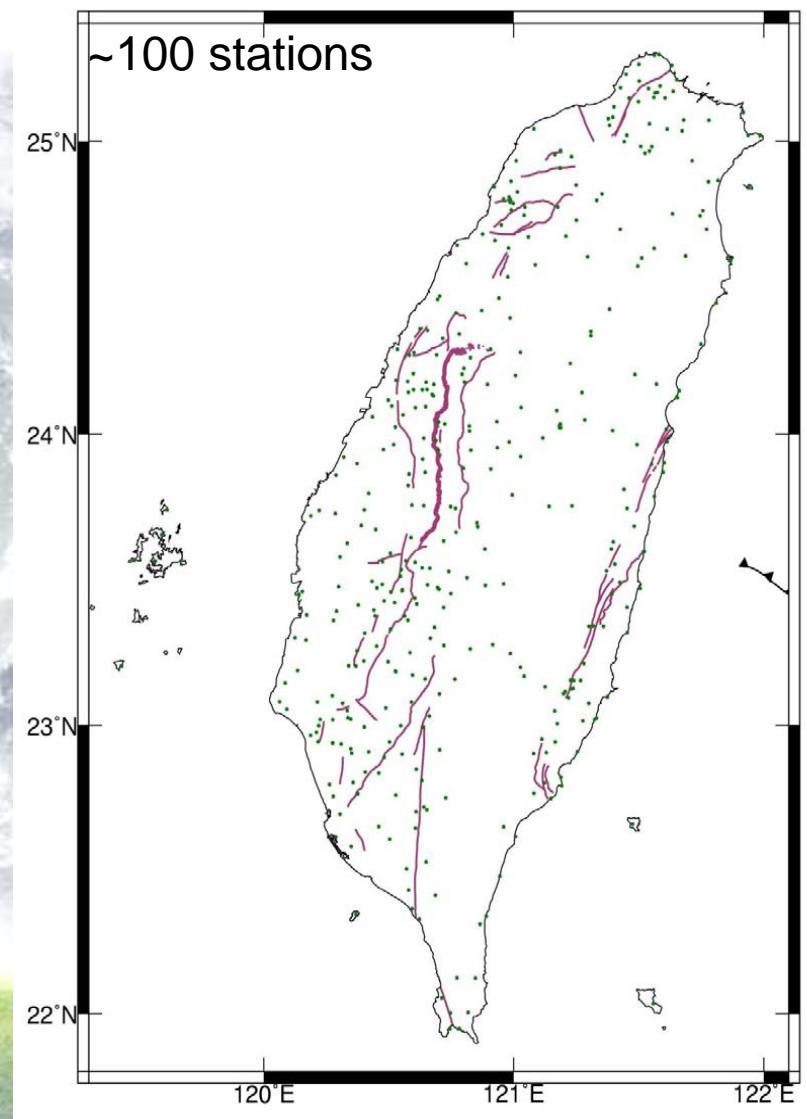
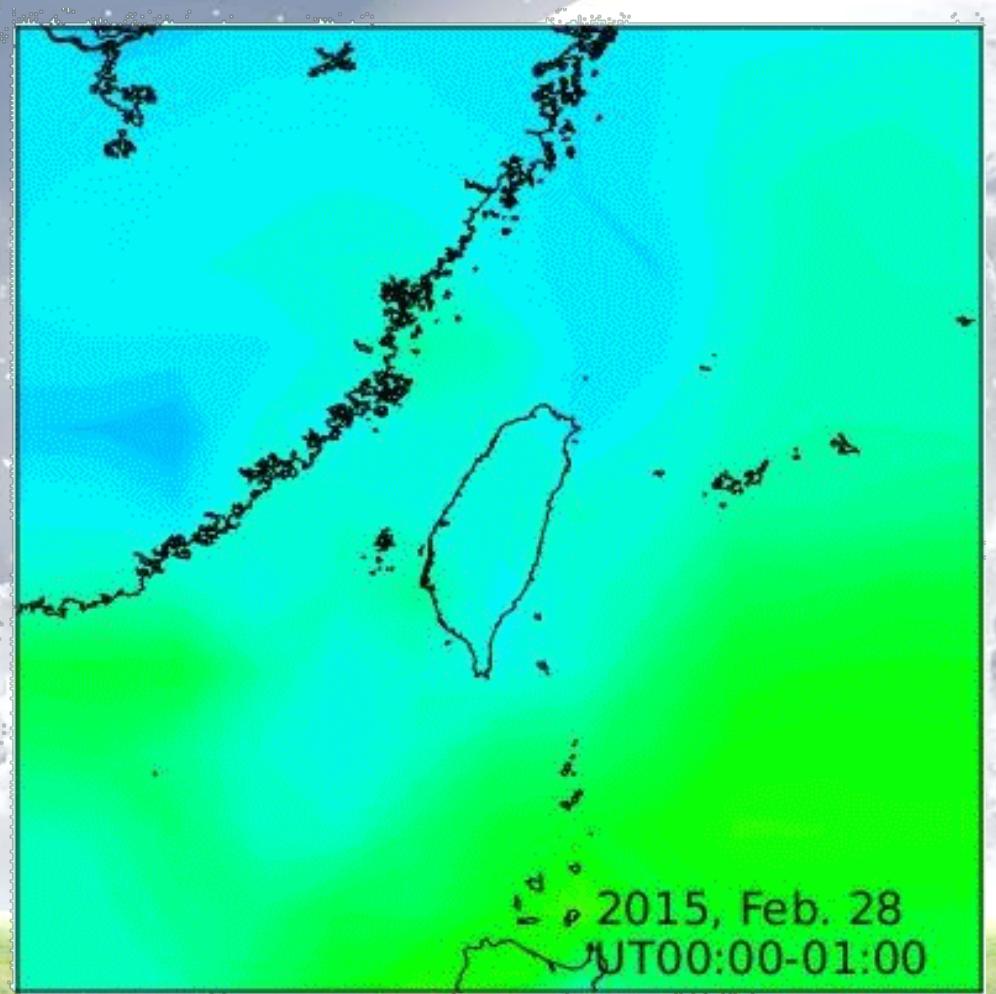
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Near-Real Time F3/C Ionospheric 3D structure



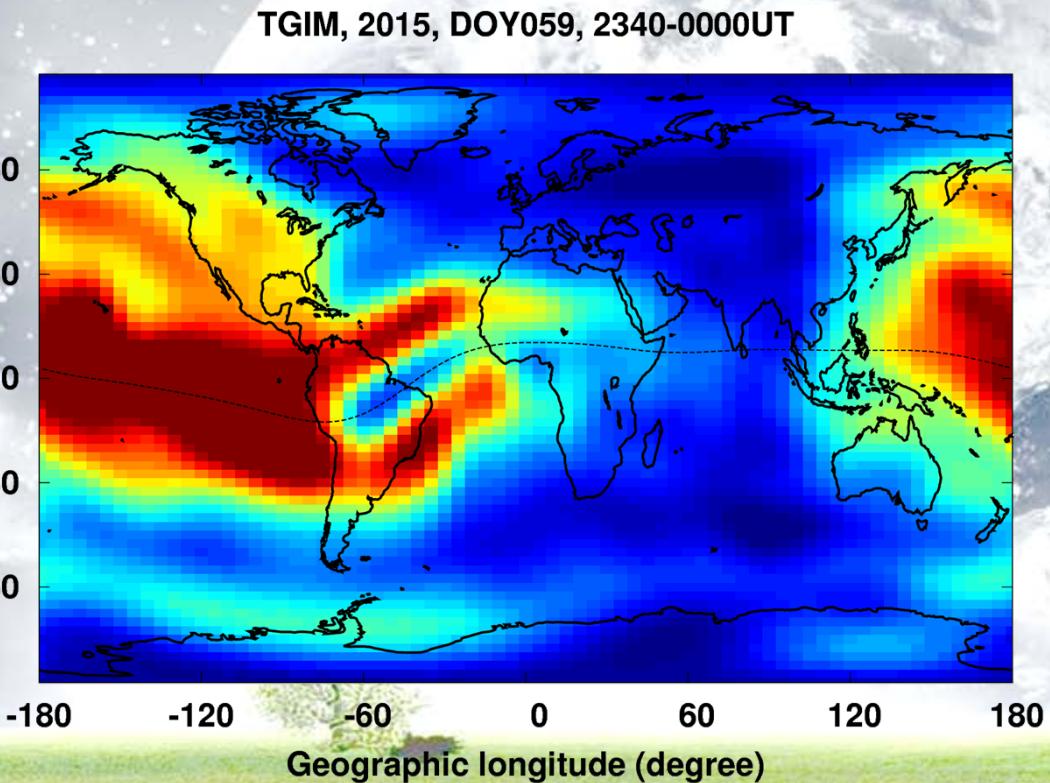


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TGIM(Taiwan Global Ionosperic Map)

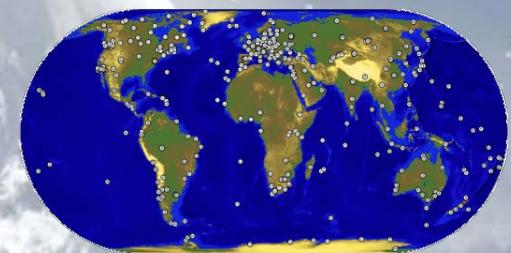
Geographic latitude (degree)



TECU

60
55
50
45
40
35
30
25
20
15
10
5

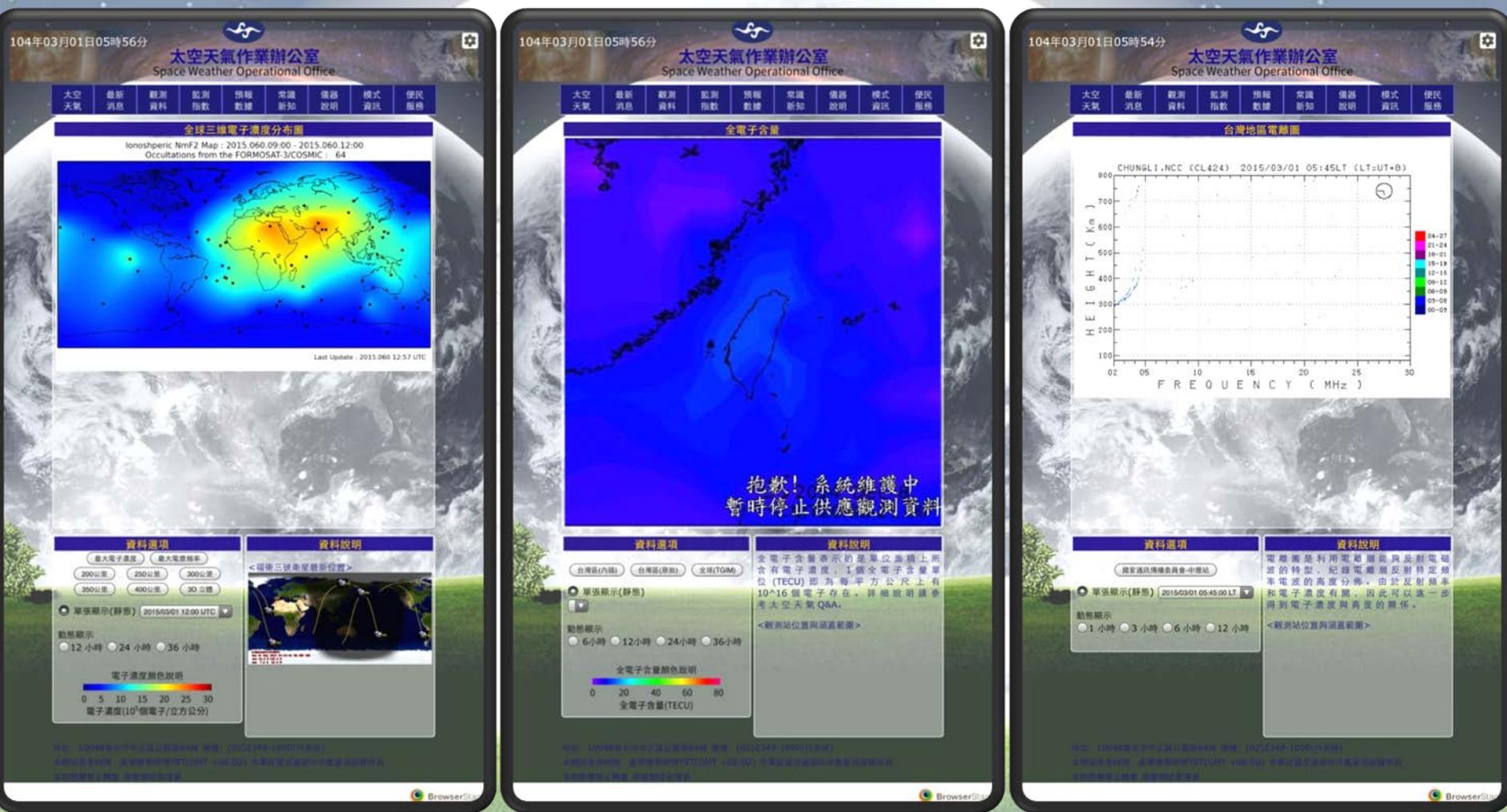
Global GPS-TEC



F3/C TEC



<http://swoo.cwb.gov.tw/> coming soon!





Future Mission Goal

Space Weather Monitoring and Forecasting

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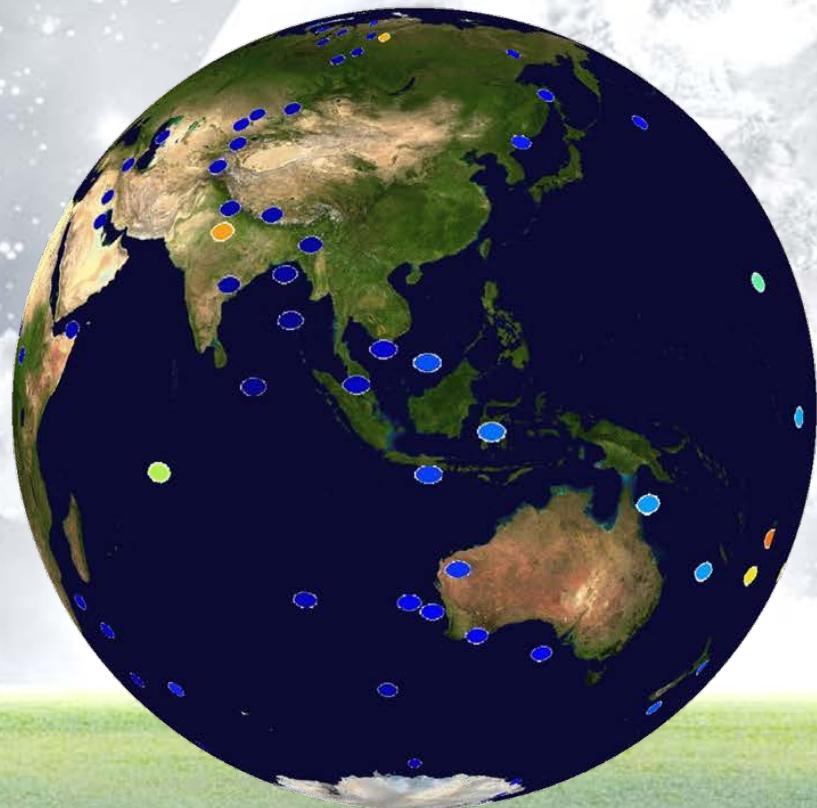
Space Weather Operational Office, Central Weather Bureau

FORMOSAT-3/COSMIC

Time: 00:00UT

Occ. Profiles: 089

(Real)

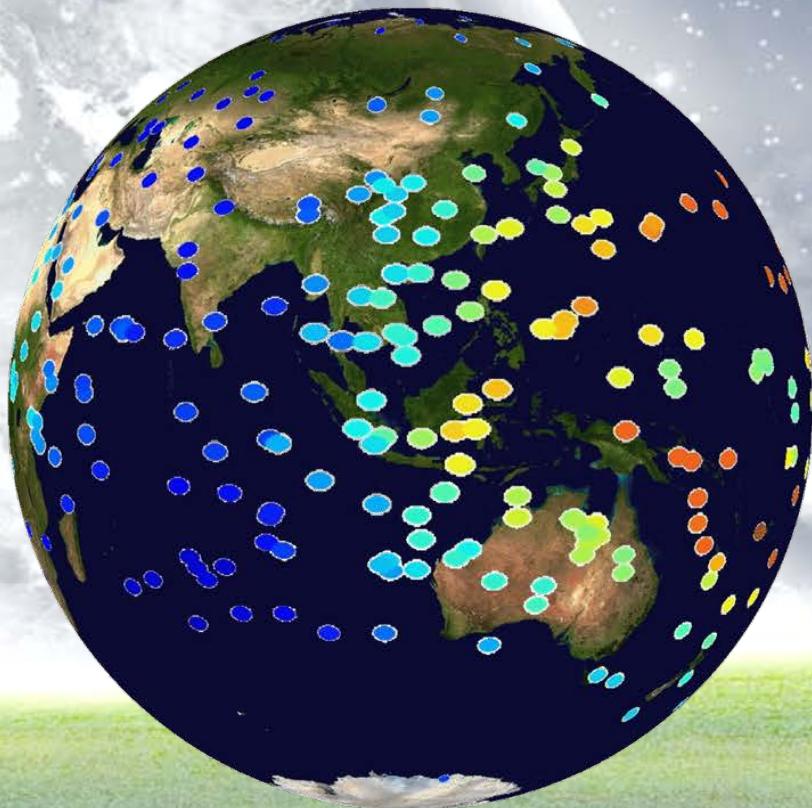


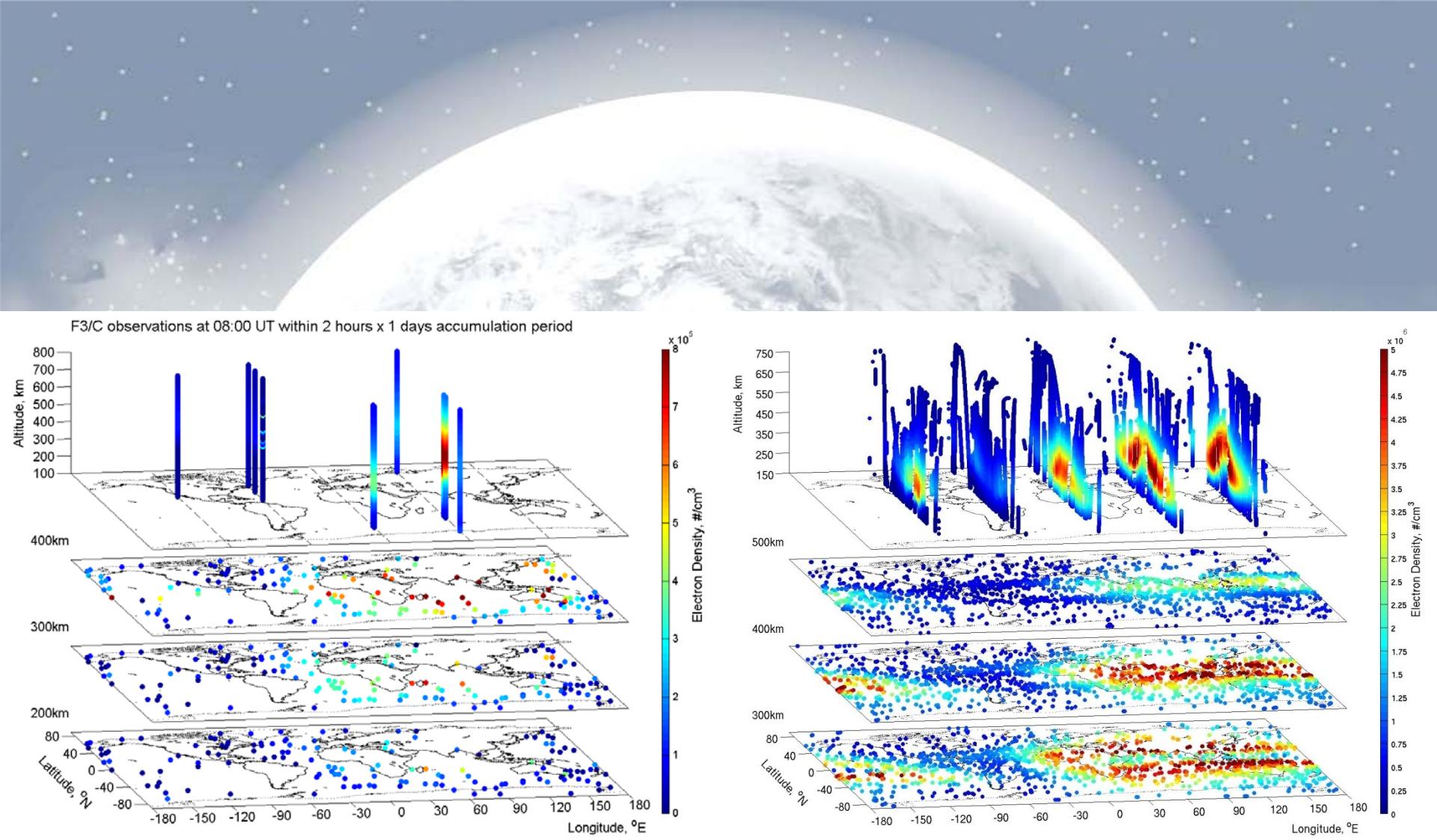
FORMOSAT-7/COSMIC-2

Time: 00:00UT

Occ. Profiles: 629

(Simulation)



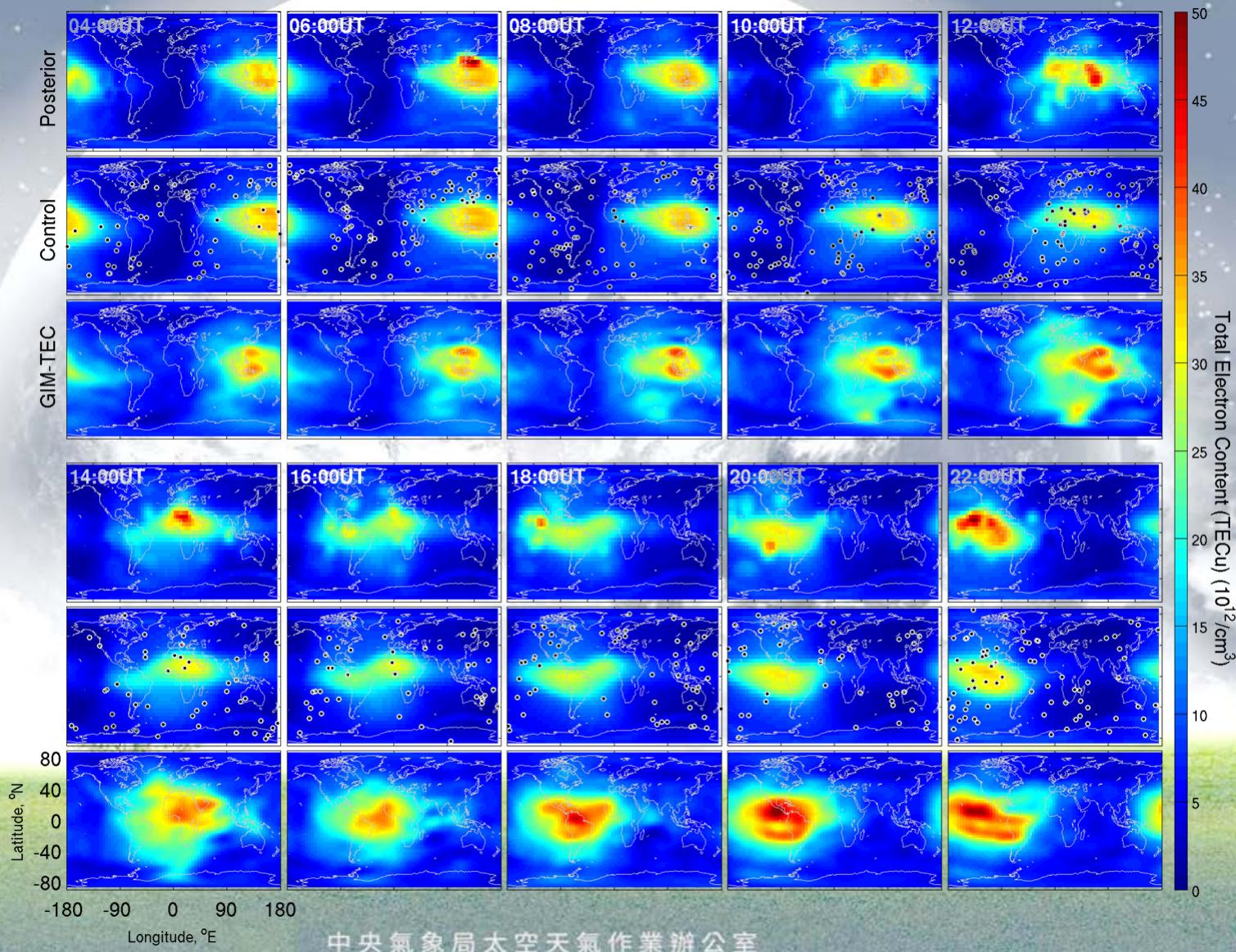


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Assimilation model for Ionosphere

GCM
+
RO EDP
&
TEC
+
EnKF





Wish to collaborate with your organization soon.

THANKS FOR YOUR ATTENTION!