

# SPACE WEATHER INFORMATION AND FORECAST SERVICES

(SWIFtS)

## WEEKLY SPACE WEATHER NEWS

Periode: June, 3<sup>rd</sup> – June, 9<sup>th</sup> 2016

### SOLAR ACTIVITY

Last week Solar activity can be categorized as quiet. There were only three active regions appeared on the solar disk within a week, they are NOAA 2550, 2551, and 2552. Those three regions had area below 100 millionth hemisphere and relatively low activity level. Two C-class flares occurred in NOAA 2552 with maximum intensity upto C1.4 ( 9 June 2016 at 12:28 UT). Although strong flares were few in number, Solar radio telescope detected 21 type III radio bursts. Several coronal mass ejections were also detected by CACTUS system, but none of them categorized as halo CME. For the next week, Solar activity is expected to rise as high as eruptive level because STEREO observation reveals a couple of active regions that will rise at the eastern limb.

### GEOMAGNETIC ACTIVITY

Geomagnetic activity during June 3, 2016 to June 9, 2016 were on quiet to active level. Lowest Dst index was -39 nT on June 6, 2016 at 07:00 UT. The maximum Kp index reached 5 on June 6, 2016. The highest K index from Sumedang Geomagnetic Station was 4 at 6 and June 7, 2016 which means active geomagnetic conditions were monitored at stations while Agam Geomagnetic Station monitored the geomagnetic K index reached 5 on 5 and June 6, 2016 which states the geomagnetic conditions on Minor Storm. Conditions of geomagnetic activity reported in SWIFtS by the K index data is active because it is also combined with Dst index data that reach -39 nT on June 6, 2016 stating that based on the condition of geomagnetic disturbance at low latitudes only reach the active level. Substorm with the greatest intensity was <1500 nT occurred on June 5, 2016 and lasted for 36 hours until June 7, 2016. Coronal Hole was geoeffective at the equator of the sun which moved to the west solar disc since June 3, 2016 to June 6, 2016. In addition there is new coronal hole from northeastern disk of the sun on June 5, 2016 which is moving towards the equator and the last condition on June 9, 2016 the coronal hole is larger than before. On condition that occurred on June 6 and June 7, 2016 due to the geoeffective coronal holes from June 3, 2016 result the high speed stream with its effectivity reaches at low latitude regions with the maximum K index in 5.

### IONOSPHERIC CONDITIONS

In this week, the ionospheric mostly in quiet conditions.

Ionosphere showed no depression of  $f_oF_2$  critical frequencies ( $f_oF_2$ ) more than 30% from it's median values in this week so there was no interferences on HF radio communication. There was no increment of minimum frequencies ( $f_{min}$ ) which is a source of *Shortwave Fadeout (SWF)* disturbance. However there was occurrence of *Spread-F* in several days that could be a source of Fading disturbances with quasi-two day variations. The E-Sporadic also reported occurred in several days with the critical frequency ( $f_oE_s$ ) values reach 10 MHz. The occurrences of E-Sporadic could be a positive impact especially when the depression of  $f_oF_2$  occurred. Based on the observations using GISTM over Biak, the *scintillation* (S4) condition for this week were in quiet. These conditions of *scintillation* could lead quiet levels of *loss of lock*. The value of W index in this week were -3 and 3. Those values could affecting to the error positioning parameters into the medium scale of disturbance conditions

*For daily space weather information and forecast, please refer to our **Space Weather Information and Forecast Services (SWIFtS)** official website at [swifts.sains.lapan.go.id](http://swifts.sains.lapan.go.id) or please e-mail us for request by facsimile*



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