

**SPACE WEATHER INFORMATION AND FORECAST SERVICES
(SWIFtS)**

WEEKLY SPACE WEATHER NEWS

Periode: 15 – 21 July 2016

SOLAR ACTIVITY

This past week Solar activity is very active, with NOAA 2565 and 2567 produced various flares larger than C-class flares. This past week also shown several active regions appeared through out the week, more than five active regions were appeared on the Sun disk for this past week.

Started to appear from 20160716, NOAA 2567 produced several numbers of C-class flares, with largerst recorded on July, 23:05 UT as large as C6.8 on the earlier on its appearance. NOAA 2565 also produce several C-class maximum with the largest recorded on C4.4 peaked July, 18 at 18:23 UT. NOAA 2567 becomes the most complex region with a chance of flaring while eruptive NOAA 2565 decline in activity.

During the mid of the week, solar activity level increased to active with two M-class flares recorded from NOAA 2567. The maximum flare is M1.2 from NOAA 2567 on July, 21 peaked at 00:46 UT. Three active regions were spotless for the last part of the week, those are NOAA 2564, 2566, and 2568 were h-alpha plage, three active regions with spots remain in the solar disk are NOAA 2565, 2567 and 2569. NOAA 2569 was decreasing its magnetic configuration from Beta to Alpha, but the two others remain, NOAA 2565 and 2567 stil have the capability for producing activity.

For the past week, flux of high energy proton was far below threshold so that the activity level is quiet.

GEOMAGNETIC ACTIVITY

Geomagnetic activity during July 16th, 2016 to July 21st, 2016 was on quiet level where lowest Dst index was -26 nT on July 20th, 2016 07:00 UT. The maximum Kp index reached 4 on that date which means active level at high and mid latitude regions. Substorm occurrence with its greatest intensity was <1000 nT monitored on July 20th, 2016 and lasted for 8 hours from 00:00 UT caused by high speed stream impulse from geoeffective coronal holes.

IONOSPHERIC CONDITIONS

In this week, the ionosphere conditions varies from quiet to strong level of disturbances.

The strong condition was occured on July 19th and 20st. While on 18th and 21st, the *foF/F2* of the ionosphere were experienced some depression for long durations. So this depression could impact to the radiowave propagation over the ionosphere which known as the *Radio Blackout* in strong to severe scale. Although the *foF/F2* experienced a depression, the minimum frequencies (*fmin*) of ionosphere were in normal conditions. The increment of *fmin* could be a source of disturbance in the HF radio communication which known as *Shortwave Fadeout (SWF)*. The occurrences of *Spread-F* were noted onces in high scale appear in this week on July 15th. This occurrences of *Spread-F* were a source of *Fading* disturbances. Beside the *Spread-F*, the *E-Sporadic* also reported occurred with the critical frequency (*foEs*) reach 5.8 MHz. The occurances of *E-Sporadic* could be a positive impact especially when the depression of *foF/F2* occurred. Based on the observations using GISTM over Biak, the scintillation (*S4*) condition for this week were in quiet to moderate. These conditions of scintillation could lead quiet levels of loss of lock. The average value of W index in this week were between -3 and 3. Those values could affecting to the error positioning parameters in 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 or please e-mail us for request by facsimile*



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