

TEC-STH REGRESSION PLOTS

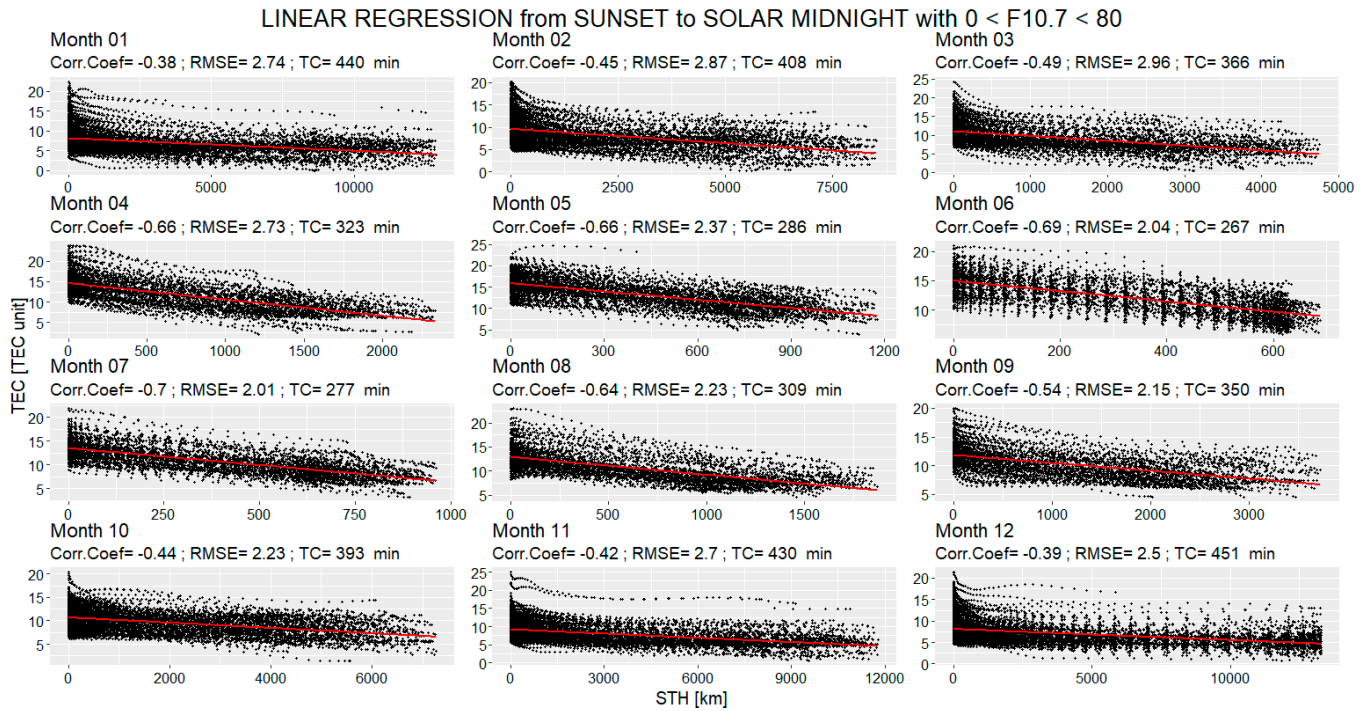


Figure S1. The 12 graphs show the *TEC-STH* scatter plots and the related linear regression line of 20 years (2000-2019) of data grouped by month, with **solar activity level lower than 80 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.

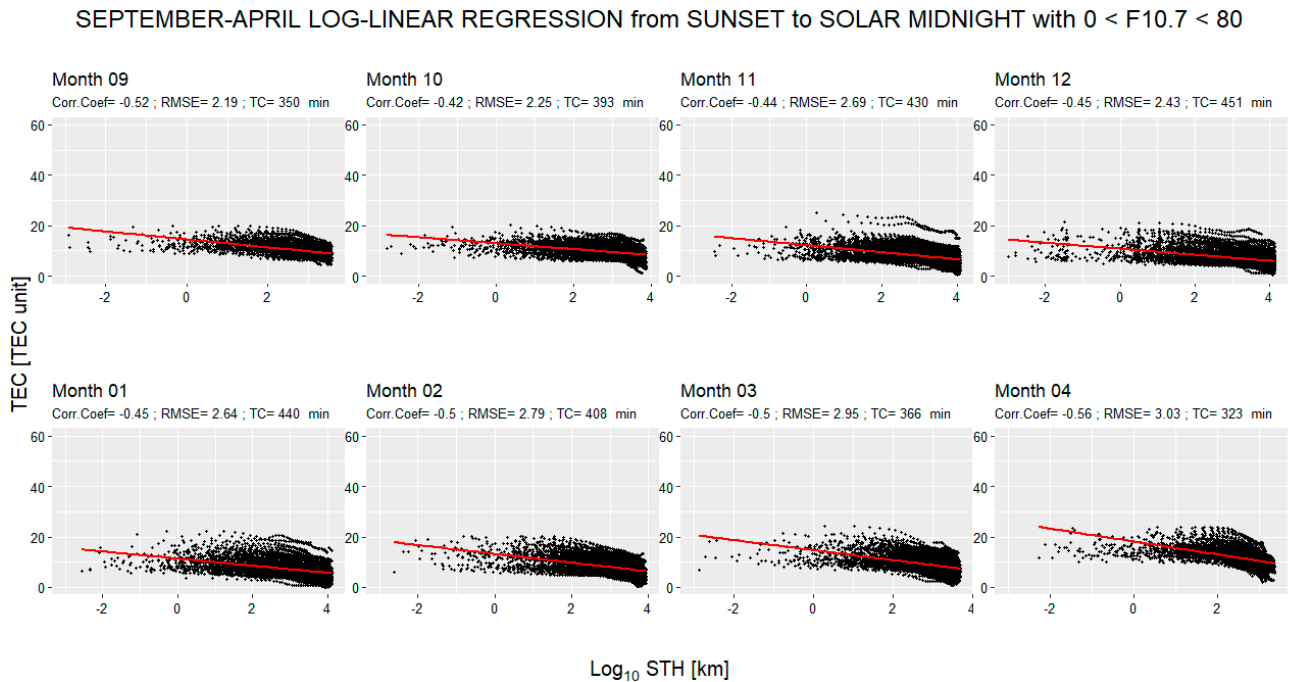


Figure S2. The 8 graphs show the *TEC-STH* scatter plots and the related log-linear regression line of 20 years (2000-2019) of data grouped by month, for the period September-April, with **solar activity level lower than 80 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The log-linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.

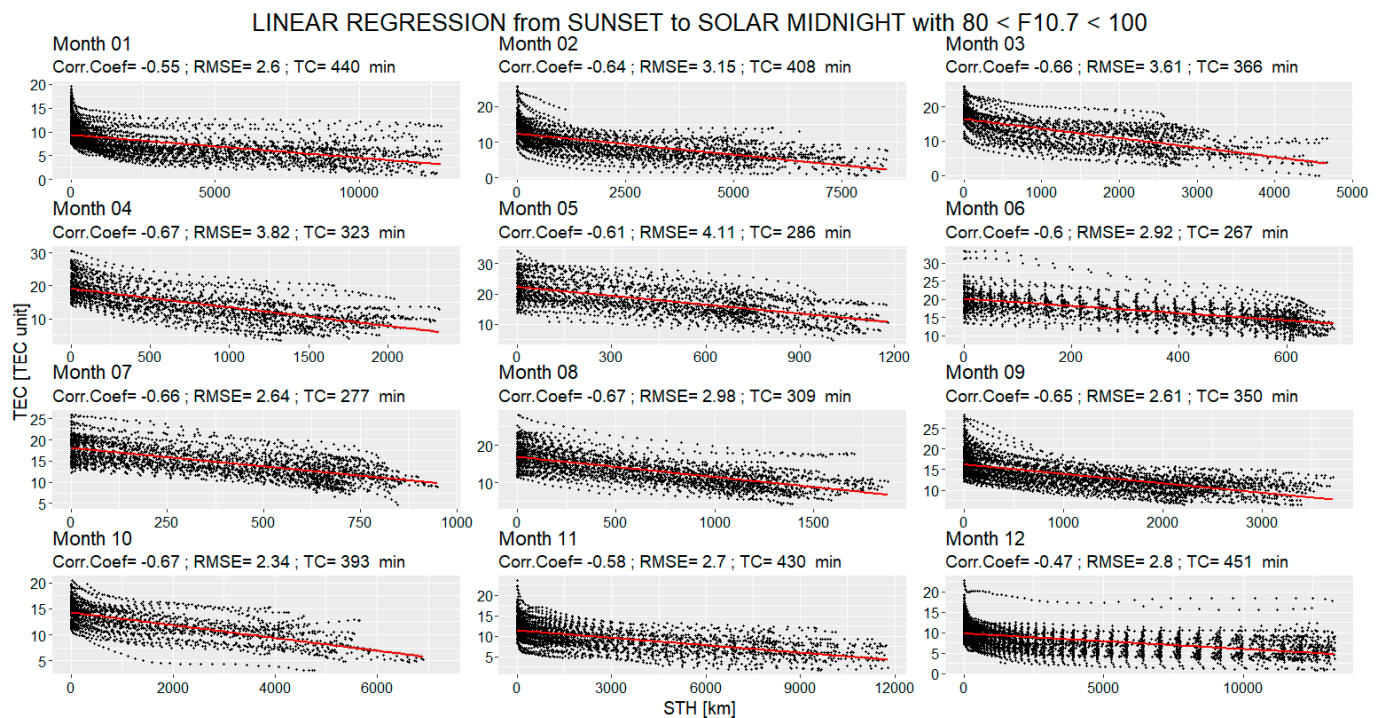


Figure S3. The 12 graphs show the *TEC-STH* scatter plots and the related linear regression line of 20 years (2000-2019) of data grouped by month, with **solar activity level between 80 and 100 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.

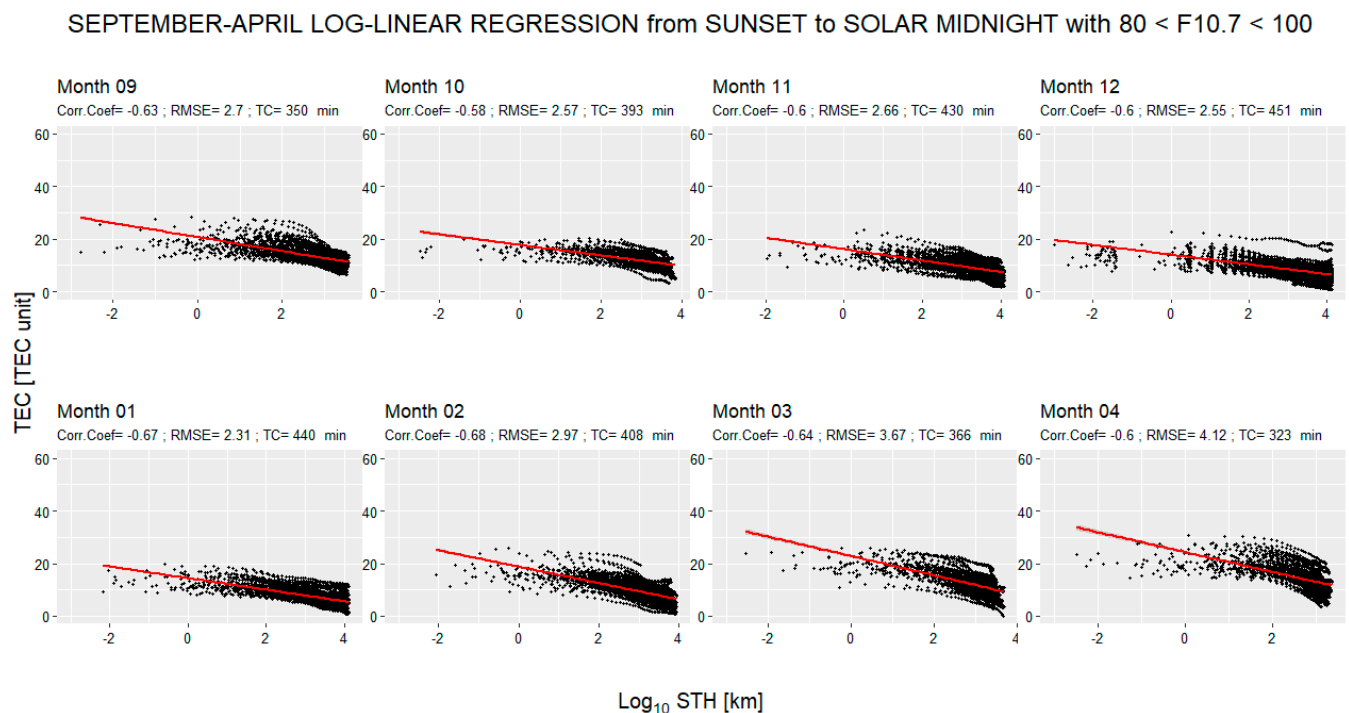


Figure S4. The 8 graphs show the *TEC-STH* scatter plots and the related log-linear regression line of 20 years (2000-2019) of data grouped by month, for the period September-April, with **solar activity level between 80 and 100 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The log-linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.

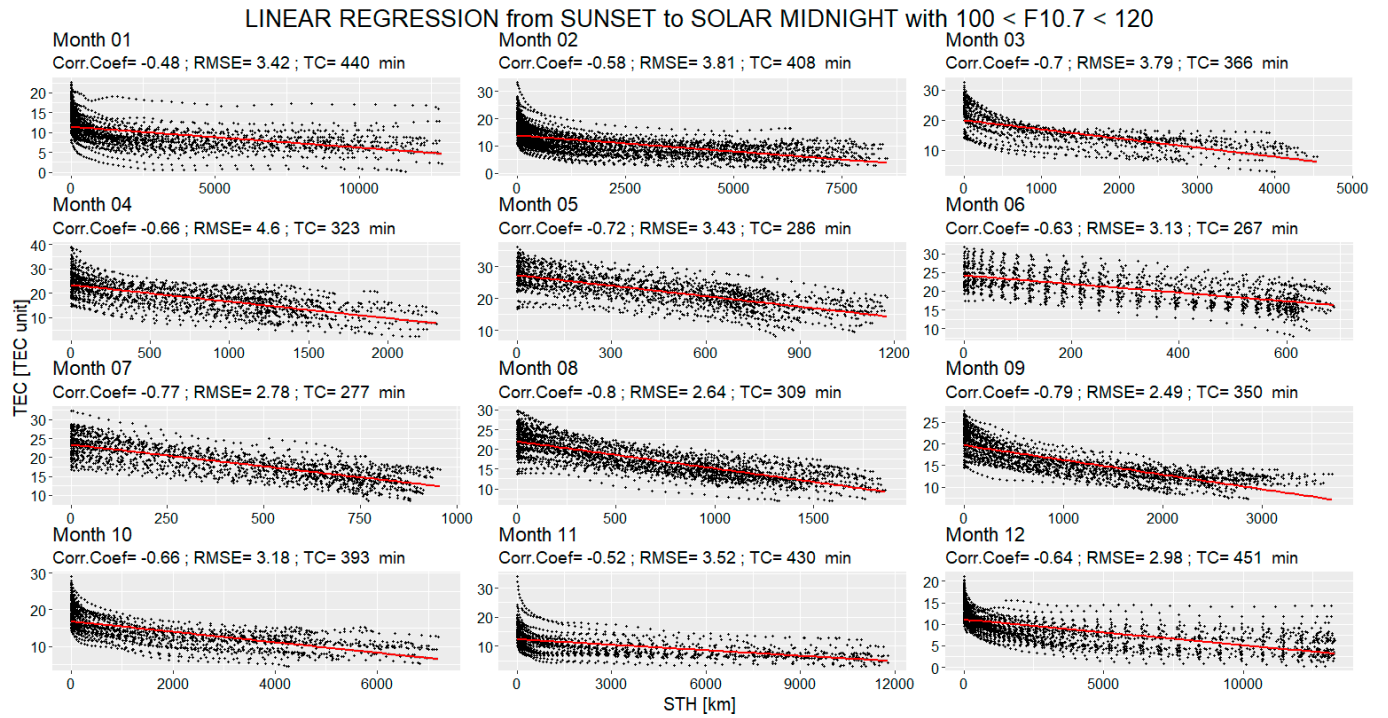


Figure S5. The 12 graphs show the *TEC-STH* scatter plots and the related linear regression line of 20 years (2000-2019) of data grouped by month, with **solar activity level between 100 and 120 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.

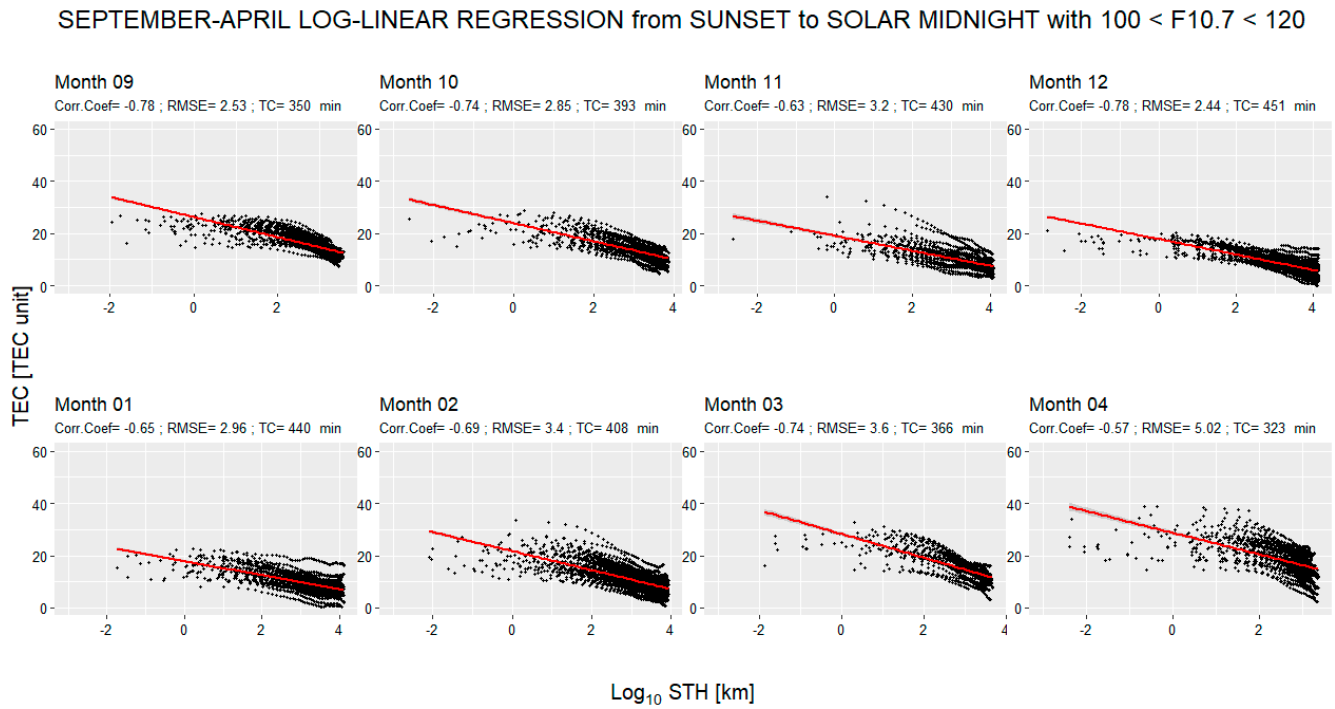


Figure S6. The 8 graphs show the *TEC-STH* scatter plots and the related log-linear regression line of 20 years (2000-2019) of data grouped by month, for the period September-April, with **solar activity level between 100 and 120 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The log-linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.

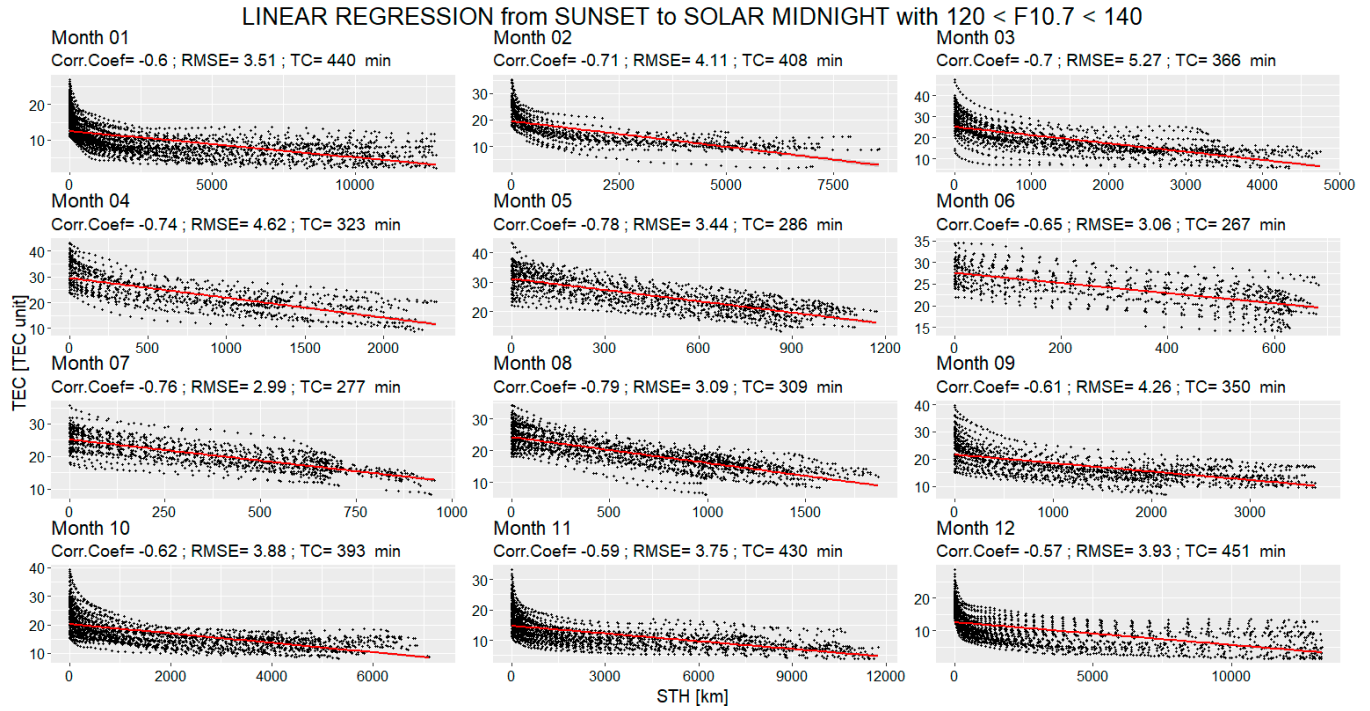


Figure S7. The 12 graphs show the *TEC-STH* scatter plots and the related linear regression line of 20 years (2000-2019) of data grouped by month, with **solar activity level between 120 and 140 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.

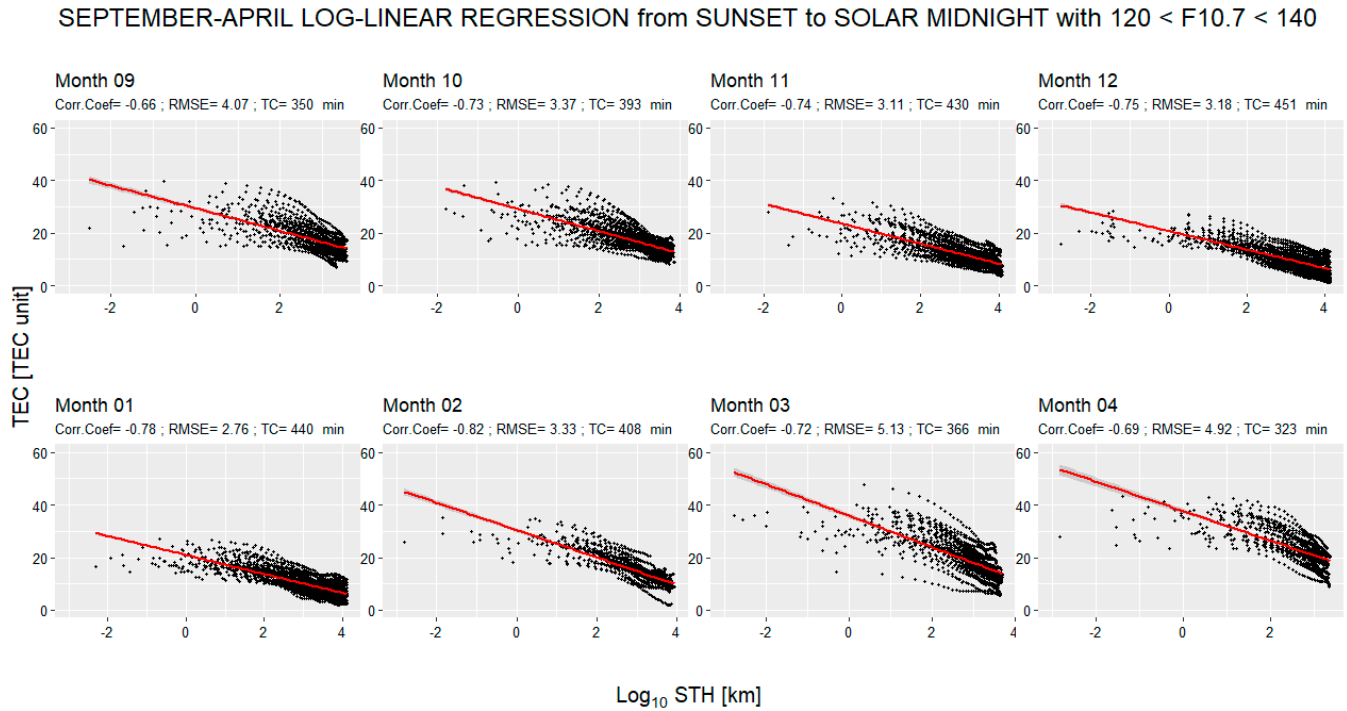


Figure S8. The 8 graphs show the *TEC-STH* scatter plots and the related log-linear regression line of 20 years (2000-2019) of data grouped by month, for the period September-April, with **solar activity level between 120 and 140 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The log-linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.

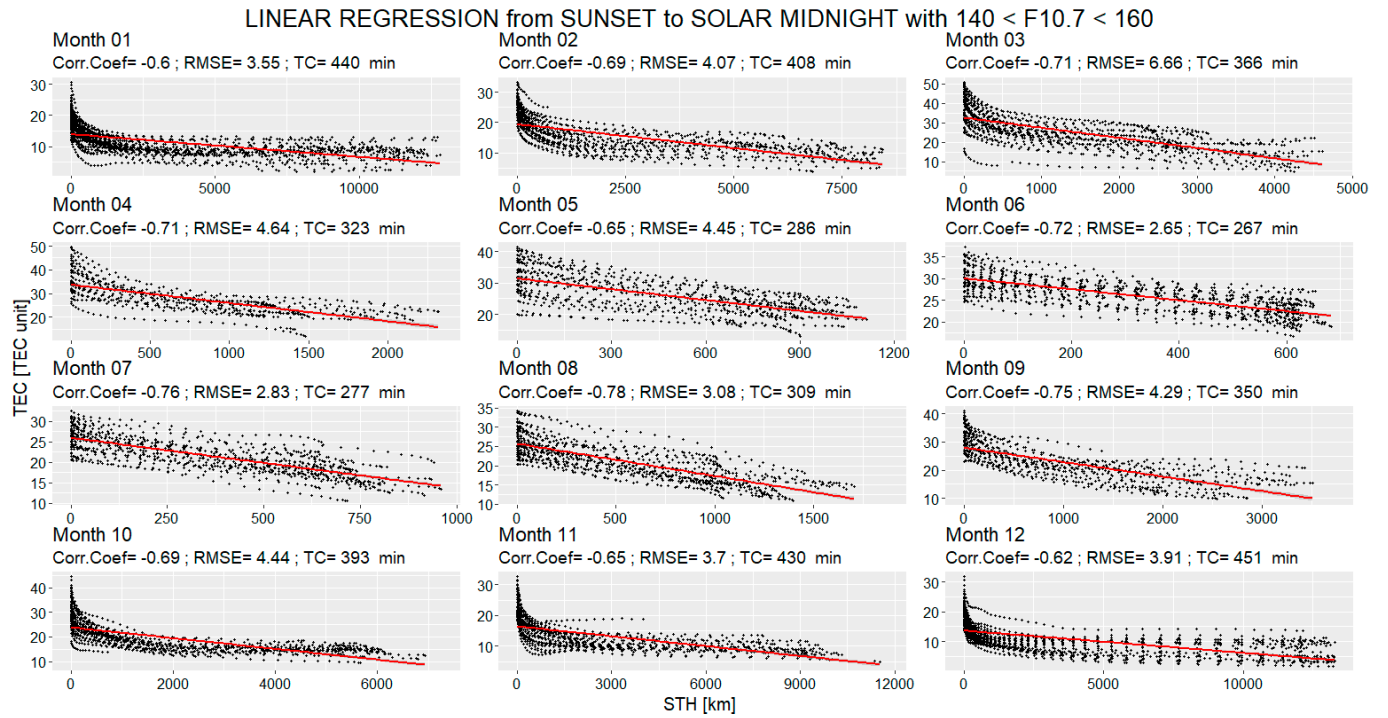


Figure S9. The 12 graphs show the *TEC-STH* scatter plots and the related linear regression line of 20 years (2000-2019) of data grouped by month, with **solar activity level between 140 and 160 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.

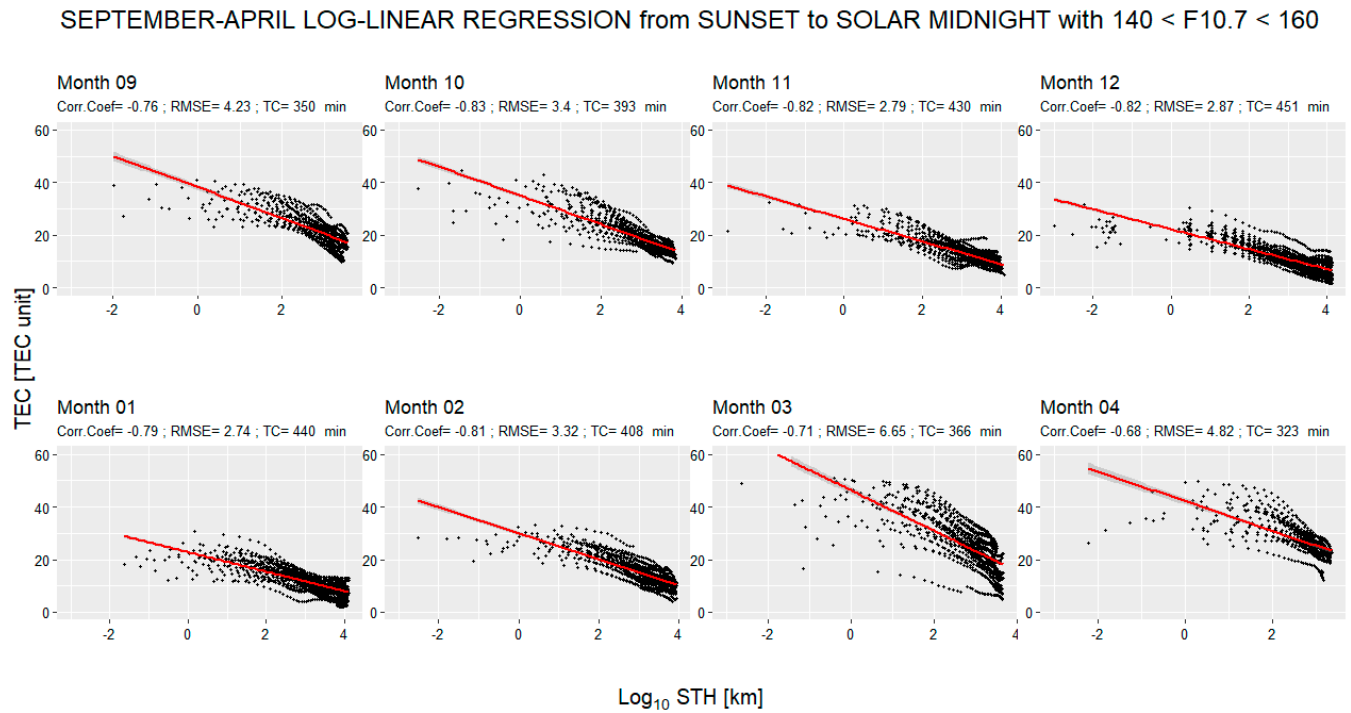


Figure S10. The 8 graphs show the *TEC-STH* scatter plots and the related log-linear regression line of 20 years (2000-2019) of data grouped by month, for the period September-April, with **solar activity level between 140 and 160 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The log-linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.

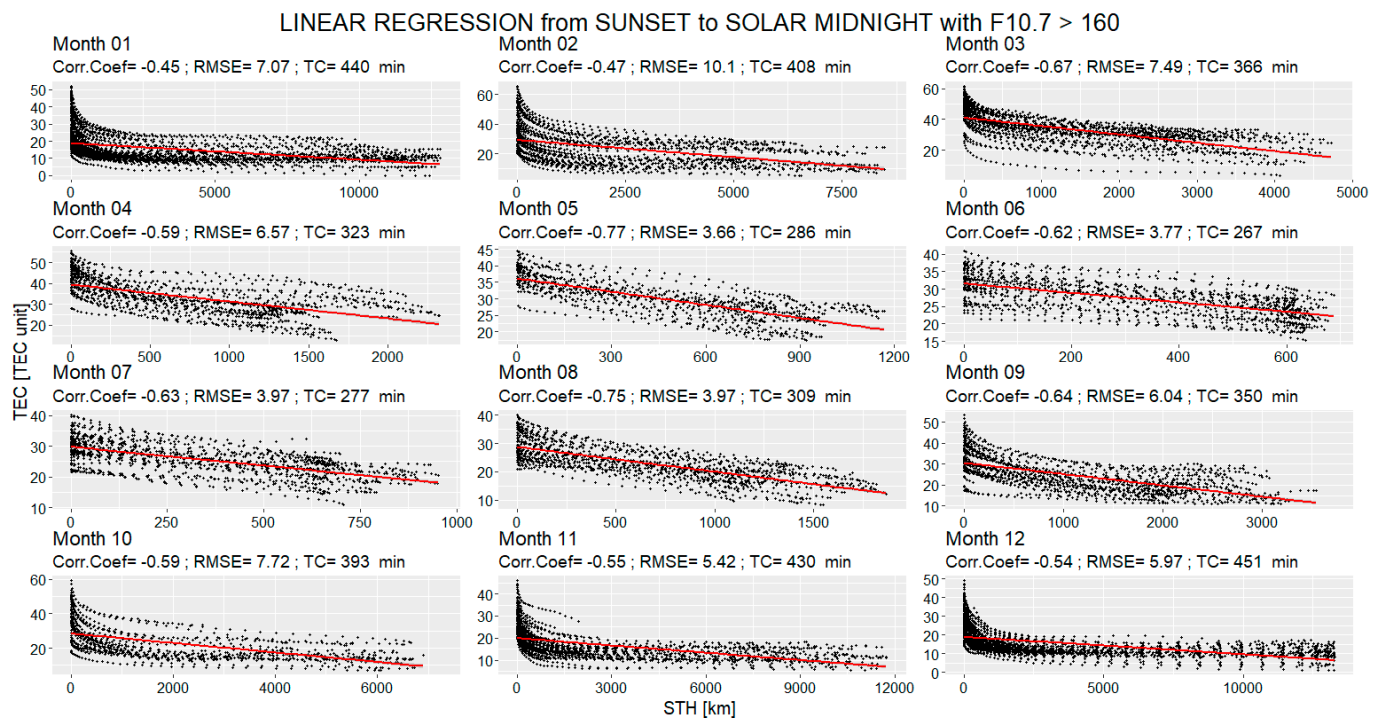


Figure S11. The 12 graphs show the *TEC-STH* scatter plots and the related linear regression line of 20 years (2000-2019) of data grouped by month, with **solar activity level higher than 160 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.

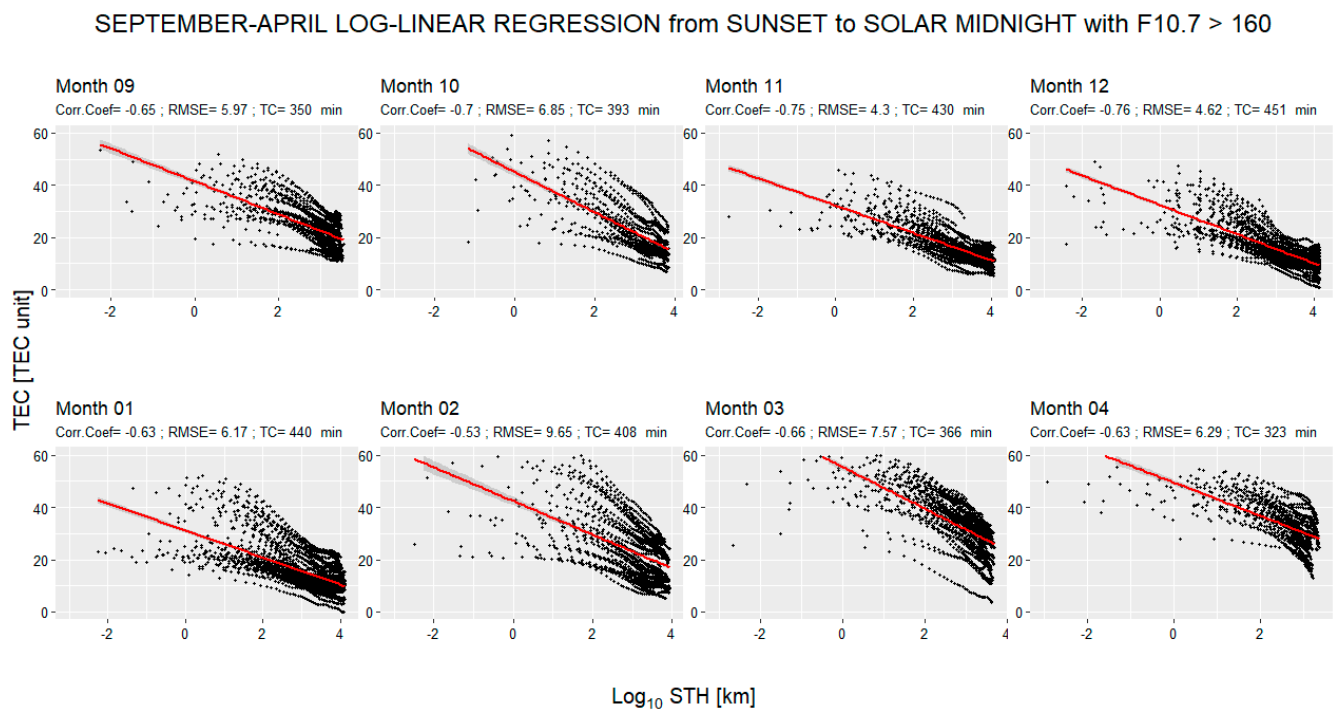


Figure S12. The 8 graphs show the *TEC-STH* scatter plots and the related log-linear regression line of 20 years (2000-2019) of data grouped by month, for the period September-April, with **solar activity level higher than 160 s.f.u.**, under quiet geomagnetic conditions and in the time interval between sunset and solar midnight. The log-linear correlation coefficient, the root mean squared error and the daily mean Time Coverage (TC) of the month are shown at the top of the graphs.