Supplementary Materials:

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Chart, scatter chart

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**Figure S1.** Animations showing average ΔTEC variations (in σ units – semi-transparent colour scale) for the studied locations for each of the analysed storms. January 2015.

Chart, scatter chart

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**Figure S2.** Animations showing average ΔTEC variations (in σ units – semi-transparent colour scale) for the studied locations for each of the analysed storms, March 2015.

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**Figure S3.** : Animations showing average ΔTEC variations (in σ units – semi-transparent colour scale) for the studied locations for each of the analysed storms. June 2015.

Chart, scatter chart

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**Figure S4.** Animations showing average ΔTEC variations (in σ units – semi-transparent colour scale) for the studied locations for each of the analysed storms. May 2017.

Chart, scatter chart

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**Figure S5.** Animations showing average ΔTEC variations (in σ units – semi-transparent colour scale) for the studied locations for each of the analysed storms. September 2017.

Chart, scatter chart

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**Figure S6.** Animations showing average ΔTEC variations (in σ units – semi-transparent colour scale) for the studied locations for each of the analysed storms. August 2018.

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**Figure S7.** Animations showing average ΔTEC variations (in σ units – semi-transparent colour scale) for the studied locations for each of the analysed storms. November 2021.

Chart, scatter chart

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**Figure S8.** Animations showing average ΔTEC variations (in σ units – semi-transparent colour scale) for the studied locations for each of the analysed storms November 2022.