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Comparison of seasonal climate variation in Croatia and SST anomalies in tropical Pacific

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Seasonal climate variation has been studied by the 45-year anomalies of T2m, precipitation and surface pressure observed at 25 Croatian stations. The anomalies were compared to seasonal Niño3 and Niño3.4 SST indices in order to investigate possible impact of ENSO on the Croatian climate. Because of different climate types in Croatia, we examined anomalies for continental and coastal areas. Statistical analysis has been performed based on correlation coefficients for each season, as well as for seasons with the time-lag of one, two and three months. For strongest ENSO events associated composites of T2m, precipitation and surface pressure were also analysed.
Strong events based on Niño3 index have an influence on T2m but less on precipitation; however the relationship becomes stronger with the time lag. Relatively high coefficients are obtained for strong warm events selected by Niño3.4 index. For both Niño3 and Niño3.4 winter indices, correlation is highest in the season with one month lag (JFM). Composites of T2m have an opposite sign for cold and warm events in all seasons; in winter T2m anomalies are negative for warm and positive for cold composite. However for both (cold and warm) composites precipitation exhibits negative anomalies whereas surface pressure has positive anomalies in winter.