Screen level temperature is measured at 2 meters above the ground. It is one of the most used atmospheric characteristics in various applications in meteorology and other fields related to weather prediction. Essential is not only the knowledge of its current state, but also its prediction. It is forecasted by numerical weather prediction (NWP) models from the atmospheric current state. Its long-term characteristics can be obtained from the integration of climate models. This text discusses fundamental parametrizations, mostly related to temperature forecast, used in the NWP model ALADIN and the regional climate model RegCM. Physical processes which influence temperature are studied using ALADIN in several cases which include the presence of low cloudiness, gravity waves and inappropriate thermic coefficient. A detailed description of the most relevant parametrization schemes is given and the results are studied in a form of individual feedback loops. Most dominant processes are also found. However, the level of 2 meters above the ground is not the model level, so temperature at 2 meters is obtained by interpolation from the surface temperature and the lowest model level temperature. Using RegCM, two differently complex interpolation schemes are compared to each other.