

P.S. 由于本周大部分精力都放在了编程作业中，所以找了一片较短的文献阅读。

(一) “Downscaled Climate Projections Suitable for Resource Management” EOS, Vol. 94, No.37, 10 September 2013

本文主要介绍了使用统计降尺度方法，将粗糙的GCM数据变为精确度较高的数据集——在美国宇航局地球交换（NEX）科学合作平台上开发了一个新的大规模CMIP5气候预测档案，用于30秒弧秒（~800米）的空间分辨率并正在通过NASA气候模拟中心（NCCS）进行分发。

上述数据集被称为NEX-DCP30，文中举例讲到，使用该数据集得到美国地区从1950-2099春季平均温度的预期变化。

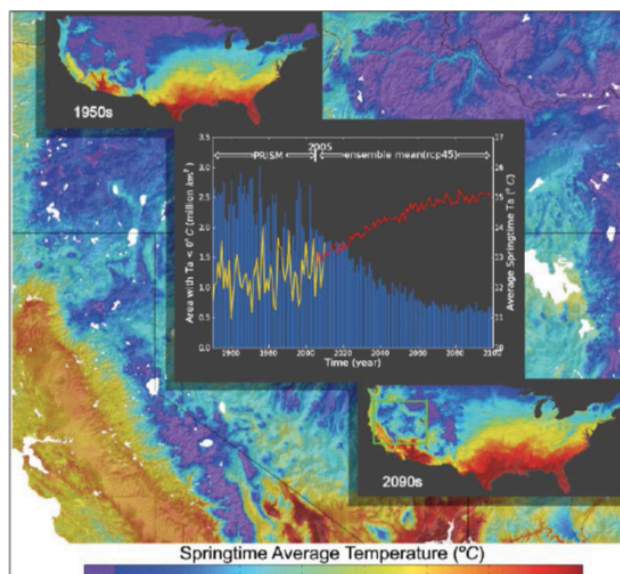


Fig.1 Changes in springtime (March-April-May) mean temperature, T_{spring} , over the conterminous United States from 1950 to 2099. The upper left map shows the observed mean U.S. T_{spring} in the 1950s (based on Parameter-Elevation Regressions on Independent Slopes Model (PRISM) data), while the lower right map shows the corresponding T_{spring} in the 2090s (as suggested by the ensemble mean of the NEX-DCP30 projections from the RCP4.5 scenario). The time series in the yellow line indicates the changes in the aggregated T_{spring} for the conterminous United States between 1950 and 2010, and the red line indicates the ensemble mean for RCP4.5 from 2006 to 2099. The blue bars show the corresponding changes in surface area where T_{spring} is below or equal to 0°C (i.e., purple shades on the T_{spring} maps). The map in the background shows the 2090s T_{spring} at the downscaled resolution (~800 meter) over the Southwestern United States, highlighting the spatial detail provided by the downscaled climate projections.

从图中可以看出，1950年代和2099年代的明显不同，且将2099年中的美西地区放大（底图），颜色区别依然清晰可识别。