



Application of information and computing web system “Climate” for estimation of aridity of South Siberia

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Goal, calculation and result

Goal: to estimate the aridity of South Siberia (50°-65°N, 60°-115°E)

Method: hydrothermal coefficient of Selyaninov (HTS)

Data: ECMWF ERA Interim reanalysis data

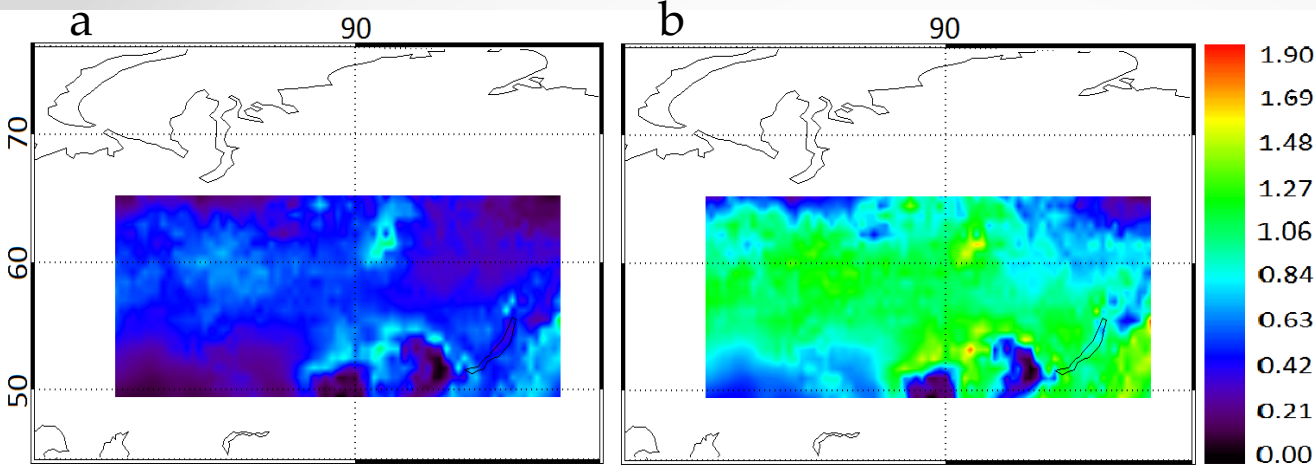
Period: from 1979 to 2010

Calculation: $HTS = \frac{\sum r}{0.1 \sum t_{>10}}$

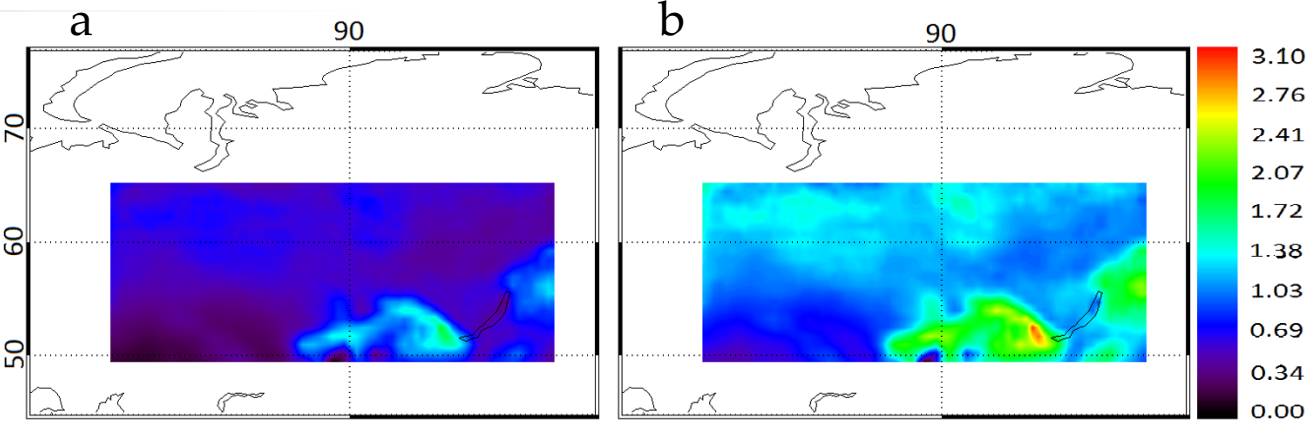
where $\sum r$ - precipitation during growing season length where daily mean temperature above 10 °C, $\sum t_{>10}$ - temperature sum of growing season where daily mean temperature above 10 °C. The growing season length was calculated by procedure represented in [Ped', 1951].

Verification: calculation results compared with results calculated using weather station data. Precipitation from reanalysis data were corrected by comparisons results

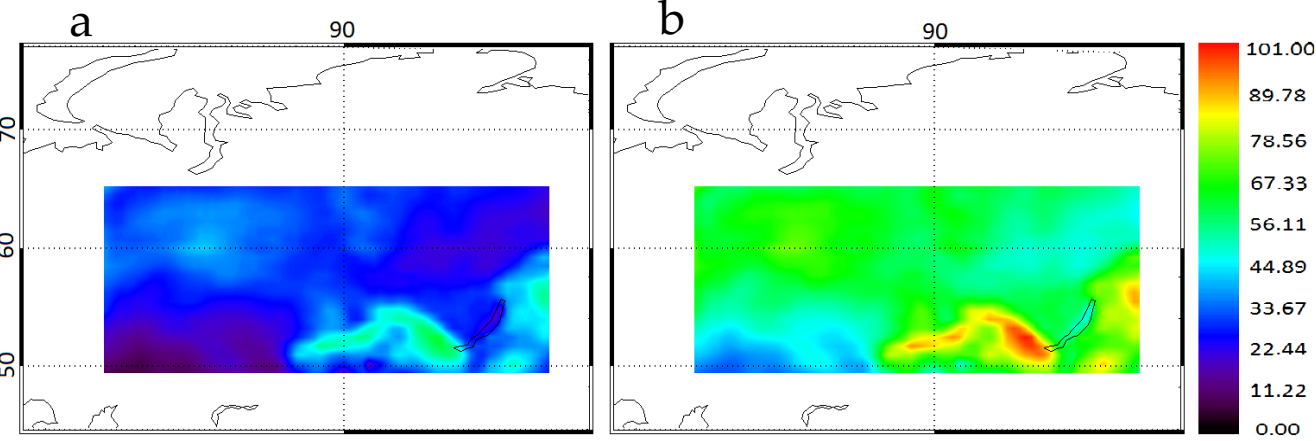
Result: developed program module was integrated to the computing web system "Climate"



Pic.1. Distribution of long-term average of HTS in August.
 a – before correction,
 b – corrected precipitation .



Pic.2. Distribution of long-term average of HTS for growing season .
 a – before correction,
 b – corrected precipitation .



Pic.3. Distribution of long-term average precipitation amount in August.
 a – before correction,
 b – corrected precipitation .



Thank you for attention!

enviromis
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