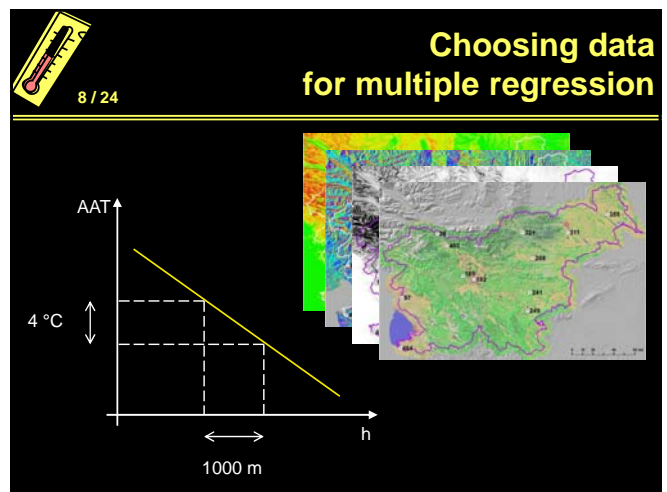
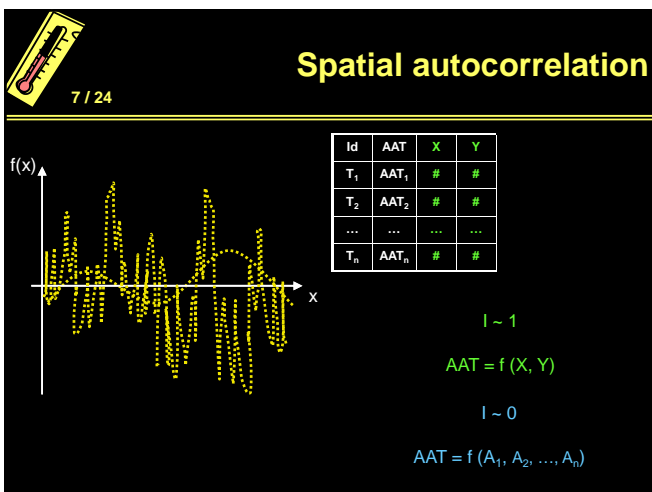
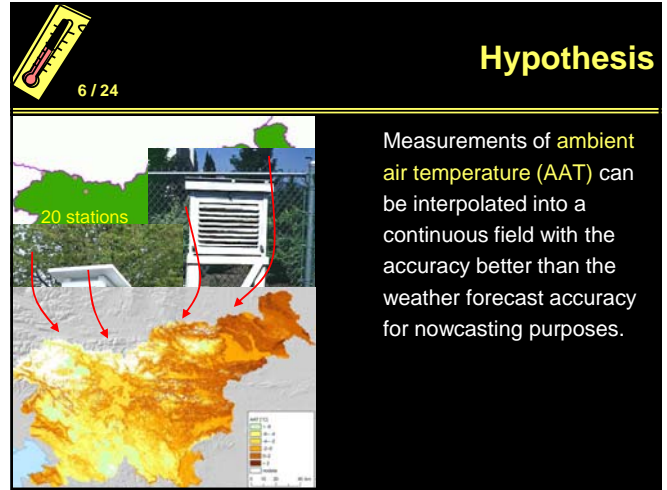
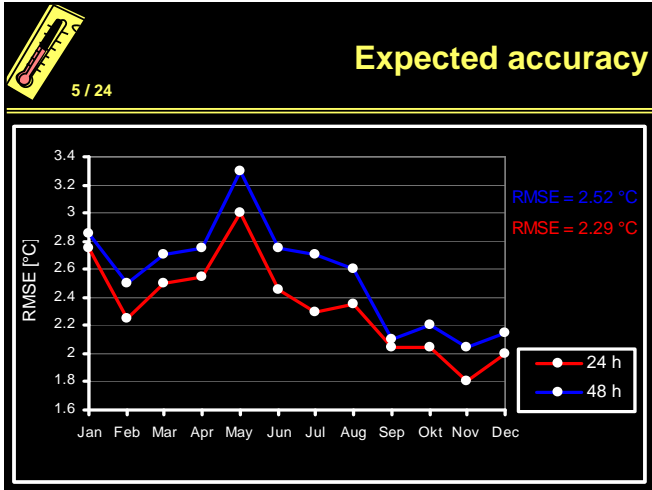
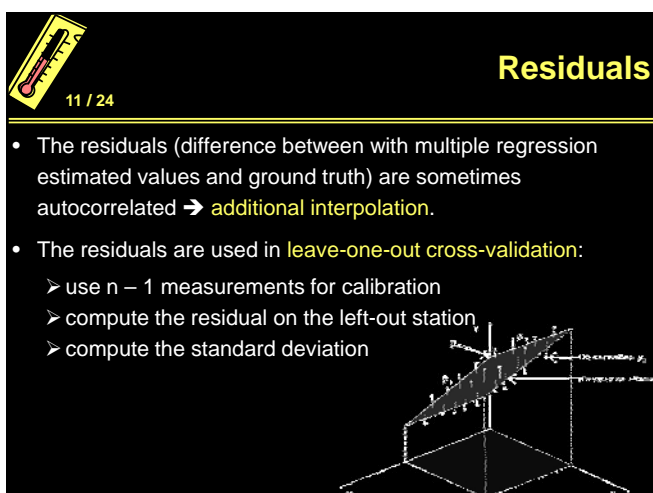
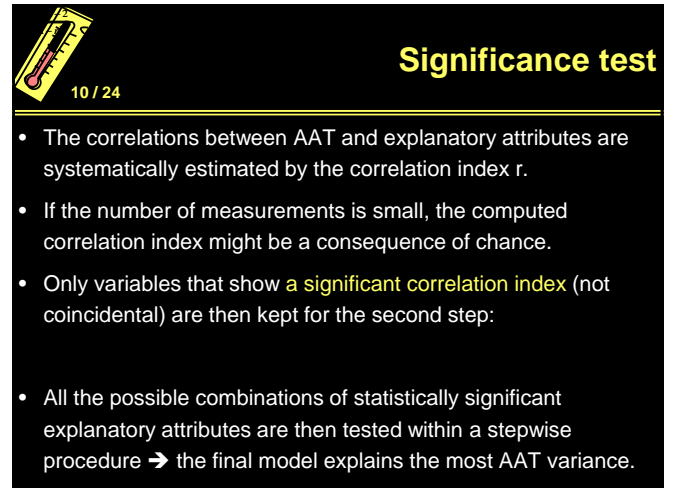
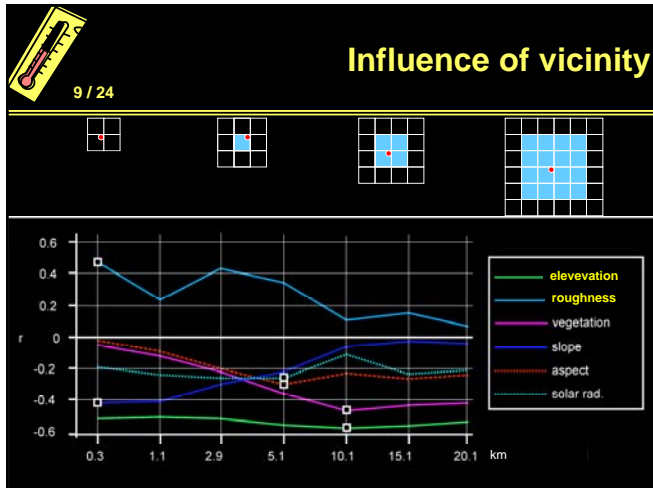


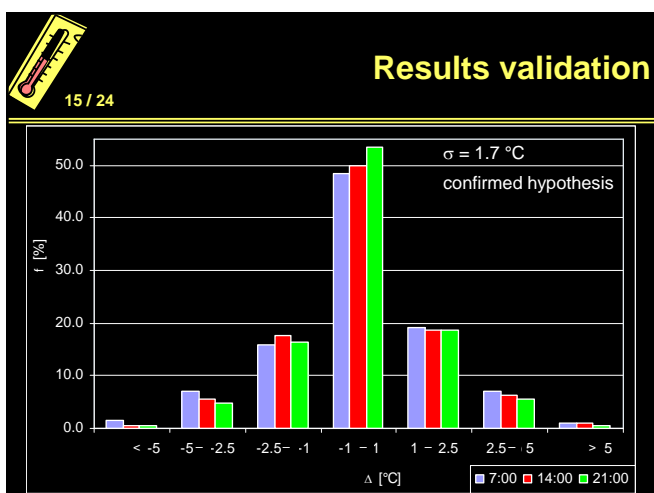
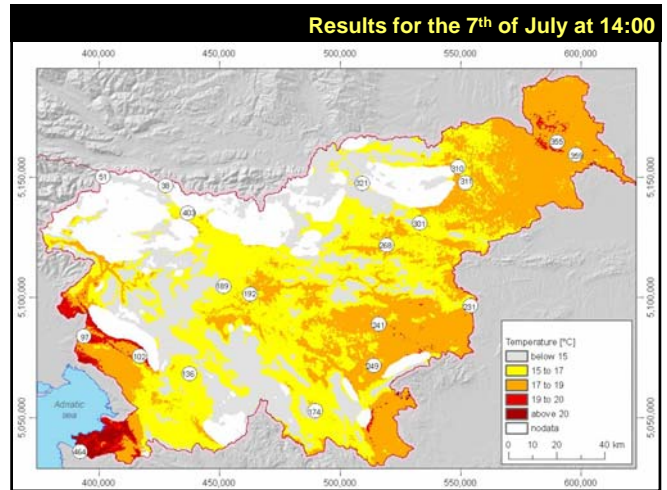
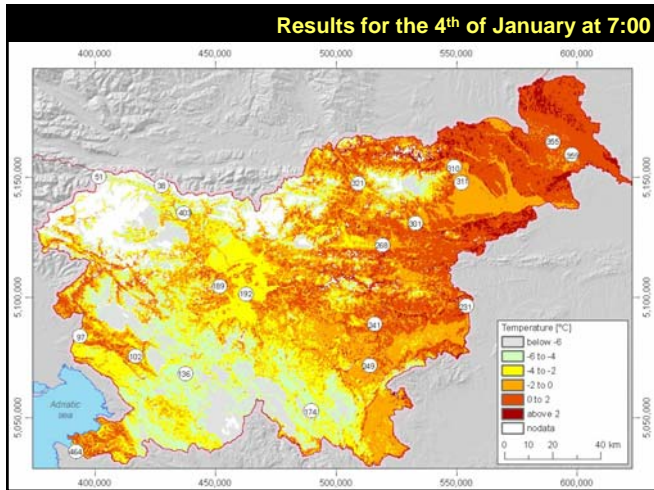


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in inhomogeneous regions**

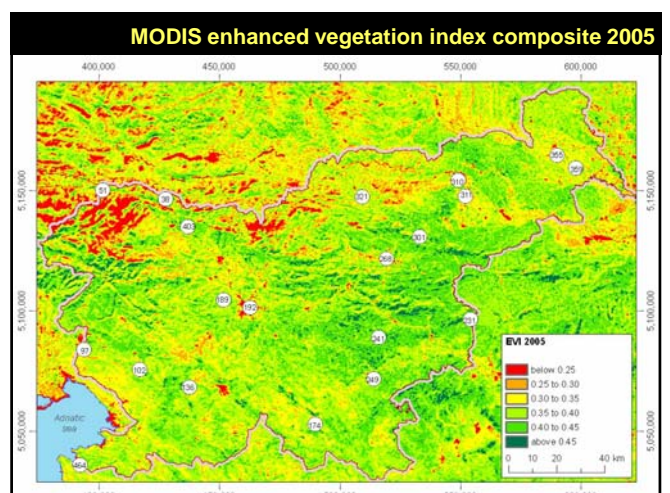
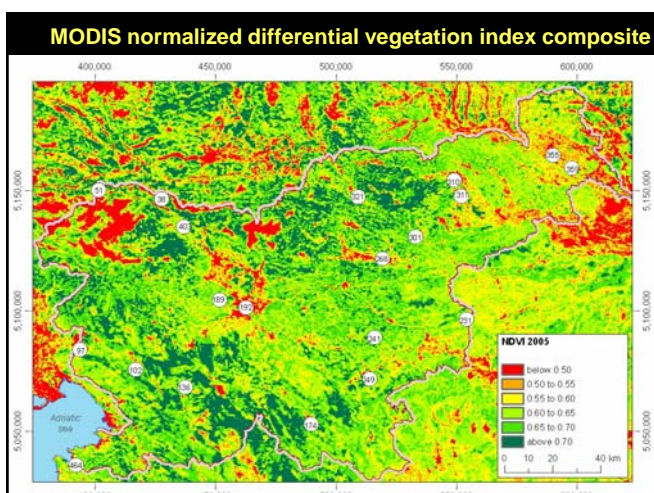
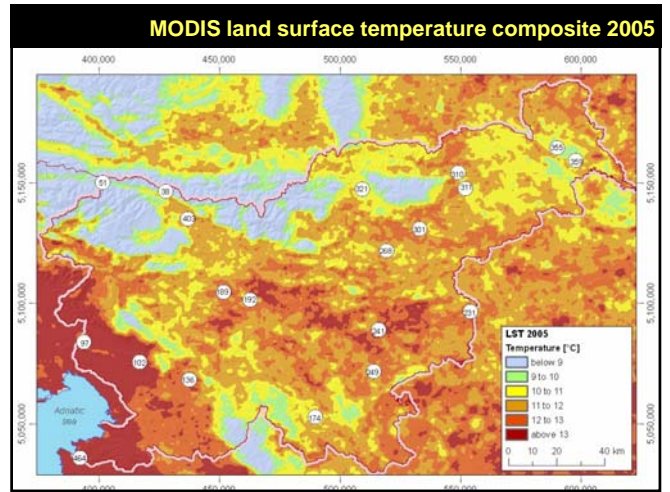
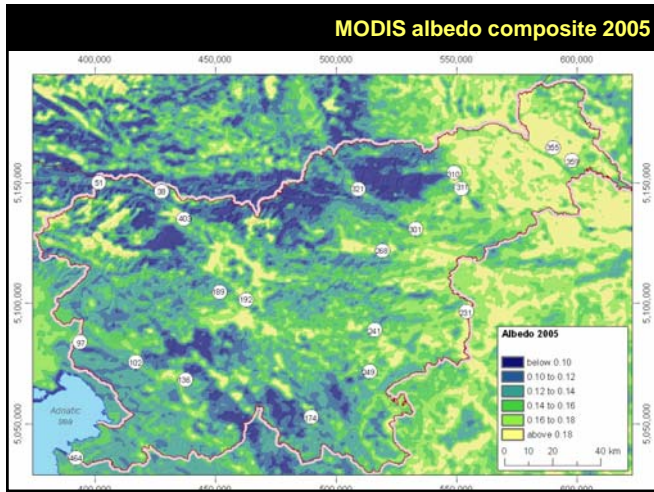


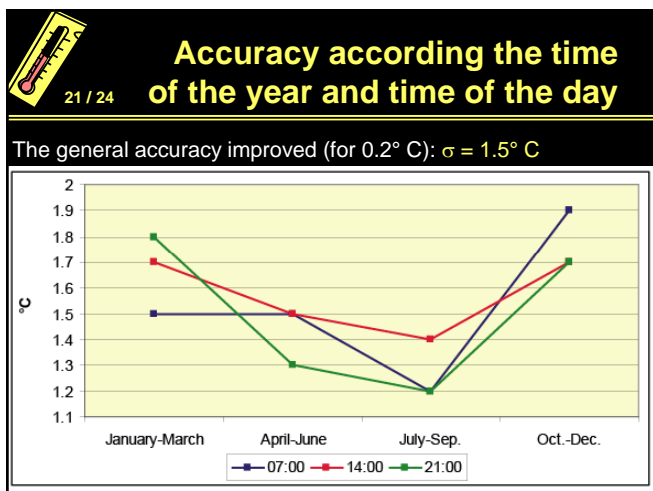






- ### Use of MODIS data
- 16 / 24
- Merely derivates from digital elevation model and land cover data were used as explanatory variables at first.
  - In order to improve the general accuracy of 1.7° C additional MODIS data have been used:
    - albedo
    - land surface temperature
    - normalized differential vegetation index
    - enhanced vegetation index






### 22 / 24 Explanatory variables frequency

Variable	7:00	14:00	21:00	Average
Aspect	91.3	95.6	87.4	91.4
Elevation	74.1	87.6	77.8	79.8
Distance from the sea	18.4	43.4	20.3	27.4
Slope in N-S direction	22.8	33.2	24.1	26.7
Solar radiation	12.6	22.2	12.1	15.6
Albedo2005	2.7	5.0	2.2	3.3
LST2005	61.9	37.8	44.1	47.9
Down-up position	34.0	13.5	42.5	30.0
NDVI2005	26.8	15.4	33.2	25.1
Roughness	21.7	19.4	24.4	21.8
Slope	14.6	10.7	27.2	17.5
EVI2005	3.0	1.9	3.3	2.8

### 23 / 24 Discussion

- Aspect, elevation and LST are often among the most frequent explanatory variables.
- The scale has an effect on the results.
- MODIS data – EVI and surface albedo are not correlated with AAT but LST and NDVI have a significant influence on AAT – their use improves the overall accuracy for  $0.2^\circ\text{C}$ .
- A greater number of meteorological stations is necessary in order to obtain higher AAT accuracy (the achieved is already better than the weather forecast accuracy).

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