Introduction to poster:

Assessment of Strategies for Spatial Atmospheric Parameter Interpolation

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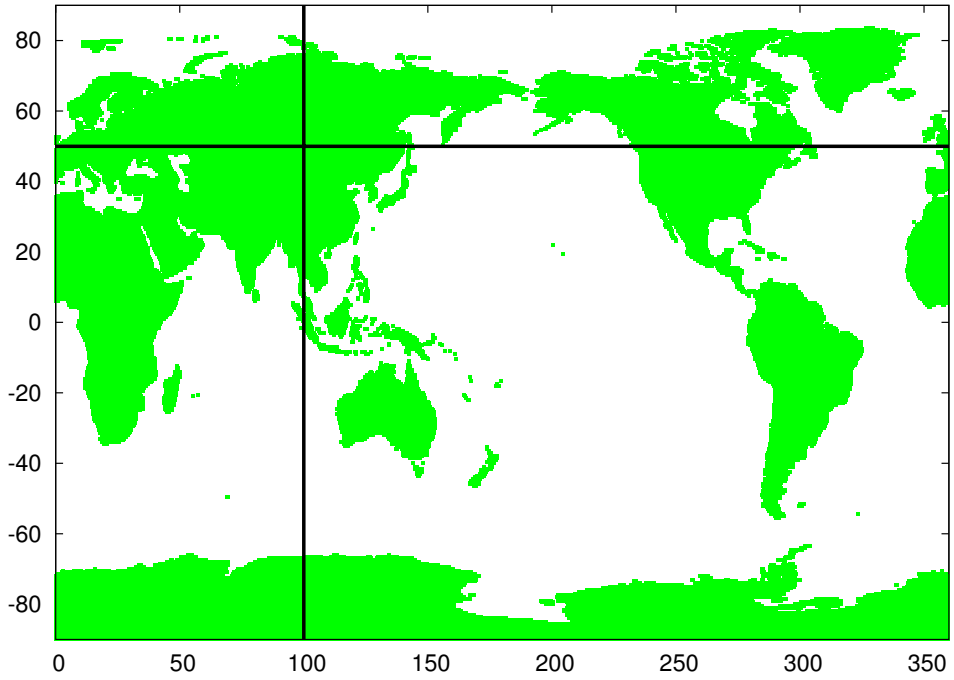
- In GNSS and meteorology there are many problem or situations requiring the use of interpolation techniques.
- In the poster, we test different interpolation techniques for zenith hydrostatic delays in a global grid available from VMF1 model.
- Three techniques were selected:
  - spatial bi-linear interpolation technique,
  - interpolation technique using cubic spline functions,
  - kriging spatial interpolation.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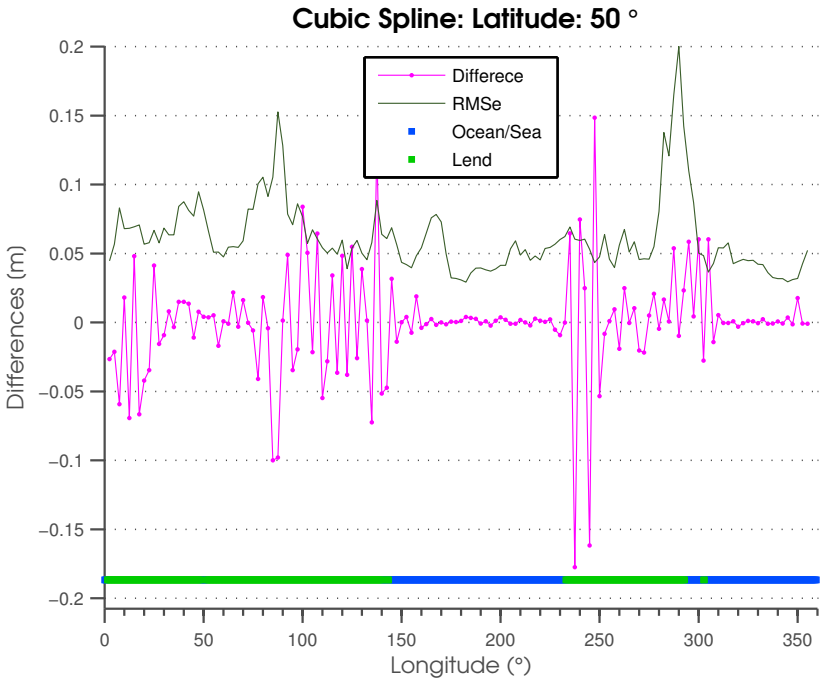
Cubic Spline: Latitude: 50 °
Differece
RMSe
Ocean/Sea
Lend
Differences (m)
Longitude (°)
0.2
0.15
0.1
0.05
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−0.05
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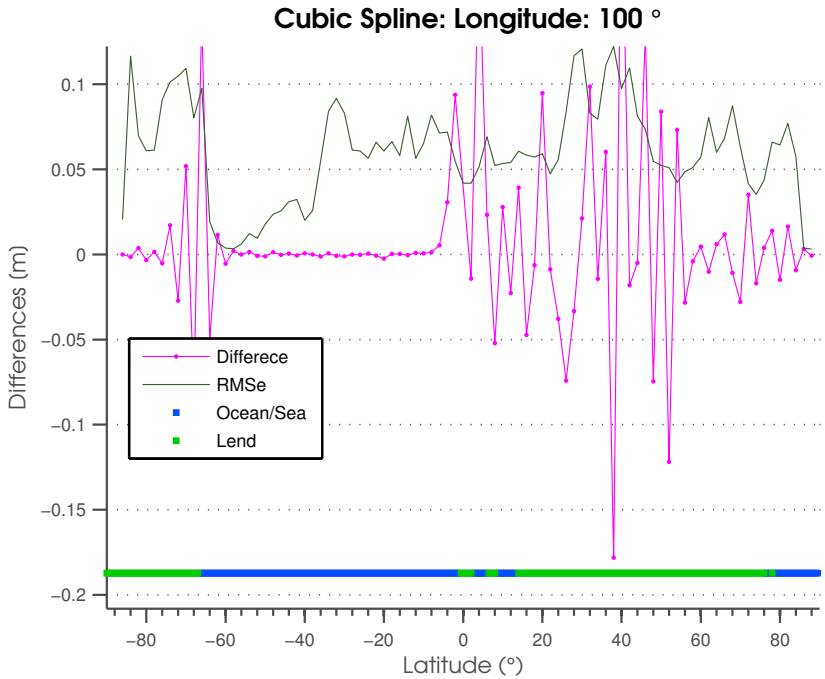
Cubic Spline: Longitude: 100 °
Differece
RMSe
Ocean/Sea
Lend
Differences (m)
Latitude (°)
0.1
0.05
0
−0.05
−0.1
−0.15
−0.2
−80
−60
−40
−20
0
20
40
60
80

- The experiment showed that the accuracy of all tested methods was similar,
- We may assume that (according to process of computing and results of interpolation):
  - bi-linear method with the simplest algorithms could be very effective (speed of computing),
  - cubic spline interpolation is the most accurate,
  - kriging technique can be very helpful for many other situations (regular and irregular data can be combined)
- more in poster ...