



Note



Relationships between polygon size (number of pixels) and standard deviation of coherence and intensity (linear scale)

Kevin Tansey, UWS, 11th October 1999

Findings

In response to Heiko's note (and accompanying spreadsheet) this note provides evidence to support the suggestion to use 20 pixel (or greater) polygons in the analysis. The evidence is purely qualitative to support Heiko's quantitative approach. I plotted the estimate for 1 S.D. of the coherence or intensity against the number of pixels in each polygon. The plots of coherence against the estimate of 1 S.D. of each polygon shows that for polygons with less than 20 pixels the range of S.D. estimates is quite high for all sites. The range of S.D. estimates decrease with increasing pixel number. A cut-off of 20 pixels seems reasonable for further analysis. For intensity against pixel number the range of 1 S.D. estimates remains large way past 20 pixels and even past 50 pixels.

5 sites are shown (1-3: Irbeiskii (north, south and east), 4: Ulkanskii (south), 5: Nishni-Udinsky (west – 2 test sites). There are three plots for each site displayed in this file.

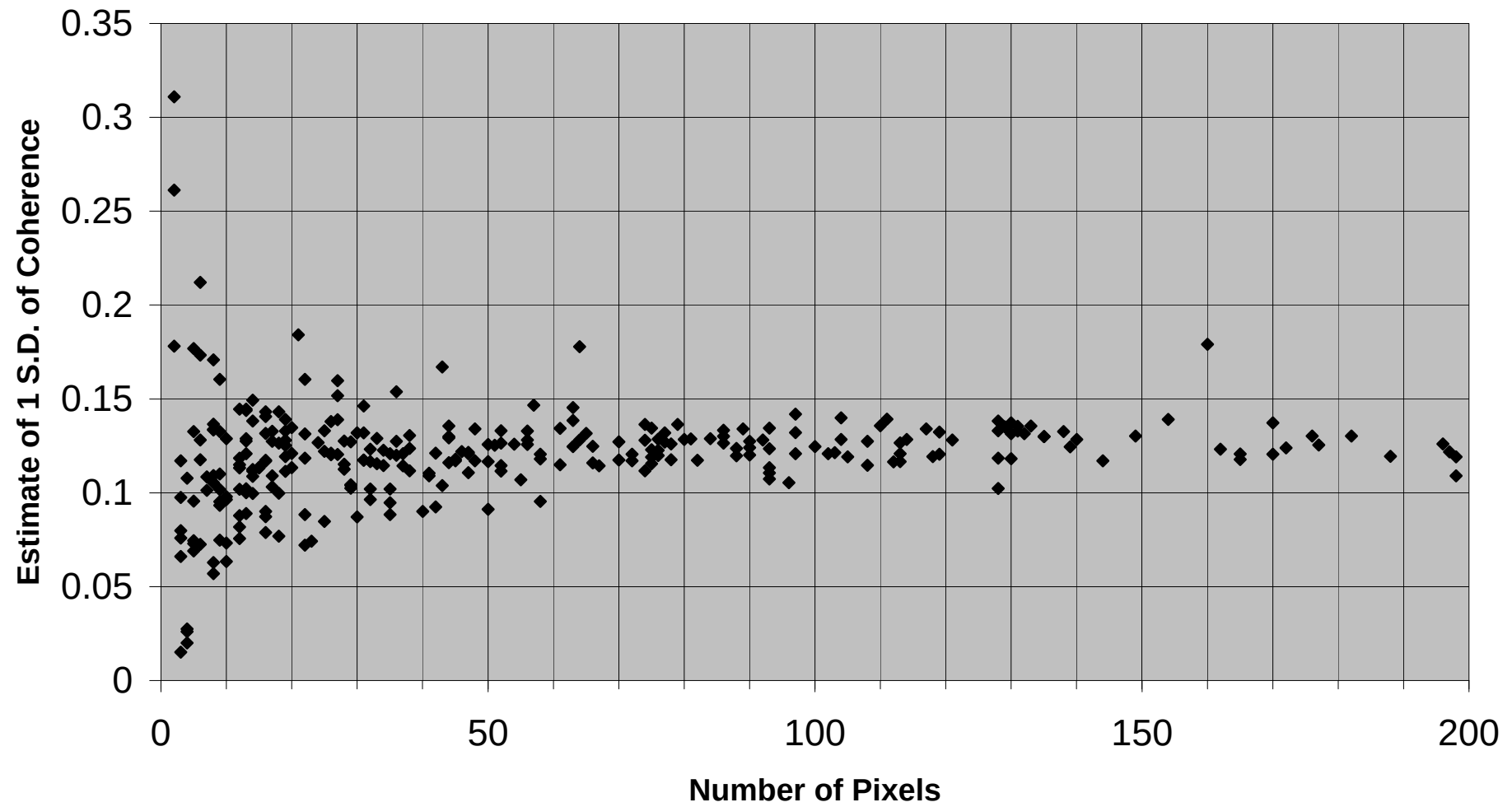
The order of the diagrams follows:

1. Plot of 1 S.D. estimate in coherence (20 pixel estimate), zoomed to show 0-200 pixel range.
2. Plot of 1 S.D. estimate in coherence (20 pixel estimate) showing all the polygons.
3. Plot of 1 S.D. estimate in intensity (linear scale), zoomed to show 0-200 pixel range.

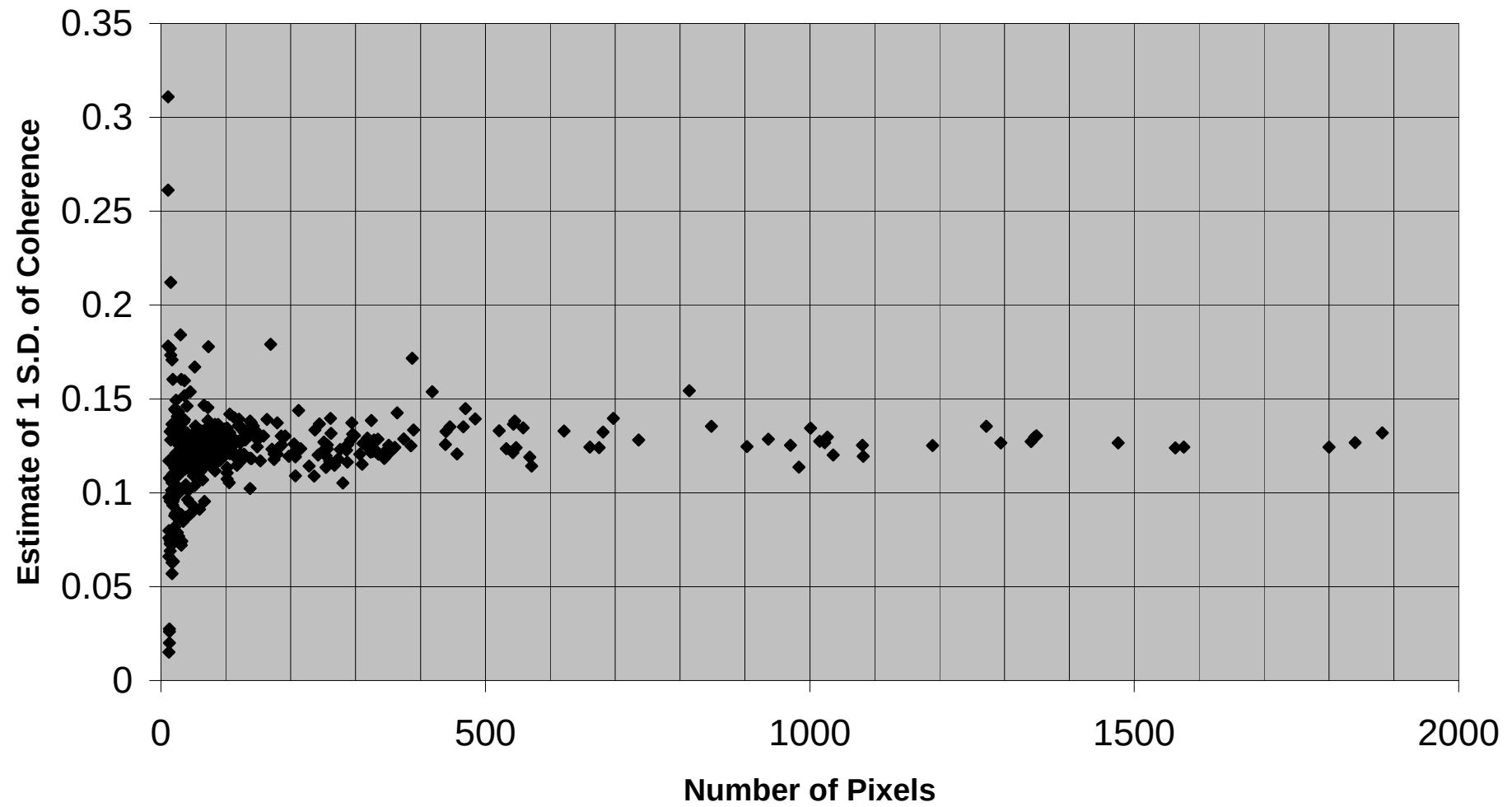
This note will not go onto the UWS web server as a working note (as it only enforces a recommendation) but can be downloaded from the UWS Siberia FTP server.

Kevin

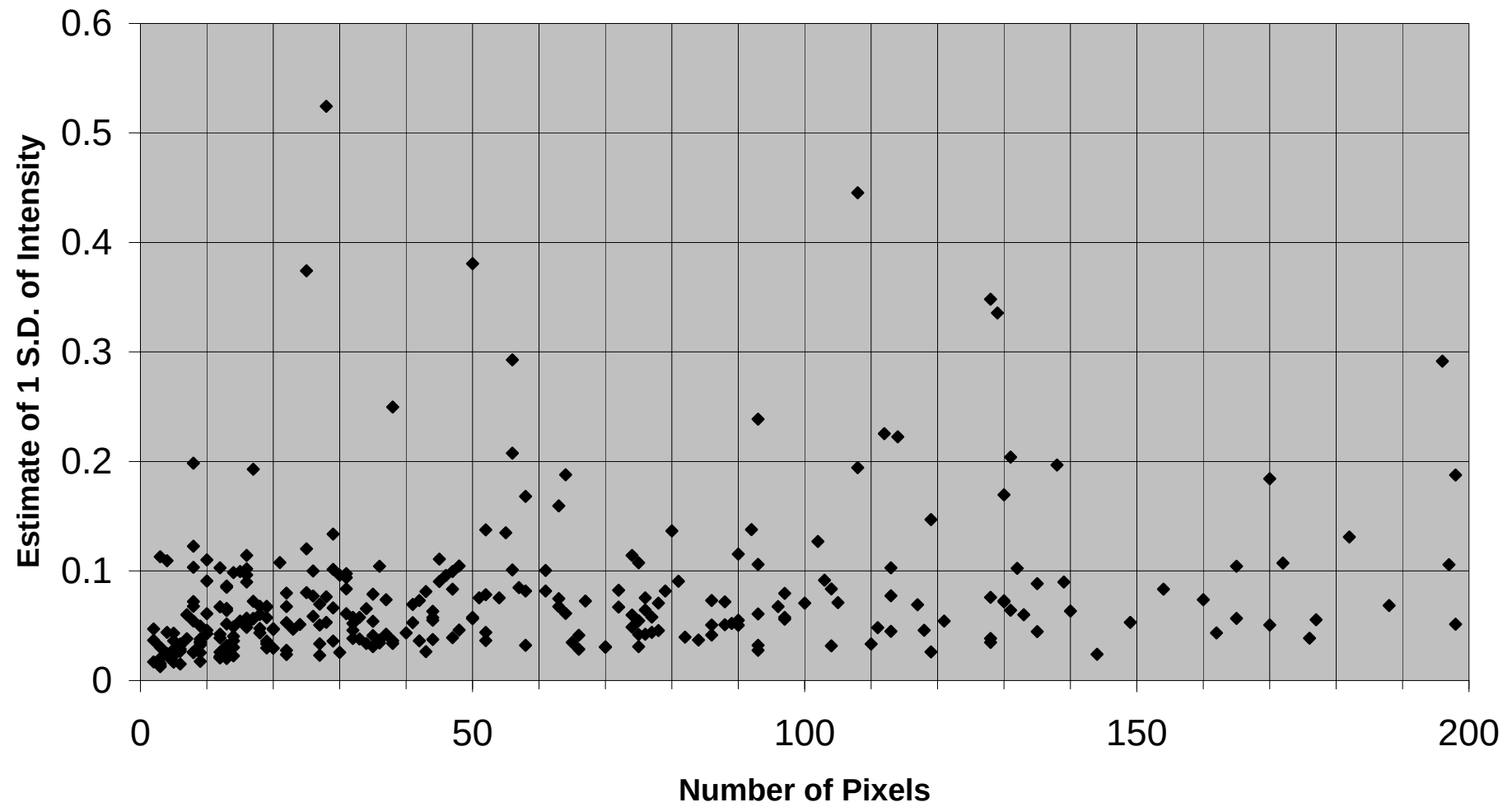
Irbeiskii East



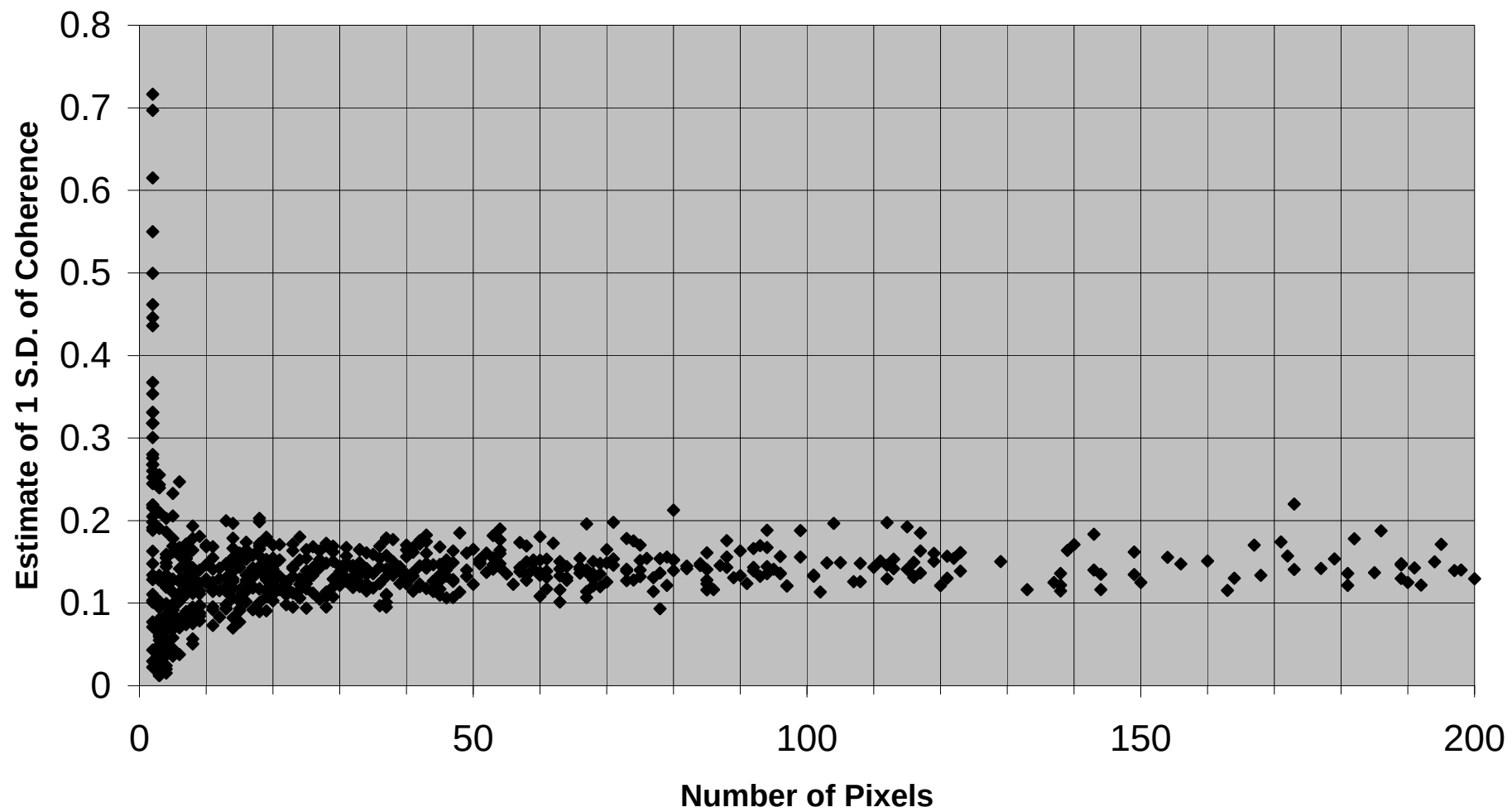
Irbeiskii East



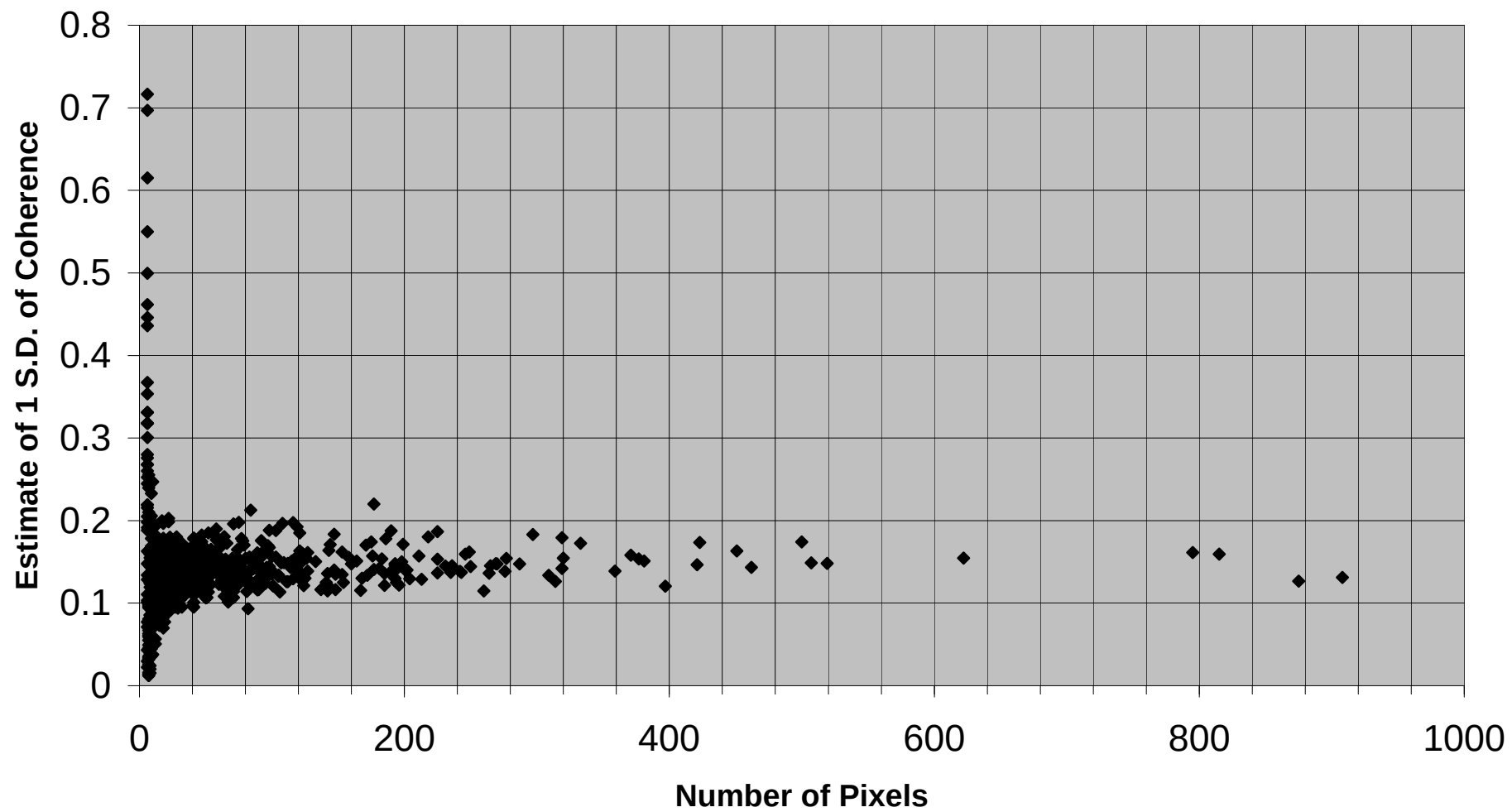
Irbeiskii East



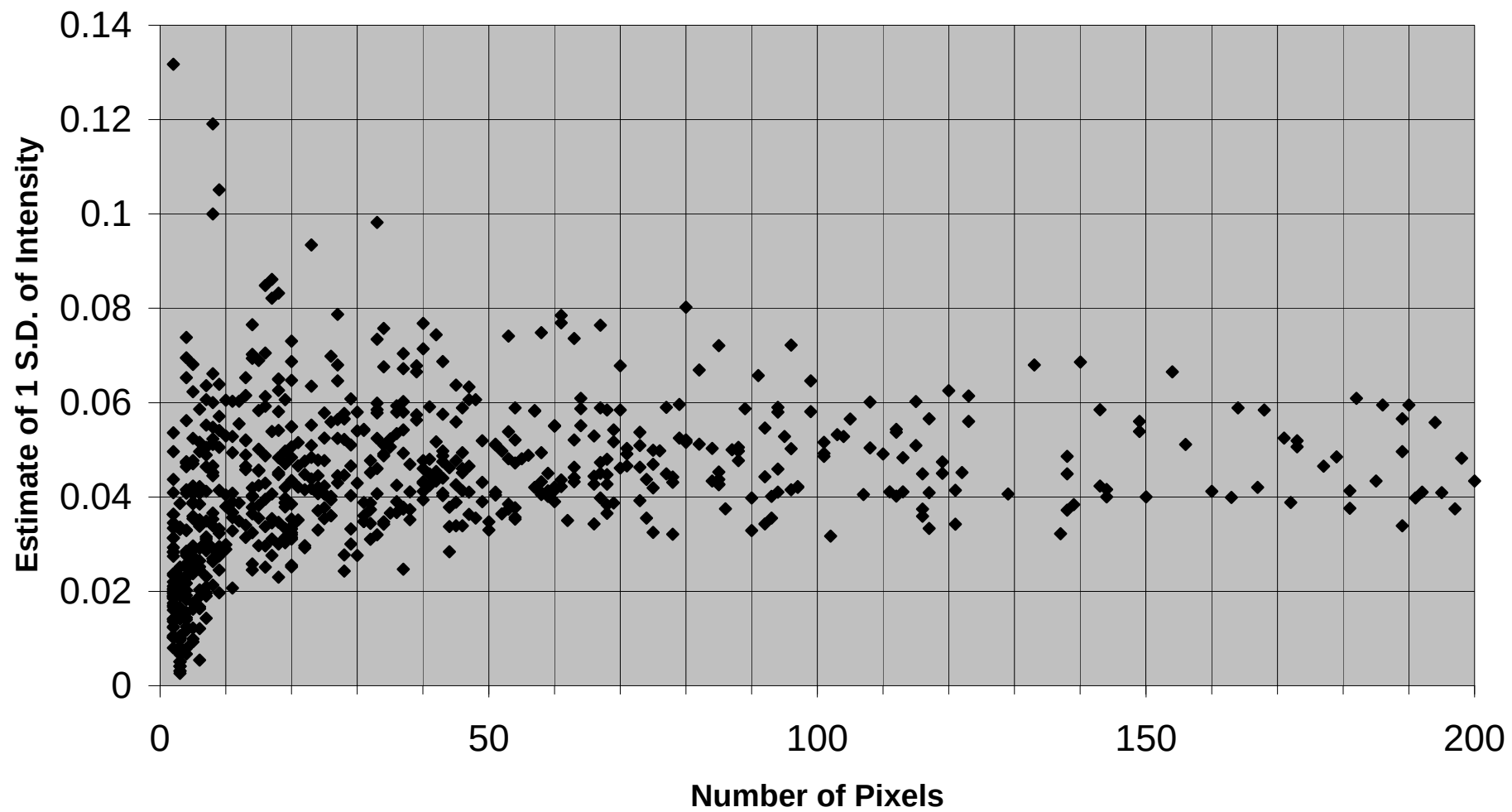
Irbeiskii North



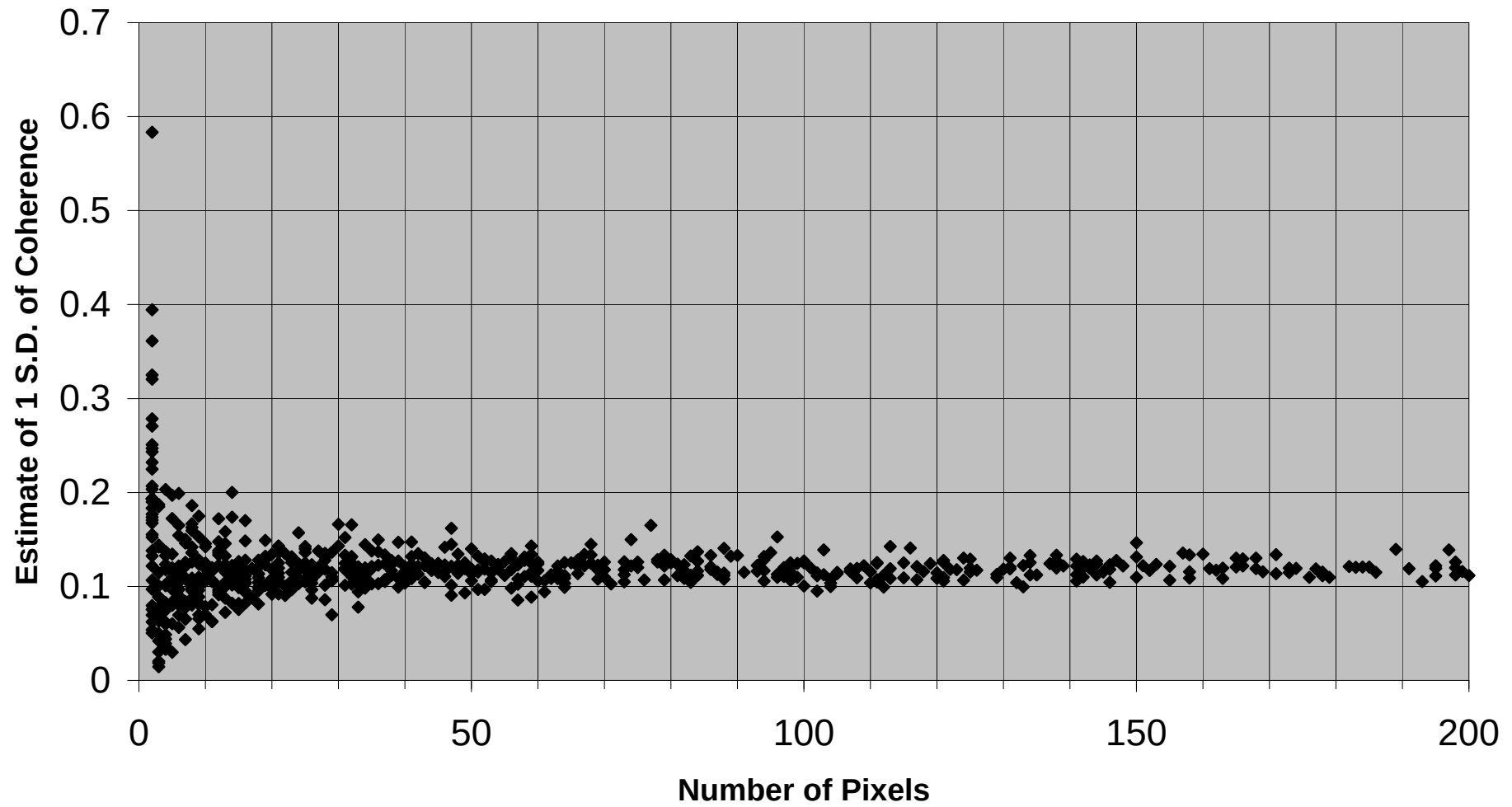
Irbeiskii North



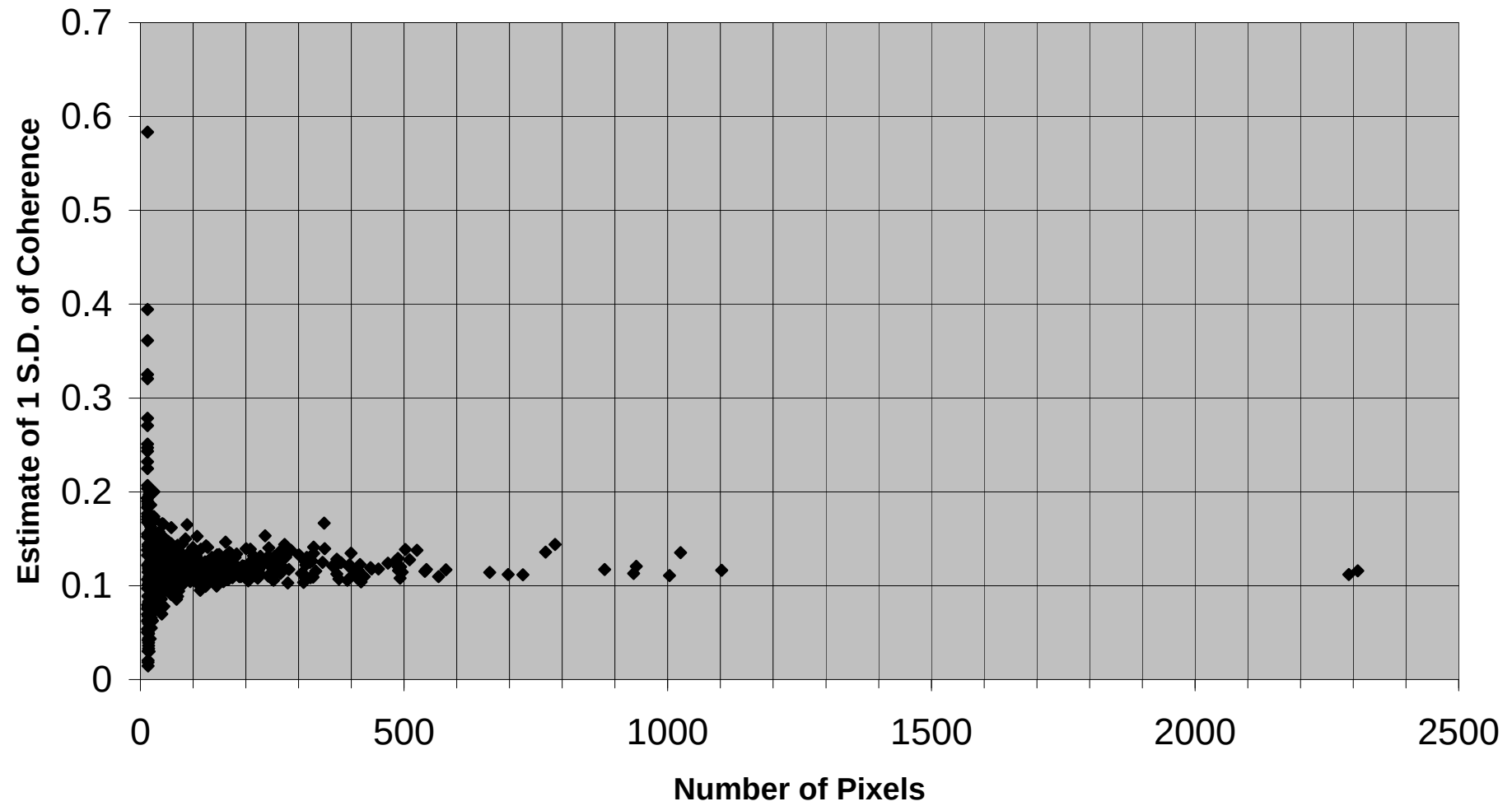
Irbeiskii North



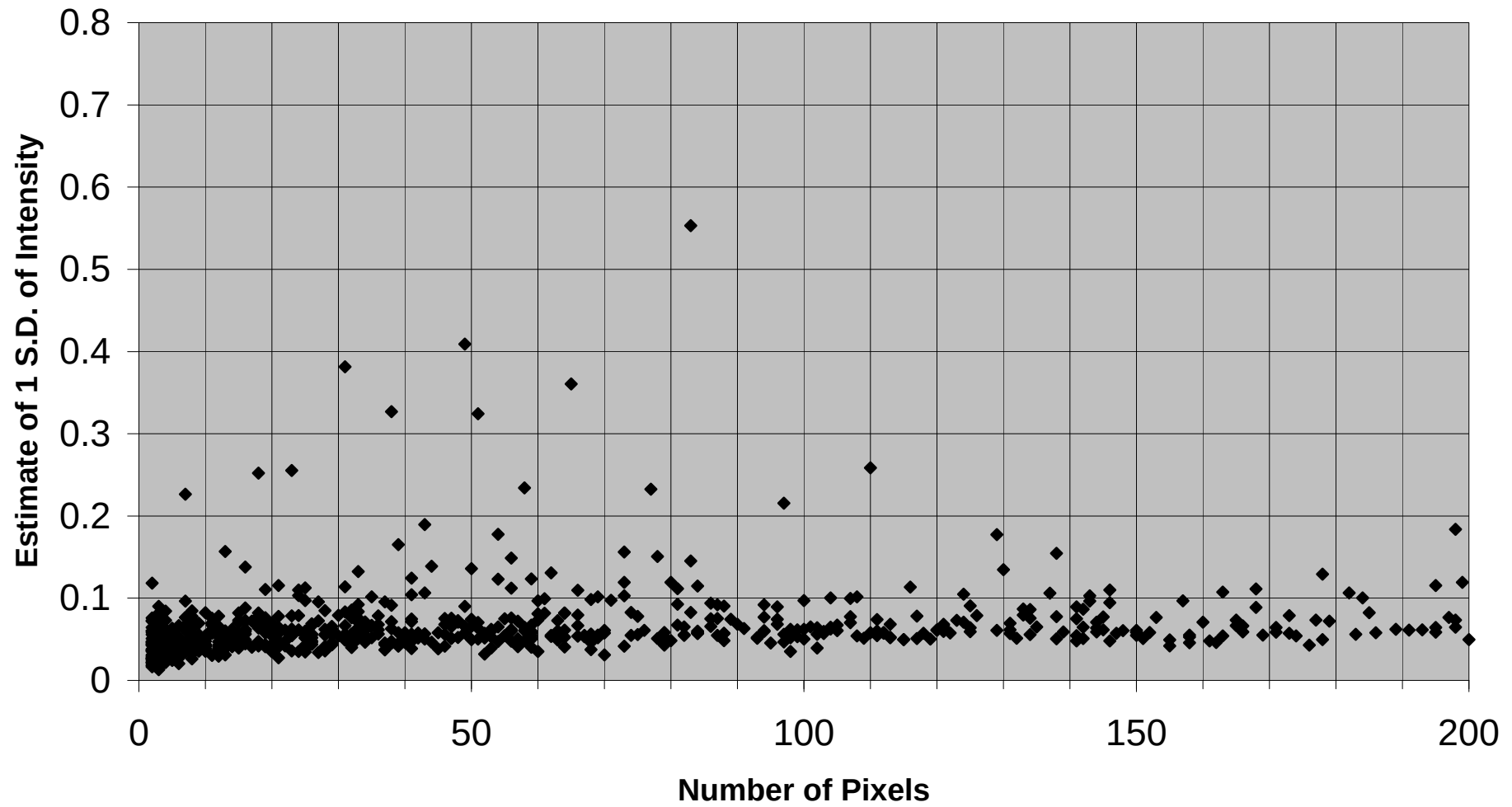
Ulkanskii South



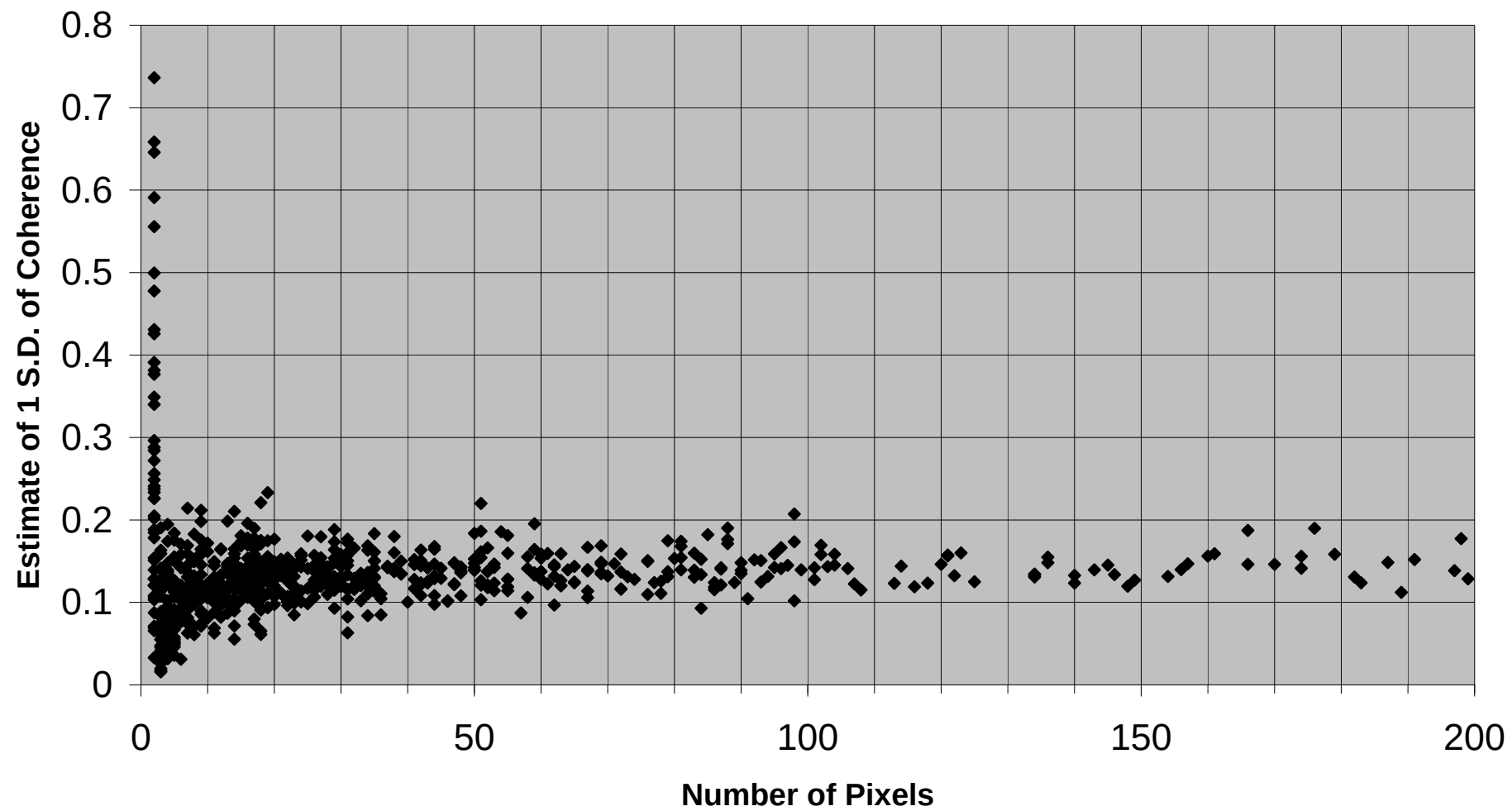
Ulkanskii South



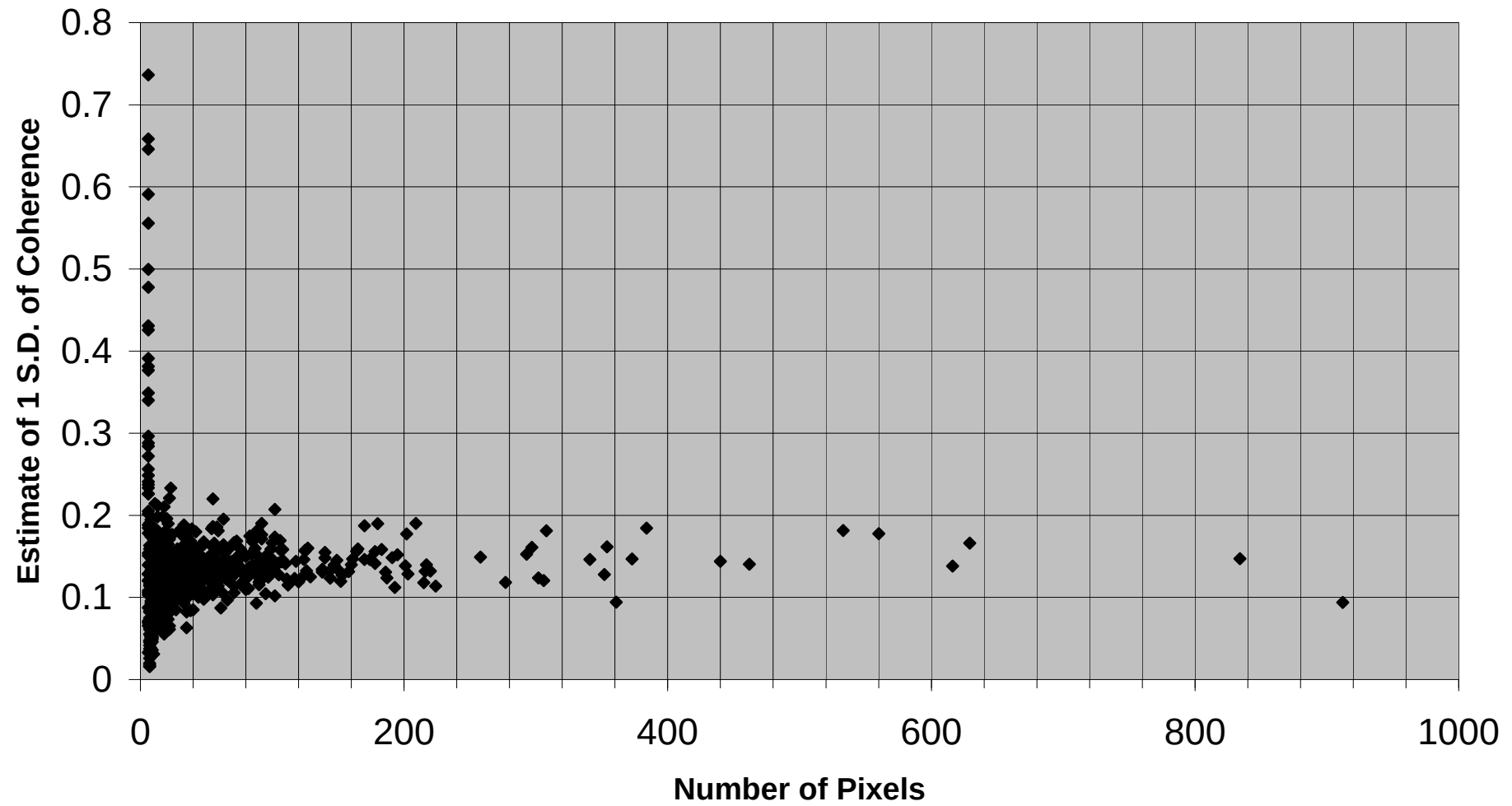
Ulkanskii South



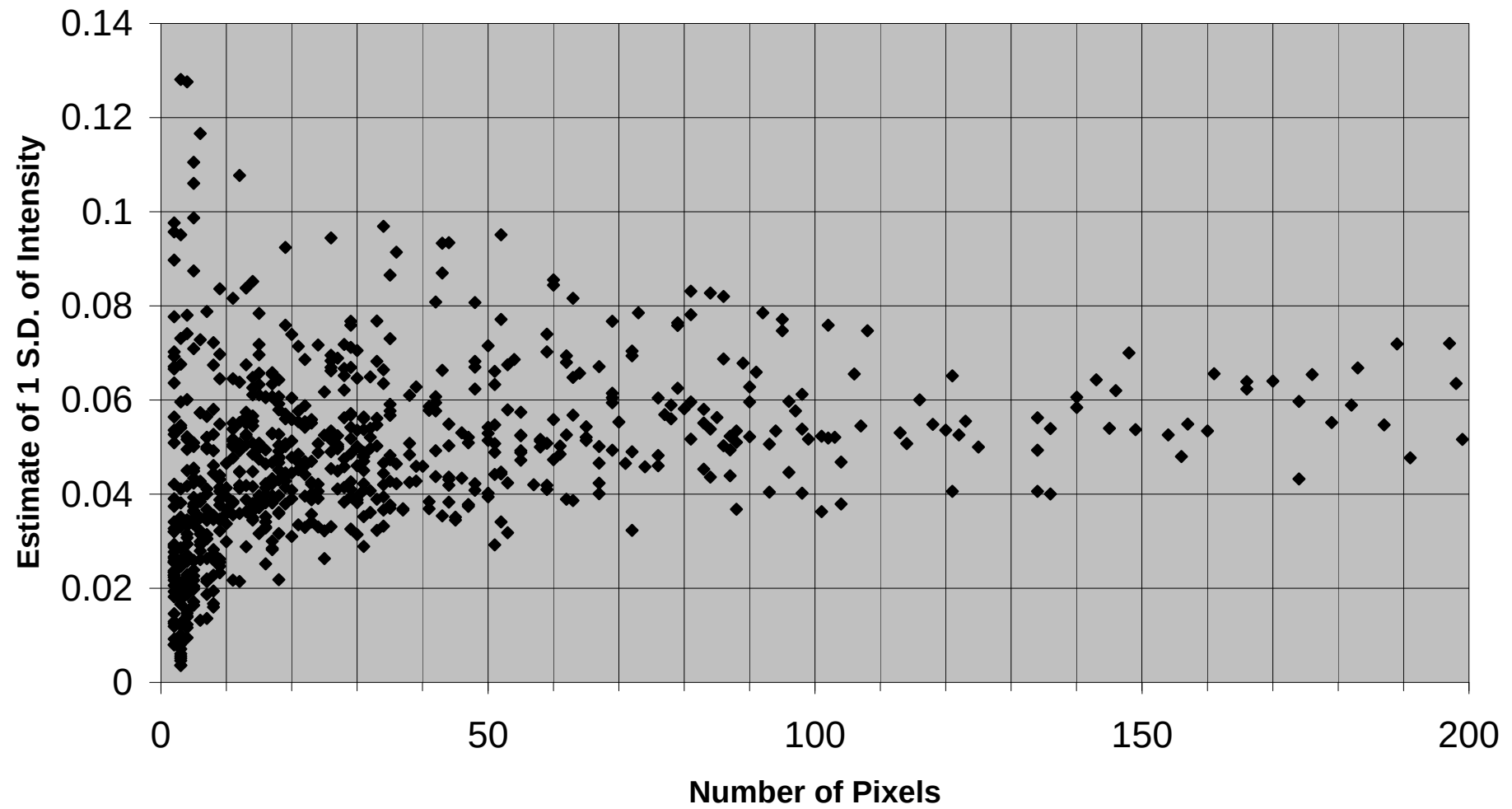
Irbeiskii South



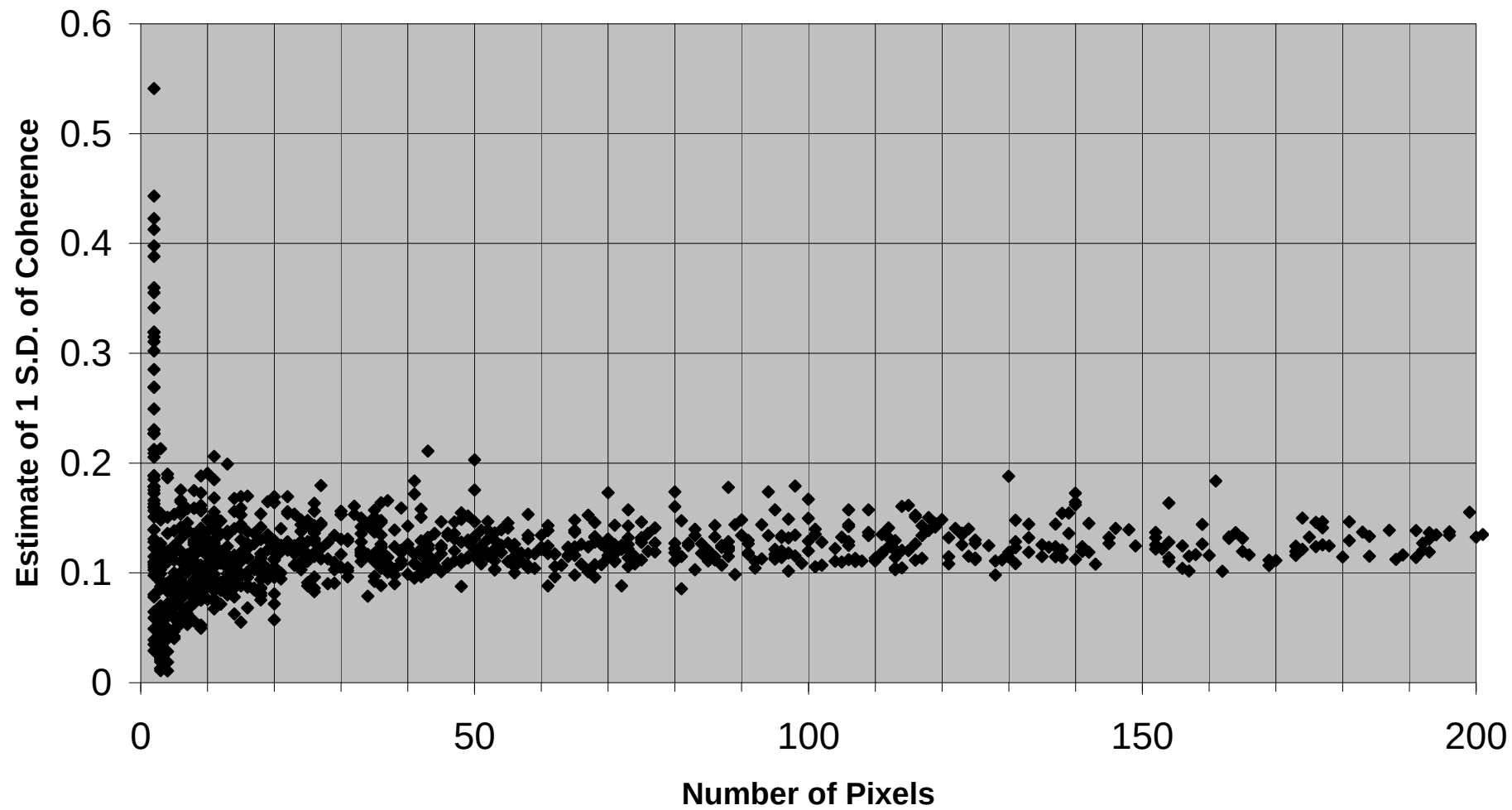
Irbeiskii South



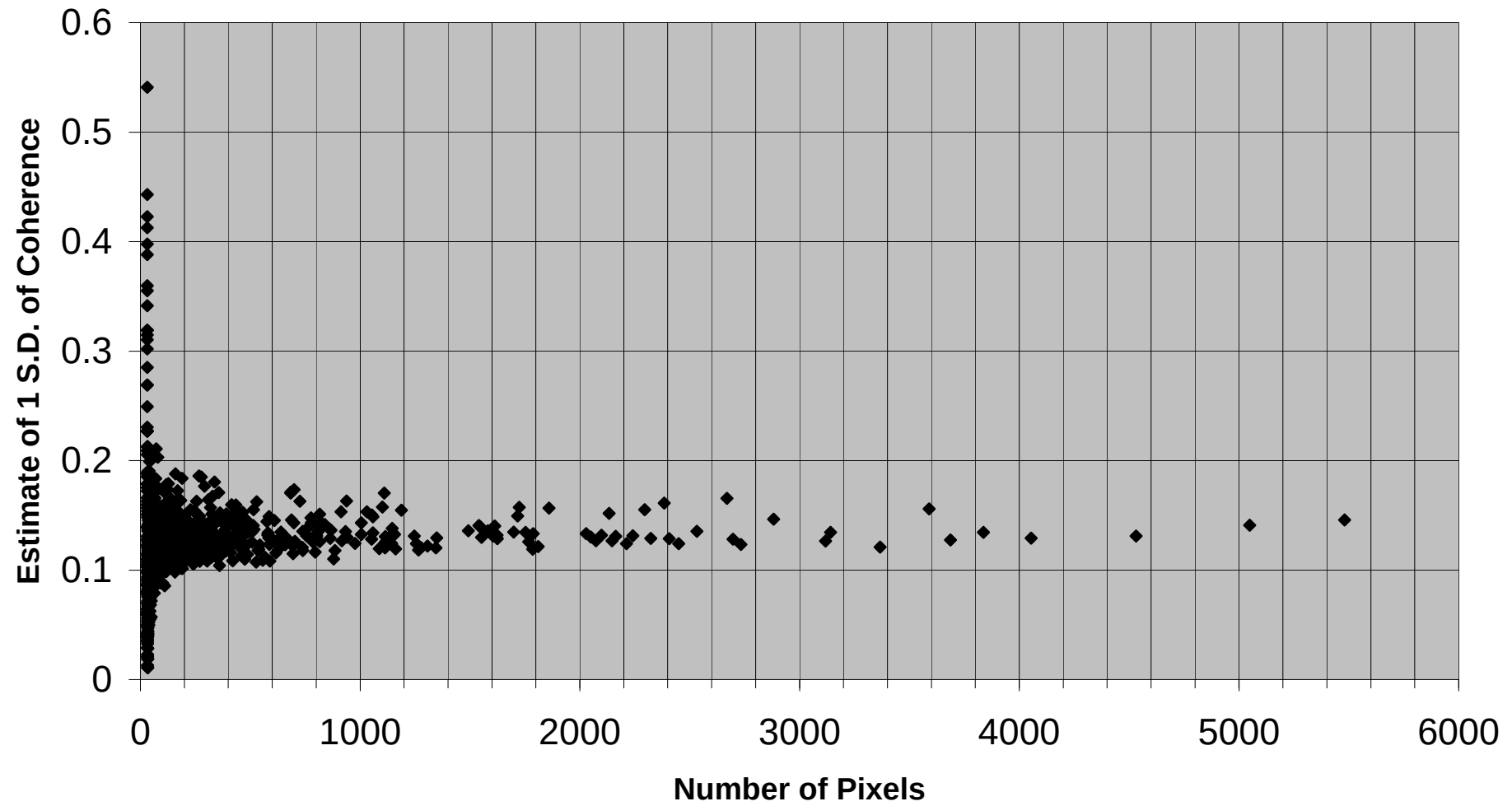
Irbeiskii South



Nishni-Udinsky West



Nishni-Udinsky West



Nishni-Udinsky West

