Supplement to 'Data driven approach to benthic cover type classication using bathymetric lidar waveform analysis'

September 7, 2015

1 Spatial variation of the individual feature variables

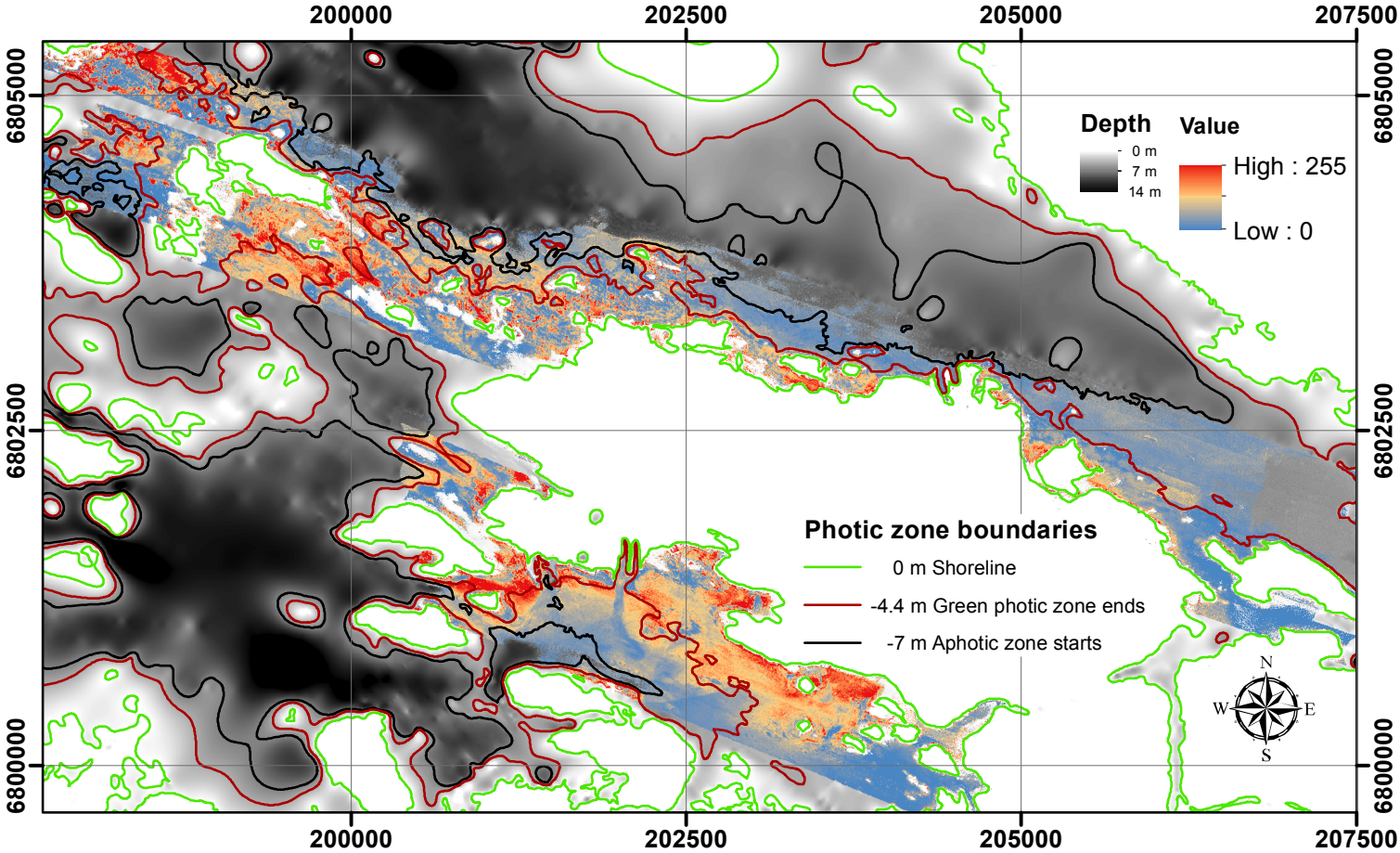

Figure 1: Corrected maximum amplitude

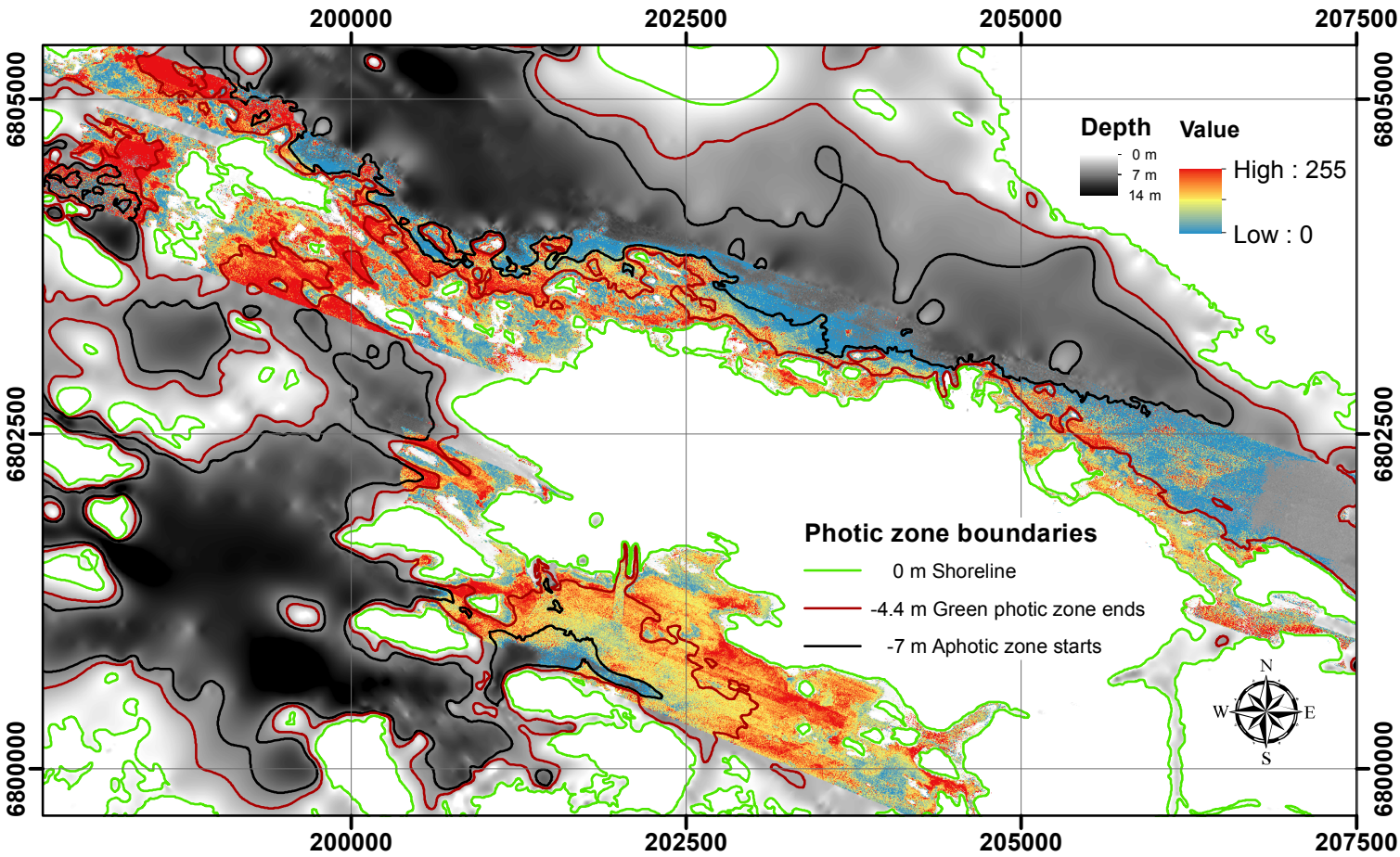

Figure 2: Corrected pulse width at 25 % level of maximum amplitude

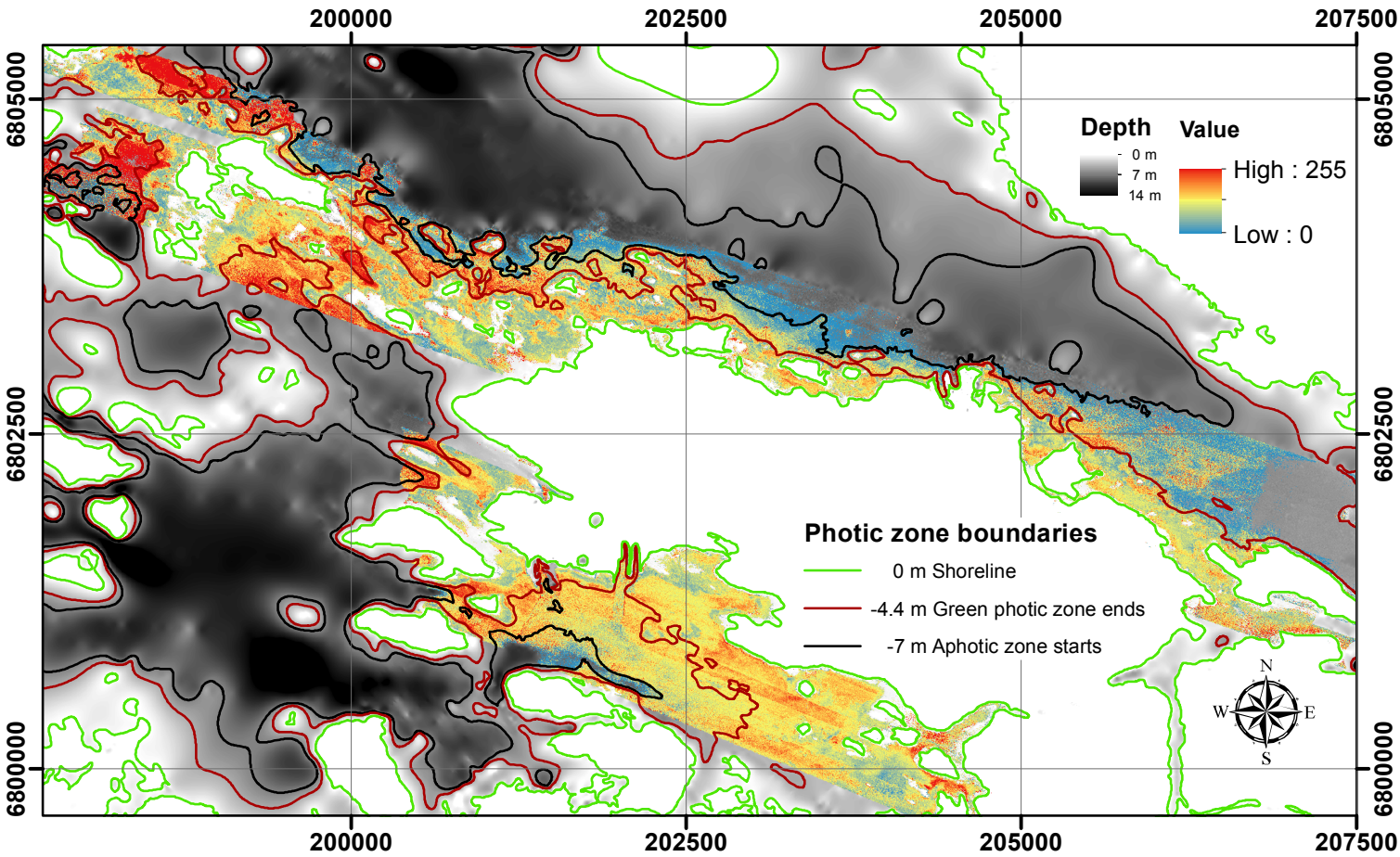

Figure 3: Corrected pulse width at 50 % level of maximum amplitude

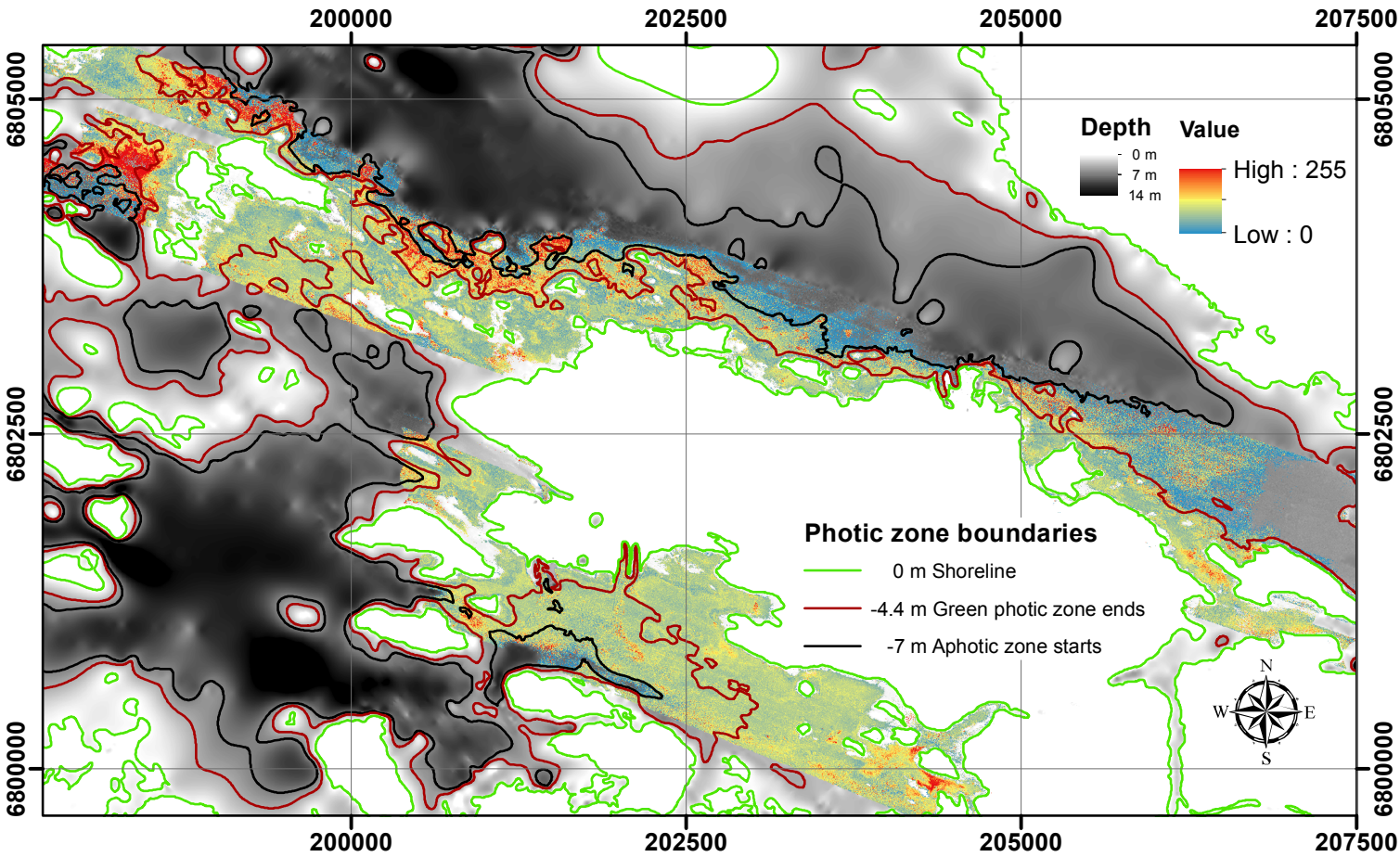

Figure 4: Corrected rise time from 25 % level to maximum amplitude

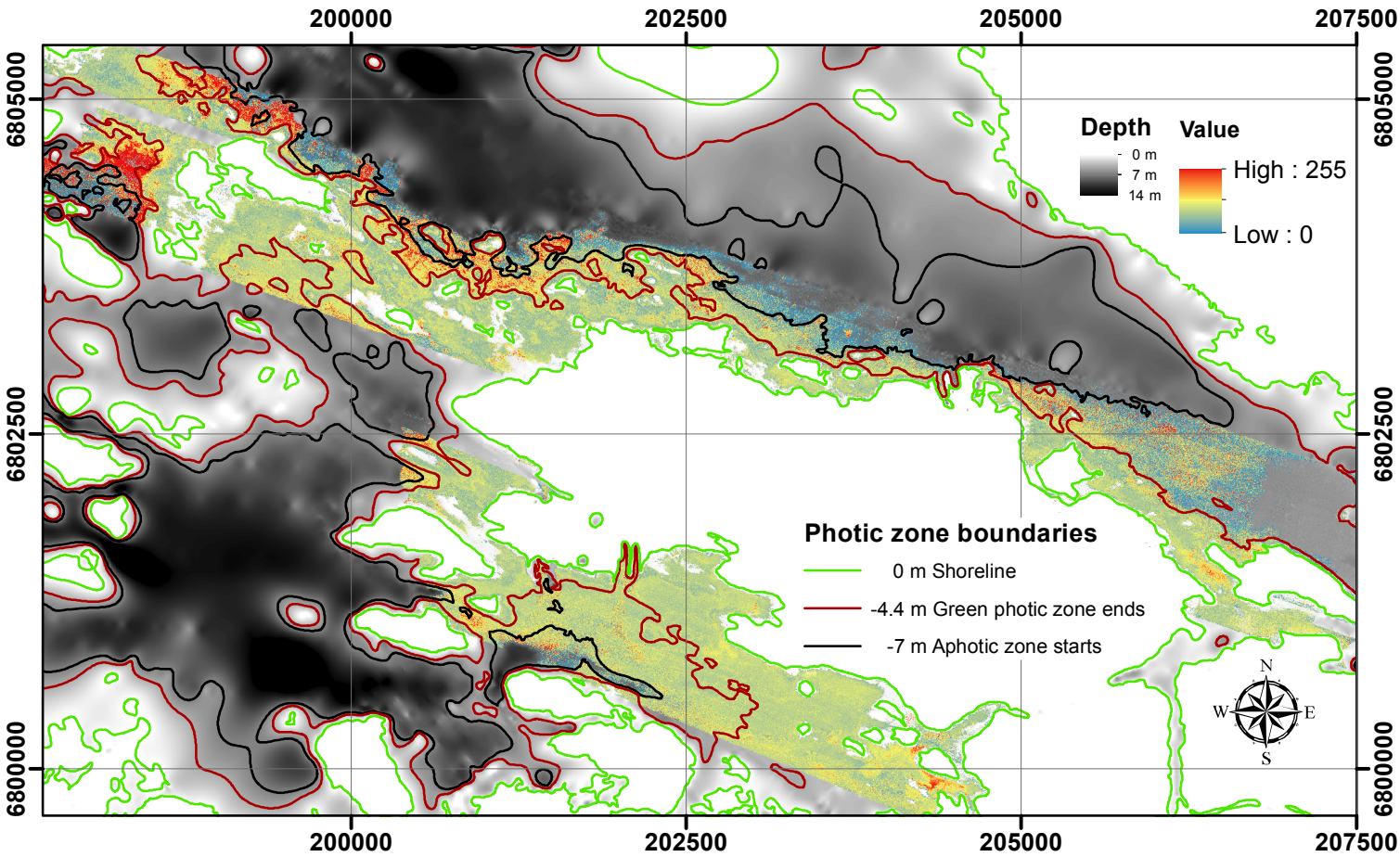

Figure 5: Corrected rise time from 50 % level to maximum amplitude

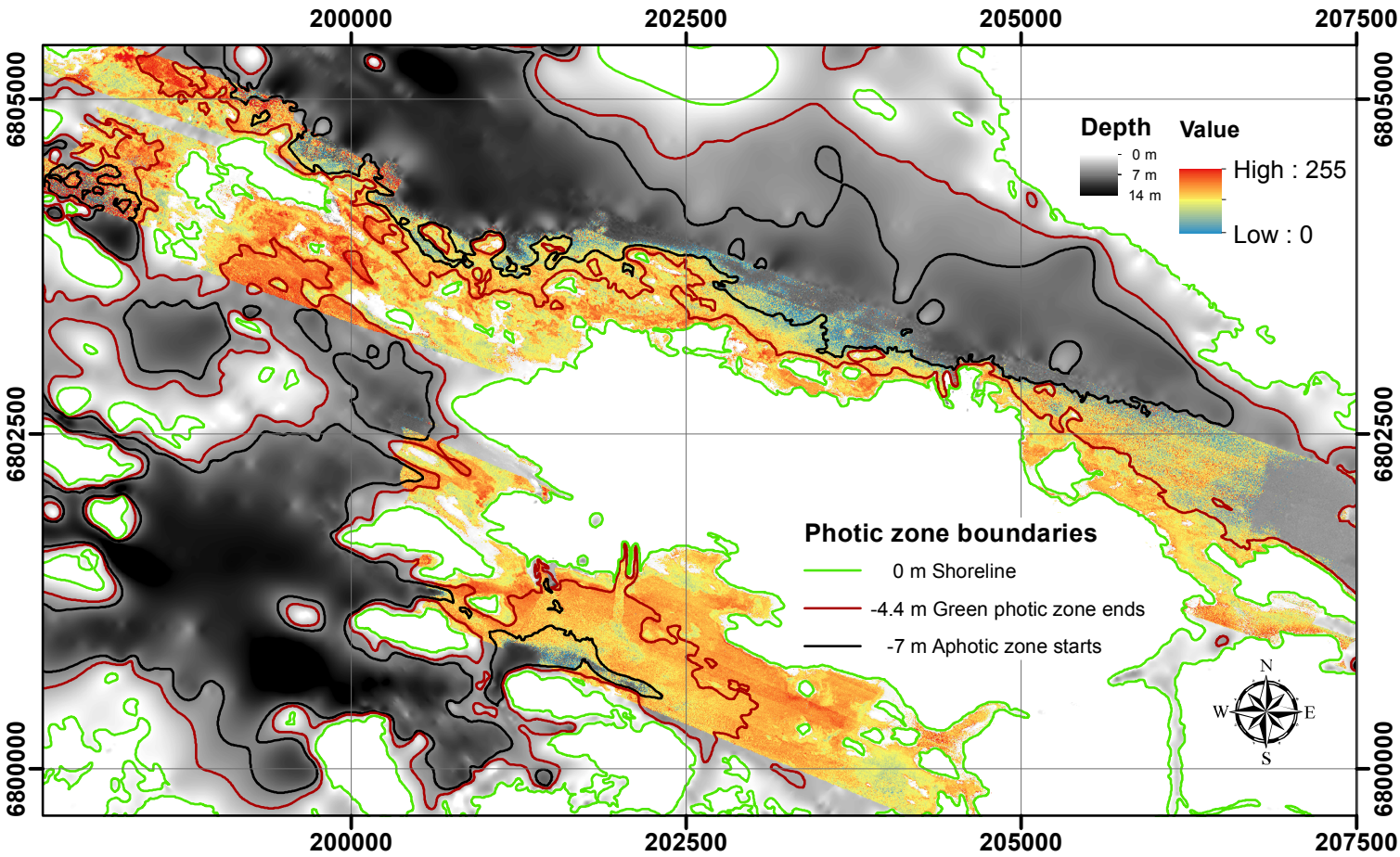

Figure 6: Corrected fall time from maximum amplitude to 25 % level

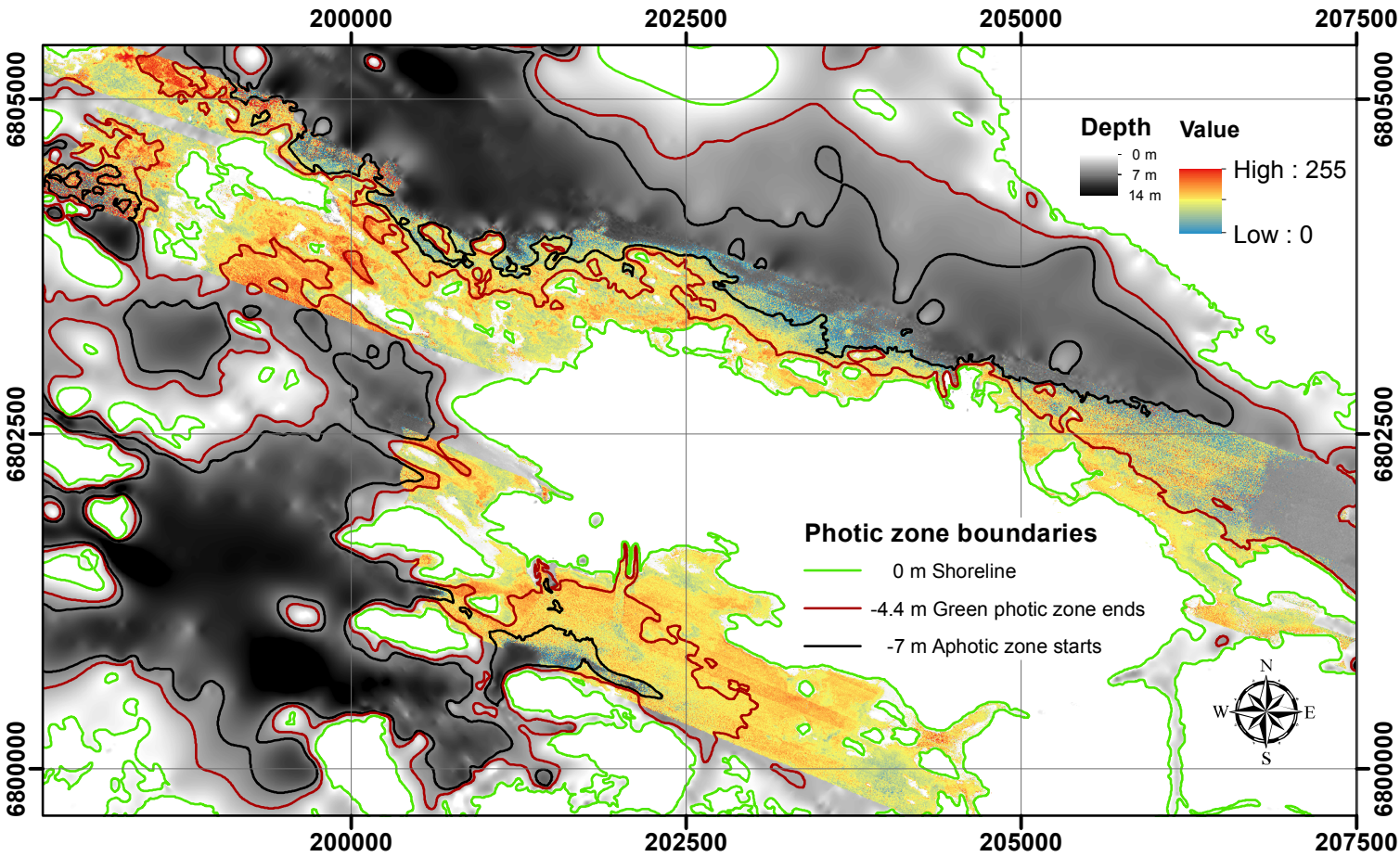

Figure 7: Corrected fall time from maximum amplitude to 50 % level

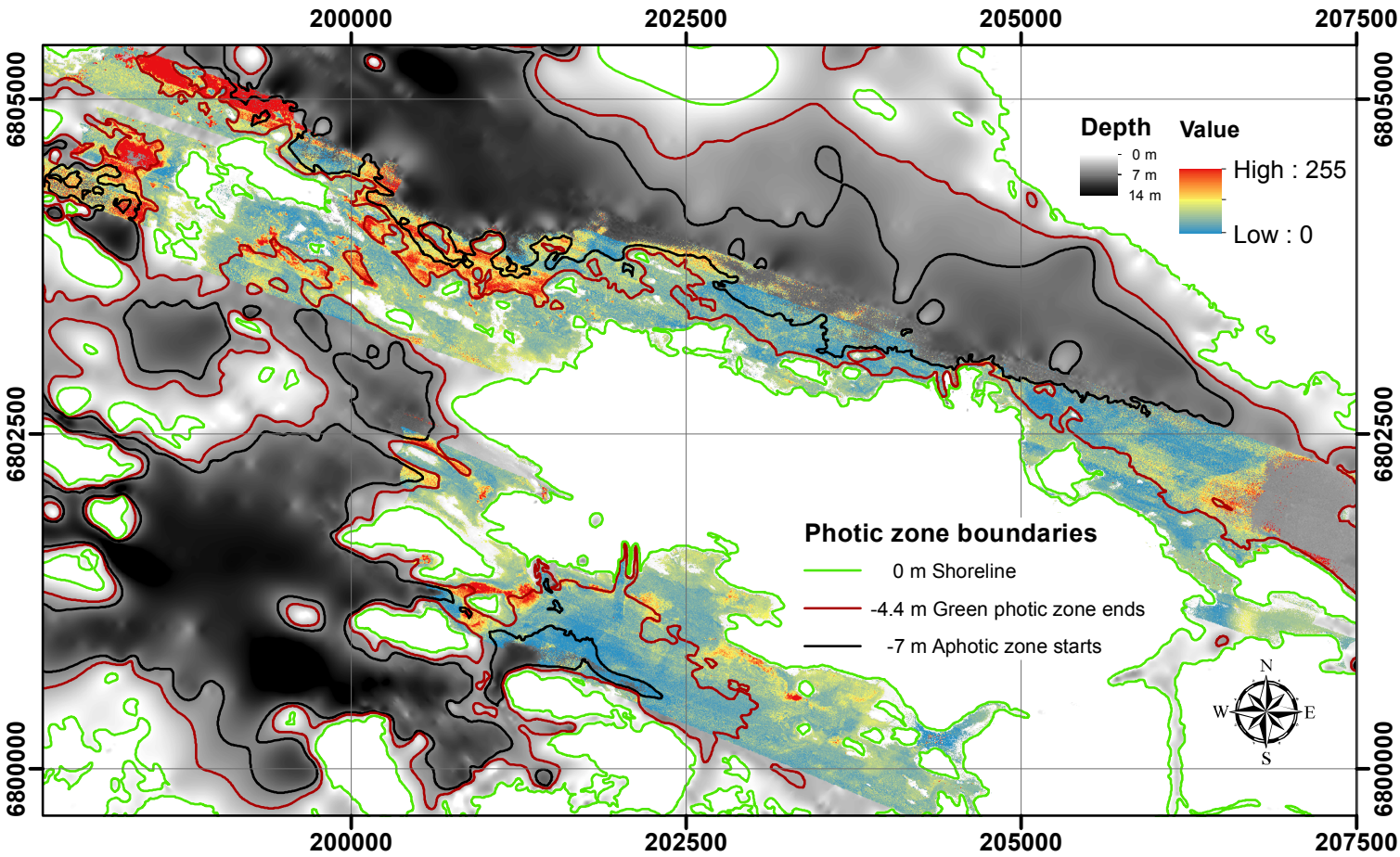

Figure 8: Corrected maximum of median filtered backscatter residual

2 Clustering into 7 clusters (level 5)

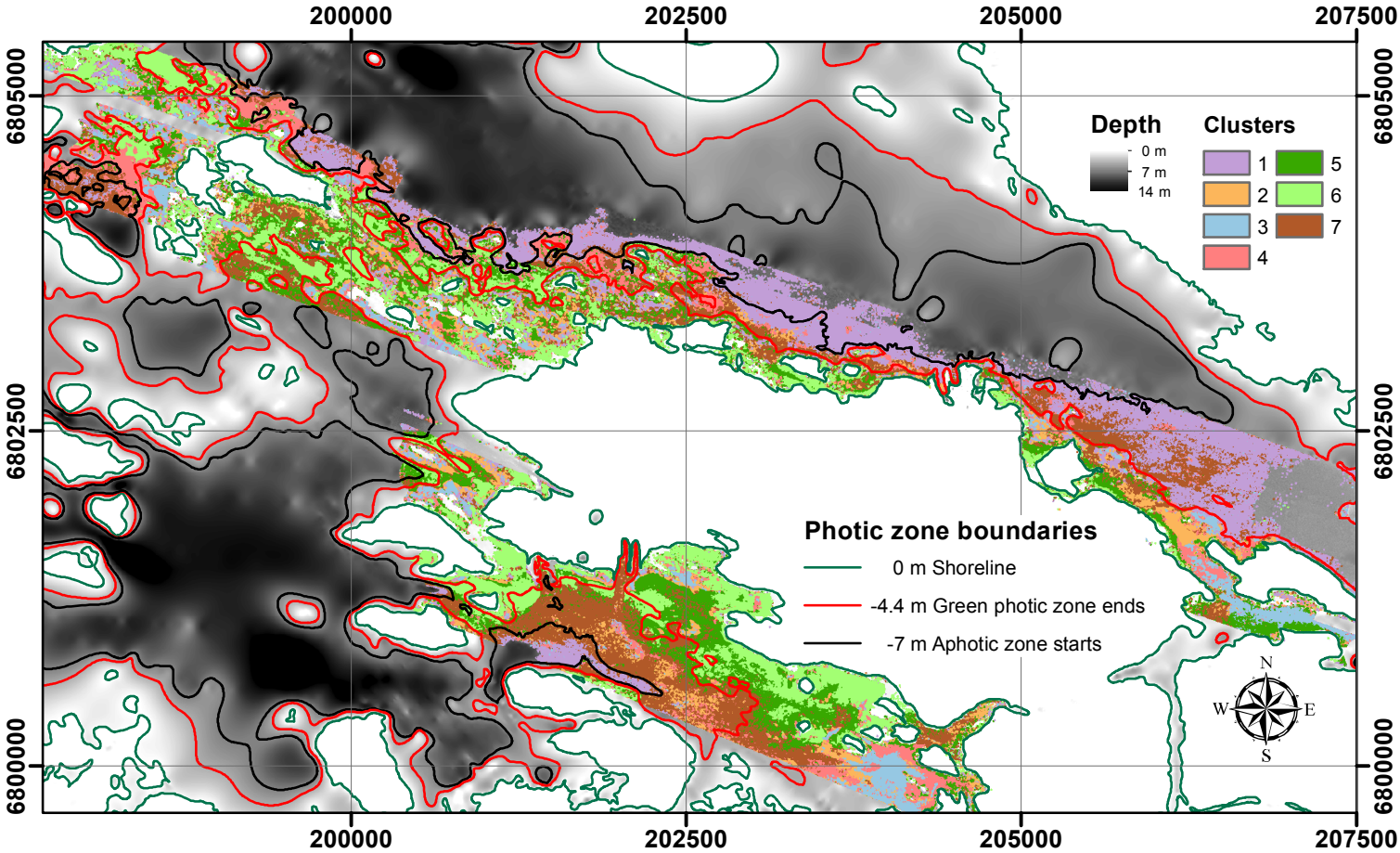

Figure 1: Cluster map of the study area.

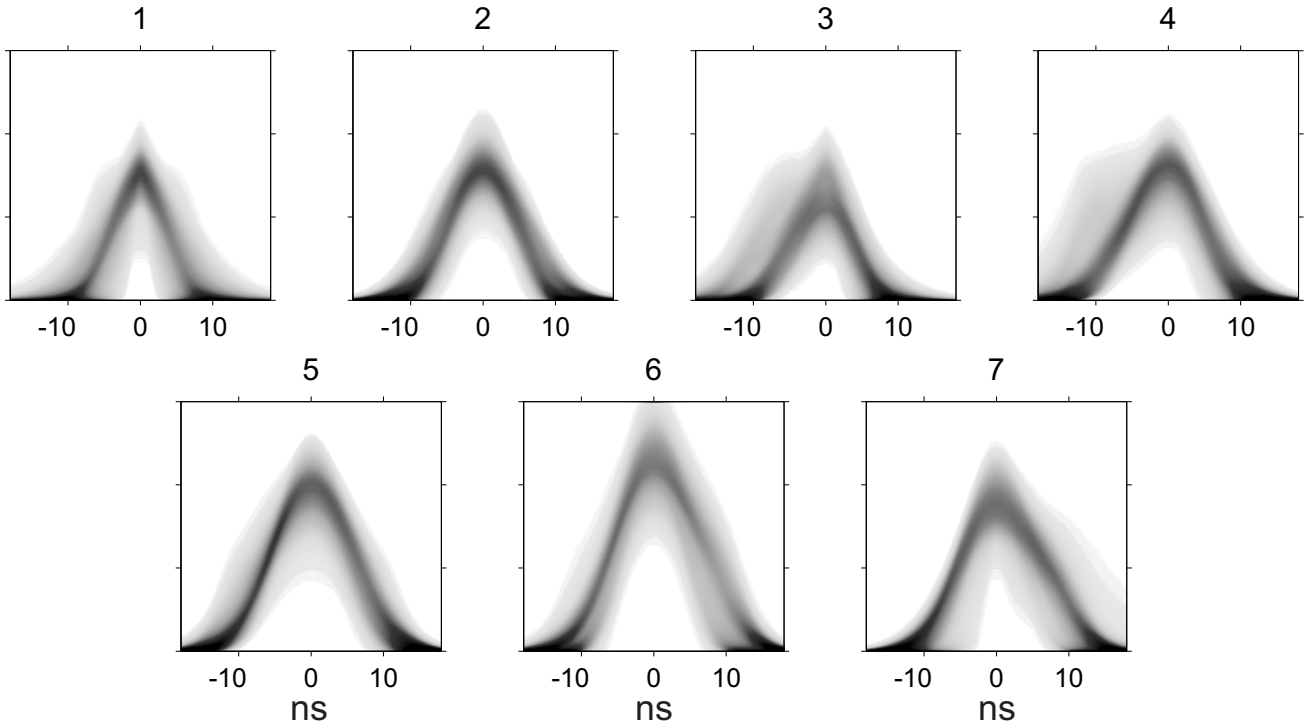

Figure 2: Pulse waveforms in 7 clusters.

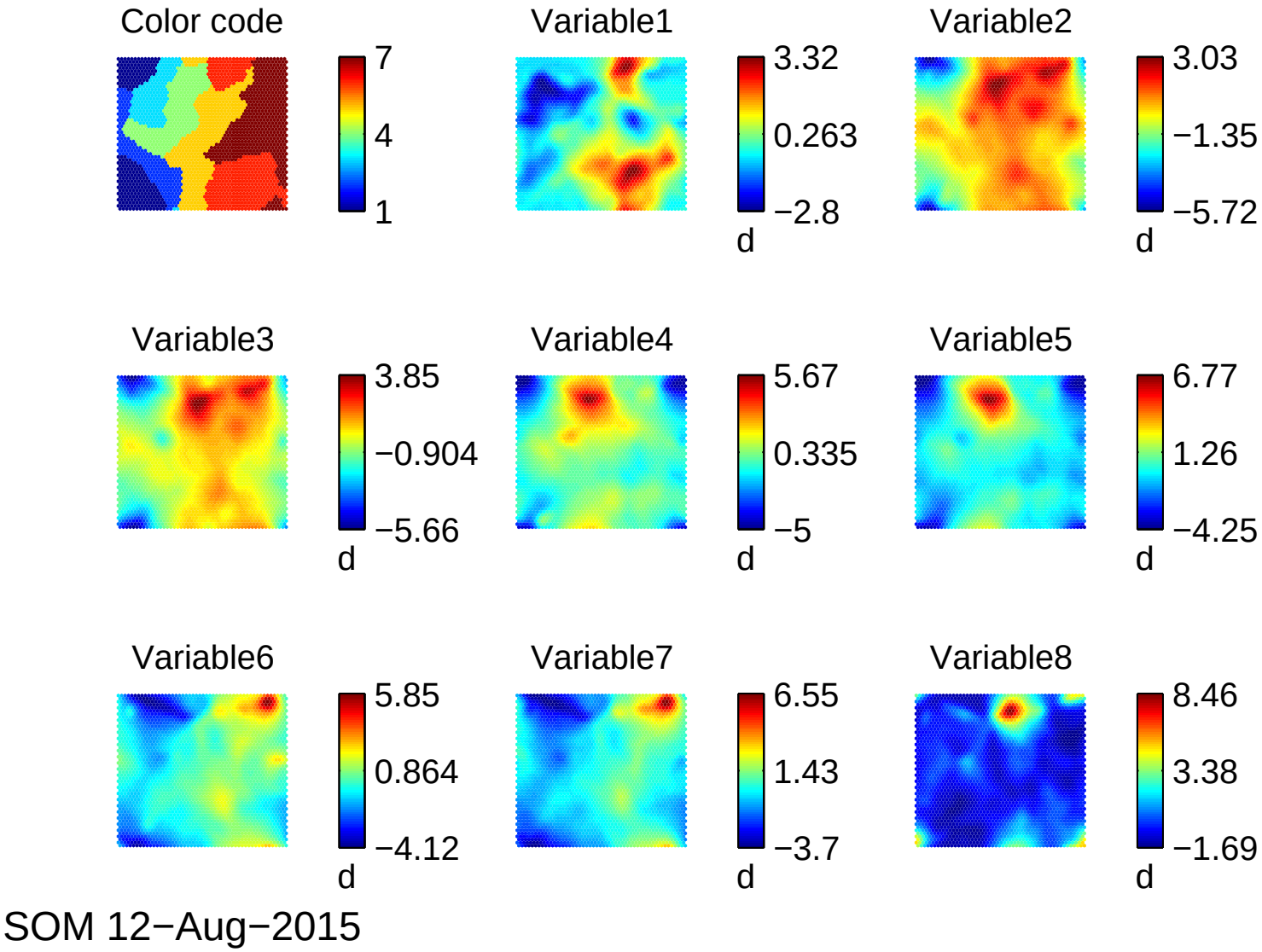

Figure 3: Grouping of the SOM cells into 7 clusters.

3 Clustering into 12 clusters (level 4)

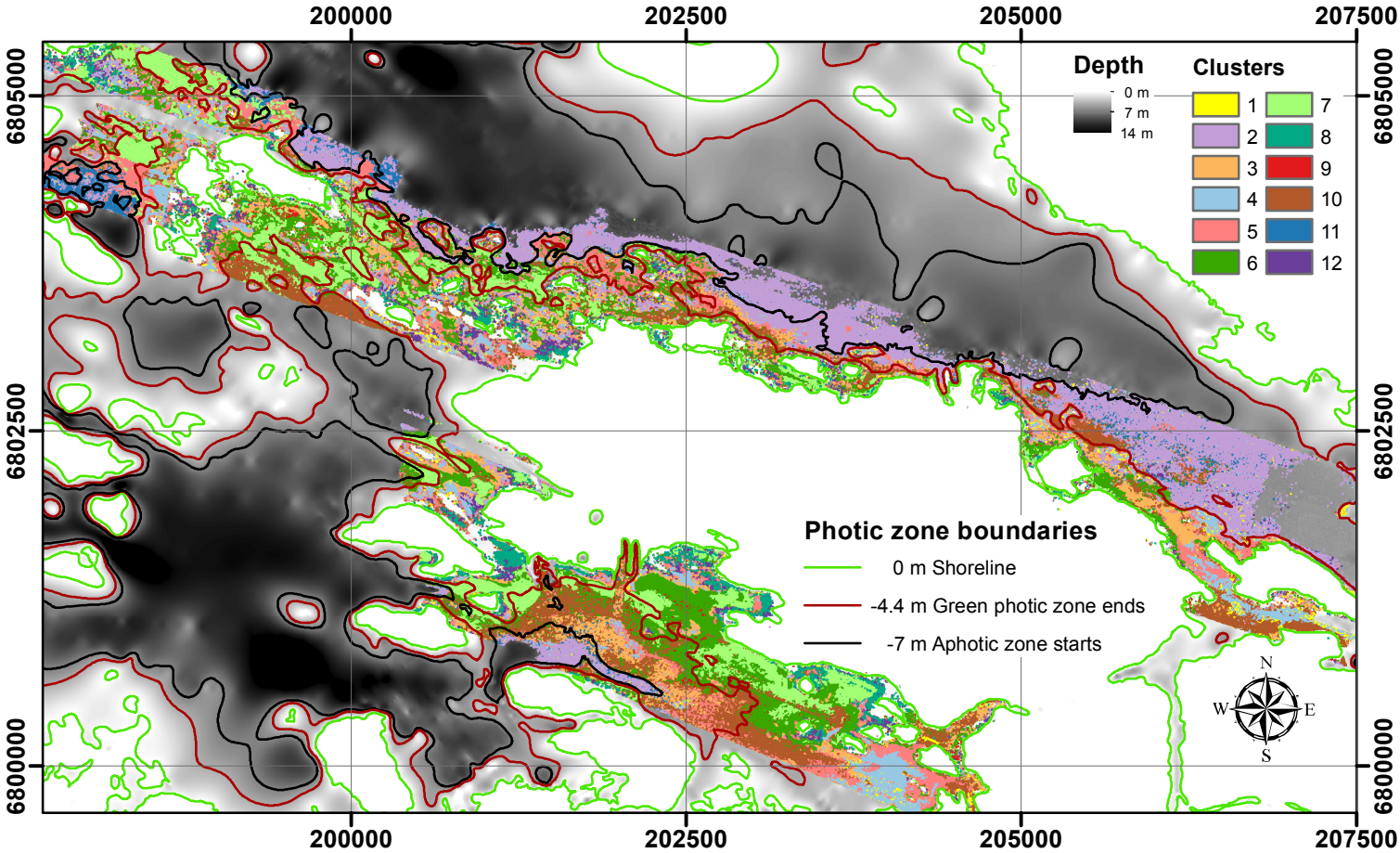

Figure 4: Cluster map of the study area.

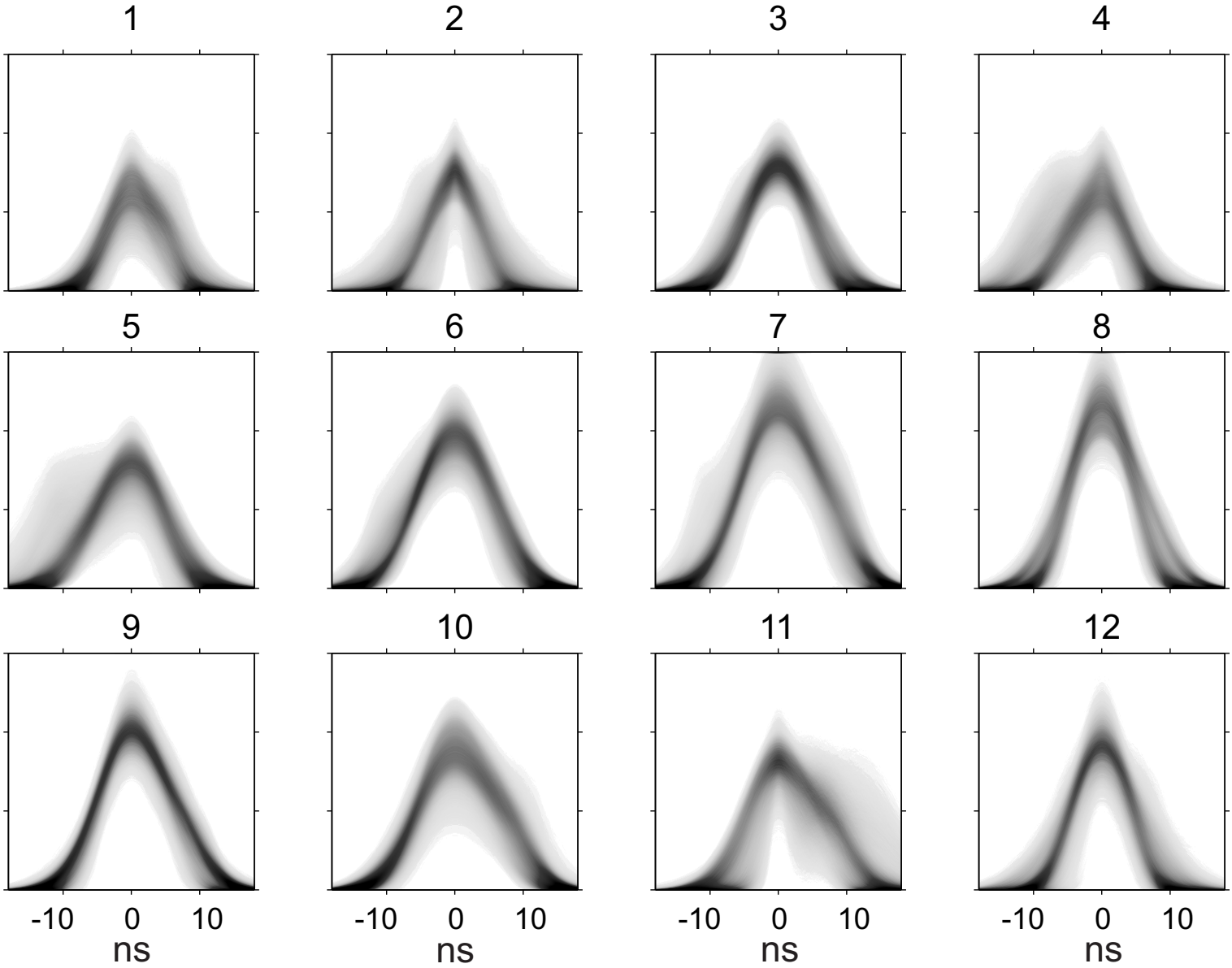

Figure 5: Pulse waveforms in 12 clusters.

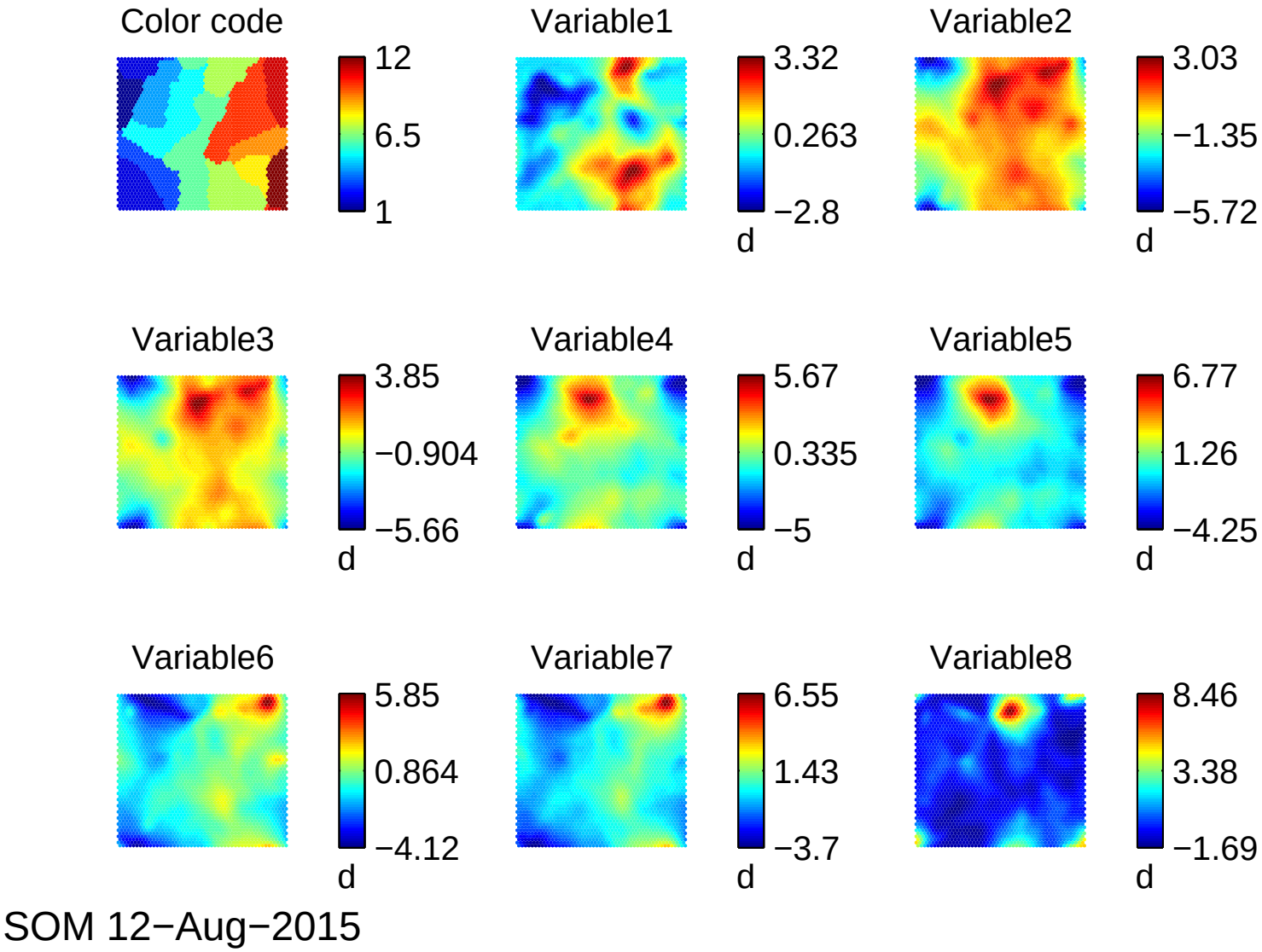

Figure 6: Grouping of the SOM cells into 12 clusters.

4 Clustering into 17 clusters (level 3)

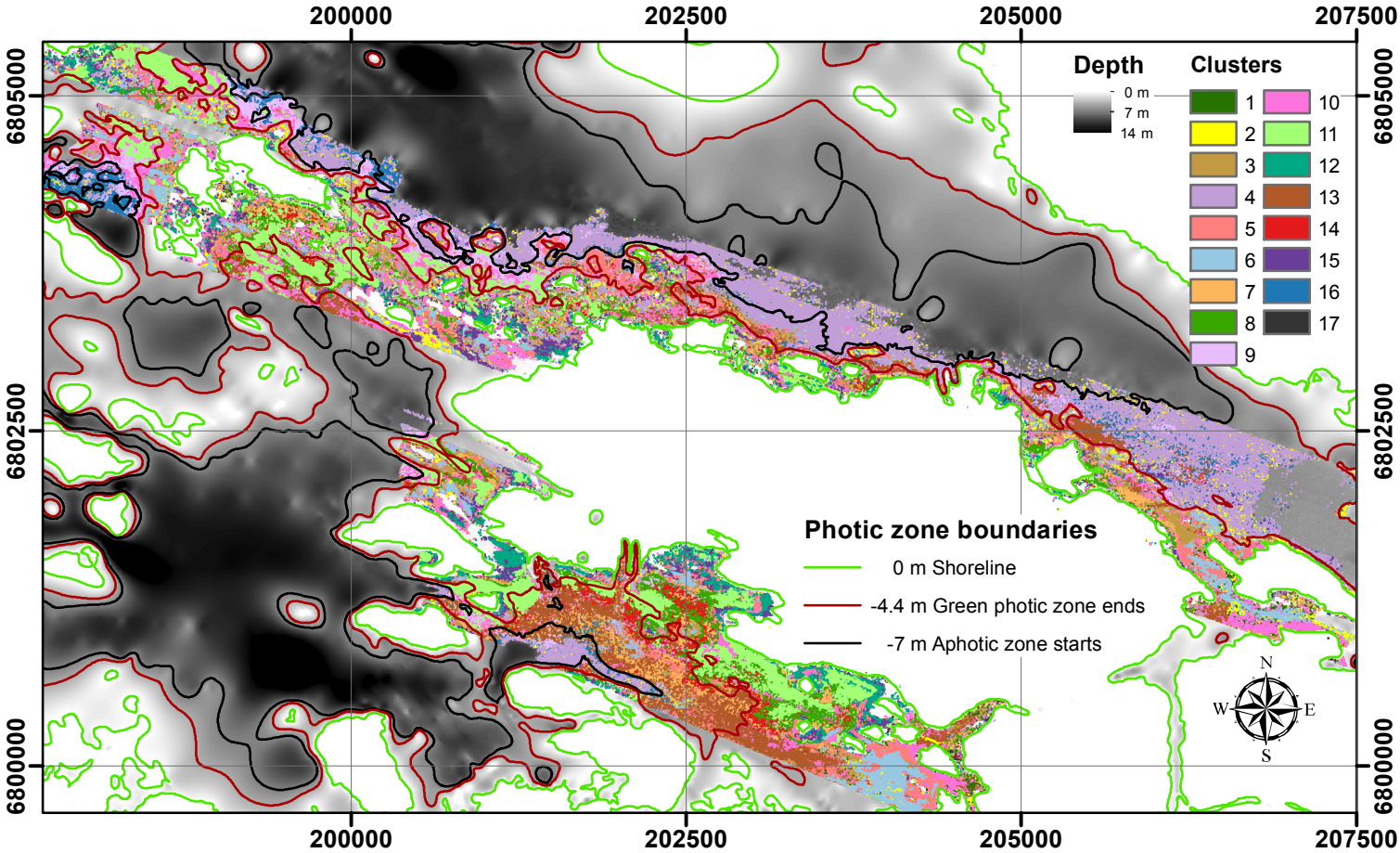

Figure 7: Cluster map of the study area.

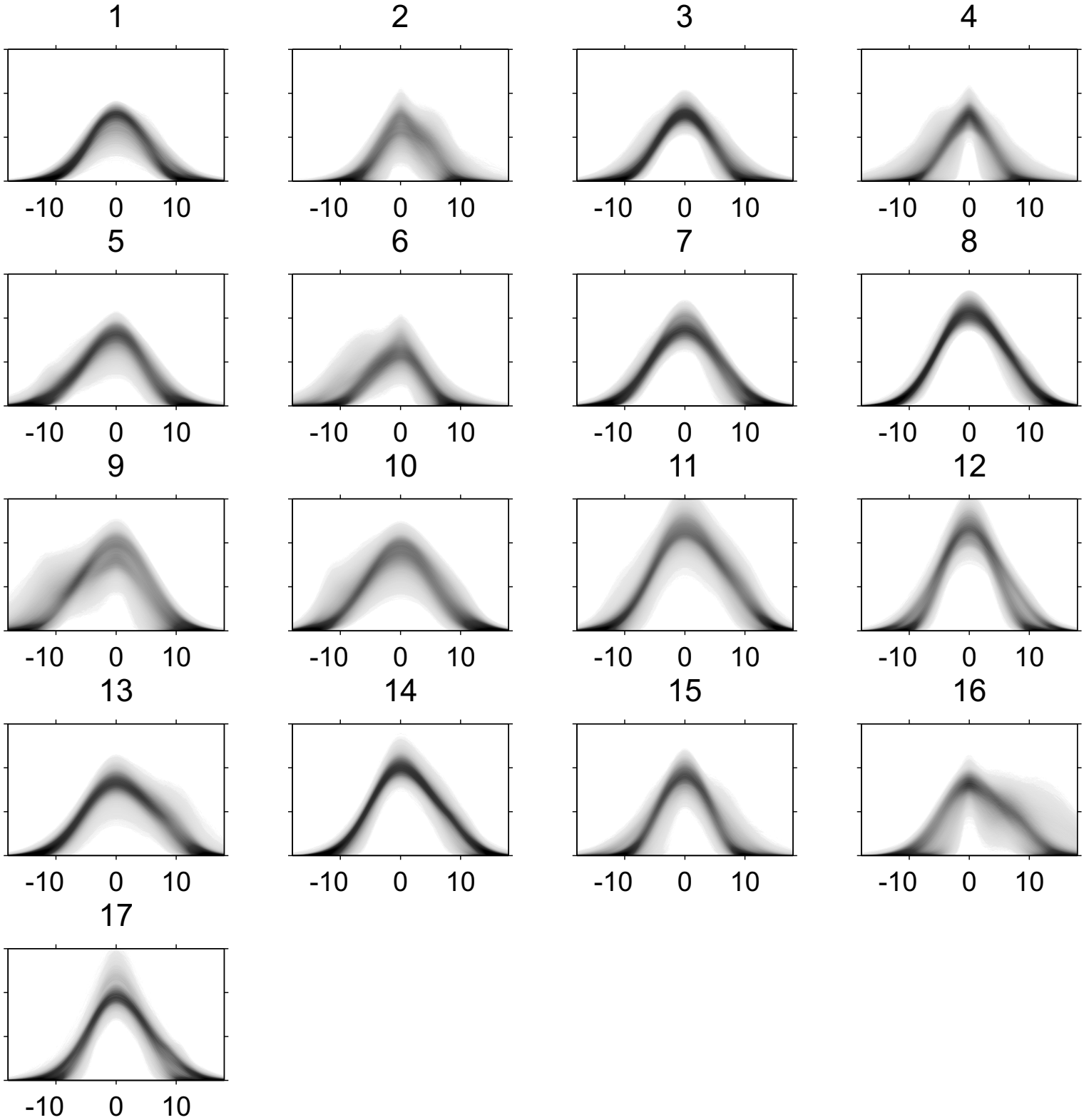

Figure 8: Pulse waveforms in 17 clusters.

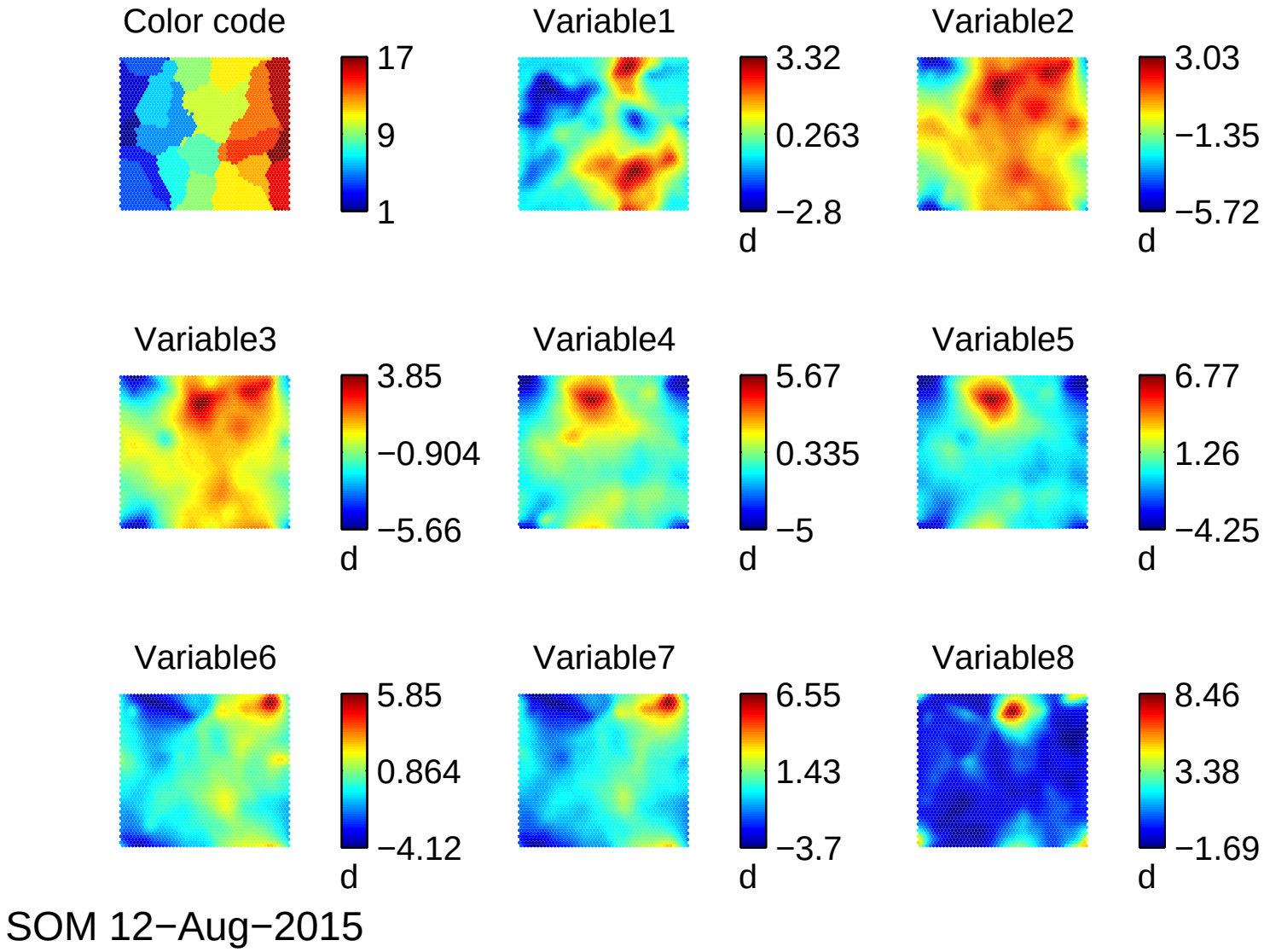

Figure 9: Grouping of the SOM cells into 17 clusters.

5 Clustering into 21 clusters (level 2)

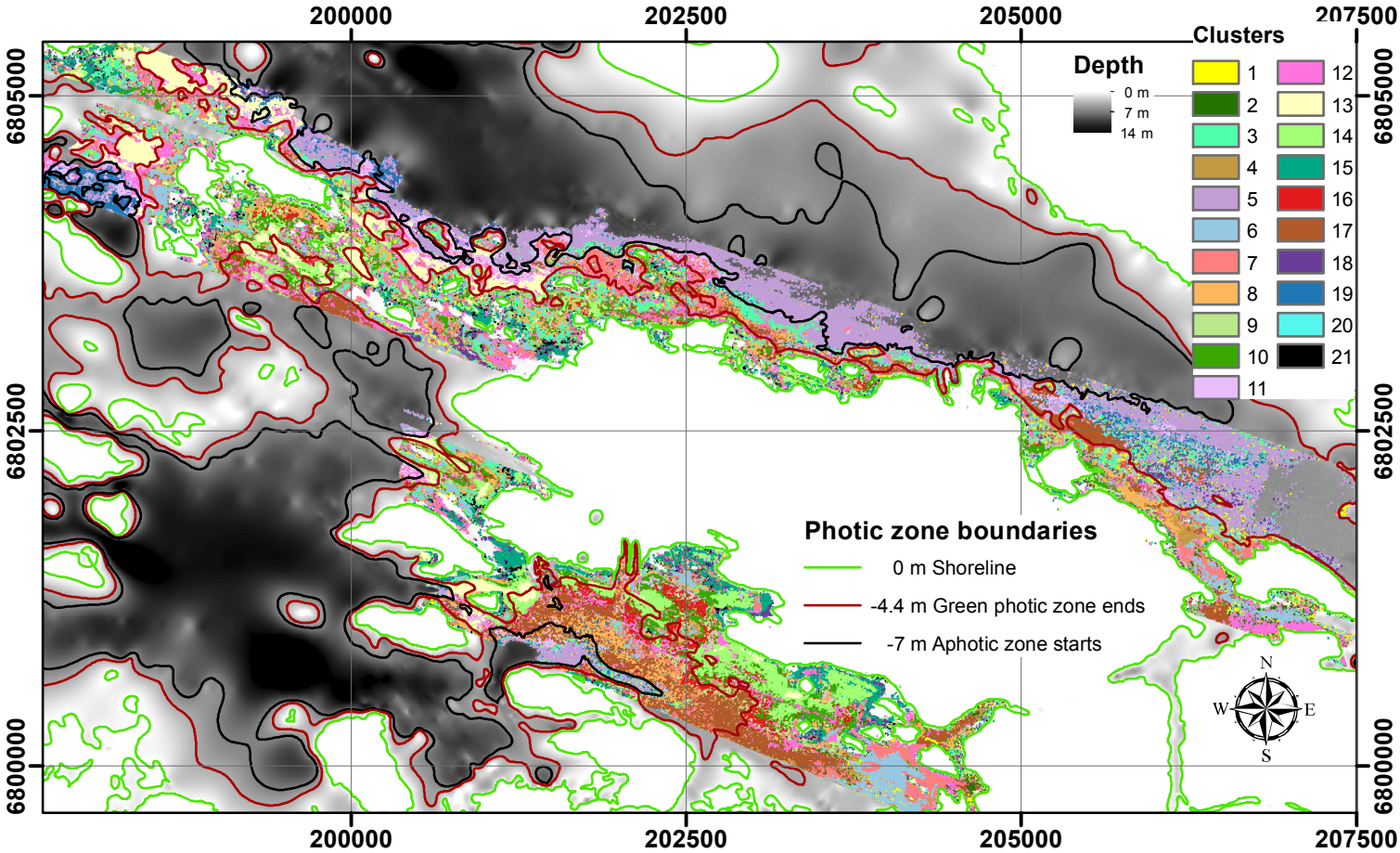

Figure 10: Cluster map of the study area.

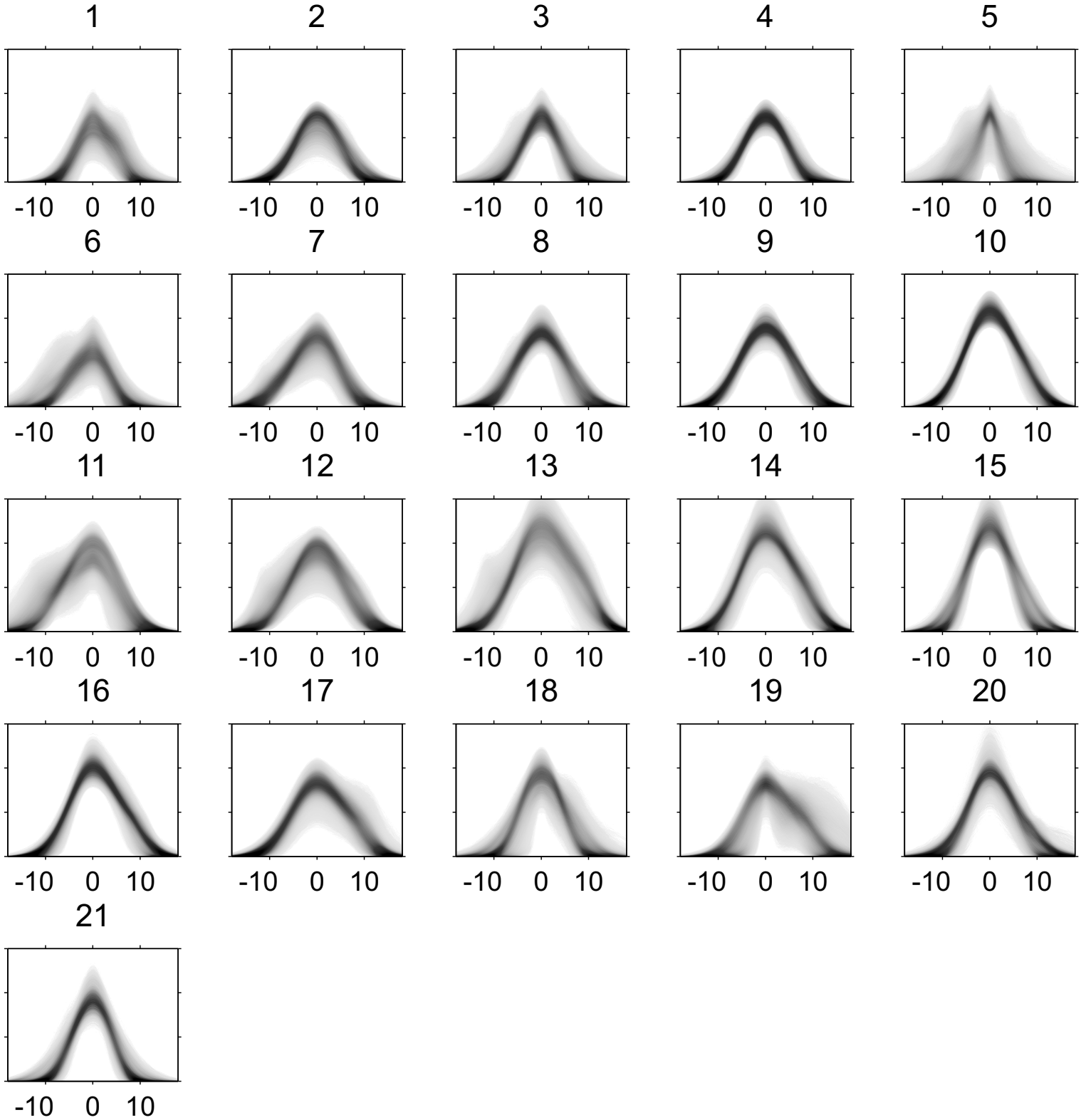

Figure 11: Pulse waveforms in 21 clusters.

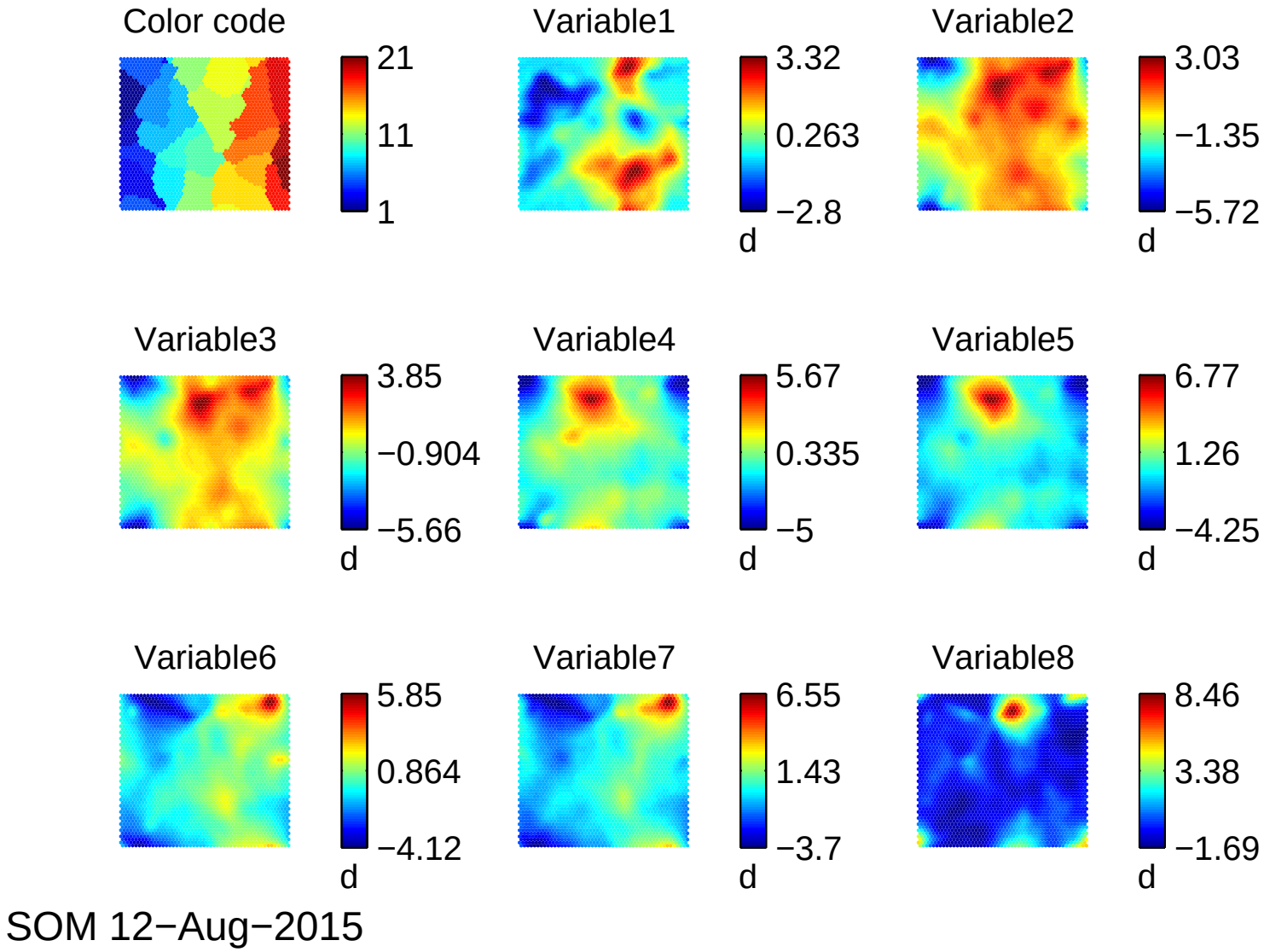

Figure 12: Grouping of the SOM cells into 21 clusters.

6 Clustering into 52 clusters (level 1)

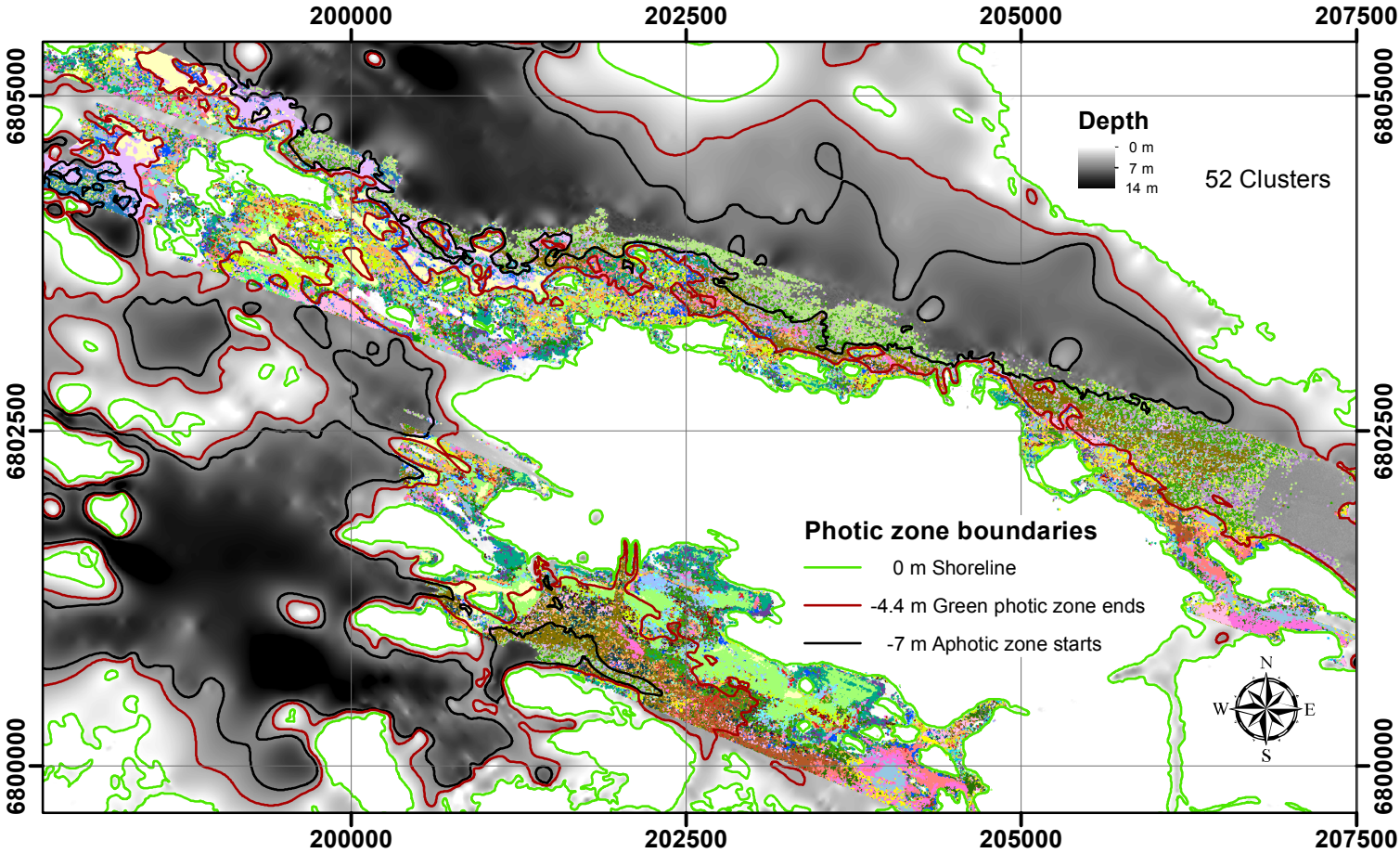

Figure 13: Cluster map of the study area.

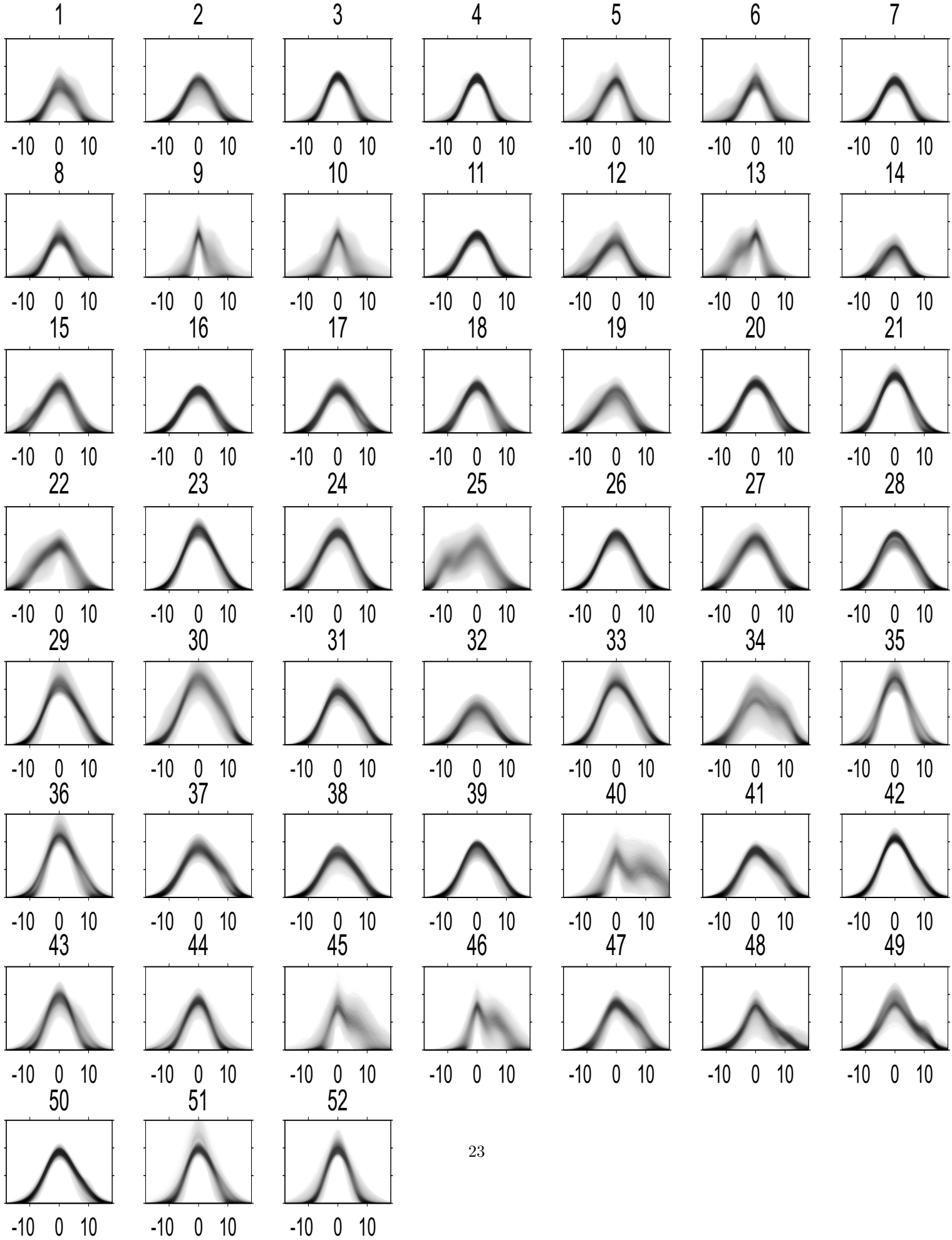

Figure 14: Pulse waveforms in 52 clusters.

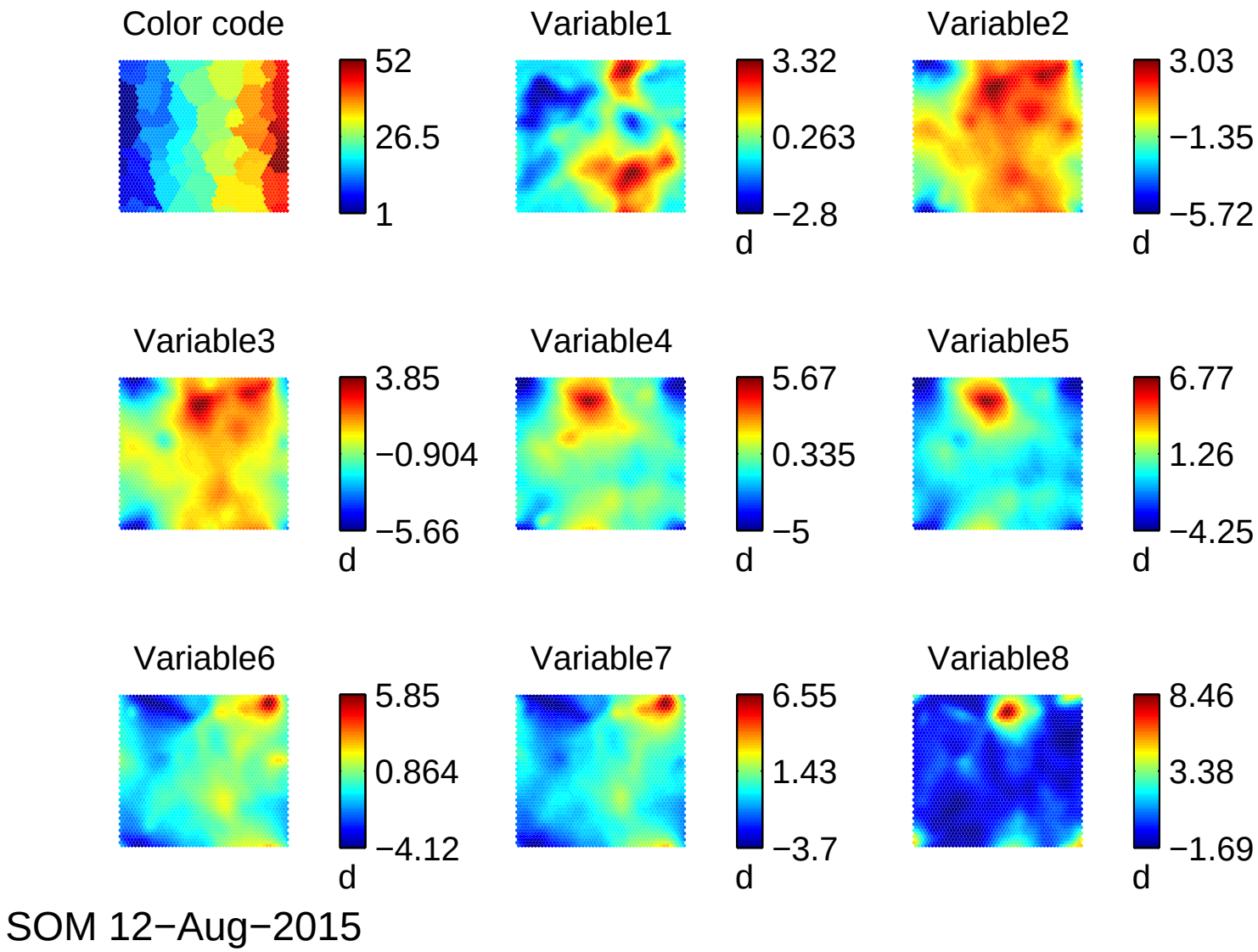

Figure 15: Grouping of the SOM cells into 52 clusters.