Initial Expectations and their Relation to Field Observations

With reference to the earlier document, `geese001`:

Observations

1. Interpretation of Observations 1 and 5 were absolutely wrong. It is very easy to identify a family group once one has been located. This is especially the case in the beginning of the wintering period, when juveniles don't have adult markings. The numbers of geese observed in a single day on the wintering grounds is much greater than in the breeding grounds. Large families are still very easily distinguished from small groups of adult geese.
2. Observations 2, 3 and 4 can't be observed over a short time span.

Questions

3. Question 1 (differences in flock and family sizes) is trivial. Flock sizes are larger by orders of magnitude in the winter as compared to the summer, where they don't usually rise above 100. Family sizes don't appear to be significantly different. The relation between family and flock size is not easy to answer and will be subject of the thesis.
4. Question 2 (environmental predictors of flock size) might be interesting, but given the lack of landscape heterogeneity, is unlikely to yield startling results.
5. Question 3 (flock size and composition differences ~ time) is interesting. It could involve the division of the wintering period into categorical variables - arbitrary intervals (early, mid and late winter, spring), data driven intervals (based on temperature or vegetation), or calendar months. Alternatively, the winter could be treated as a continuous variable and a time-series analysis applied. This would require the regularisation of the time-series, since sampling is irregular.
6. Question 4 is trivial. See point 3. The basis for the assumption that large families, or small flocks containing large families, might be indistinguishable

from small flocks of non-breeders was that adults and juveniles were expected to appear the same by the winter. This is not the case.

General Expectations

7. General expectation 1 can be entirely dismissed, for reasons above. The last point regarding the relation of family size and flock size will need to be investigated.
8. General expectation 2 will require a spatially explicit analysis, with flock positions converted to coordinates and environmental data extracted from remote sensing products.

Overall:

1. There does appear to be an effect in which family and flock sizes increase from east to west in Frisia.
2. There appears to be an increase in the heterogeneity of flocks from east to west.
