

# SynMod: Modelling Morphosyntactic Area Formation in Swiss German

Philipp Stoeckle<sup>1</sup>, Péter Jeszenszky<sup>2</sup>, Elvira Glaser<sup>1</sup>, Robert Weibel<sup>2</sup>

<sup>1</sup>German Department, University of Zurich; <sup>2</sup>Department of Geography, University of Zurich



## Linguistic Distance Patterns between Survey Sites of the SADS\*

A linguistic distance between survey sites was expressed using 60 survey questions in the SADS. To quantify the language contact possibility several geographic distances were used. We hypothesized that older travel times correlate better with linguistic distances than Euclidean distance or travel times of the present.

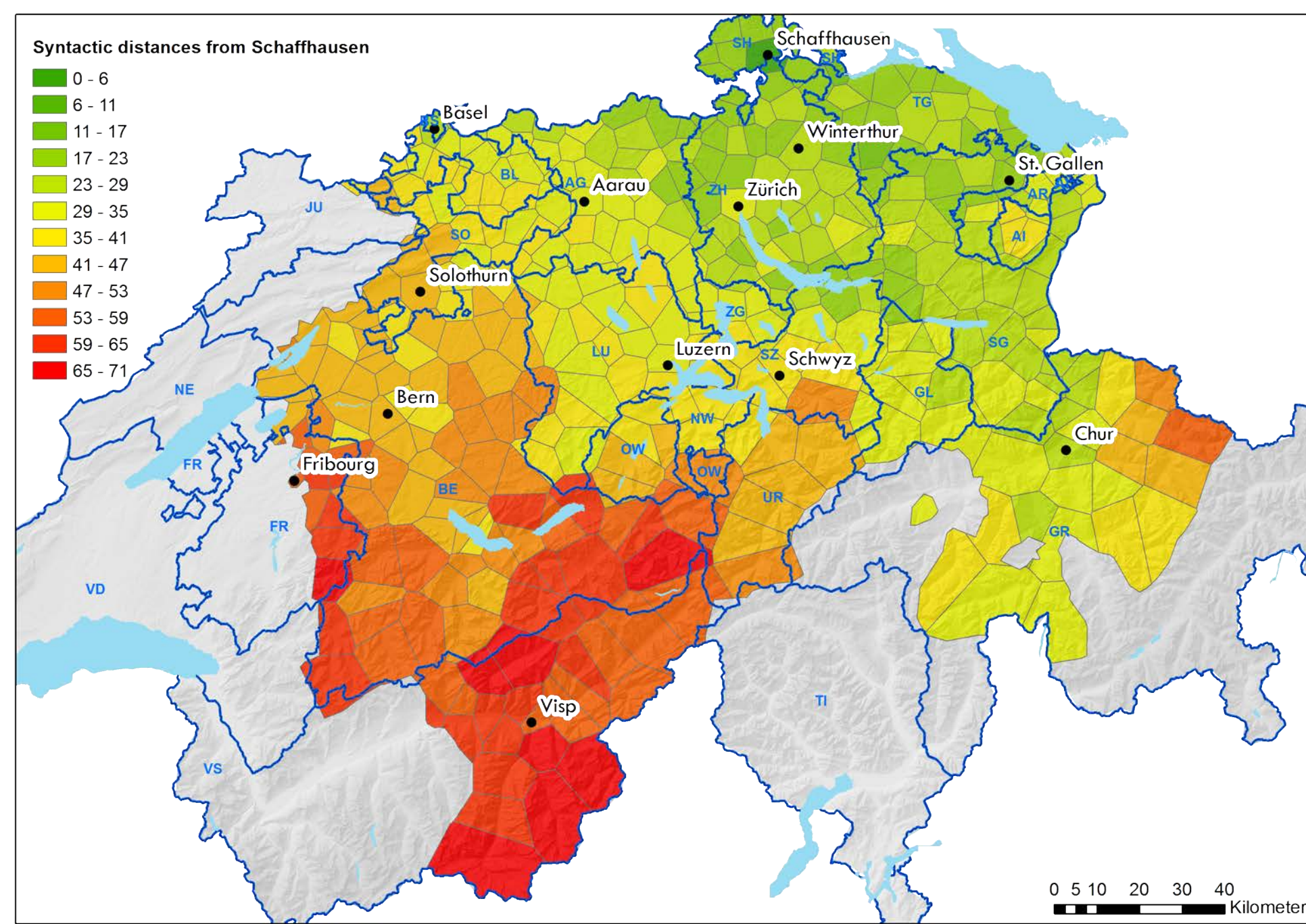


Fig.1: The linguistic (syntactic) distances of the survey sites towards Schaffhausen. The patterns show a certain concentricity with greater syntactic distance towards isolated and mountainous areas

## Predicting Linguistic Distance: Travel Times vs. Euclidean Distance

By conducting analyses of correlation and regression, we explained the relation of the *syntactic distance* and geographical distances, to answer linguistic hypotheses. We have shown (Jeszenszky & Weibel, 2014):

- In most cases geographical distances explain the majority of variance in the syntactic distance
- *Travel times* are significantly better predictors for syntactic distance than *Euclidean distance*
- The difference between prediction value of travel times in 1850, 1950, 2000) is not significant statistically

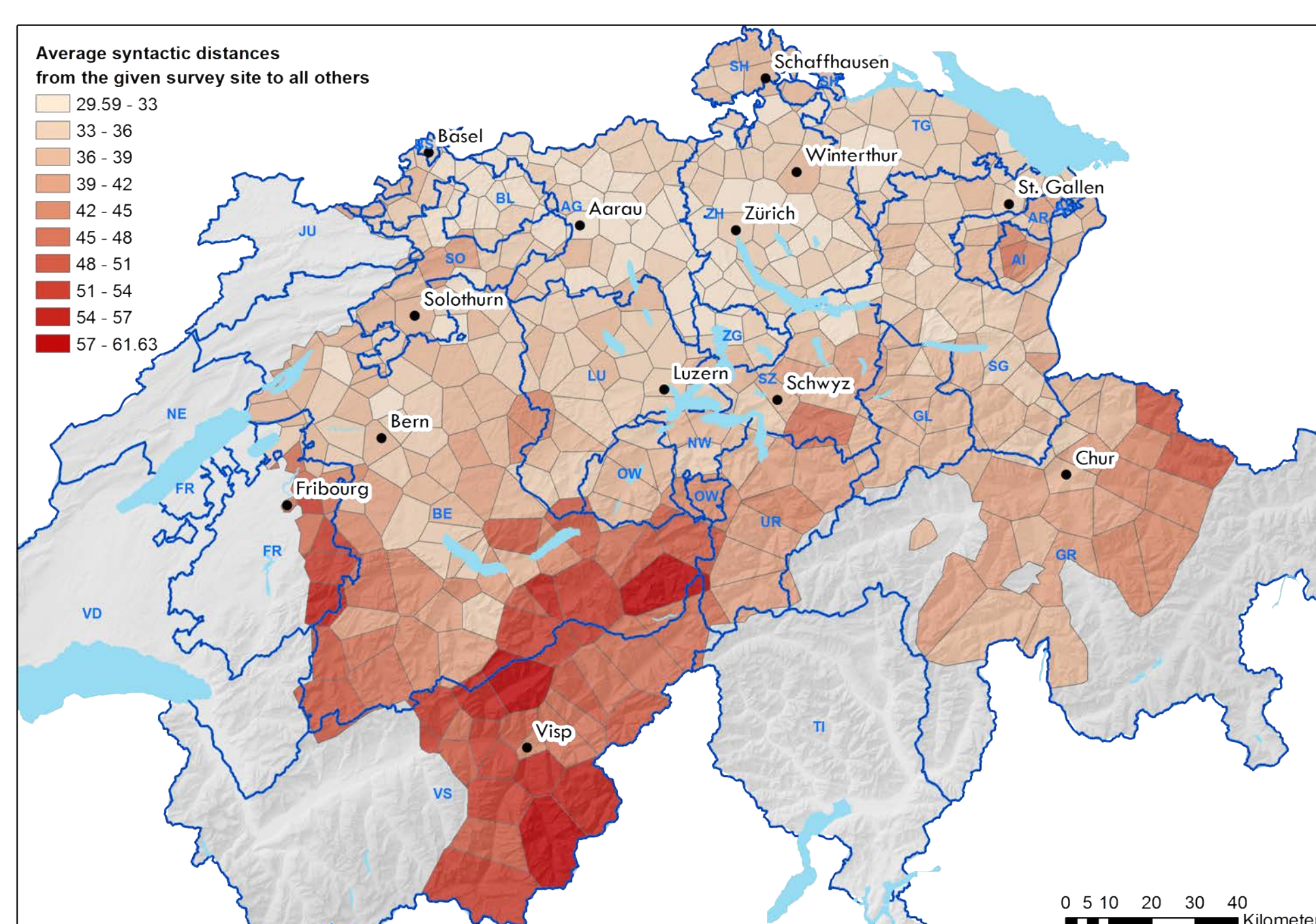


Fig.2: The average syntactic distance to all survey sites mapped. The survey sites with the reddest colours are the most different from all others. The Swiss Plateau looks more conforming while isolated and mountainous areas seem to have the most peculiar syntax.

## Project Summary

The SynMod project aims to more closely link research questions and methods of the two disciplines dialectology and geography, especially in the field of Geographic Information Science (GIScience). Project members from the German Department and the Department of Geography conduct joint studies employing quantitative methods of GIScience to verify linguistic hypotheses about distribution patterns in the morphosyntactic phenomena of the SADS\*. Focus lies on boundary tendencies and testing the applicability of GIScience methods on linguistic phenomena.

## The Database

\*Syntaktischer Atlas der deutschen Schweiz (SADS; 'Linguistic Atlas of German-speaking Switzerland', cf. Bucheli & Glaser, 2002)

- Project funded by the SNF 2000-2008 (extended through 2014)
- 4 questionnaires including different syntactic phenomena (118 questions in total)
- 3187 informants at 383 locations (between 3 and 26 informants at each location), not only NORMs
- Different questioning techniques (translation, completion, multiple choice)

### Example: Verb doubling

In this type of construction, which is often considered to be typical for Swiss German, a reduced variant of the verb is repeated before the infinitive (cf. Stoeckle, 2015)

III.1 Wenn es weiter so warm bleibt, fängt das Eis an zu schmelzen.

... fängt s lis **aa** schmelze

... fängt s lis **afa** schmelze

(If it stays this warm, the ice will begin to melt.)

## Contact

Philipp Stoeckle philipp.stoeckle@ds.uzh.ch  
Péter Jeszenszky peter.jeszenszky@geo.uzh.ch  
www.spur.uzh.ch/synmod.html

## References

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## Detecting Change in Swiss German Morphosyntax

The verb doubling construction (see middle column) shows variation: while being absent in the east, it is optional in the western part of German-speaking Switzerland (Stoeckle, 2015).

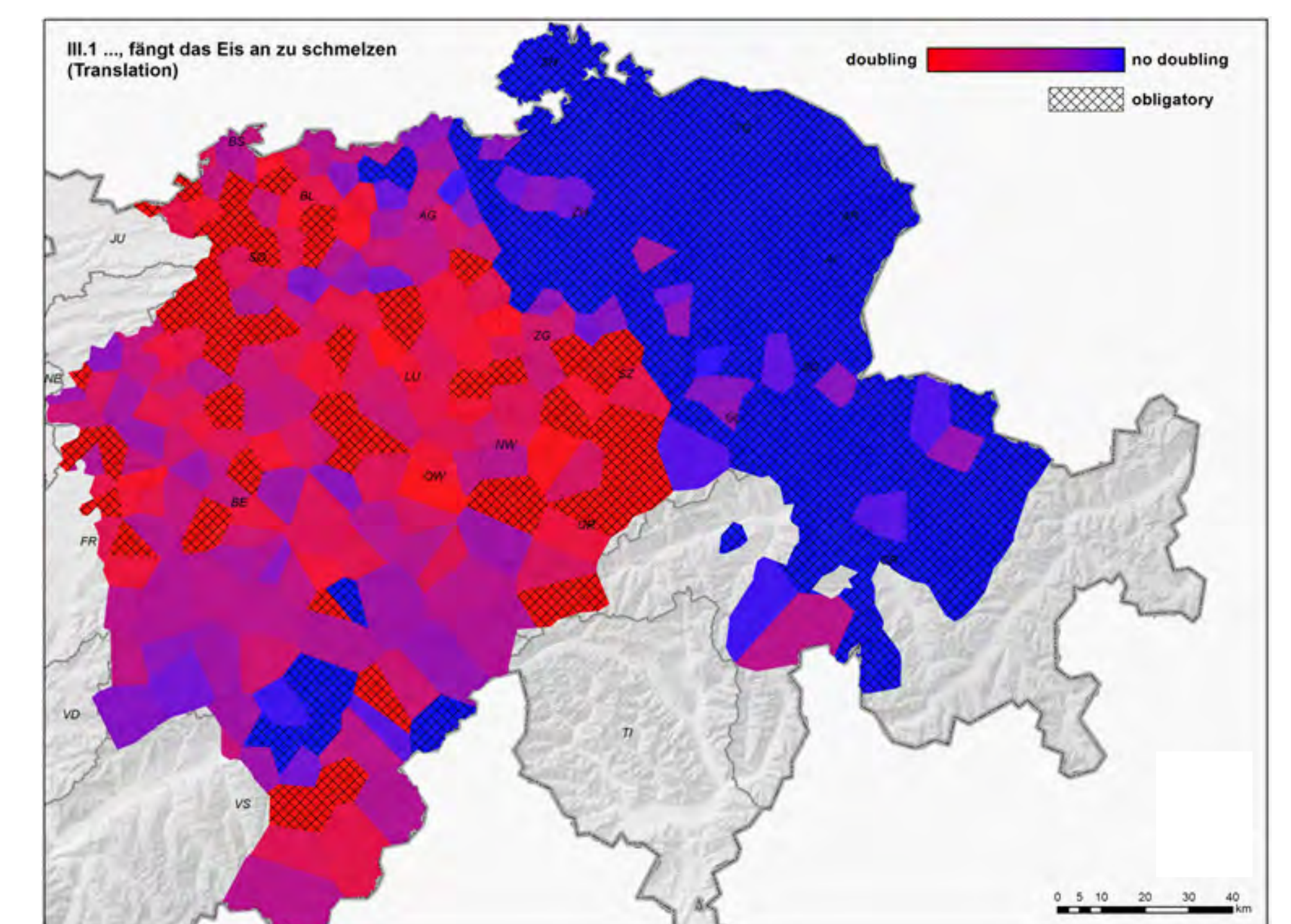


Fig.3: Distribution of the variants "fängt das Eis an (zu) schmelzen" (no doubling) and "fängt das Eis AFA schmelzen" (doubling). AFA doubling is obligatory only at few survey sites, generally it co-occurs with the other variant.

## Evidence for Linguistic Change?

- Apparent-time comparison (cf. Labov 1963): Division of SADS informants into two age groups (threshold: 57 years)
- Calculation of mean percentage rates of AFA occurrences for each age group at each survey location and their differences
- Mapping difference values and using Kriging interpolation to detect areas where evidence of apparent time change can be found

Apparent-time comparison suggests that there might be a change going on with the AFA doubling construction diffusing to the western periphery.

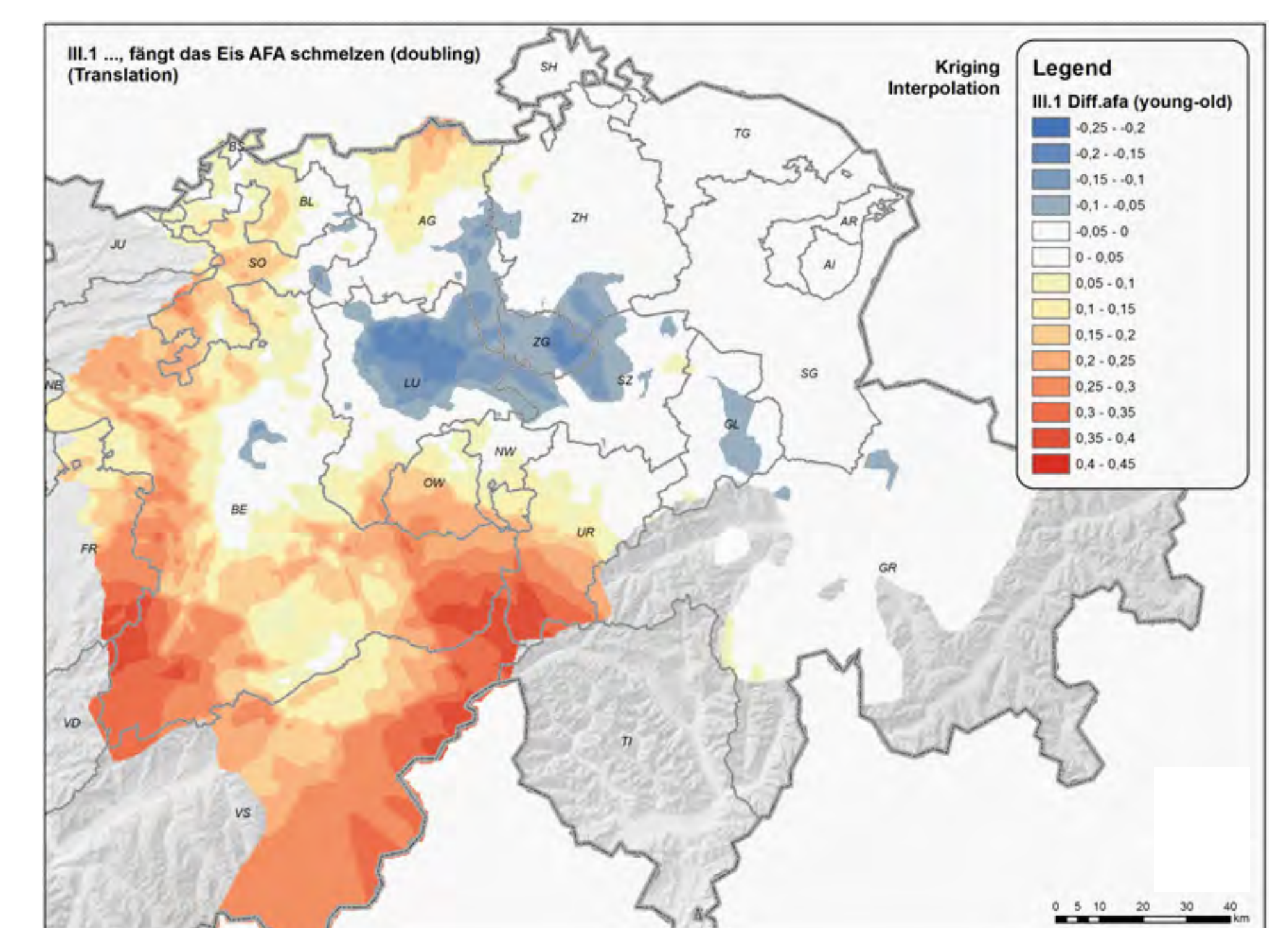


Fig.4: Mapping the differences in AFA rates between younger and older speaker groups using Kriging interpolation. Red areas mean higher values for the younger speakers = increase of AFA construction while blue areas mean higher values for the older speakers = decrease of AFA construction