This contribution relates to the project "La Phonologie du Français Contemporain" (PFC), the largest and most ambitious survey of modern French ever conceived. The PFC project involves over thirty researchers from a variety of countries and aims at the recording, partial transcription and phonetic analysis of over 600 speakers from the francophone world. It aims at a broad coverage of varieties of contemporary French by selecting groups of speakers from approximately 60 different locations in the francophone world. So far around 600 speakers have already been recorded in various parts of the francophone world beside France, including Belgium, Burkina Faso, Canada, Côte d’Ivoire, Louisianne and Switzerland. The recordings involve formal and informal conversation, the reading aloud of a word-list and a passage. Current work conducted on the database ranges from auditory exploitation of the data to automatic speech recognition via classical experimental phonetics. We address theoretical and empirical issues related to liaison as well as vowel systems, and examine sociogeographical variation and changes in progress in these respects within French, using a variety of quantitative methods for the empirical assessment of phonological hypotheses.