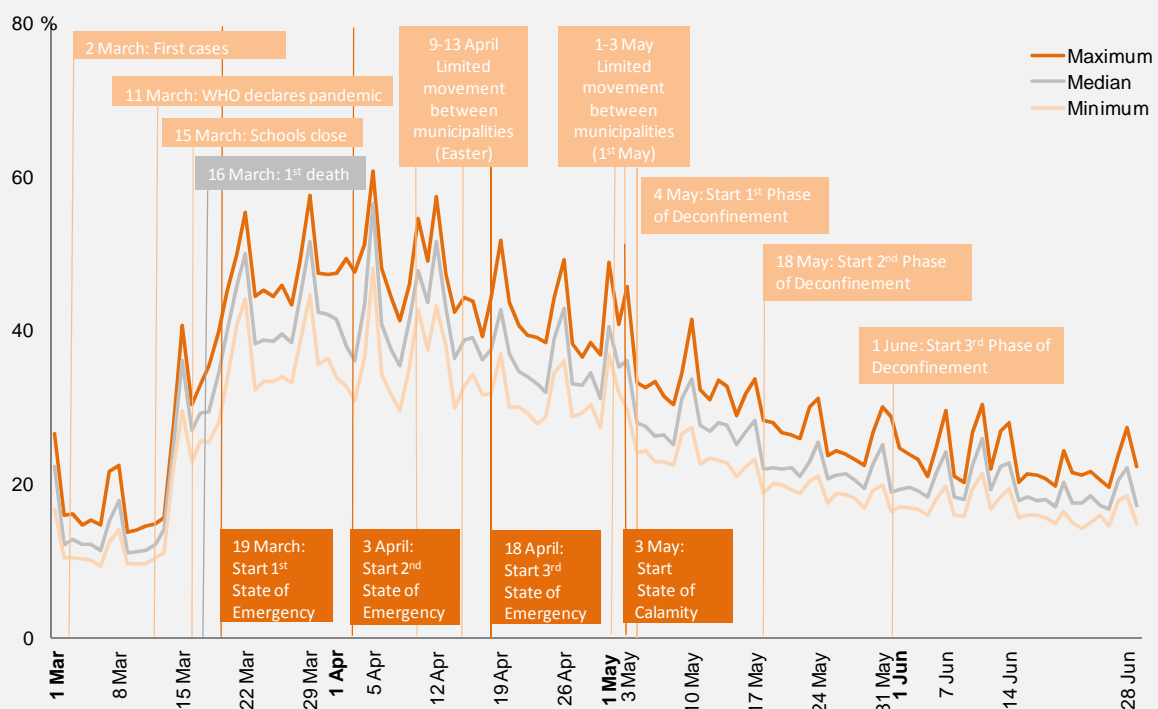


Population mobility indicators at regional level: an analysis based on information from Facebook's "Data for Good" Initiative

In this box, taking advantage of Facebook's "Data for Good" Initiative, population mobility indicators at NUTS 3 level in the national territory are released.

The data represented in the figure below correspond to the proportion of population "staying put" between March 1st and June 29th, namely minimum, median and maximum values obtained from the 25 NUTS 3 sub-regions of the country. For a better contextualization of the information, the figure includes the main key moments associated with the COVID-19 pandemic in Portugal.

Proportion of the population "staying put" between March 1st and June 29th – minimum, median and maximum values of NUTS 3

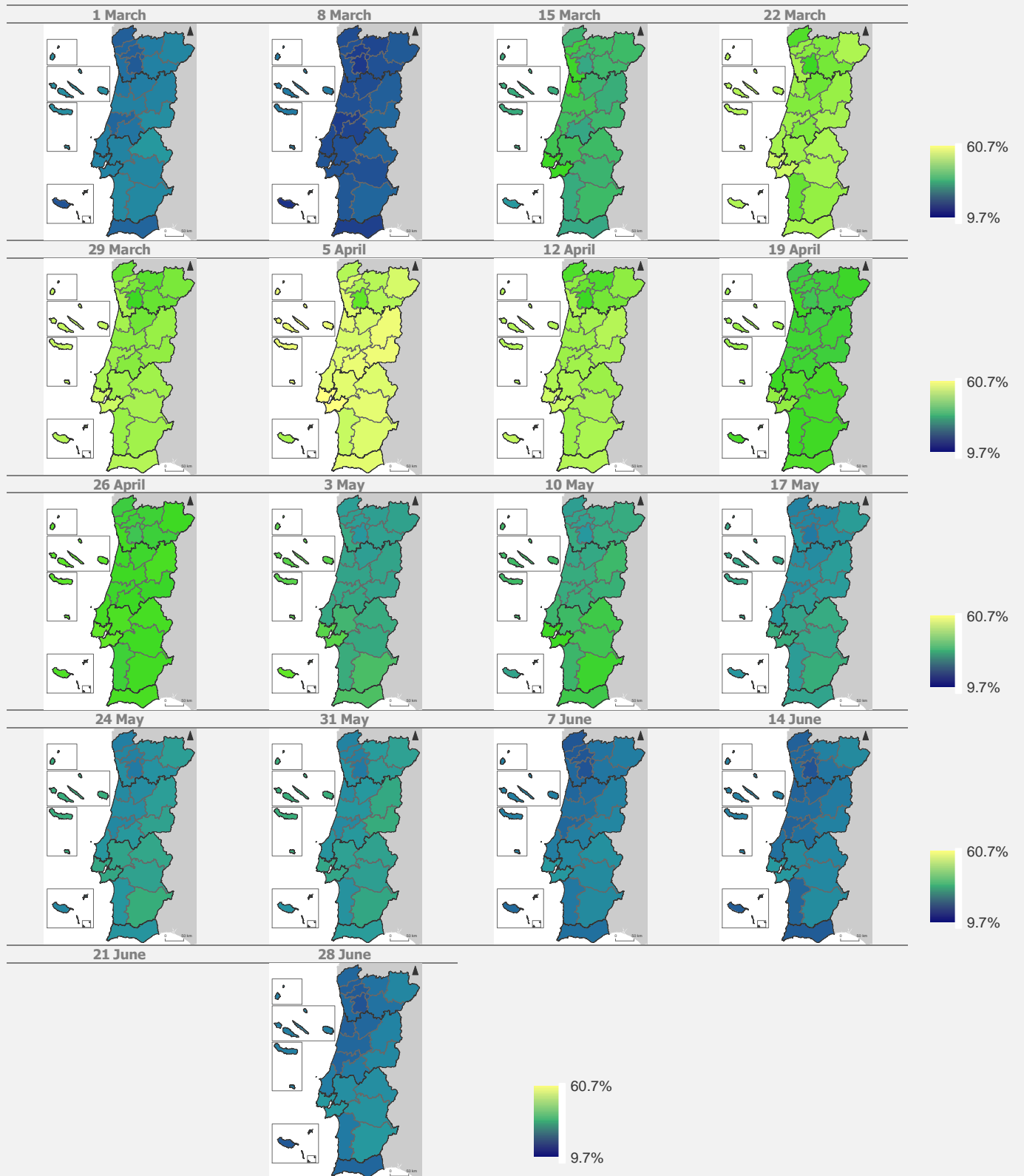


Source: Facebook's "Data for Good" Initiative. Data provided by Carnegie Mellon University.

Note: The dates marked on the graph axis correspond to the first days of the month and to Sunday. Data for Sunday June 21 is not available.

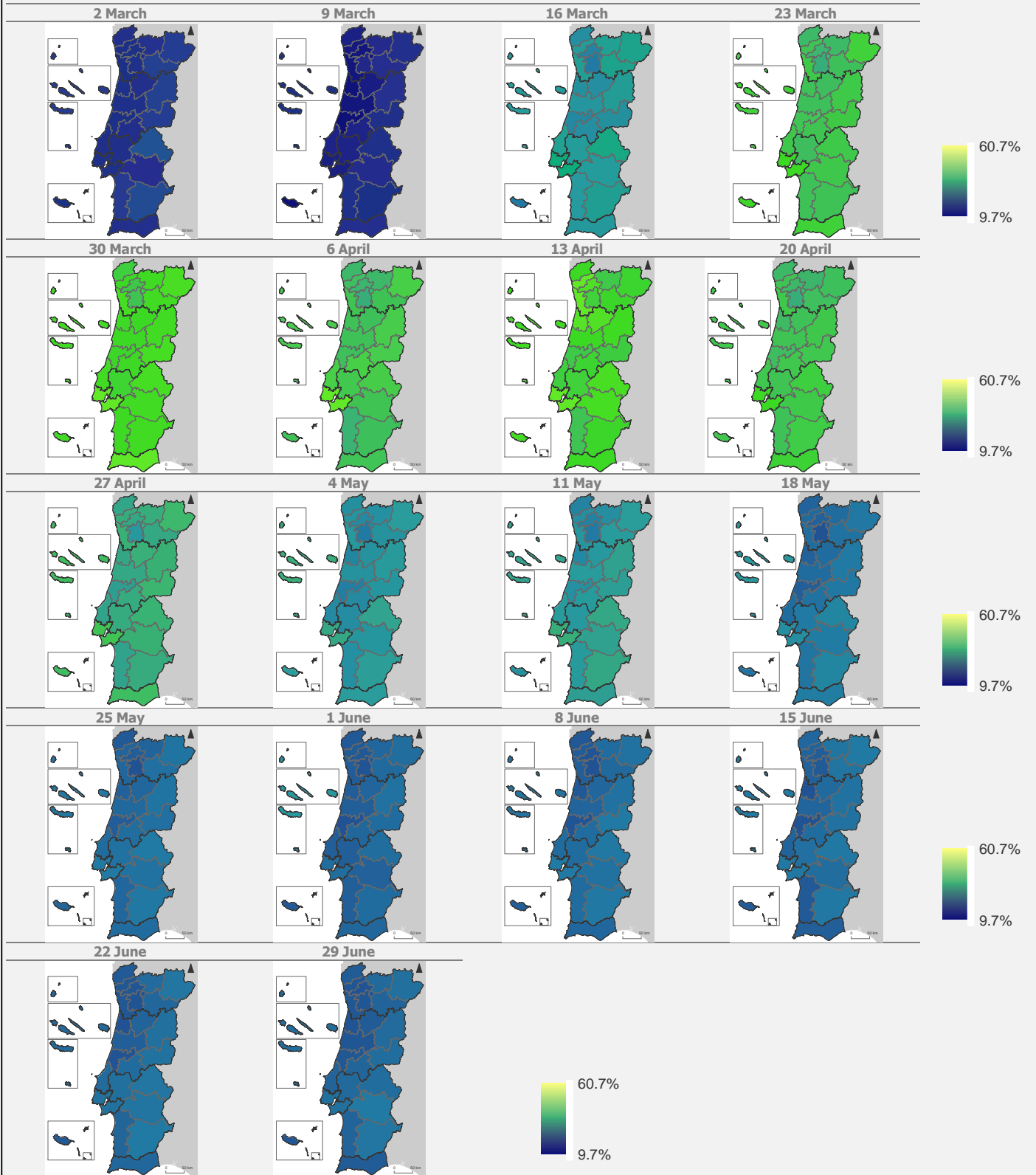
The following figures show this indicator at NUTS 3 level for the days corresponding to Sundays and Mondays, since the beginning of March. It can be seen that the days corresponding to Sundays indicate, overall, less mobility of the population than the days corresponding to Mondays. In particular, there is a reduction in mobility levels with the beginning of the State of Emergency on March 19 (maps of March 22 and 23). On the contrary, a progressive increase in mobility has been registered with the transition from the State of Emergency to the State of Calamity on May 3, followed by the first phase of implementation of the deconfinement measures (maps on May 3, 4, 10, 11 and 17 May), by the second phase of deconfinement on May 18 (maps on May 18, 24, 25 and 31 and June 1), and by the third phase of deconfinement (maps on June 1, 7, 8, 14, 15, 22, 28 and 29 June).

Proportion of the population "staying put" on Sundays between March 1st and June 28th by NUTS 3



Source: Facebook's "Data for Good" Initiative. Data provided by Carnegie Mellon University. Note: Data for Sunday June 21 is not available.

Proportion of the population "staying put" on Mondays between March 2nd and June 29th by NUTS 3



Source: Facebook's "Data for Good" Initiative. Data provided by Carnegie Mellon University.

Technical note

The mobility data from Facebook's "Data for Good" Initiative correspond to location updates collected from mobile devices of Facebook application users that have the "location history" option turned on. Only location accuracy (GPS) data of less than 200 meters is considered and if a user has multiple locations resulting from more than one associated mobile device, Facebook only considers the data with the highest location accuracy. Obtaining results for the NUTS 3 level implies a minimum of 300 unique users per sub-region. The proportion of the population "staying put" is measured by the number of Facebook users associated with a single 600mx600m reference grid during 8am and 8pm on day x, requiring at least three occurrences during that time period. The reference grid, as a "residence" proxy, is measured daily based on the largest number of locations observed between 8pm and midnight on day x-1 and between 0 am and 8 am on day x, requiring at least three occurrences during that time period. The information associated with the 600mx600m grids is allocated to the respective NUTS 3 sub-region. Since a grid can intercept more than one sub-region, 9 sample points are generated in each grid, assigning 1/9 of the grid population to each point in the sample.

Facebook's "Data for Good" initiative aims to provide data for research on humanitarian issues and has allowed results to be published in scientific articles particularly in the United States. Obviously, Statistics Portugal's use of this data source in the Statslab domain is not motivated by any publicity motive, but by the public interest of the information. Statistics Portugal thanks researcher Miguel Godinho Matos¹ for his support in the analytical preparation of this information.

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