We report on 32 new paleomagnetic directions obtained from 16 lava flows of the last 3 ka exposed at São Miguel, the largest island of the Azores. 31 directions (25 by us, 6 previously gathered by Johnson et al., 1998) from 13 historic or $^{14}$C dated flows (Moore and Rubin, 1991) yield the first paleomagnetic directional record of the last 3 ka from the Atlantic Ocean. Inclinations and declination swings from $\sim 60^\circ$ to $25^\circ$ and from -$10^\circ$ to $20^\circ$ (respectively) are considered to reflect geomagnetic features of the last 3 ka, as paleomagnetic directions from the same flow are systematically consistent. The declination record is at first approximation consistent with predictions from CALS3k.3 and gufm1 global field models. Conversely, inclination values are lower than model predictions at three different ages. By interpolating a cubic spline fit on declination / inclination vs. age data, we derive the evolution of the geomagnetic field at the Azores from 800 BC to 1600 AD.