Recently, we have developed a method for constructing core field models that satisfy the frozen-flux constraint (Lesur et al., 2010). Different to previous studies by Constable et al. (1993) and Jackson et al. (2007), this approach provides a temporally continuous constraint, which is introduced by simultaneously modelling the core field and flow at the core surface through applying the radial diffusion-less induction equation. Here, we outline the development of a frozen-flux field model that continuously covers the period 1957 to 2008. The results of this model are compared to the results of other field models. Further, the frozen-flux field model allows making inferences about the different processes involved in generating temporal field changes.