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The new Italian seismic hazard model

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In 2015 the Seismic Hazard Center (Centro Pericolosità Sismica – CPS) of the Istituto Nazionale di Geofisica e Vulcanologia was appointed by the Italian Civil Protection to engage and coordinate the national scientific community with the aim to elaborate a new reference seismic hazard model, mainly finalized to the update of seismic code. Since the beginning CPS and the Civil Protection department representatives agreed on fixing some key constraints that must be honoured in building a seismic hazard model for practical purposes. Successively, CPS has outlined a roadmap to describe the main features of this complex endeavour, including the different scientific tasks, milestones and timelines. The scientific tasks focus their work on i) improving the quality and the accuracy of the input data; ii) building updated earthquake rate models; iii) selecting the most proper ground motion prediction equations; iv) testing the overall seismic hazard model as well as each component; v) combining the results of the statistical testing phase and the outcome of experts' elicitation sessions to weigh each component of the final seismic hazard model. Worthy of note, the new seismic hazard model is based on an innovative coherent probabilistic framework, which allows a proper description of the aleatory variability and epistemic uncertainty, and the validation of the seismic hazard model. Here we describe the progresses of the project and the main innovative features of the new seismic hazard model.