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New build homes, resilience and environmental justice – current and future trends in flood risk under climate change across England and Wales

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Despite improvements in the management of risk from climate related hazards and the introduction of new regulations, loss and damage caused by climate related hazards remains high. An important driver in many parts of the world is the continuation of new assets being built in hazard prone locations. Over the last decade over 120,000 new homes in England and Wales have been built in areas affected by different types of flooding. While the yearly rates of new homes in areas affected by river, coastal or surface water flooding have increased only moderately on the national level, significant differences between and within regions as well as between different flood types exist. Using property level data on new homes built over the last decade and information on the socio-economic development of neighbourhoods, we analyse spatial clusters of disproportional increase in exposure to single or multiple types of flooding from recently built homes and investigate how these patterns evolve under different future climate change scenarios. We find that a disproportionately higher number of homes built in struggling or declining neighbourhoods between 2008 and 2018 is expected to end up in areas at a high risk of flooding over their lifetime as a result of climate change. Based on these findings, we discuss issues regarding future spending on flood protection and affordability of flood insurance in the face of climate change as well as the transferability of the findings to other climate related hazards.