

Climate change allowances for planners

Guidance to support the National Planning Policy Framework

September 2013

This guidance will help planners, developers and advisors implement the National Planning Policy Framework (NPPF)'s policies and practice guidance on flood risk. You can use it to help prepare flood risk assessments for Local Plans and planning applications. We will refer to this guidance when commenting on plans and projects.

Use the allowances for the rates of relative sea level rise shown in table 1 and the sensitivity ranges for wave height and wind speed in table 2 as the starting point for considering flooding.

The impact of climate change on flooding

Global sea level will continue to rise which will change the frequency of high water levels relative to today's sea levels, assuming no change in storminess.

There may be other changes in:

- wave heights due to increased water depths
- the frequency, duration and severity of storms

Table 1: Recommended contingency allowances for net sea level rises (Net sea level rise (mm per year) relative to 1990)

	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
East of England, east midlands, London, south-east England (south of Flamborough Head)	4.0	8.5	12.0	15.0
South-west England	3.5	8.0	11.5	14.5
North-west England, north-east England (north of Flamborough Head)	2.5	7.0	10.0	13.0

Notes to table 1:

a. You can derive sea level rise up to 2025 by applying the 4mm per year, 3mm per year and 2.5mm per year rates (covering the three geographical groups respectively) back to the 1990 base sea level year. You can derive sea level rise from 2026 to 2055 by adding the number of years on from 2025 (to 2055), multiplied by the rate shown in the table. Time periods 2056 to 2085 and 2086 to 2115 are treated similarly.

b. Vertical movement of the land is incorporated in the table and you don't need to calculate it separately.

Climate change may increase peak rainfall intensity and river flow, which could result in more frequent and severe flood events.

Changes in the spatial extent of flooding are likely to be negligible in narrower floodplains, but can be dramatic in very flat areas.

This means that a site currently in a lower risk zone (for example Zone 2 - as defined in the Table 1 of the NPPF's Practice Guidance on flooding) could in future be in a higher risk zone (for example Zone 3a). This could affect the type of development that is appropriate according to its vulnerability to flooding (see Table 3 in NPPF Practice Guidance on flooding which refers to flood zones and types of development). You should refer to the current flood map and the Strategic Flood Risk Assessment when preparing and considering proposals.

Flooding in estuaries can be increased by combined effects from rivers and the sea. If you are preparing a flood risk assessment covering tidal estuaries, you should use the allowances for sea level rise and peak flow, wave height and wind speed.

Table 2: Recommended national precautionary sensitivity ranges for peak rainfall intensity, peak river flow, offshore wind speed and wave height

Parameter	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
Peak rainfall intensity	+5%	+10%	+20%	+30%
Peak river flow	+10%	+20%		
Offshore wind speed	+5%		+10%	
Extreme wave height	+5%		+10%	

Notes to table 2:

You can derive peak rainfall between 2025 and 2055 by multiplying the rainfall measurement (in mm per hour) by 10 per cent and between 2055 and 2085 by 20 per cent. So, if there's a 10mm per hour event, for the 2025 to 2055 period this would be 11mm per hour; and for the 2055 to 2085 period, this would be 12mm per hour. Other parameters in table 2 are treated similarly.

Other sources of information about flood risk and climate change

The numbers in the tables are the same as those that were in Planning Policy Statement 25 and the National Planning Policy Framework Technical Guidance. They are derived from Department for Environment, Food and Rural Affairs *FCDPAG3 Economic Appraisal Supplementary Note to Operating Authorities – Climate Change Impacts*, October 2006. This document has now been superseded by Environment Agency *Adapting to Climate Change: Advice for flood and coastal erosion risk management authorities*, July 2011, but the numbers in Tables 1 and 2 above are considered suitable for use in the planning system.

You can find other information about the potential effects of climate change on flood risk in our flood risk strategies and plans. We will keep this advice under review.

Contacts for more information

Our Area Sustainable Places teams should be the first point of contact for advice on considering climate change in planning decisions. General Enquiries: 03708 506 506 (Mon-Fri, 8am - 6pm).

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