

# Floating houses for flood plains



The Dutch are responding to climate change by building floating houses in high flood risk areas. If rivers rise above their banks, the houses simply float upwards as well. This innovative form of housing could offer a solution for other parts of the world, including UK flood plains such as the Thames Gateway, where 200,000 new homes are planned.

**T**he houses have built-in flotation in the form of a flat-bottomed, sealed concrete box that provides buoyancy and also offers additional living space in the form of a basement. When flooding occurs, the house can rise up to 15ft, guided by two concrete piles. The low centre of gravity makes the structure very stable, and they have an estimated design life of around 100 years. Services such as gas, water and electricity are provided through flexible pipes, allowing articulation during flooding.

The basic concept was developed by Anges Snel in collaboration with Koen Olthuis, a 34-year-old Dutch architect who has become a leading advocate for floating homes.

Dura Vermeer, one of Holland's largest builders, is also experimenting with floating structures and is responsible for developing a community of 48 floating homes in Maasbommel, on the banks of the Maas



*A floating concrete basement provides buoyancy and additional living space.*

River. The company is currently designing a floating town near Schiphol Airport, which will house around 12,000 people, and is in one of the fastest-growing regions of the country.

With the North Sea predicted to rise by as much as 900mm (3ft) over the next 100 years, this highly adaptive approach to climate change could offer a cost-effective solution for areas of the Thames Gateway where conventional housing may well prove impractical and potentially uninsurable. By 2080 it is predicted that the cost of flood damage in the UK could increase 20-fold to more than £20 billion unless adequate funds are put into flood defences and preventing coastal erosion.

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