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#### LOCATIONS

IIV

Lacon House, 84 Theobald's Road, London WC1X 8NS Tel +44 (0) 20 7611 1200 Fax +44 (0) 20 7611 1250

#### **AUSTRALIA**

Tower 2, 475 Victoria Avenue, Chatswood, NSW 2067 Tel +61 2 9422 8559 Fax +61 2 9422 8552

#### USA

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#### CONTACTS

Contact us

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#### Who's who

newscientist.com/people

#### General & media enquiries

Tel +44 (0) 20 7611 1202 enquiries@newscientist.com

#### Editorial

Tel +44 (0) 20 76111202 news@newscientist.com features@newscientist.com

#### Picture desk

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## Don't let the Big Apple rot

New York City needs a rescue plan - that includes abandonment

IF WE were today choosing where to site a conurbation of 20 million people, the New York metropolitan area would quickly be struck off the list. With an extensive waterfront sitting only a few metres above sea level – and with that predicted to rise by a metre by 2100 – it would rightly be deemed too risky.

However, New York is where it is, and represents such a colossal investment in infrastructure and human capital that its fate cannot be left to chance. Hopefully, the misery caused by superstorm Sandy – and the post-storm realisation that the Big Apple is rotting from within (see page 6) – will concentrate minds on the need to turn embryonic engineering designs into a proper plan to protect the city from surging storm waters (see page 8).

The region's political leaders

must be kept on their toes, as it will be easy to lapse back into complacency after the clean-up is over. Waiting for a tragedy on the scale of the 1953 North Sea storm, which killed some 1800 people in the Netherlands and transformed that nation's approach to flood defence, would be unforgiveable.

"Like it or not, plans will have to be made for a retreat from areas that cannot be made safe"

As the region moves to climateproof its key assets, by building flood barriers, for example, tough decisions need to be made. Like it or not, the plans will have to incorporate managed retreat from areas that can't feasibly be made safe – particularly the expanses of coastline on the Jersey Shore and Long Island that took a hammering from Sandy.

Part of that managed retreat should include plans to convert abandoned developments into natural habitats that could help slow advancing storm surges.

It will also be crucial to manage the expectations of those living behind the new flood protection. Even with barriers in place, there will still be times when it will be necessary to hunker down or evacuate. Barriers won't stop the severe flooding that would occur if a major storm comes ashore, stalls and dumps heavy rain over the area for several days.

New York City has so far lagged behind cities like Rotterdam and St Petersburg in flood protection. It should now become a matter of pride for New Yorkers to lead the world in planning for climate change. Their great city deserves nothing less.

### **Remote possibilities**

WHENEVER a revolutionary new communications technology arrives on the scene, whether telephone, text or tweet, we predictably fail to predict the consequences. Twitter was once derided as a pointless social network; out in the real world it has changed the nature of shared experience, from consuming news to plotting revolutions.

The next big communications technology poised for widespread availability is telepresence. Dismissed by some as glorified video-conferencing, it promises to be much more than that. It can give users a physical presence in a remote location, including the ability to move around and manipulate objects – and it is set to become even more immersive.

What will happen when millions of people suddenly have this power? Predictions abound, from the benign to the deeply disruptive (see page 38). In truth, we just don't know. It may fail to catch on, but if it does, expect the unexpected. Users will find ways to employ these devices that confound their inventors, hopefully enriching the ways we connect with one another. Like all the best technologies, telepresence could make us more, not less, human.

# Time to think beyond the LHC

SO WE'VE finally found it. Or have we? Four months on, the identity of the particle snared at the Large Hadron Collider remains unclear.

It may indeed be the muchvaunted Higgs boson. Or it might not. Finding out will require a welter of tests hard to do in the messy environment of the LHC's proton collisions (see page 34).

What's needed is... wait for it... a successor to the LHC. Physicists have already started dreaming of another huge particle smasher, this time based on electrons, to finally pin down the Higgs.

In these straitened times that won't be an easy sell, especially as the LHC still feels so shiny and new. But a successor was always part of the long-term plan and will eventually be needed to make more progress. Whatever the LHC found, the public was captivated. Now is a good time for physicists to start – subtly – making their case.