

GAMBLING

# NO DICE IN MACAU

'The Central Hotel is not precisely a hotel. It is a nine-storey skyscraper and it is devoted solely to the human so-called vices. It has one more original feature. The higher up the building you go, the more beautiful and expensive are the girls, the higher the stakes at the gambling tables, and the better the music,' wrote Ian Fleming when he visited Macau in the 1960s.

Long famed as a centre for gambling, Macau was a Portuguese colony until 1999, when it was returned to China. It shares Special Administrative Region status with Hong Kong, and both former colonies retain separate legal, monetary, and immigration policies to mainland China.

'Macau is the only place in China where casino gambling is legal,' says David G. Schwartz, Director of the Center for Gaming Research at the University of Nevada. 'It largely attracts gamblers from Hong Kong and mainland China. Because of its monopoly, it has become a very large market.'

Around 1.17 million people visit Macau on package tours alone, according to the region's government. Most are there for the gaming. Gambling accounted for 80 per cent of the government's revenue in 2013, but recent figures are showing that Macau's gaming economy has started to go wrong. Annual revenue fell to \$44billion in 2014, a 2.6 per cent drop. In December, revenue was down 30 per cent, the fifth consecutive monthly drop.

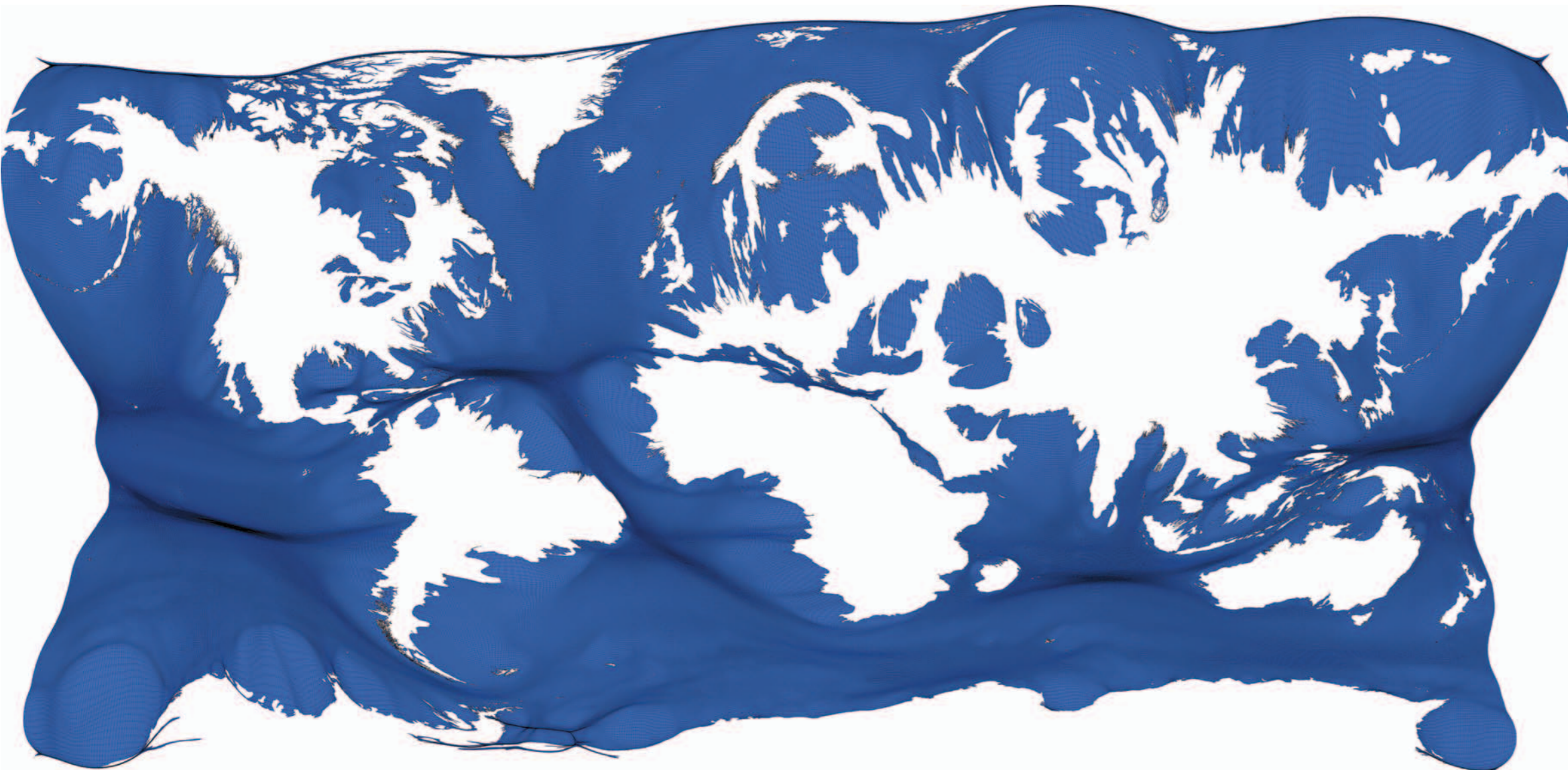
The fall in numbers is due to a crackdown in mainland China on corruption linked to gambling, along with the central government's desire to see Macau's economy become more diverse. The big spenders who fuelled the Macau boom are being caught in the anti-corruption net.

'I think this will speed the transition from a reliance on VIPs to putting more effort into courting the premium mass segments. These range from middle-class vacationers to wealthy Chinese citizens below the VIP level. They gamble less per capita, but there are more of them,' says Schwartz.

In 1961, Portuguese Governor Jaime Silvério Marques, declared Macau to be a 'permanent gaming region'. Whatever methods the central government in China tries to control it, Macau is likely to go its own way with gaming, so long as it gets to set the house rules.



SHUTTERSTOCK



CARTOGRAMS

# WATER WORLDS

BY BENJAMIN HENNIG

Chlorophyll concentrations in the world's oceans are important indicators for the presence of algae and other plant-like organisms that carry out photosynthesis. As such, phytoplankton (which contains the chlorophyll) is an essential element of the food chain in the seas as it

provides the food for numerous animals. Variations and changes in the chlorophyll levels are also relevant for the study of the ecology of the sea. Changing chlorophyll levels can also indicate changing sea temperatures and other conditions in the oceans that cover about 72 per cent of the planet's surface.

In this visualisation, the data used was derived from NASA's MODIS (MODerate resolution Imaging Spectroradiometer), which shows long-term chlorophyll concentration estimates in mg per cubic metres. The absolute concentration was then calculated for each of the equally-sized grid cells that cover the sea areas. These were resized according to the chlorophyll levels.

The visualisation therefore shows areas that have the highest density of algae and other photosynthetic organisms largest, while those regions with low concentrations disappear into the dark black areas where the grid cells merge.

The map also highlights the increasing levels towards many of the land areas, which appear as bizarrely distorted white islands in the sea. Investigating the changing grid patterns in more detail, higher levels can be seen along the west coasts of the Americas, as well as Africa, where rising cold water streams lift nutrients supporting phytoplankton growth from the ocean floor. Coastal upwellings also influence the high chlorophyll concentrations of the surface waters in the Baltic Sea and other zones along land areas where larger grid cells emerge. Meanwhile, the band along the Equator eastwards from the coast of South America is influenced by the easterly trade winds that also help the upwelling of deeper water layers.

*Benjamin Hennig is a senior research fellow in the School of Geography and the Environment at the University of Oxford. He is involved in the Worldmapper project and maintains the visualisation blog [www.viewsoftheworld.net](http://www.viewsoftheworld.net)*