CLIMATE POLICY

Military futures

Int. J. Clim. Change Strateg. Manage. http://go.nature.com/2Na2aF (2015)

Many of the world's militaries see climate change as a threat, but they remain unsure about how to respond.

Research by Michael Brzoska from the University of Hamburg, Germany, assessed six potential strategies proposed by 38 militaries across the globe. He found that major powers, such as the USA, are more likely to anticipate climate change affecting future military operations. In contrast, countries with less military influence are more likely to align with China, which refuses to acknowledge climate change as a security issue.

Brzoska found that some militaries' expectations have changed over time. Most continue to expect to become 'armed rescuers' helping to deal with the fallout from extreme weather events, which climate change may exacerbate. However, as time progressed, some militaries' expectations morphed into a readiness to deal with conflicts and national security threats that could arise as a consequence of climate change, as 'armed humanitarians' or 'climate warriors'.

While the responses of countries may be diverse, the projections show that climate change has become another means for militaries to justify budgetary demands. *MH*

PUBLIC OPINION

Wealthy worries

Climatic Change http://doi.org/3f4 (2015)

It is often assumed that worrying about climate change is the preserve of the rich, but people in developed countries also display the highest levels of climate contrarianism.

New research by Alex Lo from the University of Hong Kong and Alex Chow from Clemson University, USA, unpacks how national GDP correlates with public opinion on climate change.

The researchers analysed a collection of national surveys conducted across 34 countries, with a total of 48,000 observations. They found that people in rich countries are the most concerned about the issue of climate change, but consider themselves to be the least at risk from its impacts.

High levels of education in developed countries such as Japan, Norway and Germany means that citizens are more likely to consider climate change to be a significant issue, the researchers concluded. The countries' wealth gives people confidence in their capacity to cope with climate change, however.

This means poorer countries may fail to prepare properly for the impacts of climate change as their economies develop, the researchers warn. *MH*

CARBON CYCLE

Amazonian emissions

Geophys. Res. Lett. http://doi.org/3f6 (2015)

Terrestrial ecosystems have taken up about a quarter of anthropogenic CO_2 emissions over the last 50 years or so. However, emissions from fire, logging and cropland expansion — collectively known as land-use and land-cover change — offset some of the carbon taken up. Assessment of the amount of carbon released from tropical deforestation relies in part on remotely sensed data from satellites, so quantifying historical deforestation and associated carbon release that predate the satellite era is difficult.

One approach to quantifying the net contribution of anthropogenic land-use change is to estimate the difference between current aboveground biomass and its potential without past human interference. To do this for the Amazon Basin, Jean-Francois Exbrayat and Matthew Williams from the University of Edinburgh, UK, constructed two maps of potential aboveground biomass based on the relationship with climate and topography in intact forest landscapes. Their reconstructions suggest a current deficit of 11.5–12% in aboveground biomass — or a net loss of ~7-8 PgC — compared with current estimates for the Amazon Basin. *AB*

LANDSCAPE EMISSIONS

Wetland footprints

Proc. Natl Acad. Sci. USA http://doi.org/3f5 (2015)

Northern wetlands tend to be carbon rich — typically absorbing CO_2 from the atmosphere while releasing methane (CH_4). The interplay of these two processes determines their climate footprint. An understanding of the impact of human activities on the fluxes of these two gases is therefore important if we are to manage wetlands to minimize their climate footprint.

Ana Petrescua from the European Commission's Joint Research Centre and co-workers assessed the climate footprint of a network of wetland sites based on observed CO_2 and CH_4 fluxes. Their sites represent a wide range of climatic regions, ecosystem types and management practices. Using a space-for-time analogue, they represent a chronological sequence from natural to managed conditions and quantify the radiative effect of CH_4 emissions and net carbon sequestration.

They find a significant increase in atmospheric forcing from land management practices, with croplands being particularly problematic from a climate perspective. These findings indicate the need for management strategies that account for both CH_4 emissions and cumulative CO_2 to reduce the climate impact of human-utilized wetlands. *AB*

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