

The release of the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC) has focused unprecedented attention on climate science. IPCC was set up in 1988, only a year after IGBP was founded. Since then, science coordinated by our programme has featured prominently in the panel's assessments: our community continues to respond to plug gaps in knowledge by undertaking targeted research activities.



Over 70 members of the IGBP community were appointed as lead authors, coordinating lead authors or review editors for AR5. Their efforts and those of our projects contributed to the comprehensive reports published by the Working Group I in September last year and by the Working Groups II and III recently. In addition to AR5, IGBP research helped to inform the special report on extreme events and disasters that was published in 2012.

Several of our projects focused their research activities to address gaps in knowledge highlighted in IPCC's previous assessment. For example, the Past Global Changes (PAGES) project revised its science plan in 2009 to address gaps relating to the dynamics of sea level, monsoons and regional environmental and climate variability. The resulting research contributed significantly to AR5, and PAGES advised both Working Groups I and II and helped highlight the insights from palaeoclimate research.

Last year, IGBP's International Global Atmospheric Chemistry (IGAC) project published an exhaustive peer-reviewed publication on the radiative forcing by black carbon. This study contributed directly to AR5; metrics and terminology were chosen

to be consistent with IPCC assessments. According to the report the influence of black carbon on climate had been underestimated: this substance is the second largest anthropogenic contributor to global warming.

During the past few years IGBP's marine projects have made the study of ocean acidification a priority. IGBP's efforts in this area are reflected in the recent Working Group II report (see also page 6 of

this issue). The Secretariat has also helped to raise the profile of ocean acidification. For example, in 2012 we helped to organise an international symposium that tackled this important issue. Along with our partners we have recently published a new summary for policymakers and launched a dedicated website.

The IGBP community has contributed in other ways. For example, one of our synthesis topics held a joint workshop with IPCC to explore the ways in which our modification of the nitrogen cycle affects climate. In the latest Working Group I report there is a greater emphasis on how the relationship between the nitrogen and carbon cycles might affect climate. This, in part, reflects the efforts of the International Nitrogen Initiative co-sponsored by IGBP.

There are good reasons to be proud of our many contributions to IPCC. But climate change is only one – albeit very important – way in which humans are affecting the planet in the Anthropocene epoch. Looking ahead, we will continue to coordinate research that explores all dimensions of the human-environment relationship. ■

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