

## **Flying blind**

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Why global voyeurs will come together in Washington next week

“WHAT matters gets measured” is a maxim familiar to most scientists. It suggests, in turn, that the global environment does not matter. Governments, though concerned about their own patches of the planet, care little about other people's. Although satellites peer down on Earth to monitor parts of its atmosphere, oceans, forests and deserts, and although fixed weather stations and nomadic buoys and balloons provide accurate readings from individual spots, nobody is responsible for joining up the dots to reveal the bigger picture.

Where people do not live, the situation is even worse. The ocean's interaction with the atmosphere is critical to understanding how the climate works—but the vast oceans of the southern hemisphere where much of it takes place are woefully understudied. Even so basic a question as whether the sea level is rising cannot be answered properly. There is good reason to think that it is (in part, at least, due to global warming) but there are not enough monitoring stations to be sure.

Perhaps to the surprise of its critics, one government—America's—wants to change this. On July 31st the United States will host a conference in Washington, DC, devoted to the theme of global observation. Its purpose is to try to convert other countries around the world to the idea of collecting, analysing and sharing environmental data in a coherent fashion. Conrad Lautenbacher, a retired admiral who is head of America's National Oceanic and Atmospheric Administration (NOAA), and the moving spirit behind the conference, declares that this is the “first-ever political summit on earth observation”. He says that more than two dozen countries plan to send high-level emissaries.

### Seeing green

If this actually happens, it will be a significant step forward. The reason is that the biggest obstacle to proper monitoring of the Earth is neither technology—all sorts of fancy satellite and ground-based observation techniques are now available—nor money. It is politics. The oceans aside, the biggest gaps in the global-observation process involve poor countries. And this has frequently been a sin of commission, not omission. For many years, developing countries were suspicious of efforts by the rich world to observe, say, deforestation patterns in tropical forests. Apart from the embarrassment involved, they suspected that the rich would somehow use such data to exploit the natural resources of the poor. Some countries, such as Brazil, China and India, have sent up their own satellites, to control the data flow themselves. Others preferred to ignore the problem.

Looking outside your borders helps, though. Proponents of co-operation point to the system of buoys and monitoring stations set up in the Pacific in recent years to keep track of El Niño, an intermittent ocean current. In 1982 and 1983, the economies of many countries on the eastern shores of the Pacific were hit hard by the disruptive weather

connected with this phenomenon. But when it struck again in 1997 and 1998, early warnings from the new monitoring system helped farmers and emergency crews to prepare.

California, NOAA reckons, endured \$1.1 billion less damage in 1997-98 than it would otherwise have done, thanks to the warning it got of El Niño. The rest of America saves \$200m-300m a year courtesy of similar, smaller-scale warnings. Next week's conference is meant to build on this sort of experience by linking different countries' national and regional monitoring systems together, and also by integrating different sorts of data (for example, on weather and plant cover).

That will not be as easy as it sounds. Even if the political will is there, there are technical issues to be overcome as the different data-collection efforts are not always compatible. Here, the experience of the private sector may help. Integrating disparate geographical databases, albeit on a smaller scale than Admiral Lautenbacher is envisaging, has been something of a boom industry recently.

Earlier this month, for example, some 11,000 people attended a conference in San Diego run by ESRI, the biggest "geographic information systems" (GIS) software firm in the world. GIS, the systematic handling and integration of geographical databases and digitised maps, is being stimulated by the development of common standards of the sort that Admiral Lautenbacher will need.

To promote this idea, several dozen companies, government agencies and universities have banded together into the Open GIS Consortium (OGC), a group devoted to an "open source, plug-and-play" approach to GIS. Mark Reichardt, one of the OGC's directors, likens the consortium's aim to that of the Linux operating system, and suggests that the day is not far off when existing, disjointed databases (of health statistics or poverty in a region, for example) could be overlaid routinely on to, say, maps of the sites of waste tips or chemical plants. Military men and aid workers in Iraq are already using such technology. Larger-scale versions should help with Admiral Lautenbacher's plans.

Whether any new science—or indeed anything new at all—will be unveiled at the conference remains to be seen. By the time it happens, though, the Bush administration is expected to have announced its revised plan on climate-change research (it had not done so when this article went to press). An earlier draft of the plan was criticised by America's National Academy of Sciences for casting needless doubt on things that most scientists already agree are true about global warming. A conference about how little is actually known about the Earth might make an interesting counterpoint to such criticisms.

But maybe that is too cynical. For the fact remains that this apparently most un-green of administrations (at least in the eyes of environmentalists) is about to bring together heavyweight policymakers from many countries to forge a coherent international strategy for Earth observation for the very first time. The planet may at last get the chance to be measured in full. And that, surely, is good news for greens and greenery everywhere.