Research Highlights

Nature Reports Climate Change
Published online: 28 January 2010 | doi:10.1038/climate.2010.08

Don't count on it

Harvey Leifert

Geophys. Res. Lett. **36**, L23711 (2009)

© *ISTOCKPHOTO/FOTOVOYAGER*

Governments and the private sector are seeking to base decision-making in such areas as agriculture, health and water management on seasonal climate forecasts, which predict temperature and precipitation from one to nine months in advance. The problem, according to a new analysis, is that existing climate models show very little accuracy more than one month out. Even during the first month, predictions are markedly less accurate for the second half than the first. Current models simply cannot account for the chaotic nature of climate, researchers say.

David Lavers of Princeton University in New Jersey and colleagues tested eight seasonal climate forecast models — essentially extended weather forecasts — for their skill at predicting temperature worldwide and precipitation over land masses. 'Skill' is the degree to which predictions are more accurate than simply taking the average of all past weather measurements for a comparable period — for example past February temperatures in northern France. Overall, temperature was better-predicted than precipitation, but the longer-range the forecasts, the narrower the areas in which they were skilful. At longer lead times, skill was negligible for land areas.

Decision-makers require significantly improved models to develop meaningful policies, say the authors, adding that this goal may prove elusive.

Nature Reports Climate Change EISSN 1753-9315