

Dynamic Earth website makes an impact

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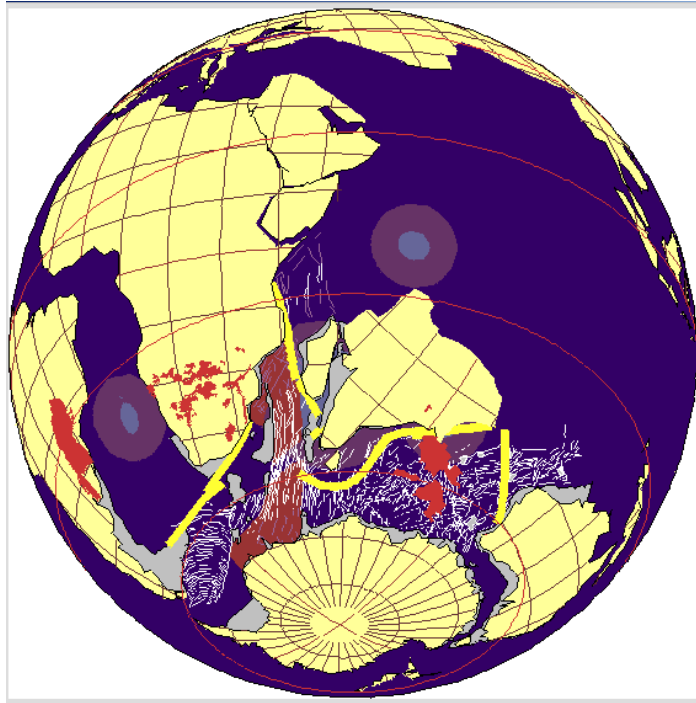


Figure 1: A scene from the animation as India begins to head north towards its present position on the globe.

In many disciplines the map base is static. For earth science, however, the rocks and mineral endowment we explore today are the result of thousands of millions of years of relentless mobility of the earth's crust that still remains to be fully unraveled. For the southern continents, the last 5 per cent of earth history (since about 200 million years ago) is the story of the dispersal of the present continent-sized fragments from the 'supercontinent' of Gondwana that existed as an entity for several hundred million years before then. It follows that understanding the geology and resources of Africa, for example, cannot be logically separated from managing the continent's geo-data in association with that of South America, India, Australia and Antarctica and making the connections between them. With its GIS expertise and students or professional contacts in all these places, ITC is an ideal center for such intercontinental studies.

A means of resolving some remaining uncertainties in the sequence of disruption and dispersal of Gondwana came in 1997 with the release of satellite altimeter data that mapped the topography of the world's ocean floor at the resolution of a 5 km pixel. A study of the Indian Ocean conducted jointly by ITC and the University of Cape Town (Reeves, C.V., and de Wit, M., 2000. **Making ends meet in Gondwana: retracing the transforms of the Indian Ocean and reconnecting continental shear zones.** *Terra Nova*, 12, 272-280.) resulted in an accurate animation of Gondwana dispersal that was first placed on an ITC website in March/April 2000 (<http://kartoweb.itc.nl/gondwana>). This has proved popular, not only for scientific research but as an educational tool where a few

minutes of watching an animation is more effective as a means of communication than any amount of static pictures and verbal description. Take a look and see what we mean!

At the end of March 2002, the site had attracted over 49 thousand visits, amongst whom nearly 10000 individuals spent an average of over 6 minutes viewing and downloading the animation for future use. Permission has been granted to use the animation in a permanent display at the new Australian National Museum and at the Columbia earth science distance education facility in the US. It is also known to be used in several geology courses at universities around the world. The cheers that greeted India's rapid northward movement when one of us (CVR) had chance to show the animation to an audience of 1200 schoolchildren in India is a memory to treasure.

It is planned to produce a second edition of the animation incorporating refinements worked out over the last two years in time for launch at the 11th international meeting of Gondwana scientists at Gateway Antarctica, Christchurch, New Zealand in August 2002.

That earth scientists can gain enormous benefits from embracing GIS for systematic management, display and communication of map data in digital format is, of course, central to present educational programmes in earth science at ITC and deep-rooted in our ongoing research.

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