Indispensable GIS

This month we focus on maps and GIS for Early Warning (EW) and Emergency Management (EM): good maps are proven fundamental basics for tackling chaos after tragedies, and GIS plays a major role in evolving better post-disaster management tools. As Köbben says in his feature on page 12, 'Current technological developments in GIS and collaborative web-based mapping using interoperable geo-webservices and user-generated content could take disaster mapping an important step forward.'

Konecný, this month's GIMasters and Disasters columnist (page 23), distinguishes four main types of EW and EM map: early-warning maps and images, reference and damage-assessment, and thematic maps. Reference maps should be available within six hours of an emergency event (see last month's cover feature 'One Click, One Day, One Map. Expressmaps: Emergency Mapping Service'). Damage-assessment maps are needed within 24 hours, to be updated daily. Konecný goes on to discuss the role of maps in communicating forecasts of how the situation in the distressed zone might develop over coming days and weeks.

Kranz offers us a further opportunity to focus on damage-assessment maps, in this case in Darfur. The researchers whose work is described in this article did not meet the 24-hour deadline preferred by Konecný, but used their rapid, partly automated mapping techniques to provide results within 44 hours of receiving data. A combined approach was applied involving automatic detection and computer-aided photo-interpretation adapted to the complex humanitarian situation in order to analyse the effects of raids on three villages, comparing two consecutive years. The resultant damage-assessment maps highlight both intact and destroyed buildings and infrastructure, indicating how many people could be affected.

In conclusion, I should also like to encourage those of you interested in GIS to read our interview this month with Lilian Pintea, director of conservation science for the Jane Goodall Institute. It might not be apparent to the watcher of wildlife documentaries on television, but GIS technology is used for analysing and mapping wildlife data such as population size and distribution, habitat change, use and preference, and regional biodiversity, and it would appear a most effective tool! The opportunity to overlay data makes GIS helpful in finding relationships between wildlife and people, and is essential for contemporary monitoring of threatened animals and their habitat. It seems to me that this example of GIS use could offer a great promotional tool in convincing youngsters to choose Geomatics as their subject of study.