

ISPRS XXI Congress

“We all face a challenge, how to use our science to benefit society?” asked ISPRS president Prof. Ian Dowman during the opening ceremony, and “What have we done so far?” These were, it later appeared, merely warm-up words. The general assembly went on to approve the 9th July “Beijing Declaration”™ to promote the peaceful use of geo-spatial technology for the benefit of society and the environment. It was a major outcome of the congress (see also page85).<P>

“On the eve of the Beijing Olympic Games, scientists from more than eighty countries and regions of the world are gathering in Beijing,” announced Lu Xinshe, vice-minister, Ministry of Land and Resources and director-general of the State Bureau of Surveying and Mapping, opening the 21st ISPRS congress on 3rd July. In seven days the congress hosted 150 oral sessions featuring more than six hundred speakers, 1,700 posters and nine technical streams covering more than 1,800 papers: record numbers in the 98-year history of the ISPRS. Lu Xinshe went on to say that Chinese vice-premier Li Keqiang had met council members immediately prior to the opening ceremony, to whom he emphasised the important role the geospatial sciences played in China. He also advocated the use of geospatial science to promote sustainable development and better serve the interests of the human race.

Six Principles

China’s involvement in producing and using geospatial data is nothing new, although rapidly accelerating in the wake of China becoming a major force in the scientific world. The history of surveying and mapping in China began more than two millennia ago. Practise and experience led to formulation there in the fourth century of ‘the six principles of cartography’: scale, measurement, distance height, angle, curve and line. Using these, the whole of Asia was mapped in the eighth century, taking sixteen years. Medieval China also excelled in craftsmanship in survey and mapping, creating masterpieces such as the maps of Africa resulting from nautical voyages. In his book 1421: The Year China Discovered the World (Bantam Press, London) Gavin Menzies even suggests that the Chinese sailed not only to Africa, but circumnavigated the globe a century before Magellan, reaching America seventy years before Columbus.

Silk Road

Two thousand years ago the capitals of the world’s then major empires of Rome and Xian were already linked by transcontinental trade routes, along which grew up many prosperous cities. But the sixteenth century marked decline, caused in part by the rapid expansion of sea trade. Only stories, cultural heritage and historical sites survive today. In the nineteenth-century Romantic period these routes were named the ‘Silk Road’, and travelling its 7,000km length has inspired many romantic souls ever since and is increasingly popular today. The Silk Road served not only as the artery for transporting goods, but was also the ‘information super highway’ of its age, along which sped facts, knowledge and ideas. This rich history it was that must have inspired the ISPRS organisers to attach the theme ‘Silk Road for Information from Imagery’ to this congress.

Earthquake

The earthquake and associated landslides that struck the Chinese province of Sichuan in May 2008 revealed the great value of geo-information technology in disaster management. Earthquakes frequently occur here, in the north-south, mid-belt of China, where the Longmen Mountains meet the plains, where Yingxiu, a town in Wenchuan County, was the epicentre of devastating earth shocks. The number of people severely affected amounts to the total population of Canada and Australia together. In his keynote, Professor Deren Li, chairman of the Academic Commission of Wuhan University, discussed how aerial and optical and radar satellite images were used during the rescue and response efforts(see article page13). In his opening address Lu Xinshe reminded the audience that 53,000 maps and 11 terabytes of geo-data were provided, partly as a result of generous support from the international community.

Western China

The western part of China is a harsh environment, with vicious weather and ‘special’ geographical conditions. The presence of the Qingzang plateau, average height 5,000m above sea level, and the Talimu basin desert, makes the area difficult to access and less developed than the east. Its isolation means mapping by conventional means encounters numerous obstacles, so that up until now two million square kilometres (an area covering all major western European countries) are only coarsely mapped. The recent launch of new earth-observation satellites and maturing GNSS technology will make possible the collection of detailed geodata from even the most remote parts of the globe. In 2006 the State Bureau of Surveying and Mapping thus initiated a project to produce 1:50,000 topographic maps of this marginal region, to be completed within five years. The project also aims to create a geographical database of the area, which will be continuously updated. A number of high-quality presentations at the conference treated various aspects of this initiative.

Exhibition

Reviewing the Amsterdam 2000 congress I noted that ‘it was not directly obvious entering the exhibition hall that photogrammetric products were on display. Any type of show in the field of information and communication technology could have covered the floor [...] the way has been paved for photogrammetry and remote sensing to become part of mainstream ICT’. This could be reaffirmed in Beijing, with one adjustment: a number of stands featured large, oddly shaped boxes, identified as digital aerial cameras. Intergraph Z/I and Leica also presented digital cameras in Amsterdam, but these were far from operational systems. Now, eight years later, development has matured and many manufacturers represented in our product survey on digital aerial cameras (April 2008) where in Beijing. Intergraph introduced the RMK D, available in early 2009. Russian companies including Scanex, Racurs and Geokosmos, were represented by high-level delegates demonstrating products and services. In total, more than a hundred companies and organisations from 25 countries showcased what they had to offer.

When talking photogrammetry and remote sensing (P&RS) in China, the name Wang Zhizou (1909-2002) should be mentioned. A sometime professor at the Wuhan Technical University for Surveying and Mapping (now Wuhan University), he is generally recognised as the founder of P&RS in China and his theoretical work resulted, among other things, in the VirtuoZo digital photogrammetric system for use on PCs. This is now used all over the world to produce Digital Elevation Models, orthorectified images, topographic vector maps, image maps (orthoimage overlaid with contours), perspective views, 3D-landscapes etc, from satellite, aerial and close-range imagery. It is hoped Supersoft Inc, China, developer of VirtuoZo will contribute to our next product survey on DPW, the last of which was published in December 2007.

Concluding Remarks

Over the last twenty years the ISPRS congress, held every four years, has circumnavigated the earth, to arrive back this year close to where it all began in Kyoto, Japan; the first ISPRS congress ever hosted in Asia took place here. From Kyoto (1988) the caravan moved to Washington (1992), to Vienna (1996), Amsterdam (2000) and Istanbul (2004): all cities in the Northern Hemisphere, which would seem a bias. But this is only true in a geographical sense, not in terms of landmass or population. In 1984 Rio de Janeiro was the venue, and in 2012 it will be Melbourne, Australia, both in the Southern Hemisphere. So ISPRS is doing a great job at balancing its footprint.

<https://www.gim-international.com/content/article/isprs-xxi-congress>
