

Delicate Touches of Geomatics on the Earth

I am very excited to be providing input for this corner of GIM International from now on. As a person who has dedicated his life to disseminating the utilisation of geomatic technologies to create a more liveable and sustainable world, I am looking forward to sharing my opinions and experiences about the importance of geomatic technologies for the future of our planet, starting here with a popular topic: geodesign.

Throughout history, man has always interacted with the environment to create a safe place to live. Exploring ancient settlements often reveals that they were built with respect to natural and environmental characteristics. This limited the human impact on the environment while also protecting man against the negative forces of nature. However, over time, rapid population growth, industrialisation, advancements in technology and improperly planned urban environments have increased man's disregard for the natural and environmental factors which are in fact vital for survival. Hence, many settlement areas have suffered the devastating effects of natural disasters. Biological diversity has been damaged. This situation has inspired people to seek various solutions for making the world a more liveable place. One such solution is the geodesign approach, which is in fact based on a previously adopted but long forgotten behaviour of man: corresponding with nature.

GIS pioneers have put forward the theory of using GIS as a tool for reapplying geodesign. Geodesign brings together science, design and technology. It bridges the gaps between planners, citizens and decision-makers, and helps create alternative scenarios for the future based on design and planning solutions. While this is not a new practice, as mentioned above, geodesign is now being seen as a solution to 'heal the world' and will probably start a new movement for modern physical planning and design.

My colleague and role model Jack Dangermond underlines that geodesign is made up of the words 'geo' and 'design'. 'Geo' refers to the whole spectrum of the world's life support system, while 'design' is the overall creative process of finding proper solutions for problems using the available resources. I believe that the main goal of geodesign is to meet man's vital needs through a 'delicate touch' on Earth. Geodesign helps us to understand the virtual capacity of natural and environmental resources, and thus efficiently utilise the natural systems and functions. Consequently, the results support people and nature alike. The fundamentals of geodesign theory are based on obtaining geographical information correctly and accurately, and analysing that information efficiently. Understanding the geography and knowing its characteristics, advantages, shortfalls and risks makes it easier to develop and compare design alternatives. Geodesign provides a precious framework for identifying geographical characteristics of land fully and accurately to enable development of the most appropriate solutions in accordance with its natural characteristics and functions. As a result, man can correspond with nature and the environment once again. This understanding during the planning and design process is also of great importance for sustainability; in other words, sustainable planning is directly related to geodesign.

Global climate change, natural disasters with increasingly devastating impact, environmental problems...man has to face all this and more. Technology can make a difference; it can change our destiny. A geodesign approach can help us utilise renewable energy resources more efficiently, tackle climate change problems, determine suitable land for various uses and minimise the effects of disasters. Thus, man is not threatened by nature nor is nature threatened by man.

Don't forget to use delicate touches of geomatics to heal the Earth. Until next time!

Biography

Prof Dr Alper Çabuk has a BSc in landscape architecture, two MScs (in environmental management and landscape planning) and a PhD in environmental economics. He has contributed to numerous articles, books and national and international projects on geodesy, geographical information systems and remote sensing technologies. He is currently manager of the Earth and Space Sciences Institute of Anadolu University, Turkey.