

Earth Observation Data

Without information we live blindly. Without information there is no planning, no understanding, no action taking, no communication.... Information is what makes the world go round. Although Earth Observation (EO) satellites are being launched at breakneck speed, there are impediments to the use of all the peta bytes (mega x giga) of data generated by these sensors. Yet EO data waiting eagerly to be used for the benefit of the planet and all that populates it too often languishes covered by a thick layer of dust in some obscure archive. EO data neglect does not occur from any lack of appreciation as to its value in terms of understanding earth-related processes and thus aiding appropriate action. Rather, data remains untouched because of barriers to its use, especially in developing countries.

Intelligent Software

One such barrier arises from the fact that extracting information from EO data and using it in a fruitful way is still a specialised activity requiring a broad spectrum of knowledge and skills. On the one hand there is more than enough data in store, on the other there is a lack of capacity to transform it into information. And data reveals its value only when translated into information and shared. There are several possible responses to this issue. The first and most obvious is to build capacity through education and training. Although good education may be seen from many angles as a laudable initiative, in this context it would create a new round of specialists and fail to provide any long-term solution. EO images are of particular value to users not necessarily experts in remote sensing. Such people do not know exactly what data they need; neither do they speak the jargon. To them EO imagery is a source of additional information in support of their daily professional activities. Ideally, these professionals would like to use EO data as they use an Excel programme or a statistical software package, just as a tool. The unparalleled success of Earth viewers, particularly Google Earth and Microsoft's Virtual Earth, may produce an exponential growth in numbers of non-expert users of EO images. This group would be best served by availability of intelligent software that can be handled intuitively, like, for example, Google Earth. Of course, any such software should be reasonably priced, and perhaps shipped as a module to be added onto Microsoft Office or downloadable from open-source domains for free.

Business Model

Another barrier concerns the business model whereby EO data is brought to market. Many government officials, researchers and other users complain about the high price of EO products. As a result, what gets processed and analysed are often cheaper but inferior alternatives to expensive data, and this amidst an abundance of high-quality datasets which might contribute to sustainable solutions to the many problems now facing mankind. Such superior data remains locked away thanks to the rigidity of the business model. Of course, there are many arguments in favour of a business model based on revenue generation. And yes, it is true that the bankruptcy of communist economies proves the superiority of the free-market system. A free market flourishes, especially when the commodities traded are meant for individual use and pleasure. However, there do exist goods that supersede the level of private interest and serve society as a whole. Geo-information in general, and EO data in particular, are such goods. This is not to say that producers should dump their EO data on the market free of charge. For goodness sake, no! Many producers are private or privatised organisations subject to the judgement of stakeholders who the moment a quarterly financial statement is released rush to scrutinise the numbers in black on the final page. However, EO data is a resource the use of which transcends private gain; to date it has proved its indispensability in urban development, food production, public and private sanitation, combating poverty and halting environmental decay.

Who Pays

Each of the issues outlined above concern society as a whole, and within this framework EO data constitutes a strategic public resource which should be freely available. Of course, in principle nothing comes for free, every activity requires financial resources. The term "free" usually means that someone other than the user is paying. Who should foot the bill for high-quality EO data? When the beneficiary from use of a certain resource is the whole of society, the tab should naturally land on the common table. In practice this would mean establishing public-private partnerships allowing the public-sector to buy relevant datasets from private EO data providers and redistribute the data free of charge to certified users or the public in general. Such freely available EO data should be organised such that it is accessible to non-expert users. Seeing the enormous demand for remote-sensing data in developing countries, this model could work especially well in these areas. But given the deplorable state of many treasuries, it would be a charitable gesture on the part of public sectors in the north to act as sponsor.

Much EO data is already freely available. But download requires a fair amount of homework on the part of the non-expert because temporal and spatial coverage, specification of products and user interfaces are far from standardised. In addition, working from Africa often means aged computer technology and unreliable and slow internet. Here the ideal of downloading high-quality EO data free of charge using nothing more than a laptop computer attached to the internet is a very long way from current reality.