

By Sediqa Khatieb, South African National Biodiversity Institute

She stood at the back of the classroom watching as the students slowly milled in. She still found it hard to believe that she was actually training students in Geographical Information Systems (GIS). It wasn't such a long time ago, almost four years now, that she too was a student. Back then she'd abhorred the subject, found the concepts of raster and vector datasets completely baffling. It was not only the theory that confounded her. The practical sessions tested her patience – keyboards were thrown, tears shed and recriminations made. If she remembered correctly she'd once told a friend that she was pretty sure her lecturer was a succubus sent to earth to wreak havoc on her life.

She chuckled. She always did tend to the dramatic. Some might say overly so.

She'd come a long way since then. Now here she was about to stand before 20 students and impart knowledge. One of the concepts that she was determined to drill into her students' heads was the difference between latitude and longitude. She'd spent far too much time assisting panicky scientists to correctly plot the coordinates of some plant species. They often ran to her, eyes crazed, voices laced with fear when their plant species landed in the incorrect province or hemisphere.

"I don't understand. It's supposed to be in the Eastern Cape but its showing up in Kwa-Zulu Natal instead. What's wrong?"

It was for this reason that she'd spent a good proportion of yesterday afternoon attempting to find images that would best describe the differences between latitude and longitude. She'd eventually settled on an image of a ladder to describe latitude. The students were told to imagine latitude as horizontal rungs of a ladder. Even though each rung runs from right to left, the rungs are used to move up or down. From this the students were to infer that even though the lines of latitude went from East to West they measure distance from North to South.

For longitude she'd obtained images of telephone poles since lines of longitude run from the North to South Pole. Applying the same logic as the rungs of the ladder she hoped that from this analogy students would remember that although each line of longitude ran from North to South they measured distance from East to West.

The other concept that she badly wanted the students to remember was the issue of scale. People forgot that scale was a fraction and they often assumed that the larger the denominator the more detailed a map was. This wasn't the case. Just as a half of a pie was a bigger slice than a quarter so too did a map 1:10 000 hold more detail than a map of 1:50 000.

Once she was done with her short introduction to GIS she would hand over to her colleague. He would then take the students through a practical session of the Biodiversity GIS (BGIS) website. The concept behind the website was to allow for the free dissemination of biodiversity related information. The website not only allowed individuals to download shapefiles, reports and maps, but thanks to the

interactive mapping section individuals could perform basic analysis on data thus eliminating the need for expensive software.

The most innovative section of the website, the section that she was proudest of even though she had very little to do with its development, was the Land Use Decision Tool (LUDS). With this tool environmental practitioners could perform a basic Environmental Impact Assessment (EIA) on a selected parcel of land. All it took was three easy steps and out would pop a page that would loudly proclaim the vegetation status, soil type and names of various plant species found on that particular land parcel.

Of course the tool wasn't perfect. The website only provided a list of common plant species. The exact locations of rare or critically threatened species were never divulged. BGIS was after all a conservation unit and there was a real danger that if they released this type of information, poachers would swoop in and pillage the last of the remaining plants.

It was for this reason that students were always cautioned against using the churned out report exactly as is. The LUDS assessment was simply a first step in EIAs and practitioners were often instructed to ground-truth the information or hire a botanical specialist.

Her colleague's evangelism of the various merits of the website usually lasted till three in the afternoon. This was where they genially asked the students if there were any questions before ushering them back into the wild.