Essential Maths for Geoscientists: An Introduction, Paul I. Palmer. John Wiley & Sons, Chichester, UK. 2014. 218 pp. Price: US$ 99.95. ISBN 978-0-470-97194-9.

Mathematics and statistics are at the very core of the knowledge economy that we live in and the continued survival of life on Earth depends on our ability to extract information out of data. These days large volumes of data are being generated at short time intervals, so that we are forced to qualify them as big data. It is at this juncture that Paul Palmer's book seeks to make maths accessible to geologists, through simple puzzles and clear explanations. The focus of the book is 'the application of mathematics to scientifically relevant problems'.

Maths has always been the Achilles Heel of geologists more so of the older generation, who have hardly had a chance do maths after their school days. Palmer piques interest through such simple questions like a pen and paper together cost £ 1.10. The pen costs £ 1 more than the paper. So how much does the paper cost? The answer is simple but unexpected by most.

At the outset the rhetorical question, 'How do you know that global warming is not a hoax?' is posed to provoke the readers to think about the scientific method. It is also used as a base on which the remaining parts of the book are built up – explaining how maths can resolve seemingly irresolvable natural problems, especially as related to climate change. The 11 chapters of the book bring together the essentials of mathematics to life, beginning with a preamble that sets the tone by discussing what scientific method really means, by citing Galileo's experimental techniques of the 16th century to Karl Popper's falsification of hypothesis by empirical evidence. Then it moves on through algebra, equation-solving, logarithms and exponentials, uncertainties, errors and statistics to trigonometry, vectors, differential and integral calculus. The answers to problems help the reader check his skills in maths and the brief note on Excel gives some tips on using the spreadsheet effectively. Though statistics is dealt with in passing, the discerning reader would be advised to refer to Schuenemeyer and Drew's *Statistics for the Earth and Environmental Scientists* published by John Wiley for an in-depth understanding. The best practices boxes add value to the book and focus attention on the essentials that often get overlooked by students, like adding labels to axes in graphs and mentioning the units of measures, etc. These boxes also highlight the amazing symmetry in nature, like the golden rectangles whose 'ratio of the sides is always the same and is referred to as the golden ratio φ' and the golden spirals which are derived from these, exemplified by the lowly snail shell to the seeds in a sunflower to the heavenly spirals in a galaxy. The exercises at the end of each chapter jog the mind and allow concepts to crystallize.

All in all this short, lucidly written and profusely illustrated textbook is ideal for students and teachers of earth science to brush up on their long-lost maths. The book can also make boring journeys exciting; carry it along instead of your favourite fiction, and at the end of the journey you will know your exponential equations and anatomy of your favourite triangles.

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