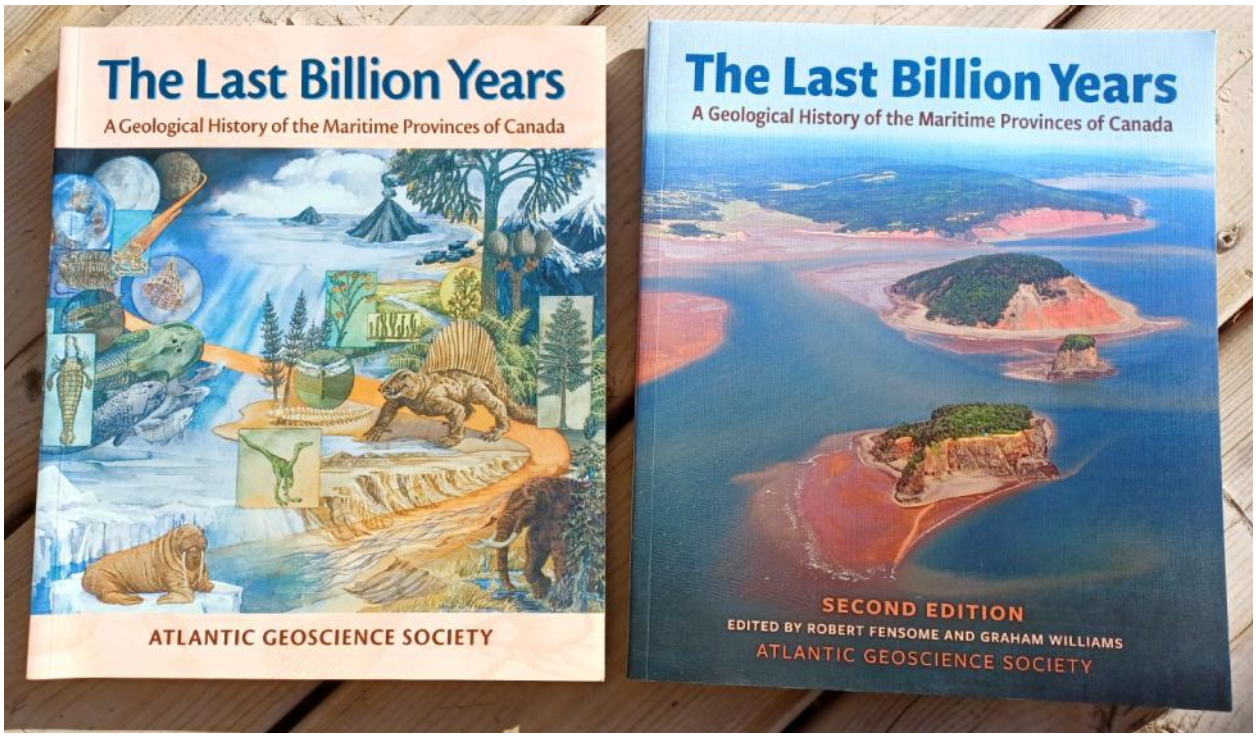
**Fensome,R.A. and Williams,G.L. (editors)**

# The Last Billion Years:
# A Geological History of the Maritime Provinces of Canada. 2nd edition.

*Atlantic Geoscience Society / Nimbus Publishing Ltd, Halifax, Nova Scotia, 260pp. (2022).*

*No doubt some of you have the first edition – the second edition is not solely an introduction to the geology of the Maritimes, it is a wonderfully illustrated primer on the geosciences!*

Order from Nimbus here: https://nimbus.ca/store/the-last-billion-years.html




Contents, as summarized
In MINLIB database keywords:

MINLIB 1/2: **Popular, beautifully illustrated and colourful account of the geology of Maritime Canada - Nova Scotia, New Brunswick and Prince Edward Island** - the original 9-chapter review of 2001 is now augmented by 2 additional chapters on natural hazards and the Anthropocene, the last 2 original chapters (Quaternary geology and mineral resources) are swapped around, and, most notably, 11 text boxes are added to complement the 11 chapters, presenting a little extra detail without burdening the main text - 1) introductory geology - structure of the Earth - orogeny - structural geology - types of rocks - plate tectonics - paleoclimatology - Snowball Earth - glaciation –

TB1) structure of the Earth - core, mantle and crust - lithosphere, hydrosphere and atmosphere - planetary science - TB2) mineralogy - zeolites, gypsum - 2) geologic time - relative and absolute time - stratigraphy - geochronology - age dates - TB3) geophysics and remote sensing - sonar and LiDAR –

paleobiology, review on pp.50-74, chapter 3) fossils and microfossils - time chart of main Phanerozoic zoological groups (p.54) - corals, trilobites, bivalves - time chart of vertebrates (VPal, p.59) - Dimetrodon - time chart for mammals (p.63) - time chart for plants (p.67) - paleobotany - preservation - the fossil record – horsetails - 4) the Precambrian - BIF - microcontinents - the Proterozoic - the Grenville province - breakup of Rodinia- maps - TB4) seven biographical vignettes - history of science - women in science - Abraham Gesner, appointed provincial geologist for New Brunswick in 1838 - hydrocarbons - albertite - John William Dawson - paleobotanist Marie Stopes - 5) Cambrian, Ordovician, Silurian and Devonian life – Ganderia - Iapetus ocean - Avalonia - South Mountain batholith - graptolites and stromatoporoids- TB5) of magma and granite -Peggys Cove - TB6) fossil fish -

6) the Carboniferous - closure of the Iapetus and Rheic oceans - the Maritimes basin - paleogeography - evaporites - maps - peat and coal - energy resources - horsetails - fossil plants - the Permian - TB7) salt and gypsum - industrial minerals (pp.138-142) - TB8) geomorphology - rivers through time (pp.143-146) - fluvial sediments - 7) breakup of Pangea - plate tectonics - the Fundy basin - fossils of the Triassic and Jurassic - ancestral mammals (stem mammals) - Wasson Bluff near Parrsboro -VPal- late Jurassic paleogeography - Chalk seas of the Cretaceous - the KT boundary (pp.160-161) - the Cenozoic and the Age of Mammals - Cenozoic O isotope record (p.154) –

8) Quaternary geology - Ice Ages – glacial geology - geomorphology – erratic - O isotopes in the Quaternary (p.171) - moraines and roches moutonnėes (glacial landforms) - drumlins and eskers - varved sediments - glacial striations - paleoclimatology - arrival of humans - native peoples of the region - archaeology - ice cover - surface temperatures - TB9) shorelines and coastal landforms (pp.188-193) - 9) mineral resources - Au deposits - Fe deposits - VMS deposits - history of mining - industrial minerals - land and gravel - aggregates - energy resources - coal and petroleum - water resources and hydrogeology (pp.214-216) –

TB10) building stones - fieldstone - dimension stone - sandstone and granite - gravestones - 10) natural hazards - earthquakes – geophysics and seismology - turbidites - landslides - geochemical hazards - arsenic - radon - Rn - rare gases - 11) human activities (the Anthropocene) - coal and the Sydney tar ponds - pollution - toxins - mine tailings - garbage and landfills - greenhouse gases –

TB11) time scales and location maps, a handy reference (pp.243-245) - references and acknowledgements - a "backpack" of additional readings, resources and events - detailed index.