# The Deep Hot Biosphere The Myth Of Fossil Fuels

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*The Deep Hot Biosphere The Deep Hot Biosphere | Wikipedia audio article The Deep Hot Biosphere The Myth of Fossil The Deep Hot Biosphere The Myth of Fossil Fuels* Review: The Deep Hot Biosphere: The Myth Of Fossil Fuels **Eugene Bagashov's UltraDeep Biosphere: Part One** *The Abiogenic Theory of Oil and Natural Gas Scientists Have Discovered A Vast Living Biosphere Hidden Deep Beneath The Earth's Surface* **Freeman Dyson on Tommy Gold, hearing mechanism, and abiogenic oil Hydrocarbons in Deep Earth?** ~~There's a Subterranean Biosphere Hiding in the Earth's Crust and It's MASSIVE~~ ~~Is There A Shadow Biosphere? Searching For Life On Earth That Isn't Related To Us~~ *Great Animation Shows How Deep Humans Dug Into The Earth* ~~Petroleum refining processes explained simply~~ MASSIVE Ocean of Water Found 620 Miles Below Earth's Surface ~~Who are you, really? The puzzle of personality | Brian Little~~ ~~Biosphere ? - Dropsonde ~ full album~~ 4K | Biosphere Full - Director's Extended Cut Questions No One Knows the Answers to (Full Version) ~~David Skrbina on Ted Kaczynski, Technological Slavery, and the Future of Our Species - Episode #7~~ ~~7 Mysteries Science Hasn't Solved~~ What is PRIMORDIAL SOUP? What does PRIMORDIAL SOUP mean? PRIMORDIAL SOUP meaning \u0026 explanation **DARCLIFE - Exploring the deep biosphere The mysterious microbes living deep inside the earth -- and how they could help humanity | K. Lloyd** *AGU Cinema 2017: Exploring the Temperature Limit of Life in the Deep Biosphere Robert Hazen: Studying Carbon and the Earth* Chikyu TV Vol.1 DEEP HOT BIOSPHERE (1) ~~Eukaryotic opportunists dominate the deep-subsurface biosphere in South Africa~~ ~~The Ugly Artist - Preliminaries, Planning the First New Painting and Wine!~~ ~~The Philosophy of Ted Kaczynski: Anti-Tech Revolution 1/2: The Later Unabomber~~

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The Deep Hot Biosphere The
The "deep hot biosphere" hypothesis would explain the thermophiles, the minerals and the oil Swedish drillers found in 1990 under rock where no one expected them. The hot goo and massed gas far under our feet would also explain some mysterious historical earthquakes (notably the New Madrid, Mo., shocker of 1811), and it would tell puzzled geologists why so many oil reserves just happen to sit underneath coal fields.

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The Deep Hot Biosphere: The Myth of Fossil Fuels: Thomas ...
There are strong indications that microbial life is widespread at depth in the crust of the Earth, just as such life has been identified in numerous ocean vents. This life is not dependent on solar energy and photosynthesis for its primary energy supply, and it is essentially independent of the surface circumstances. Its energy supply comes from chemical sources, due to fluids that migrate ...

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The deep, hot biosphere | PNAS
In the The Deep Hot Biosphere, Thomas Gold sets forth truly controversial and astonishing theories about where oil and gas come from, and how they acquire their organic "signatures." The...

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The Deep Hot Biosphere: The Myth of Fossil Fuels by Thomas ...
The conditions of this deep and hot biosphere also exist on most planets in the solar system and probably have evolved similar subsurface life forms. Gold touches briefly on the implications of this theory; that the world will effectively never run out of hydrocarbons because the amounts are so massive and pervasive.

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The Deep Hot Biosphere: The Myth of Fossil Fuels by Thomas ...
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The Deep Hot Biosphere: The Myth of Fossil Fuels - Thomas ...
Work Description. This book sets forth a set of truly controversial and astonishing theories: First, it proposes that below the surface of the earth is a biosphere of greater mass and volume than the biosphere the total sum of living things on our planet's continents and in its oceans. Second, it proposes that the inhabitants of this subterranean biosphere are not plants or animals as we know them, but heat-loving bacteria that survive on a diet consisting solely of hydrocarbons that is ...

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The deep hot biosphere (2001 edition) | Open Library
Initially, we learned about the deep, hot biosphere from cultivation of taxa in fluids sampled from oil wells, mines, caves, and geothermal and hydrothermal environments, among others (39 ? ? –42). Since Gold's call to probe the deep biosphere, increased access and sampling of subsurface environments in terrestrial and marine environments through drilling projects and increased collaboration with industrial partners have resulted in substantial expansion of the known microbial taxa ...

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The deep, hot biosphere: Twenty-five years of ...
The Deep Hot Biosphere theory was proposed by the scientist astrophysicist, astronomer and cosmologist Thomas Gold (1920-2004). It concerns of a microbial biosphere that exists at depth, profuse both within the Earth and probably other planets, feed by primordial and abiotic hydrocarbons, mainly methane and

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Unconventional Geology: The Deep Hot Biosphere
The Deep Hot Biosphere. In a 1992 paper "The Deep Hot Biosphere" in the Proceedings of the National Academy of Sciences, Gold first suggested that microbial life is widespread in the porosity of the crust of the Earth, down to depths of several kilometers, where rising temperatures finally set a limit. The subsurface life obtains its energy not from photosynthesis but from chemical sources in fluids migrating upwards through the crust.

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Thomas Gold - Wikipedia
The Deep Hot Biosphere. In a 1992 paper "The Deep Hot Biosphere" in the Proceedings of the National Academy of Sciences, Gold first suggested that microbial life is widespread in the porosity of the crust of the Earth, down to depths of several kilometers, where rising temperatures finally set a limit. The subsurface life obtains its energy not ...

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Thomas Gold - Wikipedia
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The Deep Hot Biosphere: The Myth of Fossil Fuels | Thomas ...
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The Deep Hot Biosphere | SpringerLink
The deep, hot biosphere. Gold T(1). Author information: (1)Cornell University, Ithaca, NY 14853. There are strong indications that microbial life is widespread at depth in the crust of the Earth, just as such life has been identified in numerous ocean vents.

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The deep, hot biosphere.
The deep biosphere is the part of the biosphere that resides below the first few meters of the surface. It extends down at least 5 kilometers below the continental surface and 10.5 kilometers below the sea surface, at temperatures that may reach beyond 100°C.

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Deep biosphere - Wikipedia
Thomas Gold presents interesting and controversial theories concerning the origins of petroleum hydrocarbons and the abundance of deep-subsurface microbial life in his book, The deep hot biosphere. Essentially, the book expounds upon ideas that Gold originally presented in a PNAS paper in 1992 (Proceedings of the National Academy of Sciences 89:6045-6049).

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The deep hot biosphere. - Free Online Library
The theory proposes answers to often-asked questions: Is the deep hot biosphere where life originated, and do Mars and other seemingly barren planets contain deep biospheres? Even more provocatively, is it possible that there is an enormous store of hydrocarbons upwelling from deep within the earth that can provide us with abundant supplies of gas and petroleum?

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Could there exist, deep within the Earth's crust, asecond biosphere -- composed of very primitive,thermophilic (heat-loving) bacteria, and containing moreliving matter than the entire surface of the planet? Thisradical idea, which initially met with skepticism when itwas first proposed by the author in the early 1980s, isnow supported ......

A comprehensive guide to carbon inside Earth - its quantities, movements, forms, origins, changes over time and impact on planetary processes. This title is also available as Open Access on Cambridge Core.

Deep subsurface microbiology is a highly active and rapidly advancing research field at the interface of microbiology and the geosciences; it focuses on the detection, identification, quantification, cultivation and activity measurements of bacteria, archaea and eukaryotes that permeate the subsurface biosphere of deep marine sediments and the basaltic ocean and continental crust. The deep subsurface biosphere abounds with uncultured, only recently discovered and – at best - incompletely understood microbial populations. In spatial extent and volume, Earth's subsurface biosphere is only rivaled by the deep sea water column. So far, no deep subsurface sediment has been found that is entirely devoid of microbial life; microbial cells and DNA remain detectable at sediment depths of more than 1 km; microbial life permeates deeply buried hydrocarbon reservoirs, and is also found several kilometers down in continental crust aquifers. Severe energy limitation, either as electron acceptor or donor shortage, and scarcity of microbially degradable organic carbon sources are among the evolutionary pressures that have shaped the genomic and physiological repertoire of the deep subsurface biosphere. Its biogeochemical role as long-term organic carbon repository, inorganic electron and energy source, and subduction recycling engine continues to be explored by current research at the interface of microbiology, geochemistry and biosphere/geosphere evolution. This Research Topic addresses some of the central research questions about deep subsurface microbiology and biogeochemistry: phylogenetic and physiological microbial diversity in the deep subsurface; microbial activity and survival strategies in severely energy-limited subsurface habitats; microbial activity as reflected in process rates and gene expression patterns; biogeographic isolation and connectivity in deep subsurface microbial communities; the ecological standing of subsurface biospheres in comparison to the surface biosphere – an independently flourishing biosphere, or mere survivors that tolerate burial (along with organic carbon compounds), or a combination of both? Advancing these questions on Earth's deep subsurface biosphere redefines the habitat range, environmental tolerance, activity and diversity of microbial life.

The origin of life from inanimate matter has been the focus of much research for decades, both experimentally and philosophically. Luisi takes the reader through the consecutive stages from prebiotic chemistry to synthetic biology, uniquely combining both approaches. This book presents a systematic course discussing the successive stages of self-organisation, emergence, self-replication, autopoiesis, synthetic compartments and construction of cellular models, in order to demonstrate the spontaneous increase in complexity from inanimate matter to the first cellular life forms. A chapter is dedicated to each of these steps, using a number of synthetic and biological examples. With end-of-chapter review questions to aid reader comprehension, this book will appeal to graduate students and academics researching the origin of life and related areas such as evolutionary biology, biochemistry, molecular biology, biophysics and natural sciences.

Shrouded by the thick clouds of hot, dense atmosphere, the planet Venus - Earth's closest neighbour in space - remained mysterious until recent decades. Today, with data from contemporary observations and from Russian and American spacecraft, Venus has moved into sharper focus. This comprehensive book provides an up-to-date and detailed analysis of the nature of Venus. The authors, experts in planetary science from Russia and the United States, examine all the principal aspects of Venus, with particular attention paid to the planet's formation, the development of a runaway greenhouse effect, and Venus' evolution into a planet completely different from others in our solar system. Integrating data from Galileo, Magellan, Pioneer-Venus, Venera sand other space missions, this book summarizes the history of Venus, covers the atmosphere, geomorphology and tectonic history of the planet, and considers its geology.

"Vladimir Vernadsky was a brilliant and prescient scholar-a true scientific visionary who saw the deep connections between life on Earth and the rest of the planet and understood the profound implications for life as a cosmic phenomenon." -DAVID H. GRINSPOON, AUTHOR OF VENUS REVEALED "The Biosphere should be required reading for all entry level students in earth and planetary sciences." -ERIC D. SCHNEIDER, AUTHOR OF INTO THE COOL: THE NEW THERMODYNAMICS OF CREATIVE DESTRUCTION

There is little dispute within the scientific community that humans are changing Earth's climate on a decadal to century time-scale. By the end of this century, without a reduction in emissions, atmospheric CO2 is projected to increase to levels that Earth has not experienced for more than 30 million years. As greenhouse gas emissions propel Earth toward a warmer climate state, an improved understanding of climate dynamics in warm environments is needed to inform public policy decisions. In Understanding Earth's Deep Past, the National Research Council reports that rocks and sediments that are millions of years old hold clues to how the Earth's future climate would respond in an environment with high levels of atmospheric greenhouse gases. Understanding Earth's Deep Past provides an assessment of both the demonstrated and underdeveloped potential of the deep-time geologic record to inform us about the dynamics of the global climate system. The report describes past climate changes, and discusses potential impacts of high levels of atmospheric greenhouse gases on regional climates, water resources, marine and terrestrial ecosystems, and the cycling of life-sustaining elements. While revealing gaps in scientific knowledge of past climate states, the report highlights a range of high priority research issues with potential for major advances in the scientific understanding of climate processes. This proposed integrated, deep-time climate research program would study how climate responded over Earth's different climate states, examine how climate responds to increased atmospheric carbon dioxide and other greenhouse gases, and clarify the processes that lead to anomalously warm polar and tropical regions and the impact on marine and terrestrial life. In addition to outlining a research agenda, Understanding Earth's Deep Past proposes an implementation strategy that will be an invaluable resource to decision-makers in the field, as well as the research community, advocacy organizations, government agencies, and college professors and students.