



Global Climate Change and Biodiversity



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We inhabit a vibrant, living world, one inhabited by millions of kinds of other organisms that have historically initially created the environment of this living earth and continue to function collectively in such a way as to maintain those conditions and thus make our lives here possible. In the 4.54 billion year history of our planet, the process of photosynthesis, by which a small proportion of the Sun's energy, bombarding the earth continuously, is transformed into the energy of chemical bonds, plays a central role. this process originated as much as 3.5 billion years ago, and began transforming the character of the atmosphere immediately. Photosynthesis forms the basis of life on earth by forming a store of energy in living cells. In turn, that energy powers the life processes of the organisms that initially capture and transform it, and indirectly also makes possible the lives of all other organisms, which feed on them, prey on them or on one another, parasitize them, or live from the products of their decay. Thus from carbon dioxide, a minor component of our atmosphere, and water, both relatively abundant on earth as compared with other planets, photosynthesis builds simple sugars that are then transformed by the chemistry of living cells into all of the other essential components of life. All living organisms depend on this process, directly or indirectly.

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