

How to make an ocean planet habitable

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Since the first discovery in 1995, over 3,500 exoplanets have been identified so far. Some of them are known to have the similar sizes as the Earth and be located in the “habitable zones” around the central stars. These exoplanets could have water on the surface—they are called “ocean planets.” Even though we have found many ocean planets, however, we do not know whether they are *really* habitable or not. Earth, the only planet known to harbor life, has ocean on the surface, but the amount of water is subtle (~0.023 wt% of the Earth). Recent studies insisted that the proper amount of water—not too much, not too little—is essential to generation and evolution of life. Therefore, it is important to understand why Earth has got such a small amount of water to answer the question “how to make an ocean planet habitable?” I will review the general water supply process to terrestrial planets, and discuss the existence and observability of habitable exoplanets.

Keywords: Earth, ocean, exoplanet, habitable