# An Observational Signature of Evolved Oceans on Extrasolar Terrestrial Planets

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The increase in luminosity with time of a main sequence star eventually can lead to substantial evaporation of the oceans on an orbiting terrestrial planet. Subsequently, the gas-phase $H_2O$ in the planet's upper atmosphere can be photodissociated by stellar ultraviolet and the resulting atomic hydrogen then may be swept away by the stellar wind. This gaseous envelope may pass in front of the host star and produce transient, detectable ultraviolet absorption in the Lyman lines in systems older than 1 Gyr.



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