Earth Observing System (EOS) is a centerpiece of NASA's Earth Science Enterprise. It consists of a science component and a data system supporting a series of satellites for long-term global observations of the land surface, biosphere, solid Earth, atmosphere, and oceans. As advanced new generation of satellites central to NASA's EOS program, Terra and Aqua carry the MODIS instrument, which generated the world's first global products of LAI and FPAR. These variables are crucial in characterizing vegetation canopy functioning; the vegetation, in turn, exerts strong controls over global change processes. These products make it possible to differentiate short-term from long-term trends, as well as distinguish regional from global phenomena, thus quantitatively and accurately monitor the vegetation dynamics and its impact on global change. The research presented in this dissertation suggests how the product quality has gradually improved largely through the efforts of validation activities. The Amazon case study highlights the utility of the data sets for monitoring global vegetation dynamics. Thus, it can be seen as a benchmark for evaluation of future versions of similar products.

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Benchmark for evaluation of similar products

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