Atmospheric CH_4 and N_2O measurements at Suva, Fiji

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The researchers from the University of the South Pacific developed the in-house capacity to measure CH_4 and N_2O using GC-FID and GC-ECD respectively. A series of clean air samples were collected from a coastal site near Suva, Fiji (18°08'S, 178°26'E). The precision for CH_4 measurements is 4 ppbv and for N_2O measurements is approximately 2 ppbv. The seasonal cycles of both greenhouse gases observed are similar with a seasonal amplitude of approximately 30 ppbv. However some variability is observed during the summer months in the methane dataset which demands further investigation. Unfortunately the N_20 data set is very recent and does not extend back to the previous summer months. The datasets obtained at this site will be compared to other sites such as South Pole and Samoa. The dataset looks very appreciable although it needs to be verified through inter-laboratory comparisons. This site is quite interesting due to complex tropical meteorology in the region affecting transport of methane from the Northern into Southern Hemisphere.