

Balloon-borne Ozone Measurements from a New Station in Palau

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The West Pacific warm pool has been identified as the major source region for stratospheric air, coinciding with a tropospheric ozone minimum (Rex et al. 2014). To improve the limited availability of tropospheric ozone profiles from this key region, intensive campaigns and continuous measurements with ECC ozone sondes have been conducted at a new measurement station in Palau (7° N, 135° E) within the scope of the EU-project StratoClim since early 2016. We present insights from the first year of balloon-borne measurements (Fig. 1) and campaign highlights from January/February 2016 and during POSIDON.

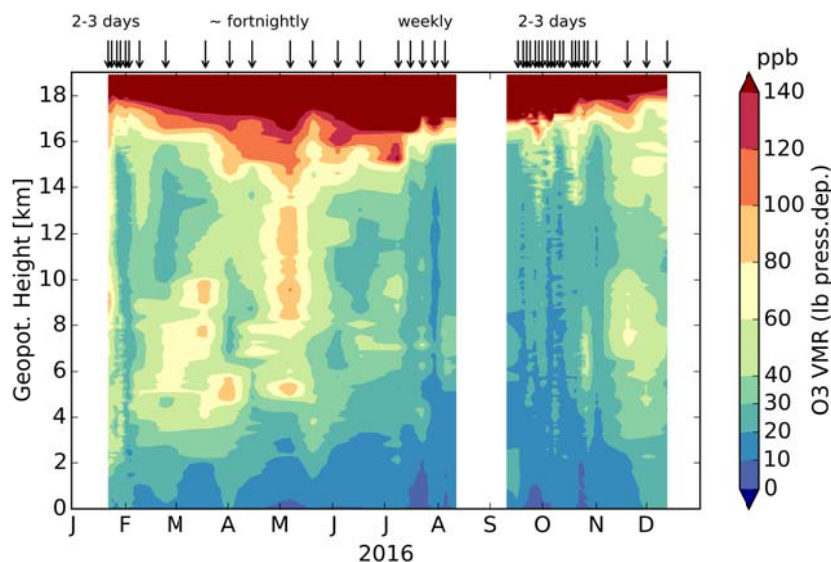


Fig.1: Time-height cross-section for tropospheric ozone volume mixing ratios (VMR) from ECC balloon measurements in Palau for 2016.

In addition, our experimental efforts to improve the understanding of the controversial background current in ECC ozone sondes are shown, as well as our current progress in ATLAS model simulations of SO₂ transport in the region.

References

Rex, M., Wohltmann, I., Ridder, T., Lehmann, R., Rosenlof, K., Wennberg, P., Weisenstein, D., Notholt, J., Krüger, K., Mohr, V., Tegtmeier, S. *Atmos. Chem. Phys.* 2014, 14, 4827-4841.