

SAVER-Net project: international collaboration to construct Ozone/UV and aerosol observation network

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SAVER-Net (South American Environmental Risk Management Network) is a trilateral international collaboration among Japan, Chile, and Argentina supported under the JST-JIICA SATREPS program. The major aim of the project is establishing observation network of UV/ozone and aerosols over Chile and Argentina where was a blank area of measurement stations on a global scale. The project was finished this year after 5 years of implementation. Thirty-six pre-existent and newly installed UV radiometers distributed over Chile and Argentina were connected on-line. All UV observational data were compiled into a common information platform called GeoUV and risk information/alert is released to the registered users. Ozone monitoring capability at the southern end of the South American continent, i.e. at Rio Gallegos in Argentina and Punta Arenas in Chile, was consolidated to make a comprehensive study of ozone hole. A Differential Absorption Lidar (DIAL), a millimeter-wave spectrometer, Brewer spectro-photometer, and ozone sonde were used for the continuous monitoring, and detailed vertical profiles around the edge of ozone hole from the ground to the mesosphere were obtained and analyzed through several campaign observations. For the aerosol measurements, 9 lidar stations including 2 high spectral resolution lidars were constructed to observe volcanic ash, mineral dust, forest fire smoke, and anthropogenic air pollution. We detected volcanic ashes from Calbuco eruption in 2015 and several Patagonian dust events, and those events are studied through comparison with a transport model, FALL3D. All the observed data both of UV/ozone and aerosols are archived at the data center in Buenos Aires and shared with mirror servers in Japan and Chile. We will continue measurements with the network after the project period and provide the data to relevant international communities.

In the presentation, we will report the major results during these five years and discuss the future prospect and potential of expansion of this collaboration.

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