Cities on Volcanoes 9
November 20-25, 2016
Puerto Varas, Chile
'Understanding volcanoes and society: the key for risk mitigation'

30 years of monitoring and research volcanic activity in Colombia: the experience of early warnings

López-Vélez, C. M. [1]; **Calvache M.L.** [1]; **Cortes G. P**[1]; **Gómez D.M**[1]; **Agudelo A. P**[1]; **Cadena O I. Santacoloma C.** [1]

[1]Servicio Geológico Colombiano
Monitoring, Risk Management, Volcanic Crisis, Volcano Observatories, Volcanic Eruption.

The volcanic monitoring and research in Colombia began after seismicity at Nevado del Ruiz volcano increased on December 1984, in that moment, INGEOMINAS (now SGC) requested seismometers and scientific support to USGS. Later, an electric power company – ISA provided some portable seismological stations and through the cooperation of different institutions, the four portable seismic stations network was achieved. The first station was in operations on July 20, 1985. On April 1, 1986 was officially created the first Volcanological Observatory of Colombia - INGEOMINAS, located in Manizales. Later, after the reactivation of Galeras volcano between 1988 and 1989, the Volcanological and Seismological Observatory of Pasto was officially created. It monitors and investigates 7 of the 21 active volcanic structures in Colombia. Likewise, and as an important step in volcanic risk management, without passing a volcanic reactivation was created in 1993 the Volcanological and Seismological Observatory of Popayan. The volcano research and monitoring have been also the source of formation of human resources in Colombia. The SGC with the three volcano observatories in collaboration with local universities, have been the source of most of the scientist and technicians in the field of volcanology, seismology, geodesy, geochemistry, among others. Nowadays, the SGC monitors and investigates 21 active volcanoes, divided into three volcanic segments, through its three Volcanological Observatories. For that, the SGC has more than 600 stations between geophysical, geochemical and geodetic stations. Thanks to these advances the SGC has been able to face successfully different volcanic crisis in the country, with an emphasis of communication and social appropriation of knowledge. The SGC have 30 years of experience in the systems of early warning, which have been used in these thirty years of experience.