“Plinian” volcanic eruptions have large erupted masses, reach deeply into the stratosphere and injected volatiles that have been released during the eruptions into the atmosphere where they can facilitate changes of the atmospheric chemistry as well as the climate. Since in the past research has been focused on the sulfur and chlorine emissions during such large eruptions we use the advantage of the synchrotron radiation to also measure the heavy halogen Bromine in deposits from past Plinian eruptions. Bromine is thought to be hundreds of times more effective regarding its capability to destroy ozone and additionally can be accumulated over longer time scales. Our case study is based on the deposits of 22 eruptions from the Central American Volcanic Arc (CAVA) within the last 200 ka. Combining our unique dataset of eruptive masses from the CAVA with the new measured halogens of this study ("petrological method") provides the first time degassed minimum masses of bromine that have been injected directly into the stratosphere. During the past 200 ka, CAVA volcanoes have emitted a cumulative mass of 3.2 Mt of Br through highly explosive eruptions. On average, each of the remaining 22 CAVA eruptions studied have discharged c.100 kilotons of bromine. There are six periods in the past (c. 2ka, 6ka, 25ka, 40ka, 60ka, 75ka) when up to four larger eruptions occurred within several hundred years. Together with the also emitted high Chlorine amounts this periods can be seen as potential candidates for palaeo-ozone holes, at least, in a regional scale.