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Spatial distribution of U-Pb ages across a basement uplift in the Northern Andes and its implications for the interpretation of the detrital record in adjacent basins.

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Foreland basins represent a unique record of the evolution of mountain building processes in the adjacent hinterland. In the southern Colombian Andes and the adjacent foreland basin (i.e. Caguán-Putumayo Basin) no detrital U-Pb and heavy mineral studies have been conducted. This is due to the fact that the geochronological characterization of the basement rocks is poor, complicating the interpretation of source areas for provenance analysis. Here we present a complete provenance study using U-Pb and Heavy mineral data. In order to gain a better understanding of the spatial distribution of the different potential basement sources we planned a characterization of the different basement provinces west of the Caguan-Putumayo basin. Here we present results from samples of active sediments (N=21), basements (N=16) and sedimentary rocks (N=4) older than Cretaceous. This characterization allowed the identification of eight (8) different domains with different age ranges. (1) The southern part of the Central Cordillera with populations of 150 - 250 m.y., (2) Southern part of the eastern flank of the Eastern Cordillera with ages around 150 - 180 m.y., (3) south of the Garzón Massif with age ranges between 1000 - 1150 m.y, (4) north of the Garzón Massif where rocks of 1500 m.y. dominate, (5) Paleozoic sedimentary rocks above the basement to the north of the Garzón Massif and the Serrania de la Macarena with a distinct population of 1300 m.y, (6). The basement of the Serrania de la Macarena with ages between 1650-1800 m, (7). The Serranía de Lindosa with ages around 500 m.y and (8). Amazonian Craton with ages between 1500 - 2000 m.y. Additionally, the relationship between Epidotes and Garnets displays a special behavior in each area. The provinces related to the Garzon Massif have a high amount of Garnets and low amount of Epidotes. On the other hand, the behavior of the areas away from the Garzon Massif is different. Based on the U-Pb detrital signal and the

Epidote/Garnet relationship, we suggest that the stratigraphic intervals where we observe ages between 1000 and 1150 m.y. for the first time and high Garnet contents reflect uplift peaks of the Garzon Massif.