

## LITHOSCOPE EXPERIMENT IN NORTHERN ECUADOR : PRELIMINARY RESULTS

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### INTRODUCTION

From December 1994 to May 1995, 54 short period seismic stations from the French Lithoscope network, (19 stations 3C, 35 stations 1C) have been operating in the Northern part of the Ecuadorian Andes ( $0^{\circ}$  to  $1^{\circ}30'S$ ,  $77^{\circ}20'W$  to  $79^{\circ}20'W$ ), along five profiles : 3 North-South profiles at  $77^{\circ}40'W$ ,  $78^{\circ}30'W$ ,  $79^{\circ}20'W$  and 2 East-West profiles at  $0^{\circ}15'S$  and  $1^{\circ}15'S$ . Data of the national network (27 1C stations) of the Instituto Geofísico of the Escuela Politecnica Nacional of Quito have been incorporated to the Lithoscope data.

### DATA PROCESSING

The hypocenters have been located using HYPOINVERSE (Klein, 1978) with a crustal velocity structure represented by flat homogeneous layers based on an inversion model from local data (Prévot et al., 1996). Travel time is corrected for the elevation of the stations. From December 1994 to March 1995, 1011 local and regional events with more than 6 arrival times have been detected,





## REFERENCES

- Chatelain, J.-L., 1978. Etude fine de la sismicité en zone de collision continentale au moyen d'un réseau de stations portables : la région Hindu-Kush Pamir, Univ. Scient. Médic. de Grenoble, 219 p..
- Prévot R., Chatelain J.-L., Guillier B., Yepes H., 1996. Mapping of the P-wave velocity structure beneath the ecuadorian Andes, this volume.
- Klein, F.W., 1978. Hypocenter location program HYPOINVERSE, U. S. Geol. Surv., Open File Rep., 78-694.