

# 'DHABASI' megacraton of the southern Indian Shield: evidence from Precambrian large igneous province record

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The Indian Shield comprises five major Archean cratons which are grouped into northern and southern blocks. These two blocks are separated by the Central Indian Tectonic Zone (CITZ). The northern block consists of the Bundelkhand and Aravalli cratons, whereas, the southern block consists of the Dharwar, Bastar and Singhbhum cratons (inset figure in Fig 1). A number of distinct large igneous provinces (LIPs) are identified in all these Archean cratons (cf. Samal et al., 2021; Srivastava et al., 2022). Based on the precisely dated mafic dyke swarms (Fig. 1), two major LIP events (ca. 1.98 Ga Jhansi LIP and ca. 1.11 Ga Mahoba LIP) are identified in the northern block (particularly in the Bundelkhand craton), whereas southern block evidences several LIP events between ca. 3.35 Ga and ca. 1.05 Ga (Fig. 2). Many of these, at least eight, LIP events are reported in no less than two cratons of the southern block suggesting their likely connection for a period of time from 3.35 to 1.05 Ga (over 2300 Myr) as an integral part of a large landmass, which is proposed as a Precambrian megacraton 'DHABASI' consisting of the Dharwar, Bastar and Singhbhum (cf. Srivastava et al., 2022). This inference is further supported by very similar geological features such as Archean basement geology, Archean greenstone belts, Neoproterozoic-Paleoproterozoic granitoids and Paleoproterozoic intracratonic/rift basins. The proposed megacraton 'DHABASI' could be discrete "puzzle piece" for paleocontinental reconstructions through Earth's history since the Archean. Geochemical data on many of these LIPs indicate that they are a likely host for Cu-Ni-Cr-Co-PGE deposits.

Samal, A.K., Srivastava, R.K., Ernst, R.E. 2021. *Ore Geology Reviews*, 131, 102009; DOI: [org/10.1016/j.oregeorev.2021.104009](https://doi.org/10.1016/j.oregeorev.2021.104009)

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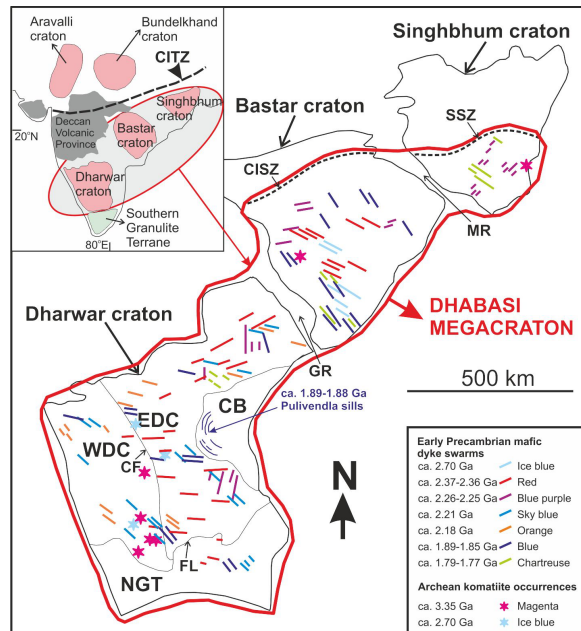


Figure 1: The 'DHABASI' megacraton of the Indian Shield showing contemporaneous magmatic occurrences.

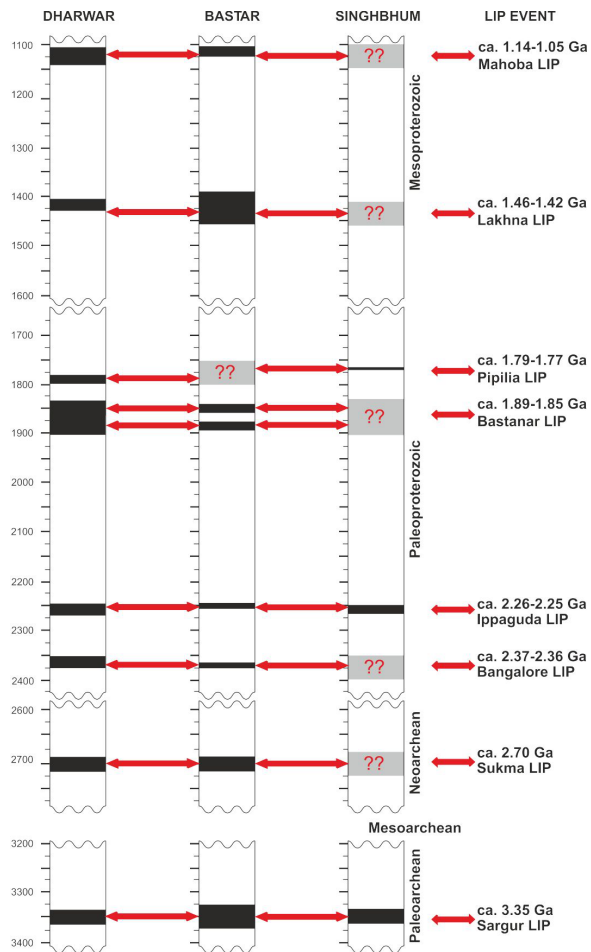


Figure 2: Age barcode diagram showing matching igneous events in the Dharwar, Bastar, and Singhbhum cratons.