

XXII INQUA INDIA 2027

FIELD GUIDE

INMID - 02

SUNRISE TO SUNSET OF LONG-TERM HUMAN CLIMATE INTERACTIONS IN THE OLDEST LIVING CITY OF VARANASI

Trina Bose, Akhilesh K Yadava,
Ishwar Chandra Rahi







बीरबल साहनी पुराविज्ञान संस्थान
Birbal Sahni Institute of Palaeosciences
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Field Guide Book

INMID-02

Sunrise to Sunset of Long-term Human Climate Interactions in the Oldest Living City of Varanasi

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Hailing from the old city of Varanasi and a family that travelled through Bengal, Bihar, and Uttar Pradesh for centuries, Trina Bose is deeply rooted in the Ganga Basin's history and geography. Her research primarily explores climate reconstructions and human activities through isotope biogeochemistry in heritage trees, initially focusing on ring-bearing trees and later extending to trees without proven rings via radiometric dating. Her additional interest lies in atmosphere-biosphere-lithosphere interactions and the physicochemical effects of meteorite impacts. With extensive fieldwork across central India and the Ganga-Brahmaputra basins, she is speech- and computationally multilingual, working across fields that blend multiple disciplines.



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Abstract

Varanasi, also called Kashi or Banaras, is one of the world's oldest continuously inhabited cities and a key sacred site for Hinduism, Buddhism, and Jainism. Located on a stable sedimentary escarpment along the western meander of the Ganga River, it was historically bounded by the Varuna and Assi tributaries. Situated within the Indo-Gangetic Basin, Varanasi has a productive, multi-tiered aquifer system. Old urban areas like the Pakka Mahal sit atop ancient archaeological layers. Sarnath, nearby, where Gautama Buddha gave his first sermon, has notable monuments, including the Dhamek Stupa and the Ashoka Pillar. The humid subtropical climate features cool, dry winters with dense fog, supporting unique urban flora and a large number of migratory waterbirds along the Central Asian Flyway, including endangered Ganga River Dolphins. With deep geological stability and rich ecological and spiritual traditions, Varanasi has thrived as a centre of civilisation for over 5,000 years.

Preamble

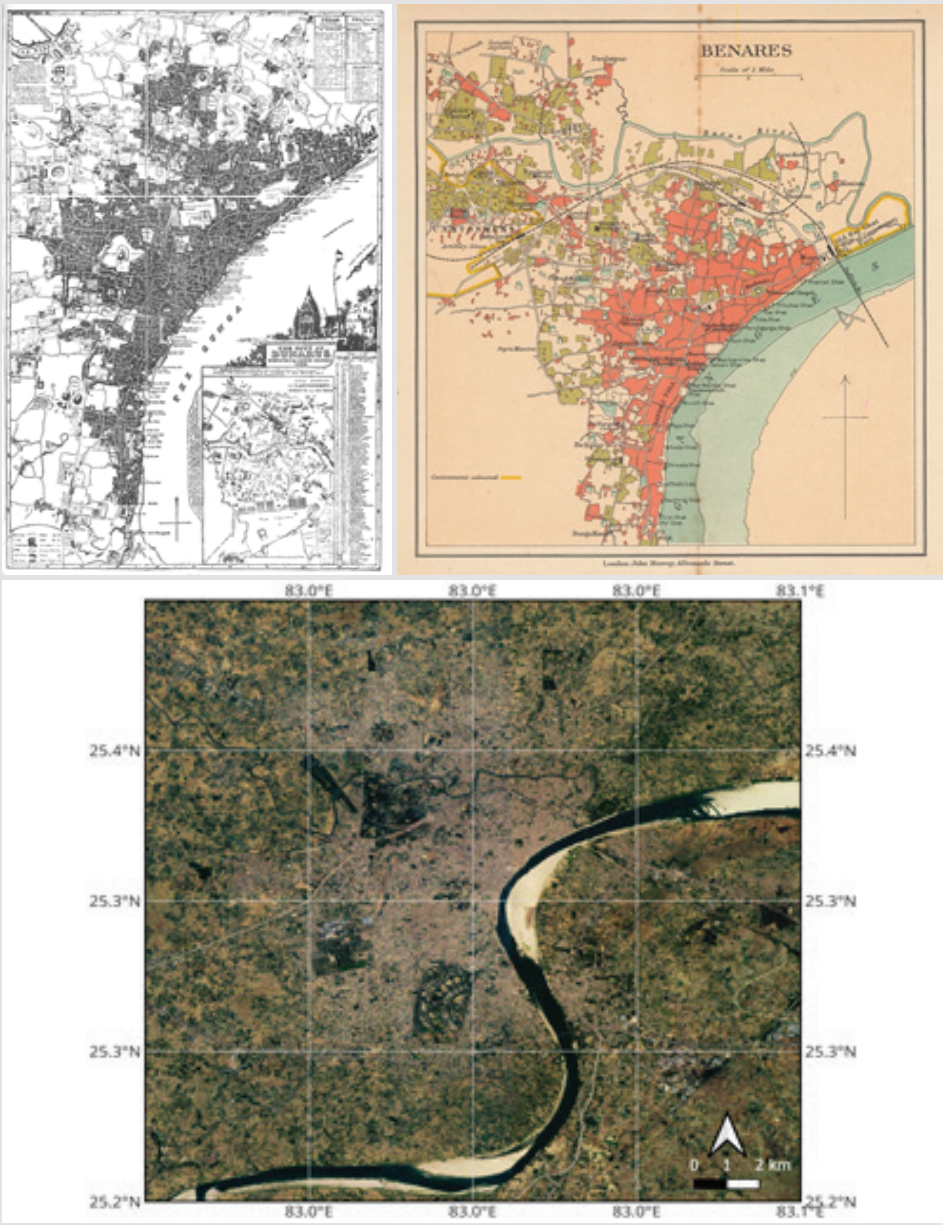


Fig. 1 Map of Banaras, Top Left. James Prinsep, 1822 (Singh, 1988); Top Right. John Murray, 1930 (themaphouse.com); Bottom. Present Map of Varanasi City

Varanasi, also known as Kashi, Banaras, or Benaras, is one of the oldest living cities in the world. Varanasi's unrivalled prominence in Hinduism, Jainism, and Buddhism, i.e., in the Sanatani scriptures, is comparable only to that of Jerusalem for the Abrahamic religions. Mark Twain, enthralled by the legend and sanctity of Benaras, once wrote: "Benaras is older than history, older than tradition, older even than legend and looks twice as old as all of them put together".

The city has been a centre of learning and civilisation for over 5000 years. It was one of the first major urban settlements in the Central Ganga basin. By the 2nd millennium BCE, Varanasi was a seat of Vedic religion and philosophy. The kingdom of Kashi was one of the Mahajanapadas, i.e., city-states, during the time of the Buddha, ~6th century BCE, who gave his first sermon nearby at Sarnath. The celebrated Chinese Buddhist pilgrim Xuanzang, who visited Varanasi about 635 CE, said that the city extended for about 5 km along the western bank of the Ganga.

The ancient city of Varanasi lies on a northward bend of the river Ganga, historically bound by tributaries Varuna on the north and Assi on the south and was initially populated primarily in a thin strip parallel to the Ganga riverbank. Over the last ~100 years, the city has expanded far beyond its original boundaries, engulfing many villages and taking on a more circular shape, with population increasing by ~10 times.

Research Problem or Objective

Led by locals-turned-researchers from Kashi, this field provides a geoarchaeological and local perspective on Varanasi, promoting interdisciplinary research for the conservation of geological and cultural heritage within just over a day.

Regional Geology

Varanasi is in the Indo-Gangetic Basin, a depression formed during the Late Paleogene to Neogene due to the Indian-Eurasian collision (Dewey & Bird, 1970; Singh, 1996; Yadav et al, 2024). Alluvial sediments thicken from north to south, with the basin's sediment thickness ranging from 0.5 to 1.0 km before reaching the Proterozoic basement or the Vindhyan rocks (Sastri et al., 1971; Shukla & Raju, 2008). Located on the northern edge of the Bundelkhand Craton's cratonic extension, hidden basement faults have influenced river courses, drainage, and subsidence during the Late Quaternary (Singh, 2004). A key geomorphic feature is the sharply entrenched NW meander loop of the Ganga River.

This is reflected in:

A. The High Escarpment - The Ghats: The city proper is strategically built on the western concave (cut bank) side of this meander bend. This creates a highly stable, continuous sedimentary cliff or bluff that rises 8 to 17 meters above the mean river level (Shukla, 2006).

B. The Eastern Bank - Ramnagar: By contrast, the convex eastern bank features a roughly 2 km long, massive, flat point bar, backed by a high cliff line further inland.

Boreholes reaching depths of 100–200 meters at locations such as DLW, Gurubagh, and Chowk-Thana reveal a cyclic pattern of shifts in sediment supply (Shukla & Raju, 2008), originating from two main sources: Himalayan provenance and Cratonic/Peninsular sources transported northward from the Vindhyan highlands.

The depositional layout follows a classic fining-upward cycle, with deep channel sands topped by muddy, silty clay horizons. The upper clay layers are mottled and contain Kankar, ferromagnesian nodules, and traces of bioturbation (Raju et al., 2011). The alternating sandy and muddy layers create a highly productive multi-tiered aquifer system in Varanasi (Shukla & Raju, 2008):

Flora, Fauna and Climate, weather conditions during the Field Excursion

The winter flora of Varanasi city (spanning November to February) is characterised by a distinct shift toward seasonal annuals, specialised urban wall flora, and cold-tolerant weeds that thrive under the sub-tropical, cool, dry conditions of the Middle Ganga Plain. Comprehensive floristic assessments of the Varanasi district highlight that the regional vegetation is largely dominated by three major families: Fabaceae, Asteraceae, and Poaceae, closely followed by Amaranthaceae (Singh, 2015). Varanasi's ancient architecture and brick ghats create unique vertical macro-habitats. Detailed studies on the city's vascular wall flora reveal that winter allows specialised non-woody therophytes to actively populate moisture-retaining brick crevices (Singh & Singh, 2014). Species such as Lindenbergia indica, Tridax procumbens, Justicia diffusa, and various seasonal grasses such as Apluda mutica and Eulaliopsis binata become highly visible along old masonry structures.



Fig. 2 Ficus benghalensis and Ficus racemosa growing on the vertical wall surface in the street of the Sankatmochan temple in Varanasi city (Singh & Singh, 2014).

The winter fauna of Varanasi city is defined by a dramatic seasonal influx of migratory birds and specific behavioural adaptations of riverine mammals, driven by the low-turbidity, low-volume aquatic conditions of the Middle Ganga Plain. The most striking seasonal event is the arrival of thousands of migratory waterbirds utilising the Central Asian Flyway. The exposed mid-Channel Islands, sandbars, and wetlands around the city provide ideal wintering habitats. The family Anatidae dominates the winter waters (Mohan, 2024). Prominent migratory species include the Brown-headed Gull (Chroicocephalus brunnicephalus) and Black-headed Gull, which famously throng the city's ghats. Other winter visitors include the Ruddy Shelduck (Tadorna ferruginea), Gadwall (Anas strepera), and Bar-headed Goose (Anser indicus). Endangered perennial species like the Indian Skimmer (Rynchops albicollis), Black-bellied Tern (Sterna acuticauda), Ganga River Dolphin (Platanista gangetica), and Smooth-coated Otter (Lutrogale perspicillata) use the exposed winter sandbars for roosting and foraging (Choudhary et al., 2012).

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Fig. 3 Migratory waterbirds on the Ganga in Varanasi

Varanasi's climate, classified as Humid Subtropical (Cwa) under the Köppen climate classification, features dry winters from late November to February, with sharp drops in radiation and significant atmospheric changes. January is the coldest month, with maximum temperatures of 21.8°C-23.8°C and minimum temperatures of 9.4°C-11.3°C (Singh & Singh, 2017). The ecosystem is vulnerable to severe cold waves driven by Himalayan winds, which occasionally drop temperatures to 4°c. Winter has the least precipitation, with December around 4 mm, influenced by a continental anticyclone, and January-February receive 10–15 mm mainly from Western Disturbances that bring moisture to winter crops. Low temperatures, calm winds, and moisture from the Ganga cause heavy fog in late December and January, creating cold days where dense fog blocks sunlight and narrows daily temperature variation (Weatherspark, 2026).



Fig. 4 The winter fog on the Ganga in Varanasi

Literature review

Varanasi lies within the Indo-Gangetic Active Foreland Basin, an asymmetrical structural depression formed during the Late Paleogene to Neogene due to the ongoing continent-continent collision between the Indian and Eurasian plates (Dewey & Bird, 1970; Singh, 1996; Yadav et al, 2024). The alluvial sediment in this basin thins from north to south. Beneath Varanasi, the sediment thickness ranges from approximately 0.5 to 1.0 km before reaching the hard Proterozoic crystalline basement or the Vindhyan Supergroup (Sastri et al., 1971; Shukla & Raju, 2008).

The city is located on the northern edge of the peripheral cratonic bulge extension of the Bundelkhand Craton. Hidden basement faults with subtle active movements beneath the surface have significantly influenced river pathways, drainage systems, and localised sinking over the Late Quaternary period (Singh, 2004). The most notable geomorphic feature of Varanasi is the sharply defined, entrenched northwest (NNW) meander loop of the Ganga River. This is reflected in:

A. The High Escarpment - The Ghats: The city proper is strategically built on the western concave (cut bank) side of this meander bend. This creates a highly stable, continuous sedimentary cliff or bluff that rises 8 to 17 meters above the mean river level (Shukla, 2006). Because an outer cut bank experiences high-energy erosional forces rather than siltation, it naturally provides a deep-water channel and a solid foundation, preventing the famous stone ghats from being buried in mud.

B. The Eastern Bank - Ramnagar: By contrast, the convex eastern bank features a roughly 2 km long, massive, flat point bar, backed by a high cliff line further inland. Dating of the Ramnagar cliff exposures using Optically Stimulated Luminescence (OSL) and Infra-Red Stimulated Luminescence (IRSL) indicates ages from 47 ±12 ka near the base to 7 ±1 ka at the top, demonstrating that the Ganga was highly active and dynamic during the transition from the Late Pleistocene to Holocene, prior to carving its current channel (Yadav et al., 2024).

Boreholes reaching 100–200 meters at locations like DLW, Gurubagh, and Chowk-Thana reveal a cyclic pattern of sediment supply shifts (Shukla & Raju, 2008) originating from two main sources:

- Himalayan provenance, characterised by grey, fine-to-medium-grained micaceous sands rich in quartz and metamorphic minerals, transported by ancient trunk rivers.
- Cratonic/Peninsular source, marked by older, yellowish-pink to brown subarkosic sands containing potassium feldspar, transported northward from the Vindhyan highlands.

The depositional layout follows a classic fining-upward cycle, with deep channel sands topped by muddy, silty clay horizons. The upper clay layers are mottled and contain Kankar, ferromagnesian nodules, and traces of bioturbation (Raju et al., 2011). The alternating sandy and muddy layers create a highly productive multi-tiered aquifer system in Varanasi (Shukla & Raju, 2008):

- Shallow Aquifer Zone, spanning depths of 0–70 meters, comprises lens-shaped, silty, fine sands that are either unconfined or semi-confined. This layer directly interfaces with surface water systems, including Varanasi's boundary tributaries: the Varuna River to the north and the Assi River to the south.

Deep aquifer zone, located above 70 meters depth, consists of extensive, thick grey micaceous sand bodies that extend laterally and exist under confined to semi-confined conditions. This basin provides large volumes of high-quality drinking water, but widespread modern urban development has led to significant declines in groundwater levels throughout the district.



Fig. 5 Left: The ghats above the Ganga in Varanasi; Right: The point bar with Ramnagar on the far side.

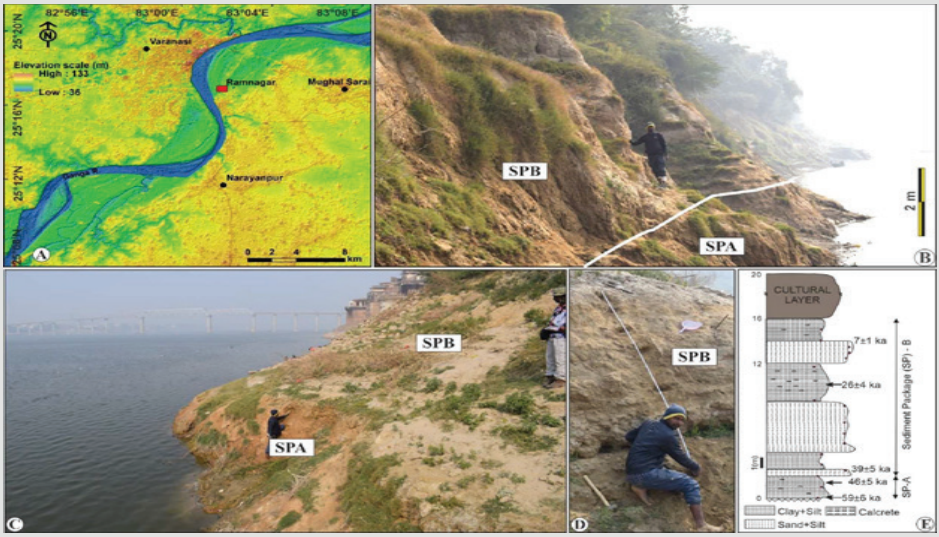


Fig. 6 (A) SRTM-DEM showing the present-day position of the Ganga River in Varanasi. (B), (C), (D) Field photographs showing two sediment sequences. (E) Litholog of the Ramnagar cliff along with chronology (Yadav et al., 2024)

Geoarchaeology of Varanasi: The City is situated on elevated mounds interlaced with stream channels, historically called nala and currently serving as roads that frequently flood during monsoons. The upper 3-10 meters of the city are largely anthropogenic, especially in older neighbourhoods, where thicker layers of human activity are evident. These layers include remnants of old building walls and floors that have crumbled, with new constructions built above them.

The oldest built-up area (Fig. 7) is the Visweswara mound, with the Kashi Viswanath temple as its highest point among many peaks, bounded by the Godowlia Nala (presently, Dashaswamedha Road) and the Varuna River. Locally, this area is called the Pakka Mahal (literally the concrete palace), as there is no natural soil and boreholes show anthropogenic layers for 10s of meters. The north end of this area was excavated to identify ~15 meters of archaeological layers, with age determined by pottery, building and brick fragments (Fig. 8, Singh, 2018; Pal, 2015). The only other sediment section sampling within the Pakka Mahal area was near the Kashi Viswanath temple, during the corridor construction in 2019, led by a BSIP team under Dr. Anupam Sharma, whose samples are now being analysed.

The second-oldest area in Varanasi city, barring some sites away from the river, e.g., the Sarnath area, is Bangalitola, with the highest point at the Kedar Ghat, lying between the Godowlia Nala and the Assi River confluence at Assi ghat, and featuring a stream inlet covered by the Road to Harishchandra Ghat near the peak (Fig. 7).

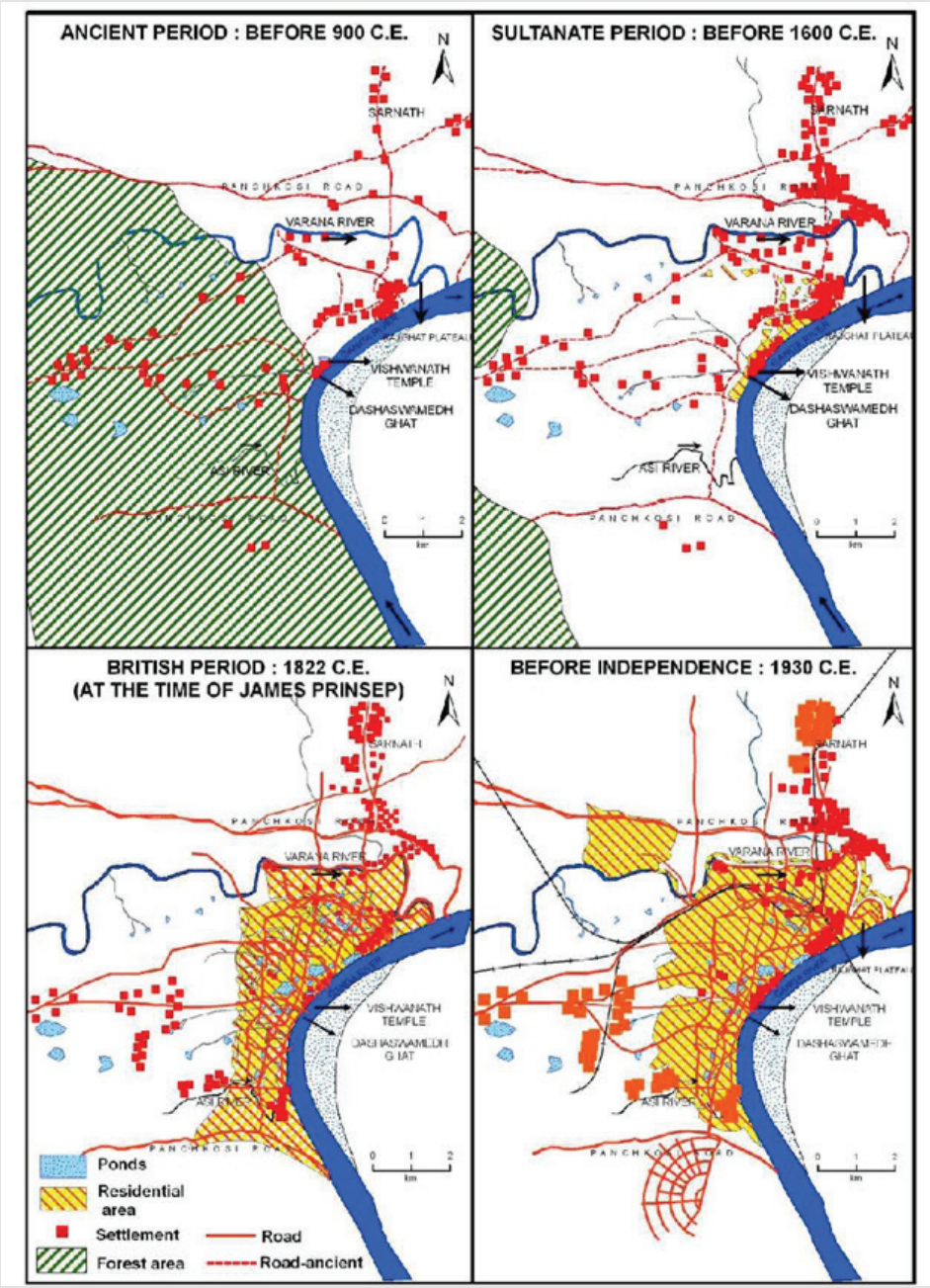


Fig. 7 Varanasi: Urbanisation progression (Singh, 2018; Pal, 2015)

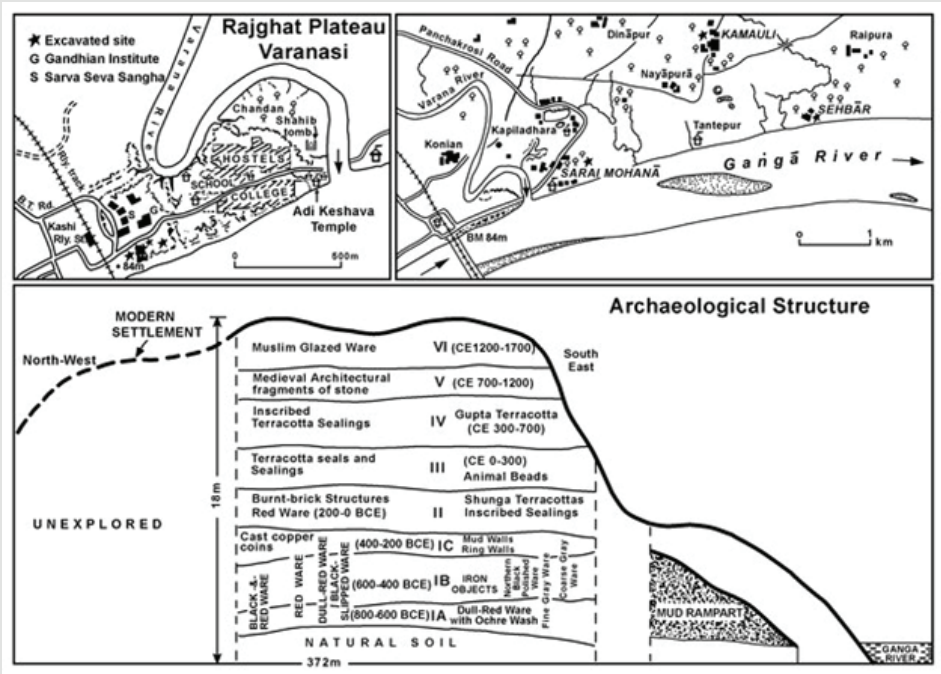


Fig. 8 Archaeological cross-section of the Rajghat mound (Singh, 2018; Narain & Roy, 1977).

Situated approximately 6 kilometres from the historic centre of Varanasi, Sarnath is a significant Buddhist archaeological site that commemorates the location where Gautama Buddha delivered his inaugural sermon, known as "Turning the Wheel of Dharma." Excavations have uncovered a continuous religious and cultural succession from the pre-Mauryan period in the 4th century BCE to the 12th century CE. While initial antiquarian interest arose from Jagat Singh's 1794 discovery of relic urns, formal scientific archaeology began under Sir Alexander Cunningham (1835–36). Subsequent excavations by F.O. Oertel (1904–05), Sir John Marshall, and Daya Ram Sahni unearthed masterpiece sculptures, including the famous 5th-century Gupta-period Preaching Buddha. Modern excavations led by Dr. B.R. Mani (2013–14) confirmed Sarnath's deep pre-Ashokan occupation roots, reinforcing its nomination for the UNESCO World Heritage List (ASI, 2014).

Field Transect Description

A. Travel by Train and Dinner

Option 1: Meerut - Varanasi Vande Bharat 1350 LKO 1825 BSB

Option 2: Dibrugarh Rajdhani 1850 LKO 2250 BSB

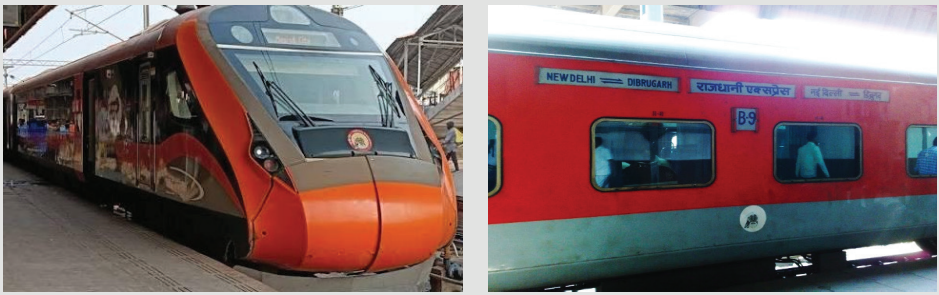


Fig. 9 Train options: Left - Meerut - Varanasi Vande Bharat; Right - Dibrugarh Rajdhani

B. Varanasi Junction Railway Station (82°59'13.54"E 25°19'36.25"N):

C. Optional: Shopping on Dashaswamedha Road only for Attendees choosing the step A option 1 (as above)

D. Night Walk through Pakka Mahal ending in Supper and stay at Guleria Kothi (83° 0'58.26"E 25°18'47.81"N)

E. Subah-e-Banaras: Sunrise on the Ganga and breakfast

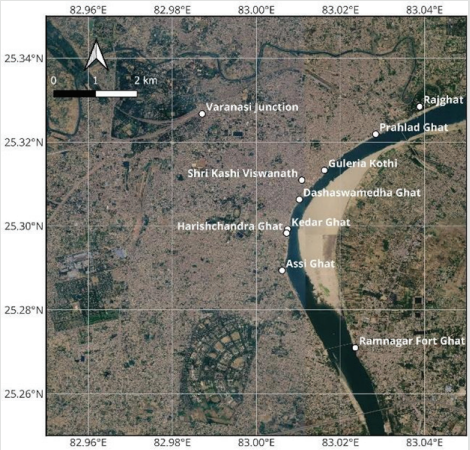
F. Morning walk through Pakka Mahal and Ghats

G. Boating to all the Varanasi Ghats with explanations of Geoarchaeological evolutions

H. Sarnath (83° 1'22.77"E 25°22'53.41"N) trip, including the archaeological site and museum, with local shopping.

I. Return by Road and dinner

Field Map with Excursion Stops



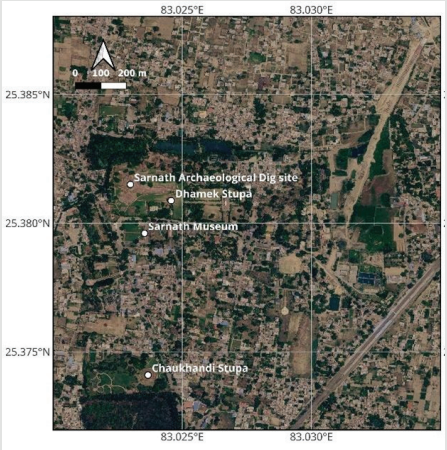


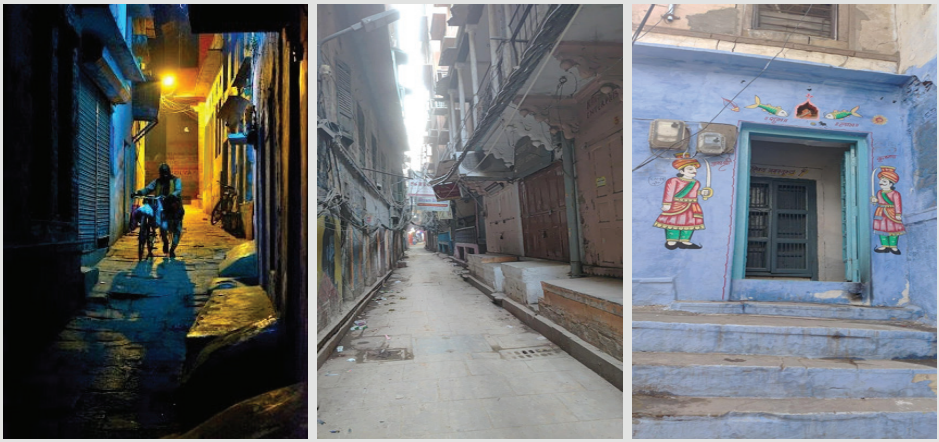
Fig. 10 Field Map - Left: Varanasi city; Right: Sarnath

Locations





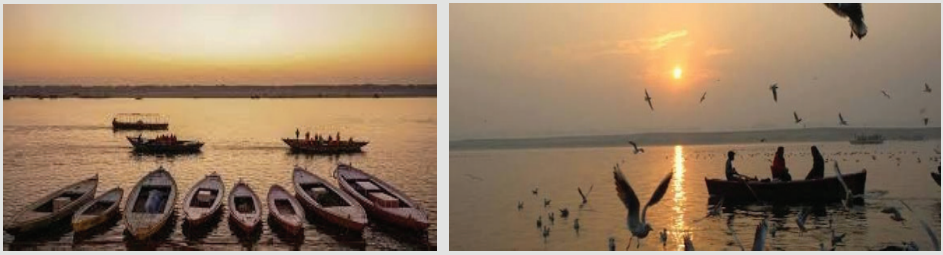
Fig. 11 Left: (a) Varanasi Junction Railway Station 25°19'36.25"N 82°59'13.54"E Right: (b) Optional: Shopping on Dashaswamedha Road, in the heart of the old city, one of the largest markets in the region. Only for Attendees choosing the Field Transect step A option 1 25°18'32.80"N 83° 0'26.57"E



(c) Pakka Mahal area: left - at night; middle - in the day; right - a traditional house entrance 25°18'43.55"N 83° 0'49.07"E



(d) Guleria Kothi (https://guleriakothi.com), a beautifully restored 18th-century riverfront house nestled on the Ganga in Varanasi. Left: Indoor view at night, Right: Morning outdoor view. 25°18'47.81"N 83° 0'58.26"E



(e) Subah-e-Banaras: Sunrise on the Ganga and breakfast. Below: Two typical sunrise views





(f) Morning walk through Pakka Mahal and Ghats. First: Prahlad Ghat, Second: typical foggy winter morning in Varanasi Third: Namo Ghat,



(g) Boating to all the Varanasi Ghats with explanations of Geoarchaeological evolutions on the cruise boat Bhagirathi.




(h) Sarnath, including the archaeological site and museum (left), with local shopping (right). 25°22'53.41"N 83° 1'22.77"E

Heritage or archaeological sites, and Local culture

Inhabited since at least 1000 BC, Varanasi, the oldest living city, is bounded by the Ganga tributaries Varuna and Assi. The upper layers of the city, especially in older neighbourhoods, are largely anthropogenic, with remnants of crumbling walls and floors, and new structures built above them. The oldest built-up area is the Visweswara mound, where the Kashi Viswanath temple stands as a prominent peak, bounded by the Godowlia Nala (now Dashaswamedha Road) and the Varuna River. Locally called the Pakka Mahal, this area lacks natural soil, and borehole analyses reveal anthropogenic layers extending tens of meters deep. Excavations at the north end uncovered about 15 meters of archaeological deposits, with age indications from pottery and brick fragments. Apart from some areas away from the river, such as Sarnath, Bangalitola is the second-oldest area in Varanasi, with its highest point at Kedar Ghat, situated between the Godowlia Nala and the confluence of the Assi River at Assi Ghat, and featuring a stream inlet near the Road to Harishchandra Ghat.

Located ~6 km from the old city of Varanasi, Sarnath is an archaeological cornerstone of Buddhism, marking where Gautama Buddha delivered his first sermon ("Turning the Wheel of Dharma"). Excavations have revealed a continuous religious and cultural sequence spanning from the pre-Mauryan era (4th Century BCE) to the 12th Century CE. The main monuments in Sarnath are:



a) *b)*

c) *d)*

Fig. 12 Sarnath Monuments

a) Dhamek Stupa: A massive, cylindrical brick-and-stone structure (43.6 meters high) marking the traditional location of Buddha's inaugural teaching.

b) Chaukhandi Stupa: Commemorates where Buddha reunited with his first five disciples. It is uniquely capped by an octagonal Mughal tower built by Akbar in 1588 CE.

c) Mulagandha Kuty Vihara: Thick-walled remains of the primary temple complex marking where Buddha spent his first rainy season. This is the Sarnath Archaeological dig site.

d) Ashoka Pillar & Lion Capital: Erected around 250 BCE. The polished Chunar sandstone Lion Capital serves as India's National Emblem, while its Dharmachakra (wheel) sits on the national flag. This is displayed in the Sarnath Museum.

Varanasi, celebrated as India's cultural capital, boasts a multi-millennial heritage of artisanry. From Rigvedic literature describing gold textiles (Hiranya) to Mughal-era royal patronages, the city has served as an epicentre for exquisite handlooms and traditional handicrafts. Today, these arts form a vital pillar of the local economy and India's intangible heritage. Primary examples among these are:



Banarasi woven cloth



Wooden toys



Meenakari jhumkas



Metal utensils



Glass beads



Stone-carved elephant showing jaali work

Fig. 13 Varanasi Handicrafts: Left to right, top to bottom description 1-6 as below.

1. The handloom industry of Varanasi is world-famous, primarily centred around Banarasi (lit. of Banaras) Silk Sarees. Hand-woven on pit looms, these textiles are celebrated for their luxurious gold and silver zari work and for heavy brocade weaving, traditionally known as Kinkhab, on pure Silk (Katan), Organza (Kora), Georgette, and Shattir. In modern times, handlooms are also used to make clothes for dresses and shawls. Common motifs and styles include Intricate floral foliage (Bel), mango/paisley (Kalka), and rich jungle patterns (Jangla), reflecting a synthesis of Hindu iconography and Persian/Mughal artistic influences.

2. Non-toxic, eco-friendly wooden and lacquerware toys or decorative items using natural dyes and hand-turnery.

3. Unique to Varanasi, this rare enamelling art called Meenakari involves applying delicate paint over white enamel on silver or gold surfaces to create fine jewellery and artefacts.

4. Banarasi metal craft and brassware create traditional coppersmith products, including temple idols, diyas (oil lamps), and sacred vessels.

5. Banaras glass beads are a key export product, crafted by moulding, colouring, and stringing them into fashionable accessories and jewellery for international markets.

6. Banarasi sculptors carve softstone and Chunar sandstone to create intricate Shiva Lingas, deities, and lattice (jaali) architectural panels.

Varanasi's culinary culture is a vibrant vegetarian tradition centred on desi ghee, fragrant spices, and age-old street food practices, nestled within its historic galis. The Banarasi cuisine emphasises hearty breakfasts and lighter fare at other times, avoiding onion and garlic flavours.



Kachori-Sabji with Jalebi



Chura Matar



Malaiyo



Baati-chokha with dal



Uttapam with chutney



Aloo tikki chaat



Banarasi Paan

Fig. 14 Banarasi food

i) Mornings centre around Kachori, Sabzi and Jalebi; flaky lentil kachoris paired with a fiery vegetable gravy and sweet jalebis.

ii) In winter, seasonal delicacies are common, such as the savoury-sweet Chura Matar: flattened rice (chura or poha) sautéed with fresh green peas (matar), aromatic ghee, and warm spices like black pepper and garam masala; and Malaiyo, a hyper-seasonal delicacy native to Varanasi, crafted from raw milk, hand-churned overnight, and left under the open sky to absorb the winter morning dew.

iii) Local main course centres on sattu baati-chokha: whole-wheat dough balls stuffed with spiced roasted gram flour (sattu), served alongside a smoky, spiced mash of roasted vegetables (chokha), and sattu/aloo parathas with similar spicing.

iv) The city has a large population of Tamilians, who are the traditional priests of Kashi Viswanath Temple; hence, Tamilian foods like dosa, uthappam, and idlis are common in the galis.

v) The Legendary Chaats: Evenings are dedicated to street-side delights, especially the spicy tikki chaat and the tangy, spicy dahi bara.

vi) Conclude your culinary trail with a refreshing, melt-in-your-mouth Banarasi Paan.

Conclusions

The Varanasi City and Sarnath field excursion offers a unique opportunity to integrate geological, geomorphological, archaeological, historical, and cultural perspectives within the middle Ganga Plain. The exposures along the Ganga at Varanasi provide valuable insights into the Quaternary evolution of the Ganga River, fluvial sedimentation, landscape development, and the interaction between natural processes and human settlements. Sarnath complements these observations by illustrating the close between archaeological heritage and cultural evolution.

Organised by people who grew up in the Kashi region and subsequently became researchers, this field will offer both a geoarchaeological and a local perspective on the multi-millennial city of Varanasi. It is anticipated that this field excursion will foster interdisciplinary research, promote the preservation of geological and cultural heritage, and inspire further investigations into the Quaternary history, palaeoenvironmental evolution, and geoarchaeological importance of the Ganga Basin. This brief visit provides an overview of nearly all facets of the ancient city within just over a day, encompassing its geology, archaeology, history, culture, and cuisine.

Local conveniences:

- Medical and other facilities will be available throughout this trip, as we will mainly be staying within city limits.
- A visit to Varanasi's famous shopping area, Dashaswamedha, will be available only to visitors who choose the earlier train option. All visitors will have time to shop during the Sarnath visit.

Things to NOTE

- Food offered would be local and vegetarian only. Both plain and spicy options will be available. Vegan food options may be offered upon request.
- All accommodation is on a sharing basis only. Visitors would be asked to indicate room-sharing and dietary preferences after booking. We are open to groups of up to 4 people for room share.
- This trip does not include temple visits because it is a secular geoarchaeological excursion.
- This trip does not include the 31st night, so all visitors must have a booking for that night in Lucknow.

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Annexure

Field Excursion Guidelines: Do's and Don'ts

To ensure the safety of all participants and to promote responsible scientific field practices, all participants are requested to adhere to the following guidelines throughout the field excursions.

Keep a valid passport (for international participants) or a government-issued photo ID (for Indian participants) with you at all times during the field excursion.

Do's	Don'ts
1. Follow the instructions of the excursion leaders, coordinators, and local authorities at all times. 2. Remain with the group and inform the excursion leader before leaving the designated route. 3. Wear appropriate field attire, including sturdy closed-toe footwear, full-length trousers, a hat or cap, and weather-appropriate clothing. 4. Carry sufficient drinking water, personal medications, sunscreen, insect repellent, and other essential field supplies. 5. Keep a valid photo identification and your excursion registration details with you during travel. 6. Respect local customs, religious sites, cultural heritage, and private property. 7. Follow the Leave No Trace principles by carrying back all waste and helping to keep field sites clean. 8. Use designated trails and approved observation areas to minimise environmental disturbance. 9. Observe geological, ecological, archaeological, and cultural features carefully without causing any damage.	1. Do not collect rocks, fossils, archaeological artefacts, biological specimens, or any other materials without prior authorization. 2. Do not damage, deface, or remove material from geological outcrops, caves, monuments, heritage structures, or other natural features. 3. Do not wander alone or separate from the excursion group without informing the field leaders. 4. Do not climb unstable slopes, cliffs, rock formations, or enter hazardous areas unless specifically instructed or supervised. 5. Do not swim or enter rivers, lakes, lagoons, or coastal waters unless expressly authorized by the excursion leaders. 6. Do not consume alcohol, recreational drugs, or engage in unsafe or irresponsible behaviour during the excursion. 7. Do not operate drones or other restricted equipment without obtaining the necessary permissions. 8. Do not photograph restricted installations, sensitive locations, or local residents without prior permission.

10. Record field observations systematically and collect samples only with prior permission from the excursion leaders and the relevant authorities.

11. Exercise caution near cliffs, riverbanks, caves, unstable slopes, road cuts, and other potentially hazardous terrain.

12. Respect wildlife by maintaining a safe distance from animals, birds, reptiles, insects, and their habitats.

13. Immediately report any illness, injury, emergency, or hazardous situation to the excursion organizers.

14. Be prepared for changing weather conditions and comply with all safety advisories issued by the excursion leaders.

9. Do not create excessive noise or disturb local communities, religious activities, wildlife, or natural habitats.

10. Do not leave valuables unattended or rely solely on mobile phone connectivity in remote areas.

11. Do not undertake any activity that may compromise your safety, the safety of fellow participants, or the conservation of the area's geological, ecological, archaeological, or cultural heritage.

Disclaimer

Participation in the field excursions is entirely at the participant's own risk. While the Organising Committee and excursion leaders will make every reasonable effort to ensure participant safety and provide appropriate guidance, they shall not be held responsible for any personal injury, illness, loss of personal belongings, property damage, delays, or unforeseen incidents arising during travel or field activities. Participants are expected to act responsibly, follow all instructions issued by the excursion leaders, and comply with applicable local laws and regulations throughout the excursion.













Scan for
Field Guide Book

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