Today’s workshop included an information session about georeferencing while at the Kumbh, and three student presentations.

**Georeferencing**

Paul Cote ([GSD Geographic Information Systems Specialist](#)) explained how photos taken by different people and different cameras at the festival can be pooled into a common database, with each file tagged with geodata that identifies place, time, context, and other information, suitable for mapping and archival storage.

GPS tagging requires:
1. The ability to match time and GPS points with every photo taken. GPS information can come from the GPS in some digital cameras/phones. Alternatively, those without a GPS unit could having a “walking partner” with a GPS who can provide this data at the time of each photo. Oscar, Alykhan, and Vineet will have GPS units (they each cost about $100).

**HINT:** At the beginning of each session, take the first picture of the GPS unit accompanying you, to ensure your photos are correctly matched to location.
2. Correct time setting on your camera or phone. Set to local time ideally; If you are traveling across many time zones, some prefer to set to Greenwich Mean Time. Even if your phone does not have GPS, set it to record time of each photo (and make sure time is correct); this can be traced later using a breadcrumb technology.
3. Set your GPS frequency: for the Kumbh, set it to collect a point every 30 seconds.
4. Practice before you go.

GPS tagging does *not* require cell phone access. In fact, turning your phone on “airplane mode” where cell phone coverage is uncertain will help save battery power. GPS in a system does pull more battery, so it’s important to know how we will recharge our phones/cameras. Paper/notebooks with writing utensils to record information is always a good backup. Jenny says that we’ll have a phone charging location in our home camp on site.

If you have GPS, make sure it’s turned on. Android/iPhones have GPS but default is set to “off” for personal security reasons. You may need to turn it on every time you turn your phone on; Paul suggested it automatically defaults back to “off” every time a unit is turned off.

Paul distributed a basic [*2 page instruction sheet (also available online)*](#). For more information, visit his online “GIS Manual.” GSD plans to have a more detailed tagging workshop after we all return from the trip.

**Ned Whitman: “Ganga: What’s in the Water?”**

Ned (who is studying the history of science and also creates film) is interested in the way science and religion engage with the claim about biophages in the Ganges. He is particularly interested in looking at science as
ethnography, and will draw on the work of Julian C. Hollick (*Ganga: A Journey Down the Ganges River*, with a chapter on “Factor X”) and the research of John Mekalanos, a Harvard scientist working on biophages. Key ideas in his research include the use of language (truth/utility, science/society, reason/sensibility, nature/culture), and the variant metaphors (different ways of “eating”)

Do we care? is a big question in the belief/action connection for his paper. Where do science and religion practice an exchange of authority? How will our study affect festival goers. Are the Ganges biophages unique to these rivers? Are phages a byproduct of the bacteria?

Isaac: In researching his paper on dams, found one reference where damming actually increased the acidity of the water and as a result killed the biophages that had hitherto helped to prevent disease along that river.

**Nicolas Roth: Plants at the Pilgrimage/Trees at the Kumbh**

Nicolas was intrigued by a photo of women planting Kalyani trees at the Haridwar mela, and his project will explore this tradition further. His presentation focused on: planting trees, the banyan tree, and guavas.

The Soham Baba Mission was active in tree planting at Haridwar and will also be at the Kumbh (short YouTube here: http://www.youtube.com/watch?v=2RB-86o6a7U). Trees are planted by the river. Diana asks: how close? Wouldn’t they be washed away when the river rises?

**Belief, Bounty, and Beauty: Rituals Around Sacred Trees in India**, by Albertina Nugteren is an excellent resource on trees at Allahabad. Nugteren says the sacred tree at the fort—a banyan tree—is a replacement of the original tree; indeed photographs suggest a young banyan. There’s an important distinction between its identification as an “immortal tree” and a tree granting immortality. According to the official documents, it is possible to visit the tree. However, the fort is used as a storage facility, and potential visitors much first obtain permission of the Army man who is in charge of the storage. His phone number is available. Throughout India, one sees signs of veneration around banyan trees. One banyan tree in a park in Delhi is venerated for healing of children, with people hanging children’s garments on it. Banyan trees can grow to massive size.

In contract, the guava is a scrubby little tree. Allahabad is known for a red and a white variety. Trees for Life International, based in Wichita, Kansas and founded by a native of Allahabad, started a campaign in 1989 to distribute thousands of guavas—in an explicitly religious fashion—at the Kumbh. (website description here). The campaign included leaflets designed as pilgrimage literature, billboards, presentations to the sadhus and teachers, and later giving out guava seeds. The guava is very hardy, sturdy, and travels well, can be planted cared for by women and children, and the fruit has a relatively long shelf life.

Nicolas has identified a number of other organizations involved in tree planting initiatives related to the Kumbh, and is following up on them.

His questions include: What’s the primary aim of the tree planting projects? Is it chiefly to help the environment, using religious symbolism as a way to persuade? What purely religious tree rituals occur at the mela? What species are distributed/planted and why? Are planting choices practical? Symbolic? religious?

Diana: There are a number of autochthonous deities in India associated with plant life and pools.

Paulo: In South America the guava fruit is often associated with children’s health, with nutritional aspects emphasized as very important.
Brenna McDuffie: Theater/Performance at the Kumbh

Not much is written on performances at the festival. Some of the camp invitations do say that they will have performances at the akharas. Brenna has many questions. Are Ram lilas and other lilas performed? How are traditional forms adapted? Do scenes involve river gods? How are the sadhus and their displays of asceticism performative? How is the Kumbh itself a performance? How can we bridge the connection between performance or theater and pilgrimage?

A “lila” is a play – literally means “playing” – of the gods’ activity in the world. Often folk performances, they are theologically charged imitations of the god’s presence.

There is a strong emphasis on the actors being “possessed” by the gods. Their performance is blessed; an honor to perform.

Lilas can include drumming, dancing, vignettes, bands, etc. They usually take place on pre-determined “auspicious” days, and the performance itself can extend over several days. Lilas bring the whole village together, with people traveling to a specific region to see a lila.

Several types of Lilas are common:
a) Pandav lilas (regionally specific and not likely at the Kumbh; see e.g. William Sax’s book, Dancing the Self: Personhood and Performance in the Pandav Lila of Garhwal),
b) Krishna lilas, which are less common
Diana: Krishna lilas have no text; they are carefully practiced but not scripted; somewhat comparable perhaps to jazz. For a transcript of one, see John Stratton Hawley’s book, At Play with Krishna: Pilgrimage Dramas from Brindavan
c) Ram lilas (folk enactment of the life of Lord Ram). Ramlilas are widespread, with more of a national presence, and sometimes very contemporary

Brenna hopes to explore the connection between lilas and pilgrimage (see especially Anna King’s article, pp. 313-314). What is the relationship with darshan – with its focus on gaze? What might we say about the dramaturgy of a pilgrimage? Embodiment in performance? The necessity of physical observation to understand the full effects?

Diana: Don’t exclude the aartis.

Next week: Our final “wrap-up” class. Please come.
ALSO next week: Those attending the Kumbh should plan to come to a meeting at 8:30 where we will begin to discuss pre-orientation details. Jenny will send out further information later this week.