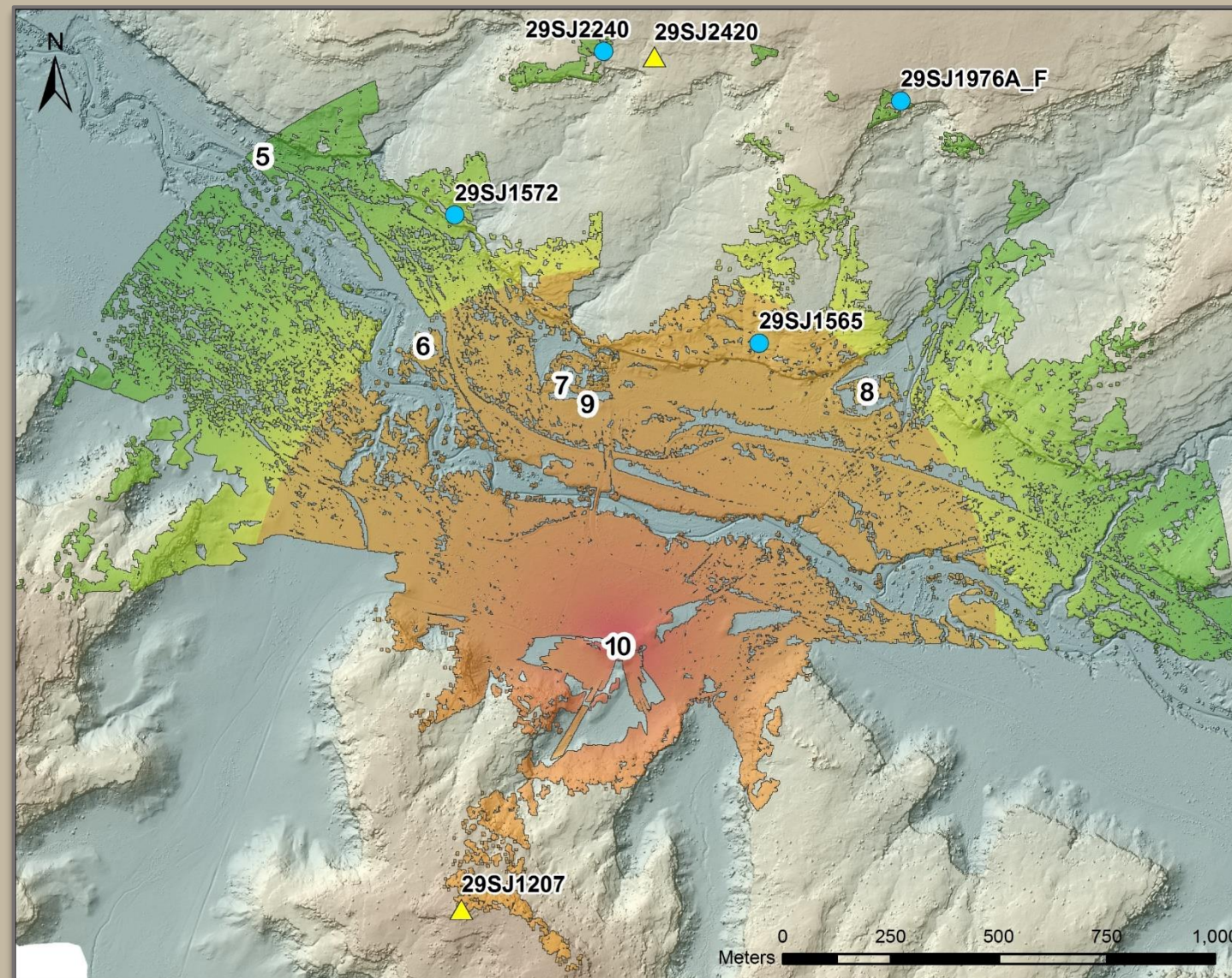


ARCHAEOACOUSTICS of the Anasazi Landscape

What can our ears tell us about the way the Anasazi, or ancestral Puebloan, people lived in New Mexico's Chaco Canyon more than a thousand years ago?

We tend to think of archaeological sites as dead silent - empty ruins left by past cultures. But this isn't how the people who lived in and used these sites would have experienced them. Residents would have heard others speaking and laughing, babies crying, people working, dogs barking, and music such as drumming. These sounds could be heard from close by, and perhaps coming from distant locations as well.

For acoustic archaeologists, putting sound back into the archaeological landscape is an important part of understanding how people lived, what they valued, how they shaped their identities, and experienced the world and their place in it. "Soundshed Analysis" a tool created for GIS (Geographic Information Systems) allows archaeologists to map the spread of sound throughout the landscape.



Kivas, like Casa Rincoñada (left) are large ceremonial structures.

Image by: David E. Witt.

In the large map to the left, we can see that the sound of someone blowing a conch shell trumpet from immediately north of Casa Rincoñada, the largest kiva in the Puebloan world, spreads throughout the canyon. The sound travels to a number of mesa top shrines that often marked sacred locations and high points on the landscape. Archaeologists believe this tool provides evidence that sites such as stone circle 23SJ2240 were purposefully placed to mark the boundaries of performance space.

Chaco Canyon was the center of ancestral Puebloan civilization. It's famous for its great houses – large multistoried structures, some the size of football fields – built and used from approximately A.D. 850-1150.



Image: Lekson 2015, Map 21.1

Conch Shell Trumpet - Casa Rinconada

Study Locations

- ▲ Shrine
- Stone Circle

Great House

- 5 Kin Kletso
- 6 Pueblo del Arroyo
- 7 Pueblo Bonito
- 8 Chetro Kett
- 9 Platform Mound
- 10 Casa Rinconada

Rise over Ambient dBA

Passively Audible
High : 59.951
Low : 5.00001

Actively Audible
High : 4.99998
Low : 0

Musical instruments, such as conch shell trumpets, have been linked to ritual performance by the Anasazi due to examples found within historic ethnography, and the locations of their recovery within civic-ceremonial architecture.

The Anasazi weren't the only people to play conch shell trumpets – this Aztec image (on right) also depicts a trumpeter playing a conch.



Image: Codex Magliabecchi

"Loudness" refers to a subjective measurement, so the human experience of "loudness" is assessed using sound pressure levels measured in decibels (dB). A 5 dB or greater increase in sound pressure is clearly noticeable. This represents the **passive** audibility threshold at which a person would hear a sound even while engaged in other activities. However, increases in sound pressure level less than 5 dB but above background noise levels can be perceived if **actively** listened for.



The soundshed map also reveals that shrine 29SJ1207 marks the location where an individual may first have heard rituals on the canyon floor as they approached from the south. By studying what the Anasazi heard, archaeologists can understand where people began to actively participate in and experience a ritual occurring at Casa Rincoñada and other important sites.

Scan this code to learn more about how archaeologists are modeling ancient soundsheds at Chaco...



View of Pueblo Bonito. Pueblo del Arroyo is visible in the distance. Both locations could hear the sound of a conch shell trumpet being played at Casa Rincoñada.



Image by: David E. Witt.