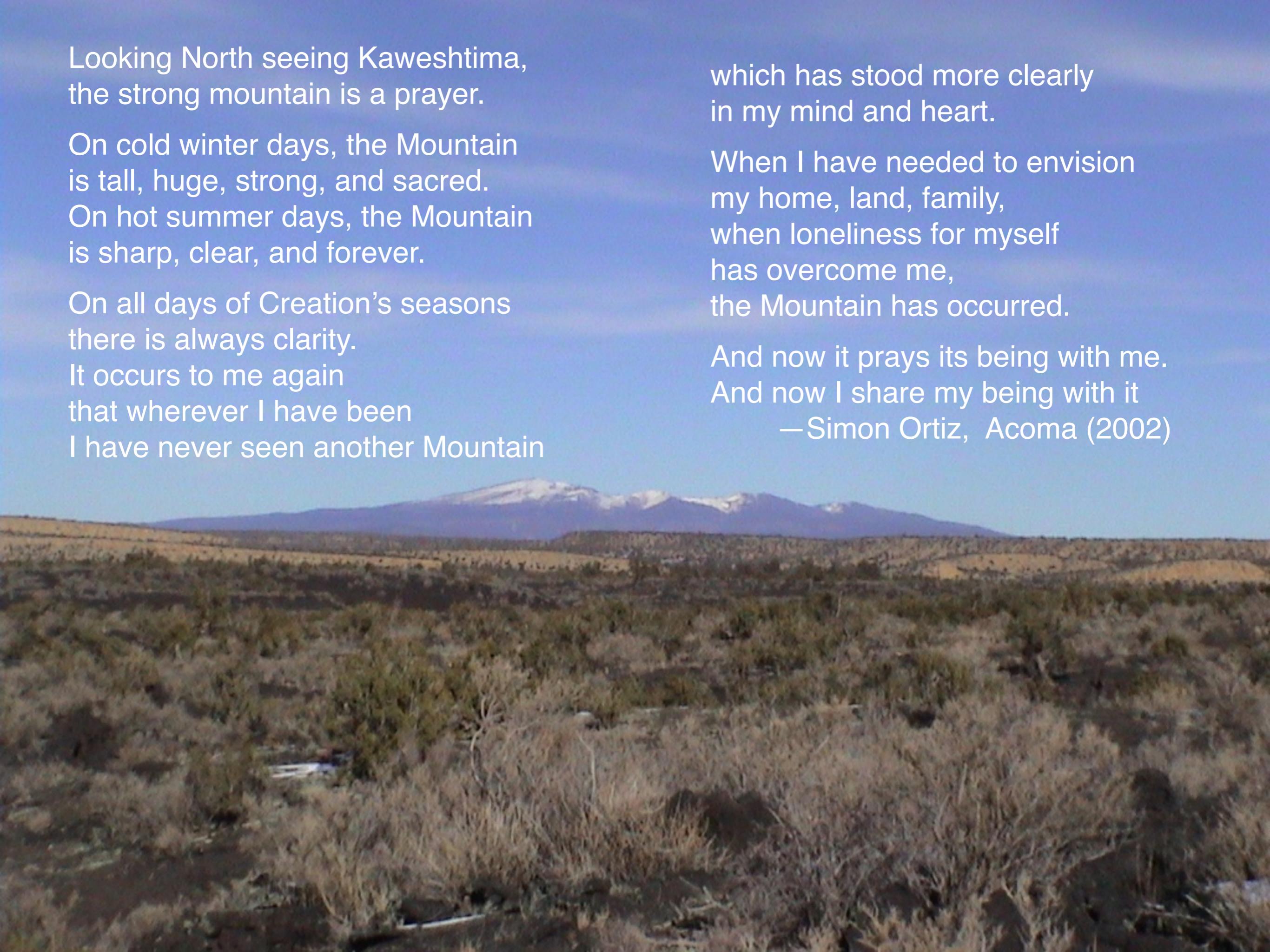


Great Houses, Shrines and High Places: Intervisibility Across the Chacoan World







Looking North seeing Kaweshtima,
the strong mountain is a prayer.

On cold winter days, the Mountain
is tall, huge, strong, and sacred.

On hot summer days, the Mountain
is sharp, clear, and forever.

On all days of Creation's seasons
there is always clarity.
It occurs to me again
that wherever I have been
I have never seen another Mountain

which has stood more clearly
in my mind and heart.

When I have needed to envision
my home, land, family,
when loneliness for myself
has overcome me,
the Mountain has occurred.

And now it prays its being with me.
And now I share my being with it

—Simon Ortiz, Acoma (2002)

Phenomenology

The study of structures of consciousness as experienced from the first-person point of view. The central structure of an experience is its intentionality, its being directed toward something, as it is an experience of or about some object.

Stanford Encyclopedia of Philosophy

Phenomenological archaeologists work from the starting point of contemporary bodies in [...] spaces, moving through ancient landscapes and architecture as prehistoric peoples did.

Ruth Van Dyke, *Encyclopedia of Global Archaeology*



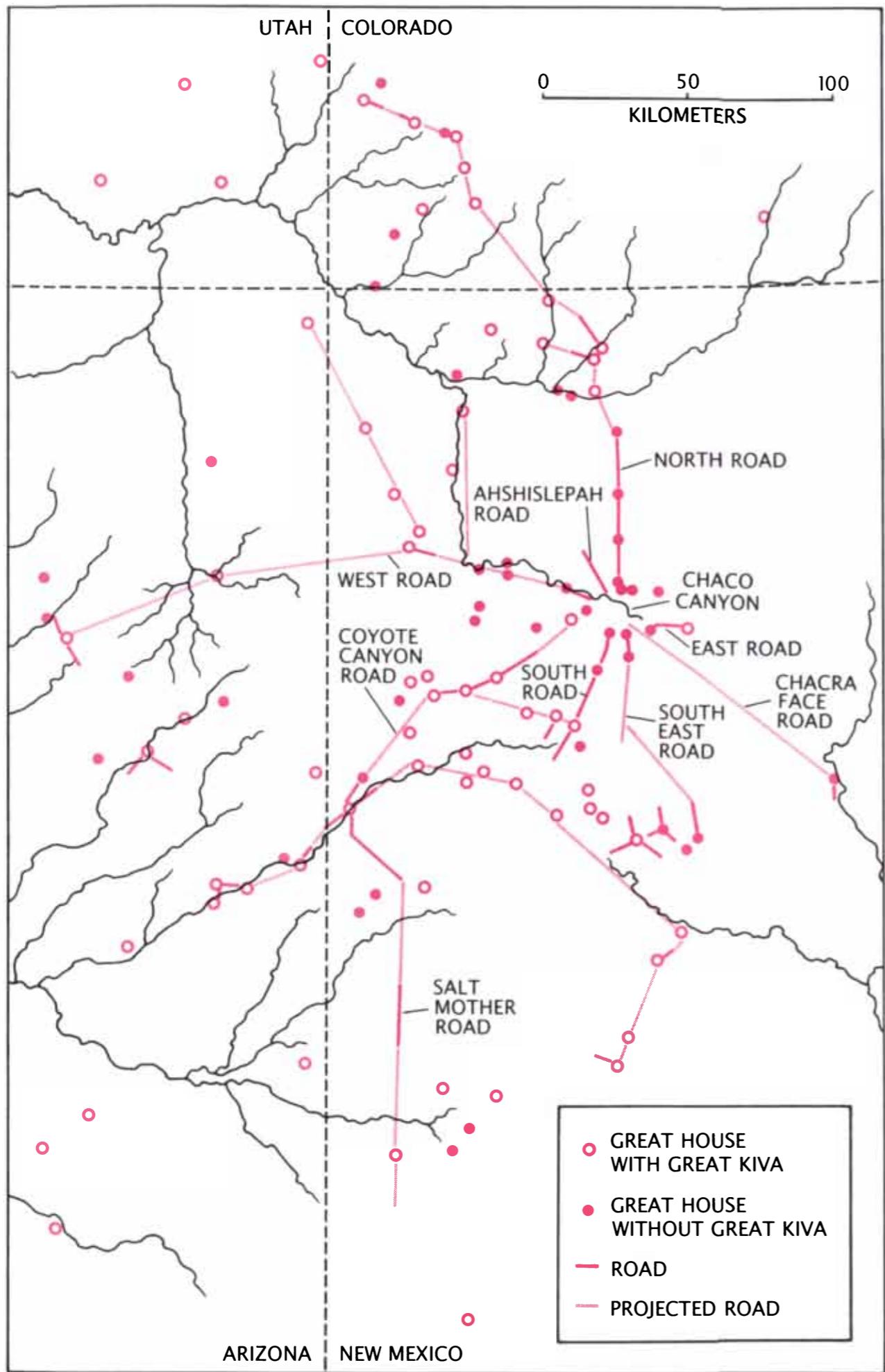






















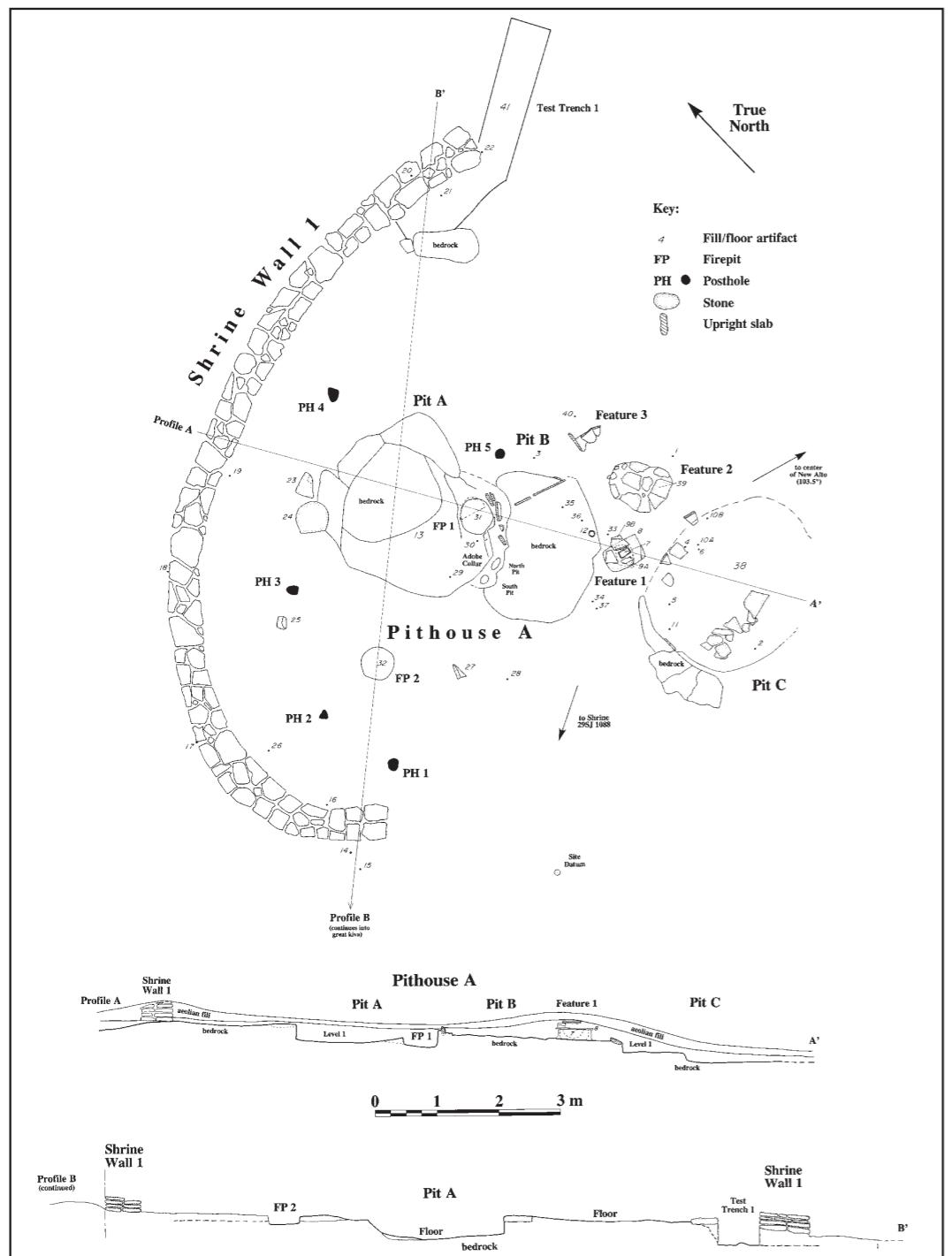


Figure I.3.11. Site 29SJ 423, Pithouse A and the Pueblo III Shrine, and profiles (CHCU 55511). See Table I.3.9 for the list of fill and floor materials. Original by Tom Windes, 1973.



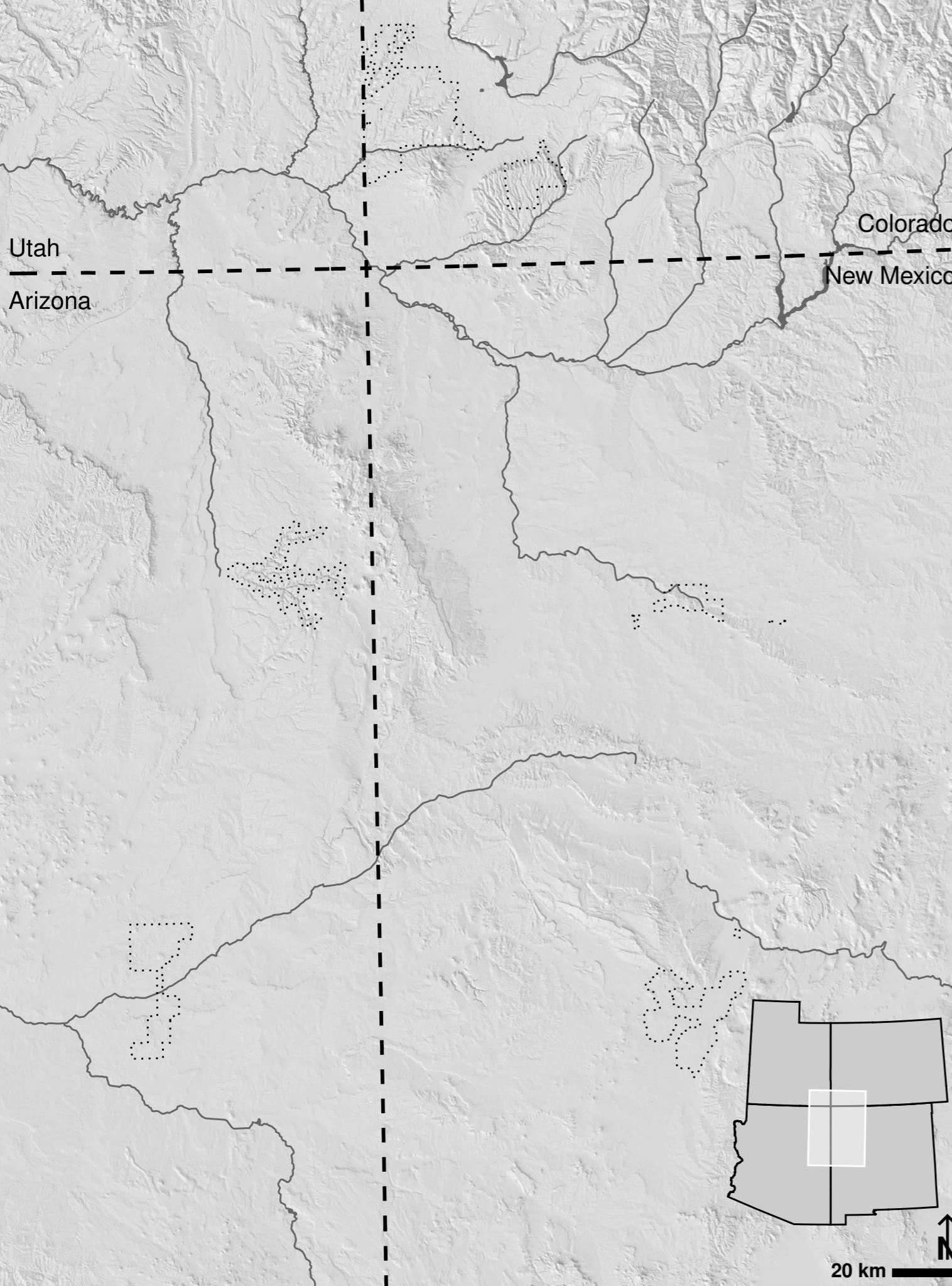
mirror signaling between a stone circle and Twin Angels outlier down Kutz
Canyon at the end of the North Road

Stone Circles of Chaco Canyon,
Northwestern New Mexico



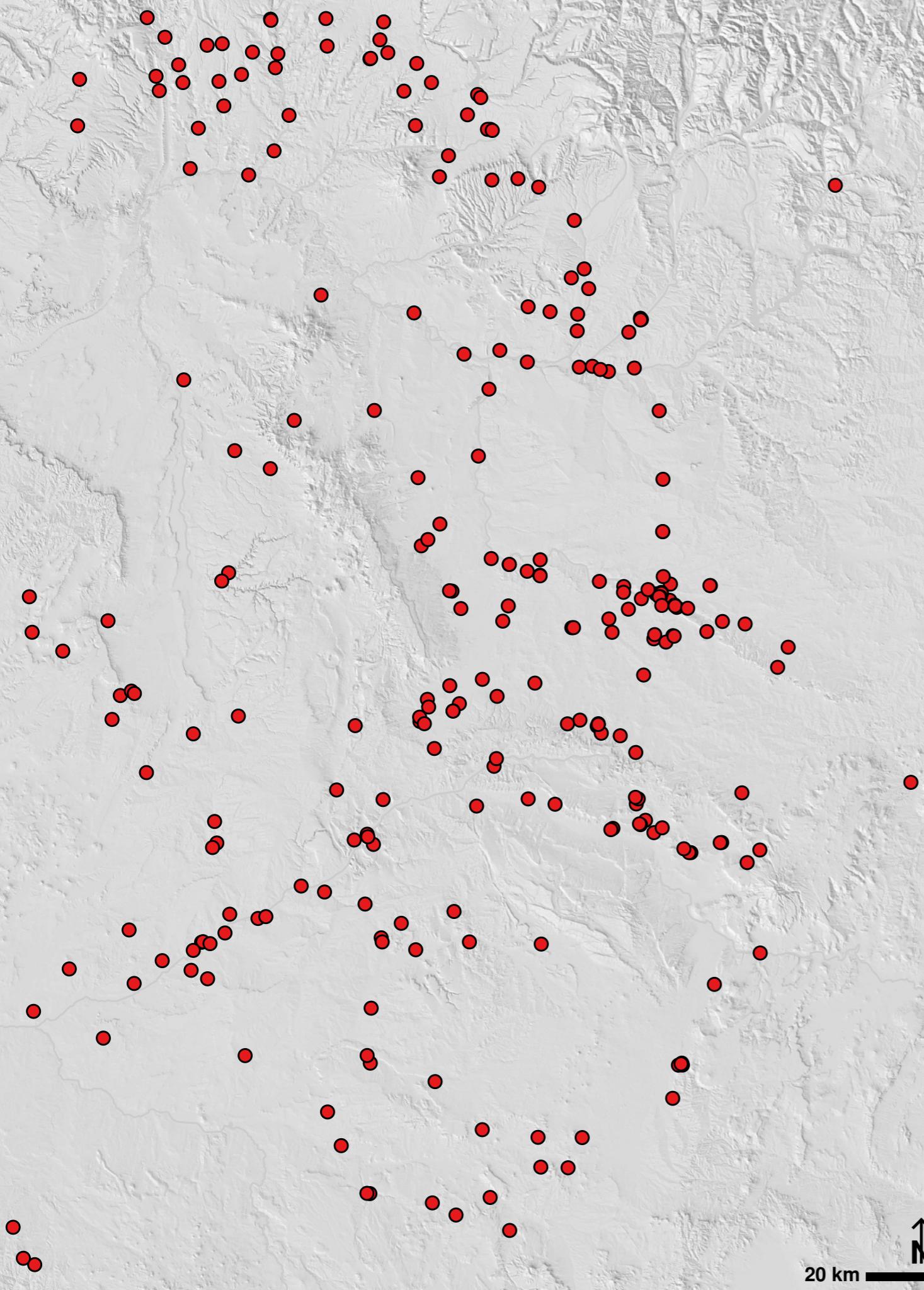
Study Region

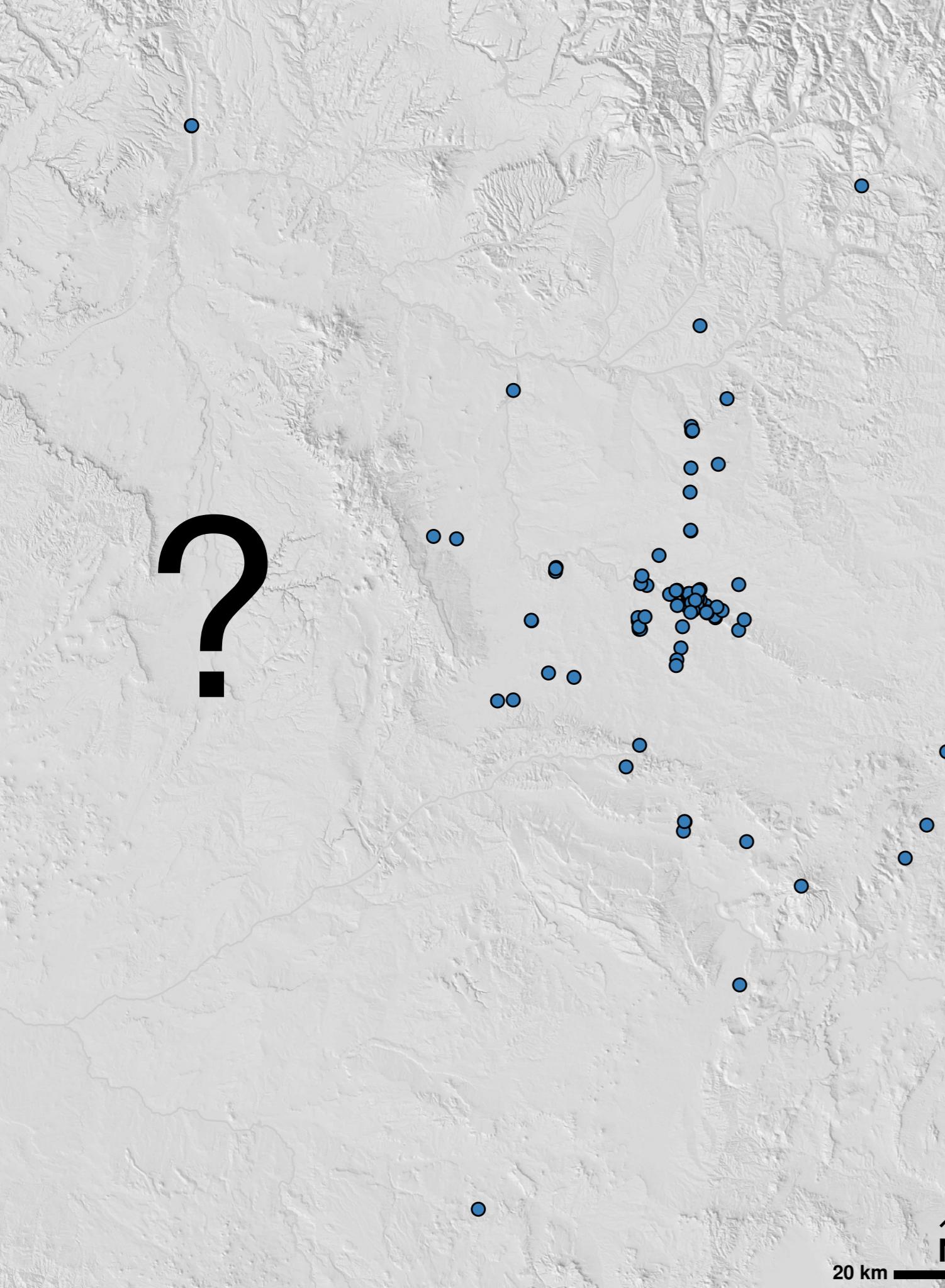
- **120,000 km²**
- Greater San Juan and Little Colorado river basins
- Includes southern and northern Chaco periphery
- 50-meter DEM includes **48 million pixels**



Great Houses

- **258** great houses in database
 - 15 in Chaco Canyon
 - 183 “outliers”
- From Carhart Ruin in the north to AZ P:16:160 in the south
- From Cothruns in the west to Guadalupe in the east
 - Initially included Wupatki, but too far west to be covisible





?

Shrines

- **87** shrines in database
 - **46** shrines
 - **11** herraduras
 - **21** stone circles
 - **9** stone crescents
- Majority in and immediately around Chaco Canyon
- also along major Chaco roads (e.g., the Great North Road)
- there are more out there!

features scale purpose

- great houses
 - shrines
 - stone circles
 - herraduras
 - great kivas
 - natural features
- within Chaco Canyon
 - within outlier communities
 - between outlier communities and Chaco Canyon
- communication
 - symbolism
 - surveillance



Great House Visibility in Outlier Communities



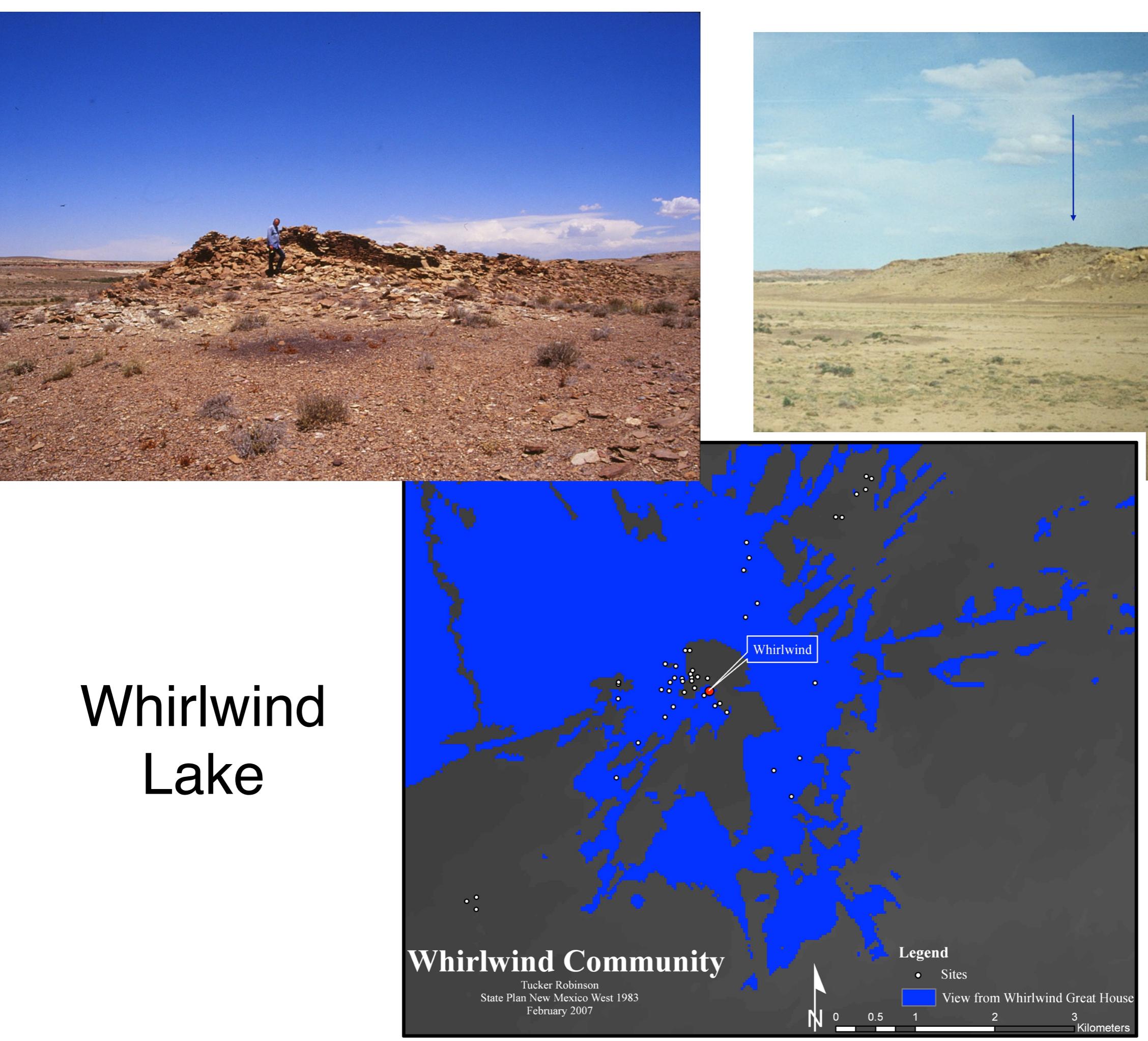
Kin Ya'a

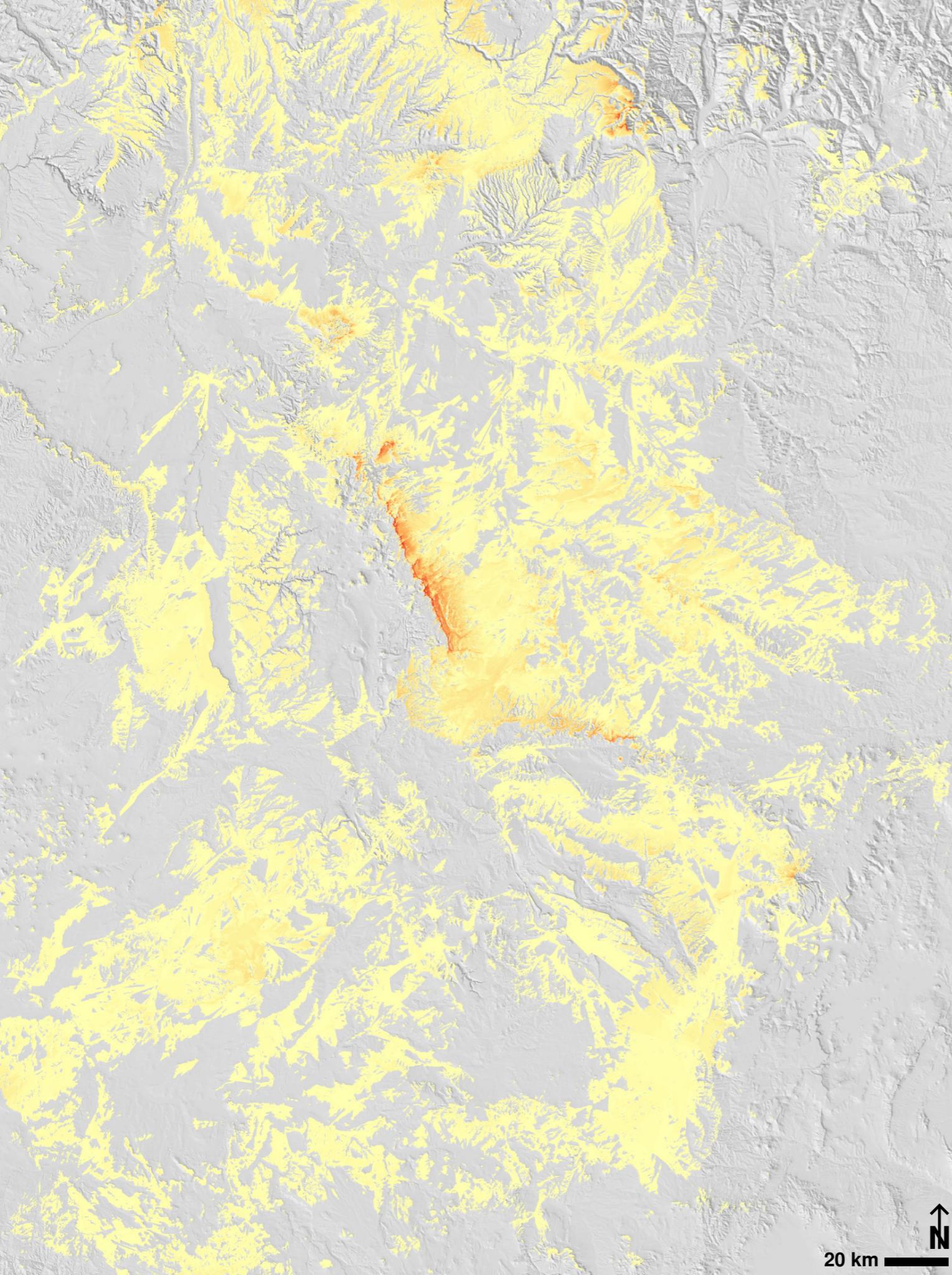
long-distance - no
local - yes



Kin Klizhin

long-distance - yes
local - no

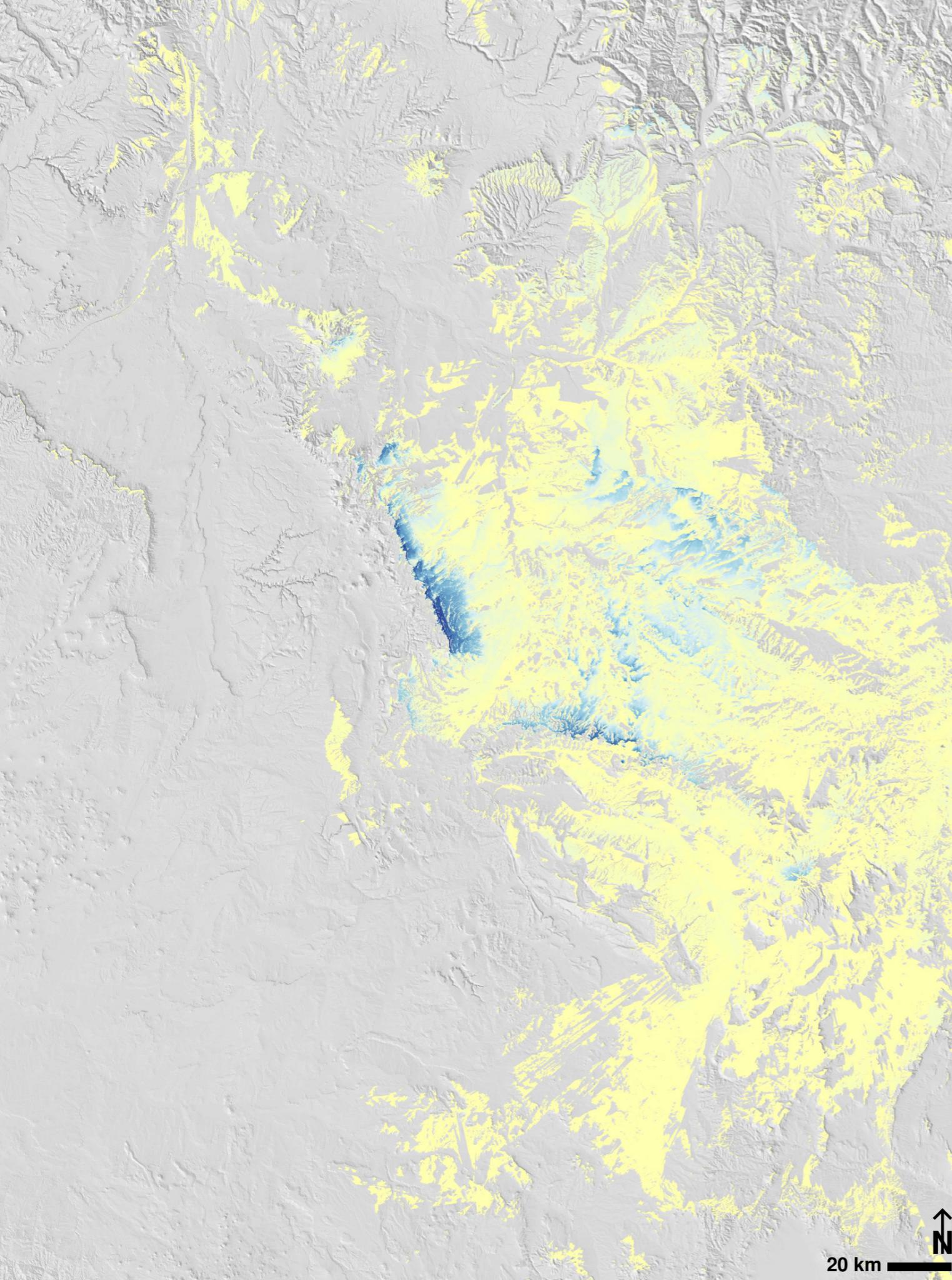




Great House Visibility

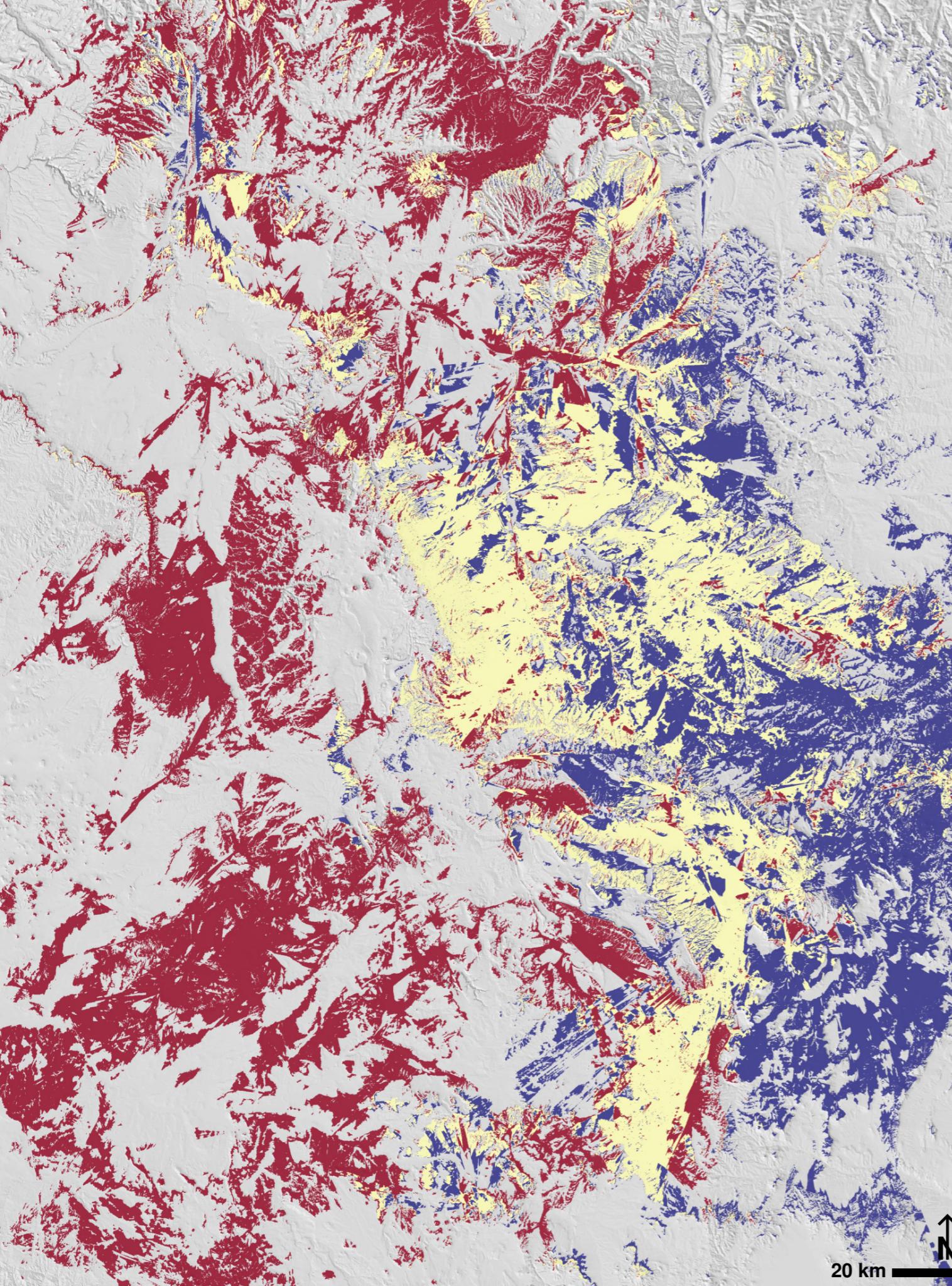
- Darker red indicates visibility from more great houses
 - Red indicates **64** great houses
 - Grey indicates **0** great houses
- **30.1%** of landscape visible from at least one great house
 - **36,121 km²**

Visibility

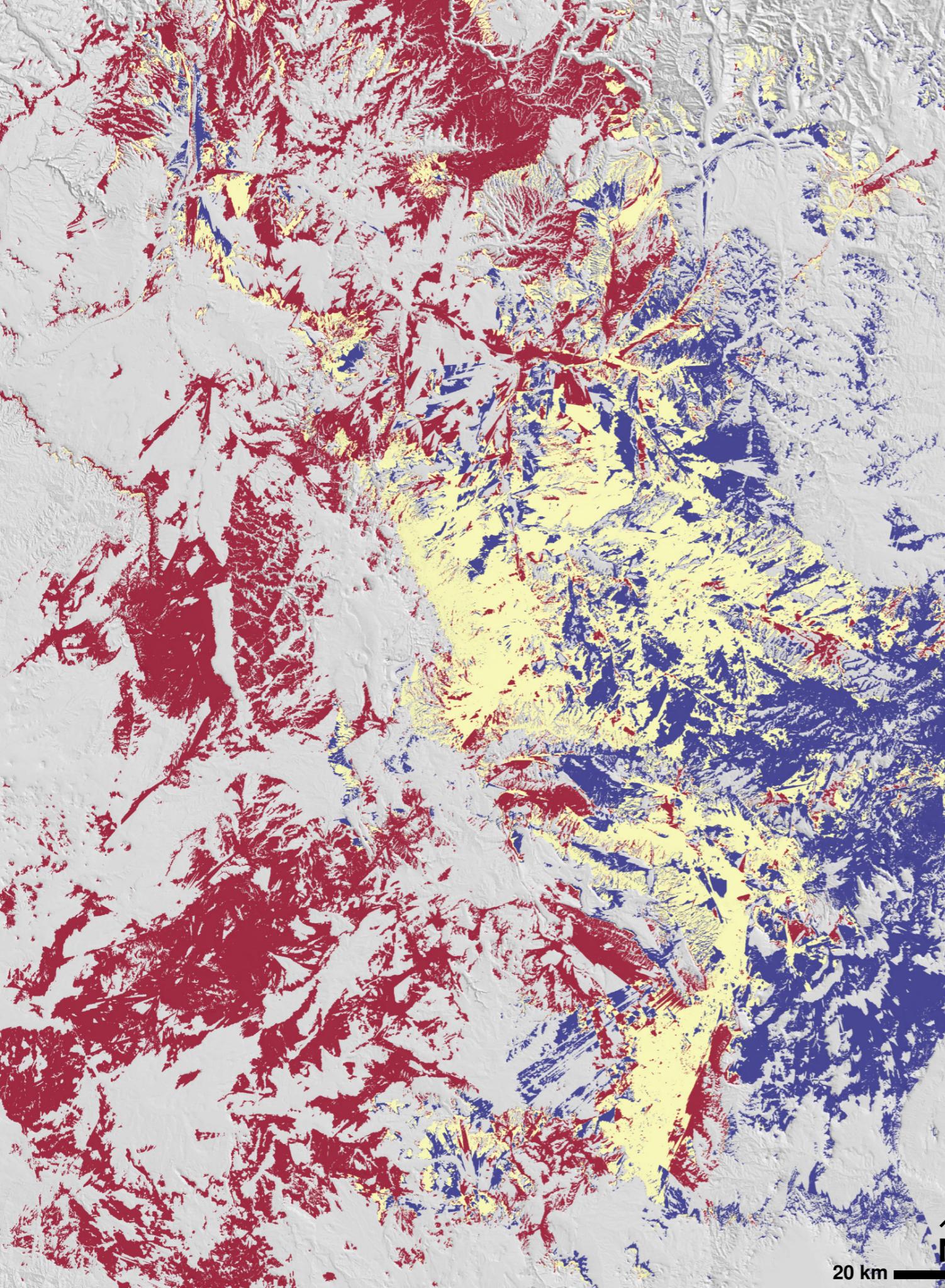


- Darker blue indicates visibility from more shrines
 - Blue indicates **49** shrines
 - Grey indicates **0** shrines
- **23.4%** of landscape visible from at least one shrine
 - **28,067 km²**

Visibility



- **Red** is area visible only from great houses
 - **21,501 km²**
 - **17.9% of landscape**
- **Blue** is area visible only from shrines
 - **13,447 km²**
 - **11.2% of landscape**
- **Yellow** is area visible from both shrines and great houses
 - **14,619 km²**
 - **12.2% of landscape**

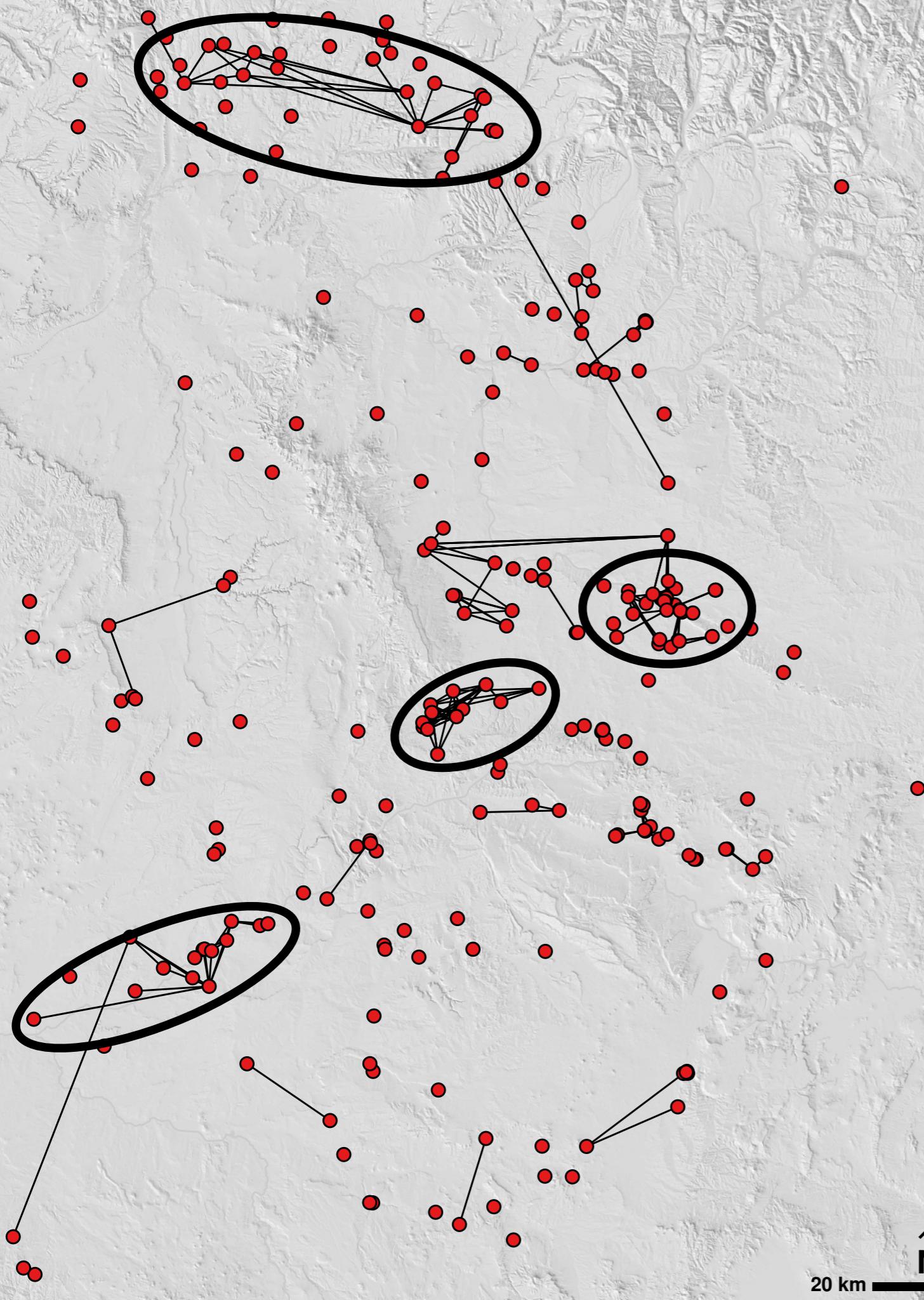


Visibility

- 49,569 km² visible from Chacoan structures
- 41.3% of the landscape

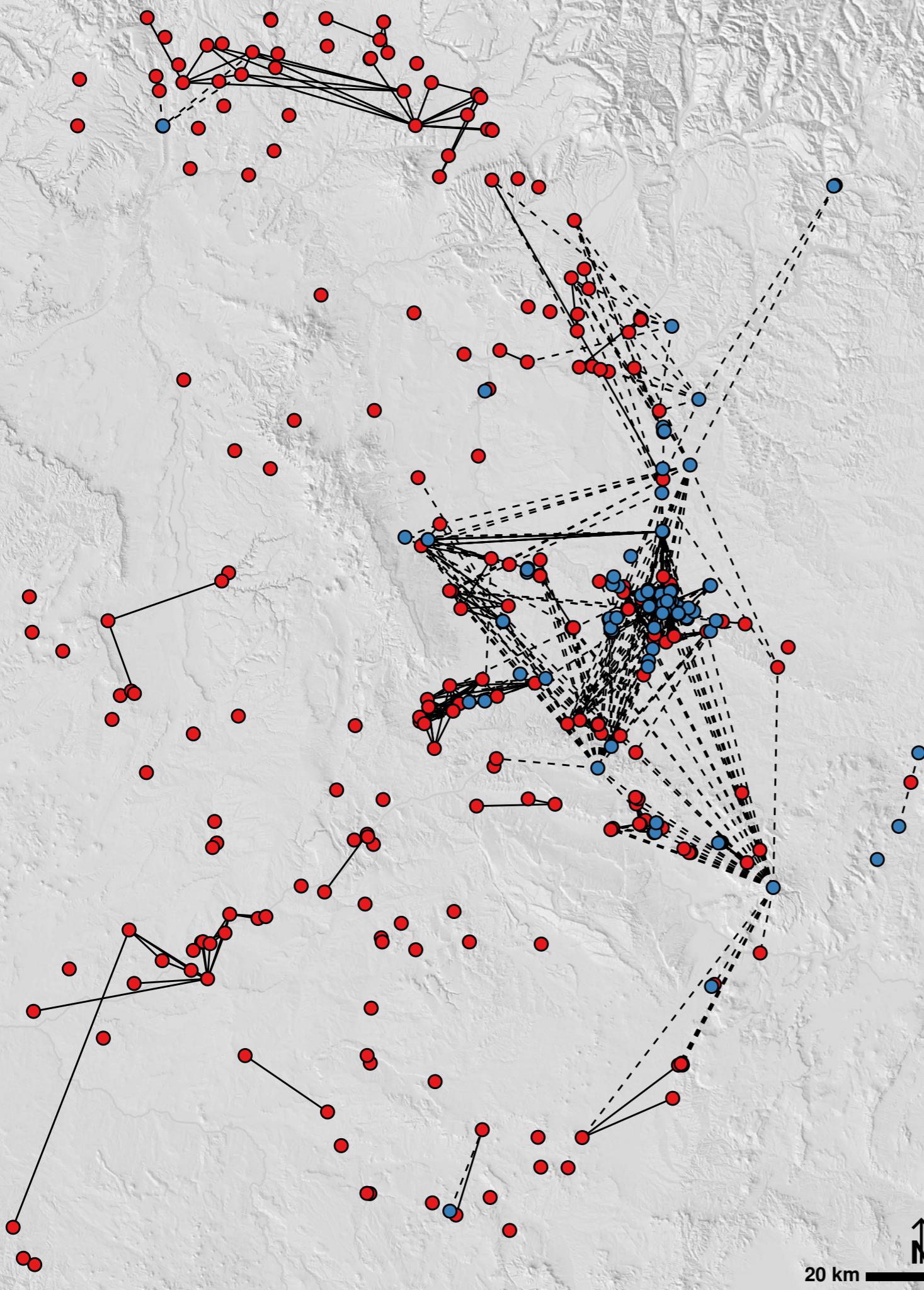
Communication?

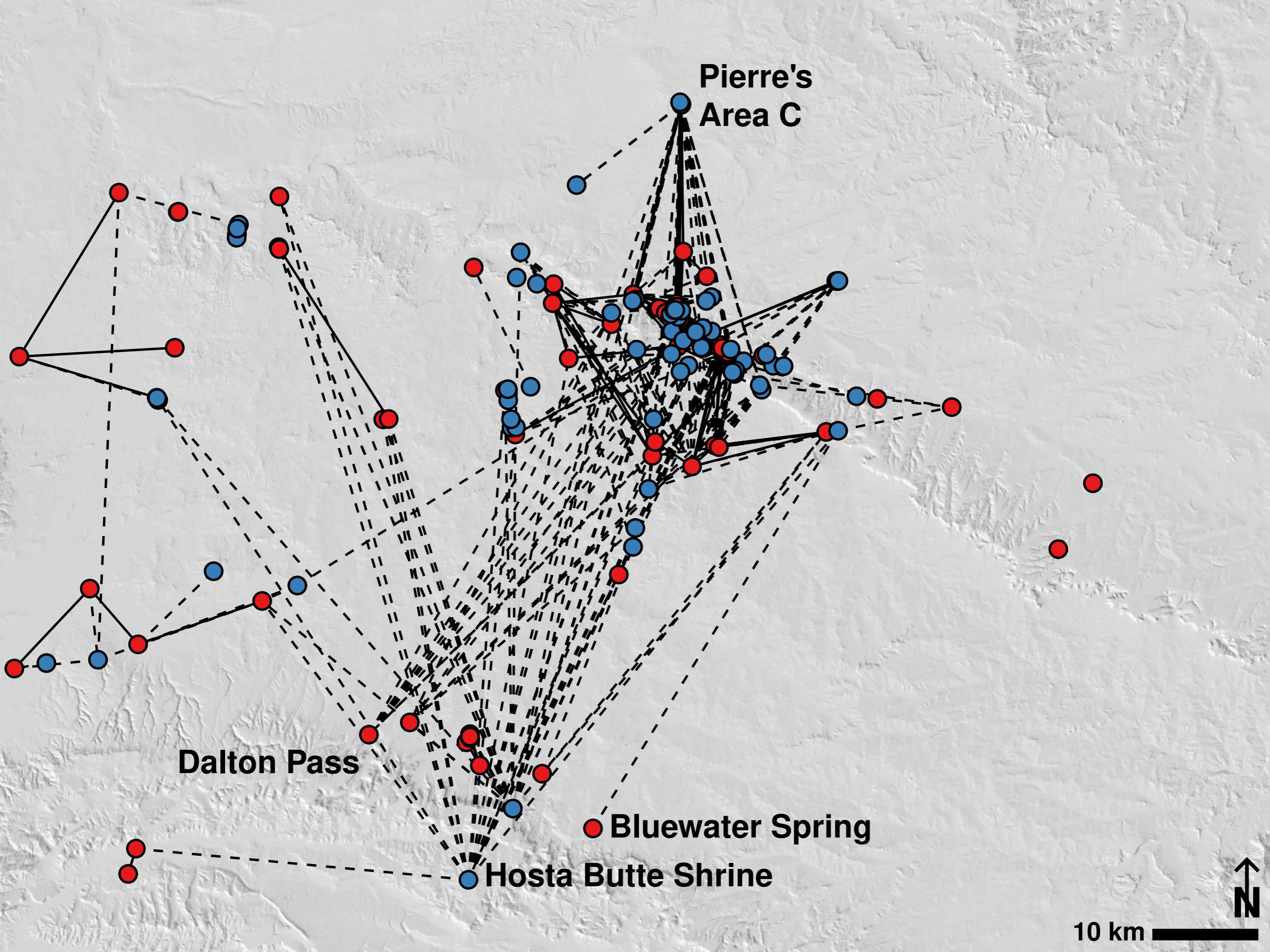
- Intervisible regional communities
 - Chaco Core
 - Southern Chuskas
 - Puerco basin
 - Northern San Juan
- Little connection between core and periphery

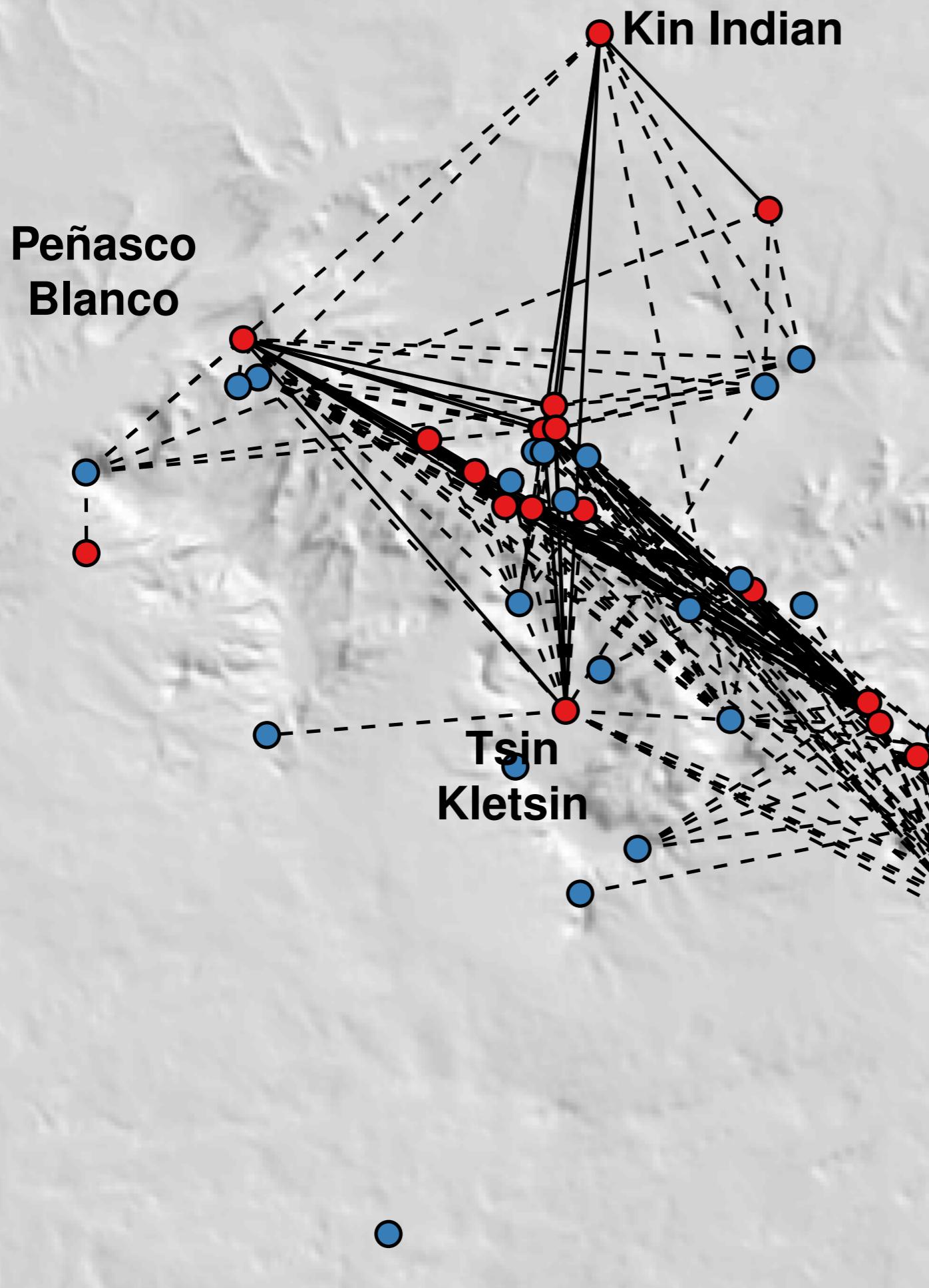


Communication?

- Shrines enhance connectedness
 - Especially in Chaco basin
 - Long-distance connections
 - Upper San Juan
 - Eastern Cibola
 - Mesa Verde (Far View)
 - **Chimney Rock**
 - Direct connection between core and southern Chuska great houses

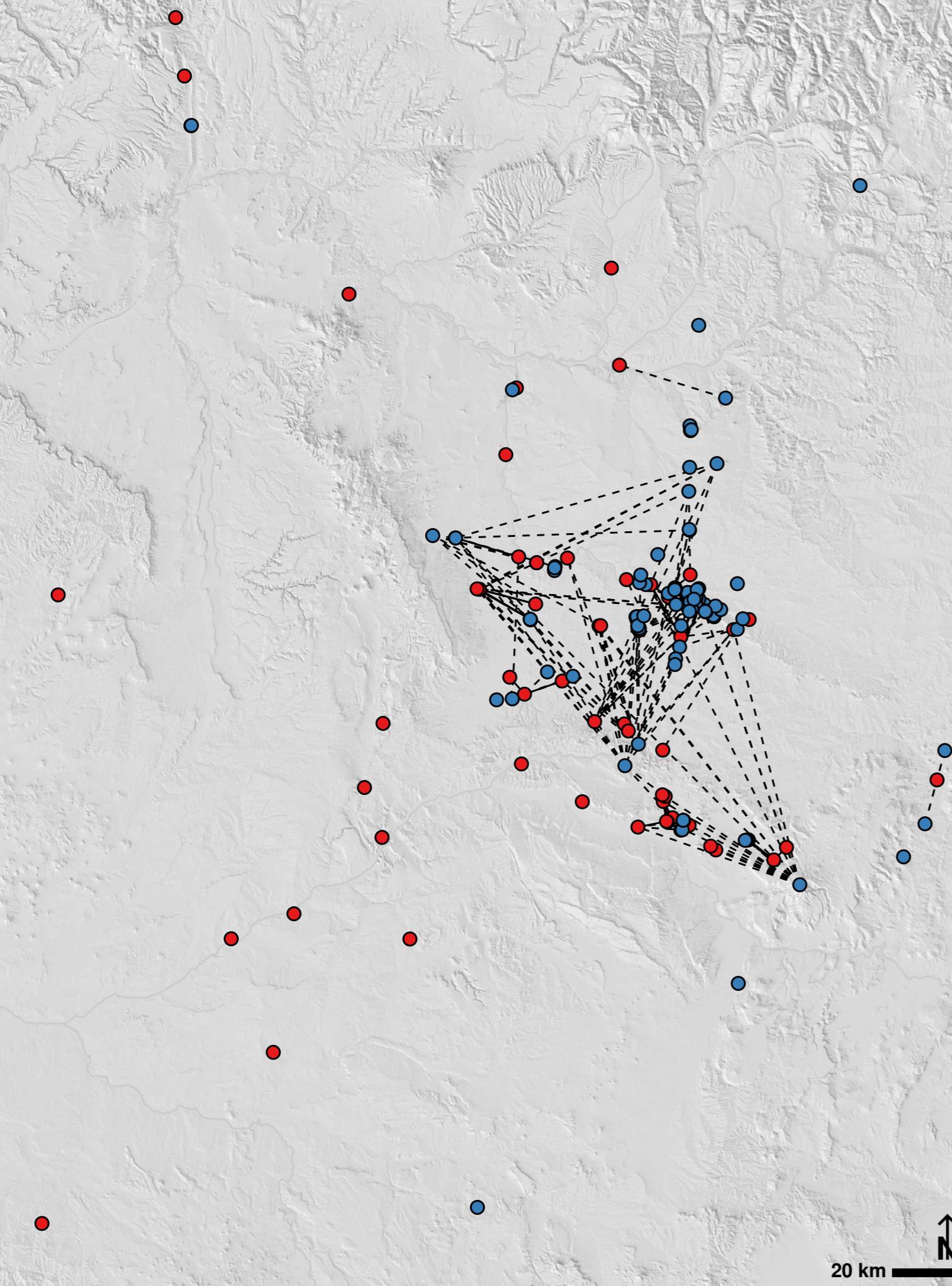






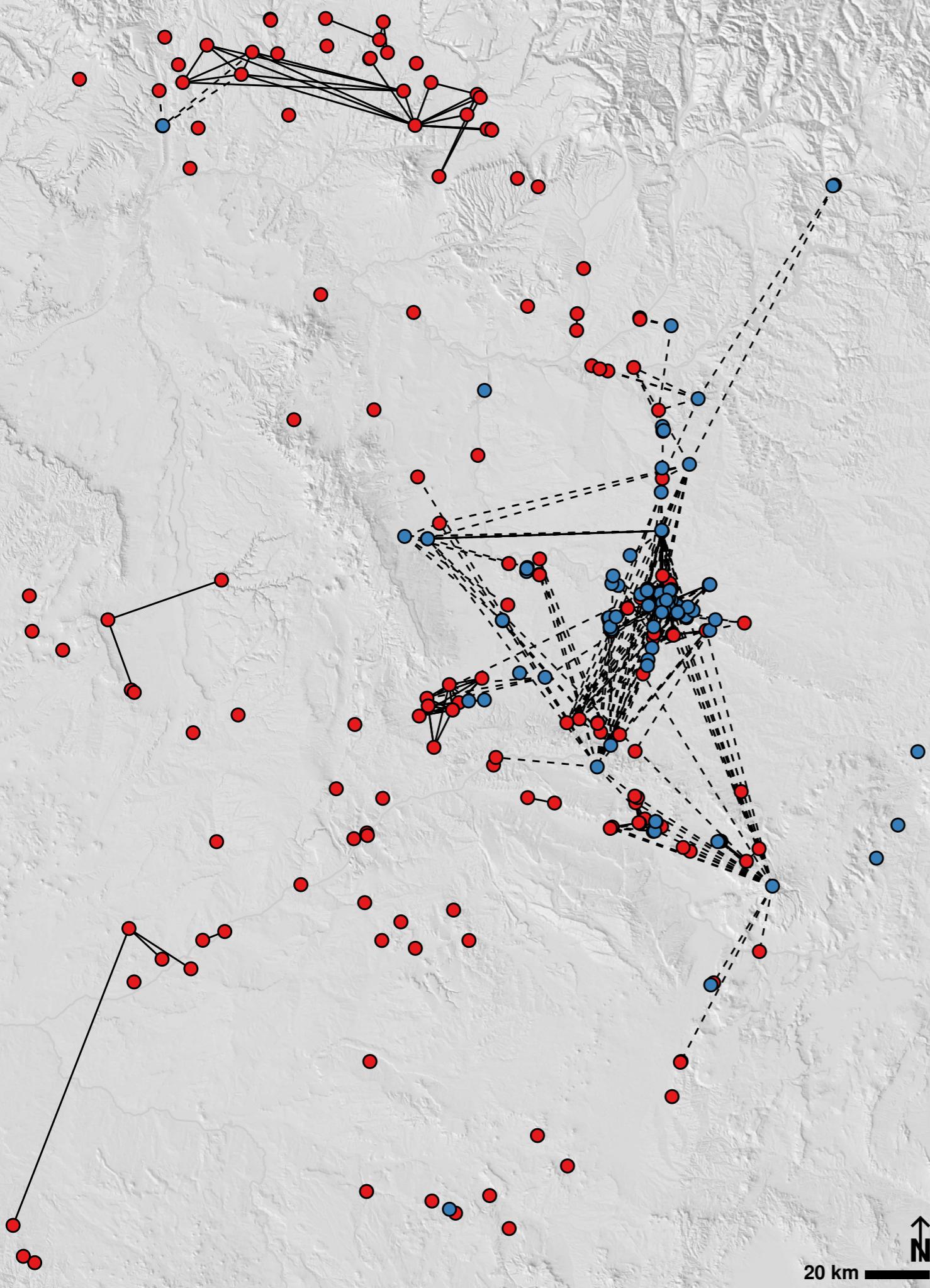
Pre- AD 1000

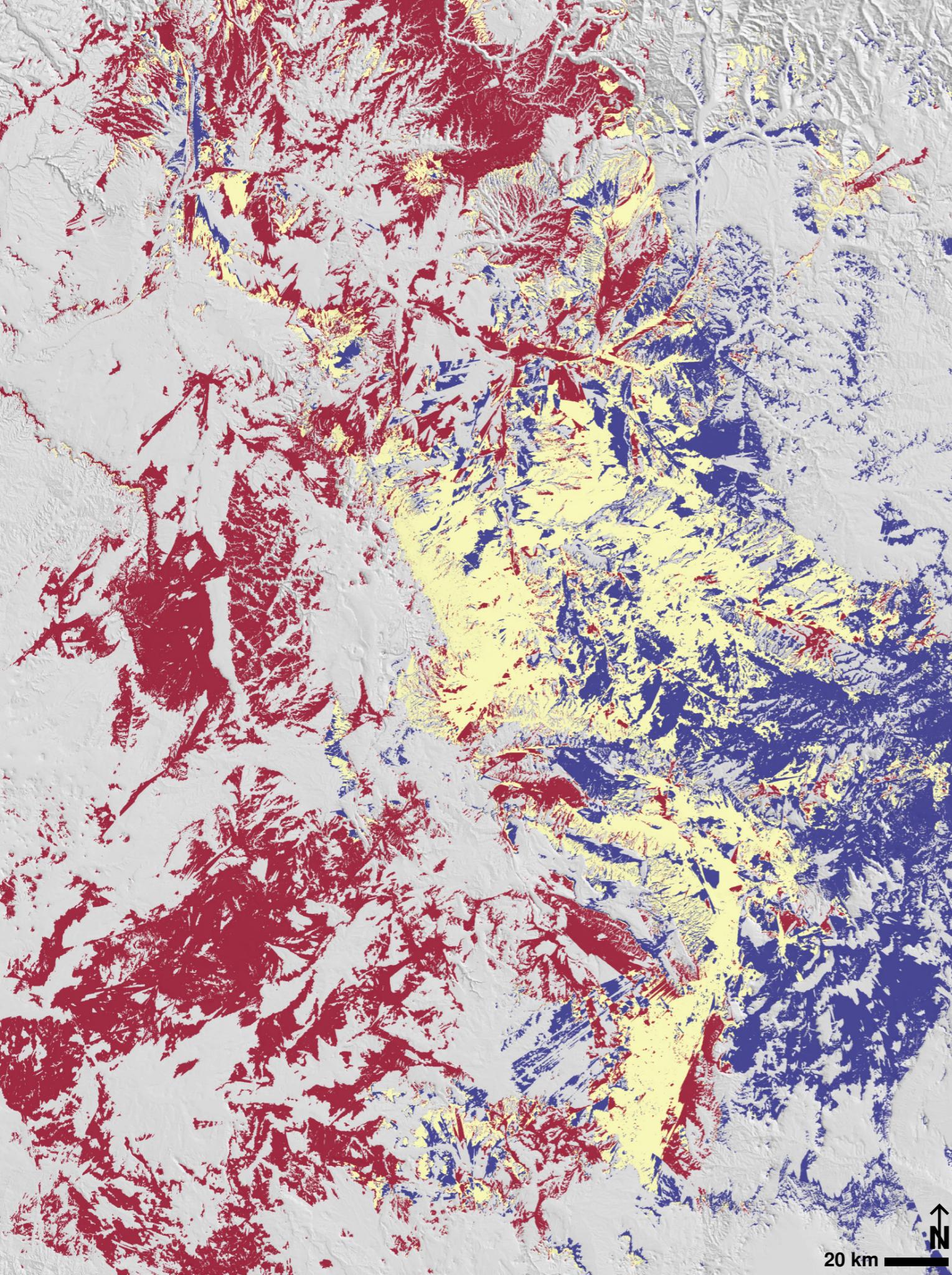
- Shrines only connect central Chaco basin
 - Regional connections
 - Many "orphaned" shrines



Post- AD 1000

- Shrines connect communities north and south of Core
- Outside of Chaco basin
- Previously disconnected shrines are now linked





- What are landscapes?
- Do they need protection?
- What additional work needs to be done?

GREAT HOUSES, SHRINES, AND HIGH PLACES: INTERVISIBILITY IN THE CHACOAN WORLD

Ruth M. Van Dyke, R. Kyle Bocinsky, Thomas C. Windes, and Tucker J. Robinson

Phenomenological archaeologists and GIS scholars have turned much attention to visibility—who can see whom, and what can be seen—across ancient landscapes. Visible connections can be relatively easy to identify, but they present challenges to interpretation. Ancient peoples created intervisible connections among sites for purposes that included surveillance, defense, symbolism, shared identity, and communication. In the American Southwest, many high places are intervisible by virtue of the elevated topography and the open skies. The Chaco phenomenon, centered in northwestern New Mexico between A.D. 850 and 1140, presents an ideal situation for visibility research. In this study, we use GIS-generated viewsheds and viewnets to investigate intervisible connections among great houses, shrines, and related features across the Chacoan landscape. We demonstrate that a Chacoan shrine network, likely established during the mid-eleventh century, facilitated intervisibility between outlier communities and Chaco Canyon. It is most likely that the Chacoans created this network to enable meaningful connections for communication and identity. We conclude that the boundaries of the Chaco phenomenon are defined in some sense by intervisibility.

Van Dyke, Ruth M., R. Kyle Bocinsky, Thomas C. Windes, and Tucker J. Robinson.
2016. *Great houses, shrines, and high places: Intervisibility in the Chacoan World.*
American Antiquity 81(2):205–230.

Source Code: https://github.com/bocinsky/VanDyke_et_al_2016

Visibility in ArcGIS Pro

Viewshed (Spatial Analyst)

- "Classic" viewshed analysis
- Raster only

Geodesic Viewshed (Spatial Analyst)

- Raster transformed into a 3D geocentric coordinate system
- GPU Accelerated
- More accurate

Other tools within the Visibility toolset

- Sightlines
- Skylines
- Intervisibility

Challenge Yourself

Consider how and whether your maps reflect human experience.

What stories do they tell?

How do they shape narratives about place and purpose?

