

West Tibet: a Candidate of Excellent Site in Northern Hemisphere

J.Y. Hu, G. Zhao, Y.H. Zhao

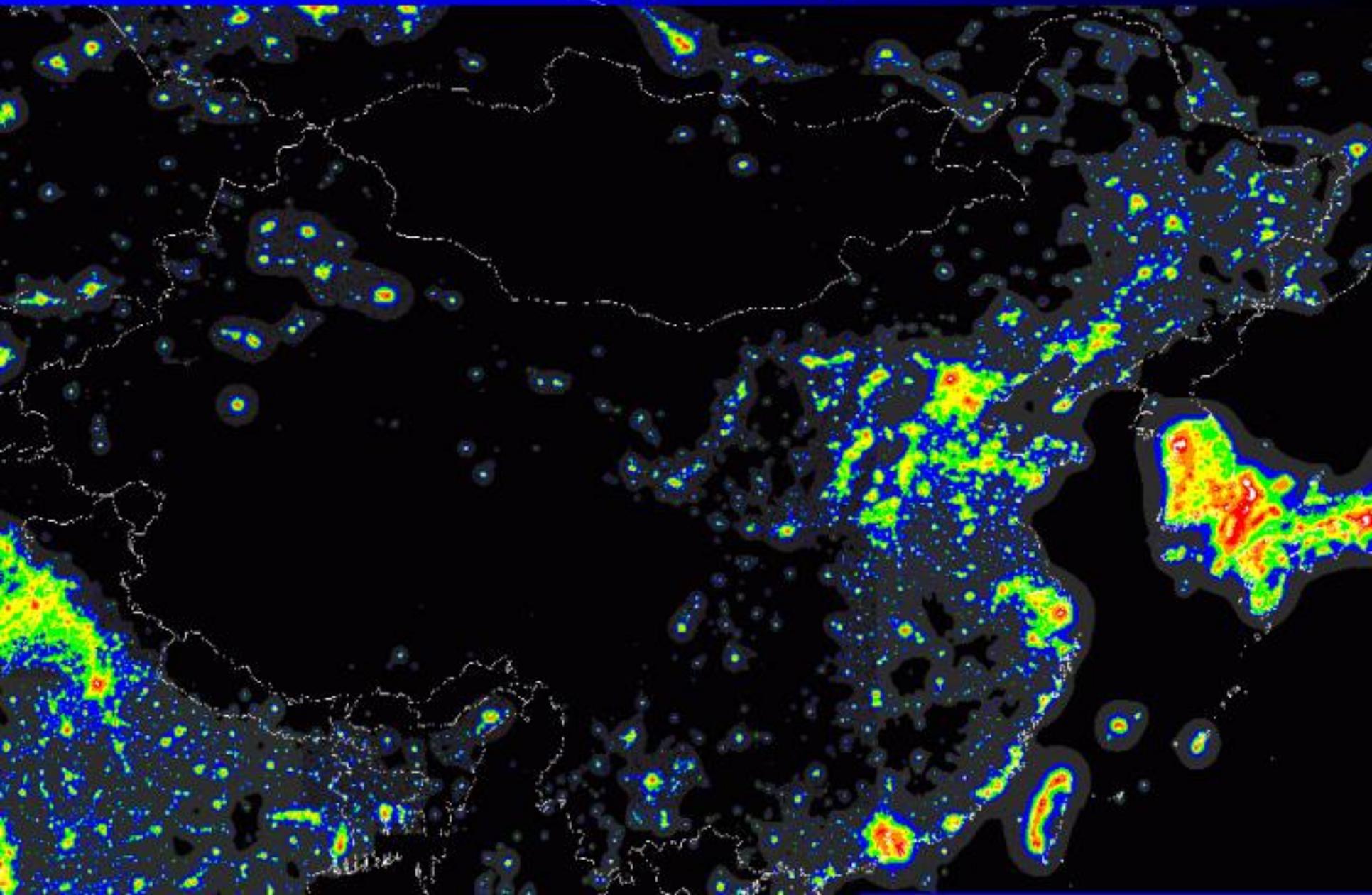
National Astronomical Observatories of China

Nov. 14, 2001 • Hua-Lien

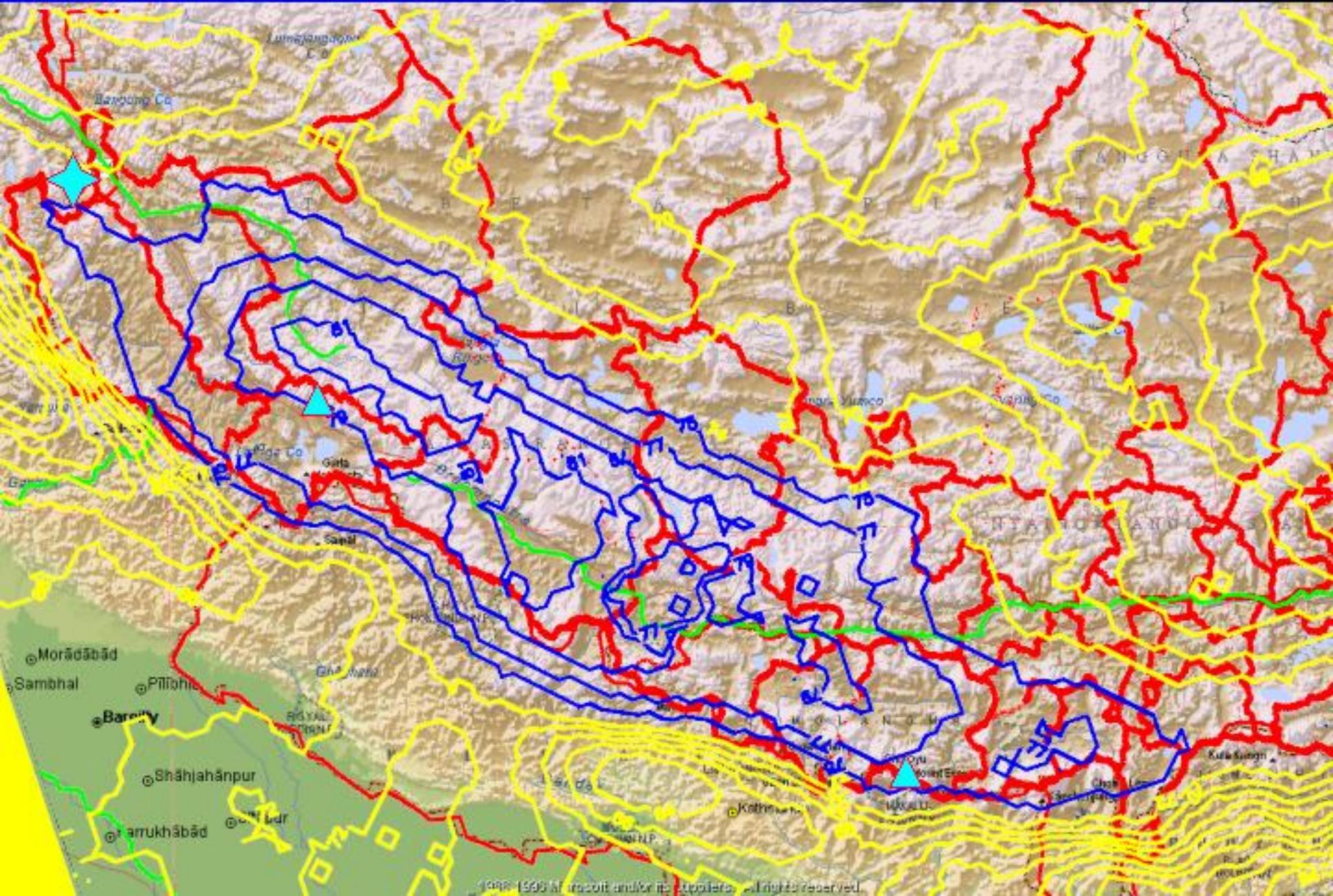
Characteristics of West Tibet

- Average altitude
 - > 4000m msl
- Without light pollution absolutely
 - < 1 person/km² (Cinzano et al., '01)
- Clear nights
 - 75-82% (Satellite data, Mao et al., '99)

Night Sky Brightness



Clear Nights in West Tibet



What about other sites near West Tibet?

Indian Astronomical Observatory (Hanle Observatory) is located at same region

- Distance to the border between China and India is only 20 km.

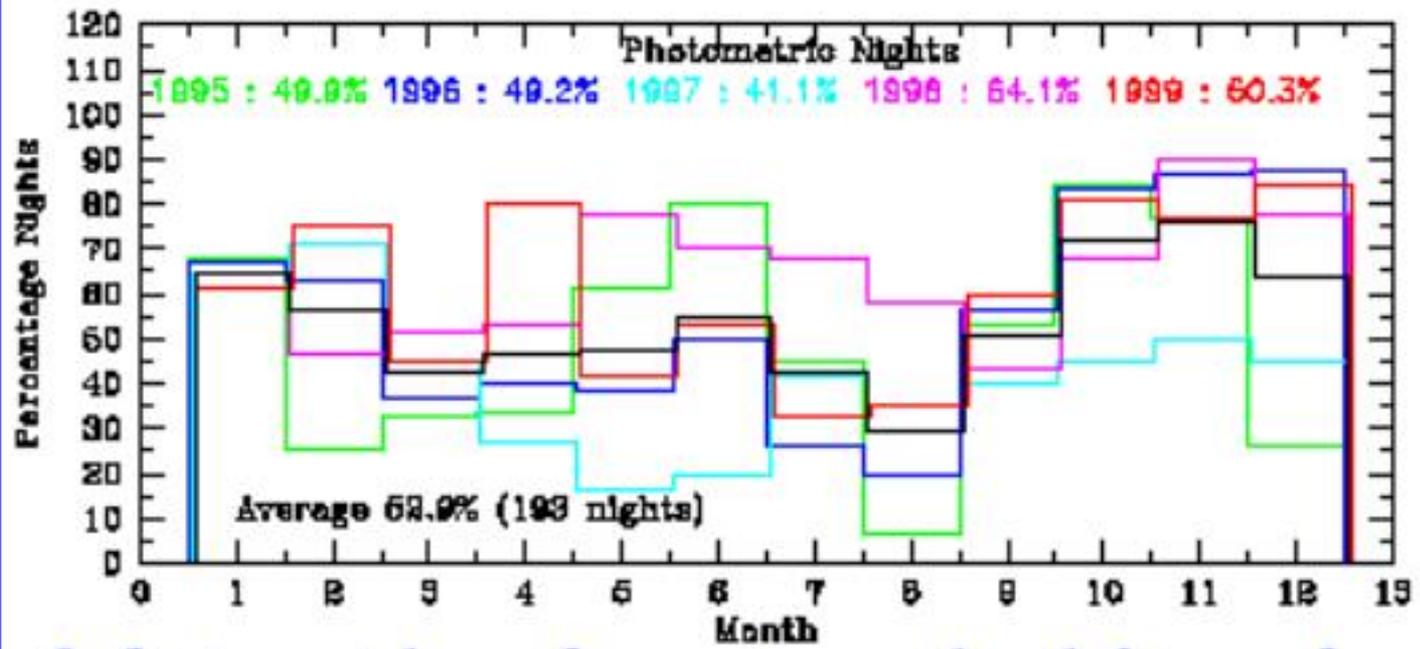
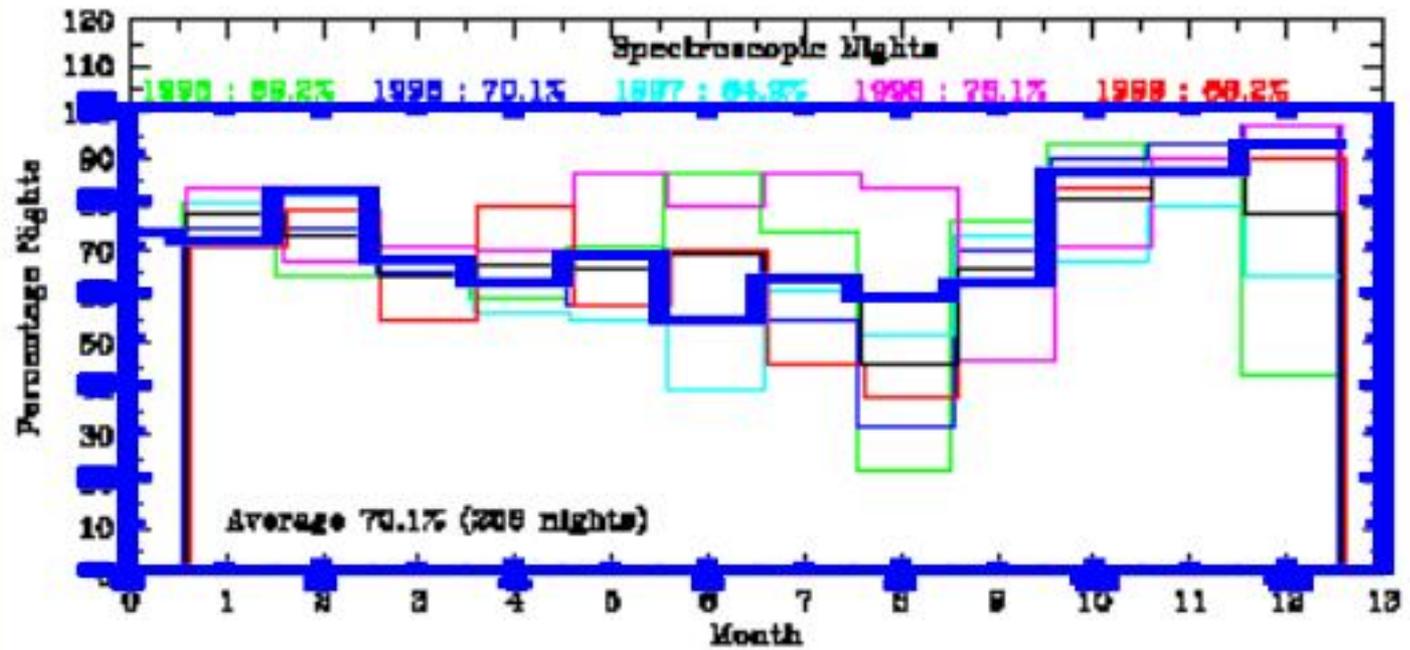
Hanle Observatory



The characteristics of Hanle (I)

- Good accessibility round the year
- Number of spectroscopic nights: 256/yr
 - According sat., Hanle is about 73%
 - For most area in *West Tibet* is 75-80%
- Number of photometric nights: 193/yr
- Precipitable water vapor: <2mm (Oct. - Apr.)
- Annual precipitation of rain & snow: <100mm
 - In *West Tibet*: 100-200mm
- Low concentration of atmospheric aerosols

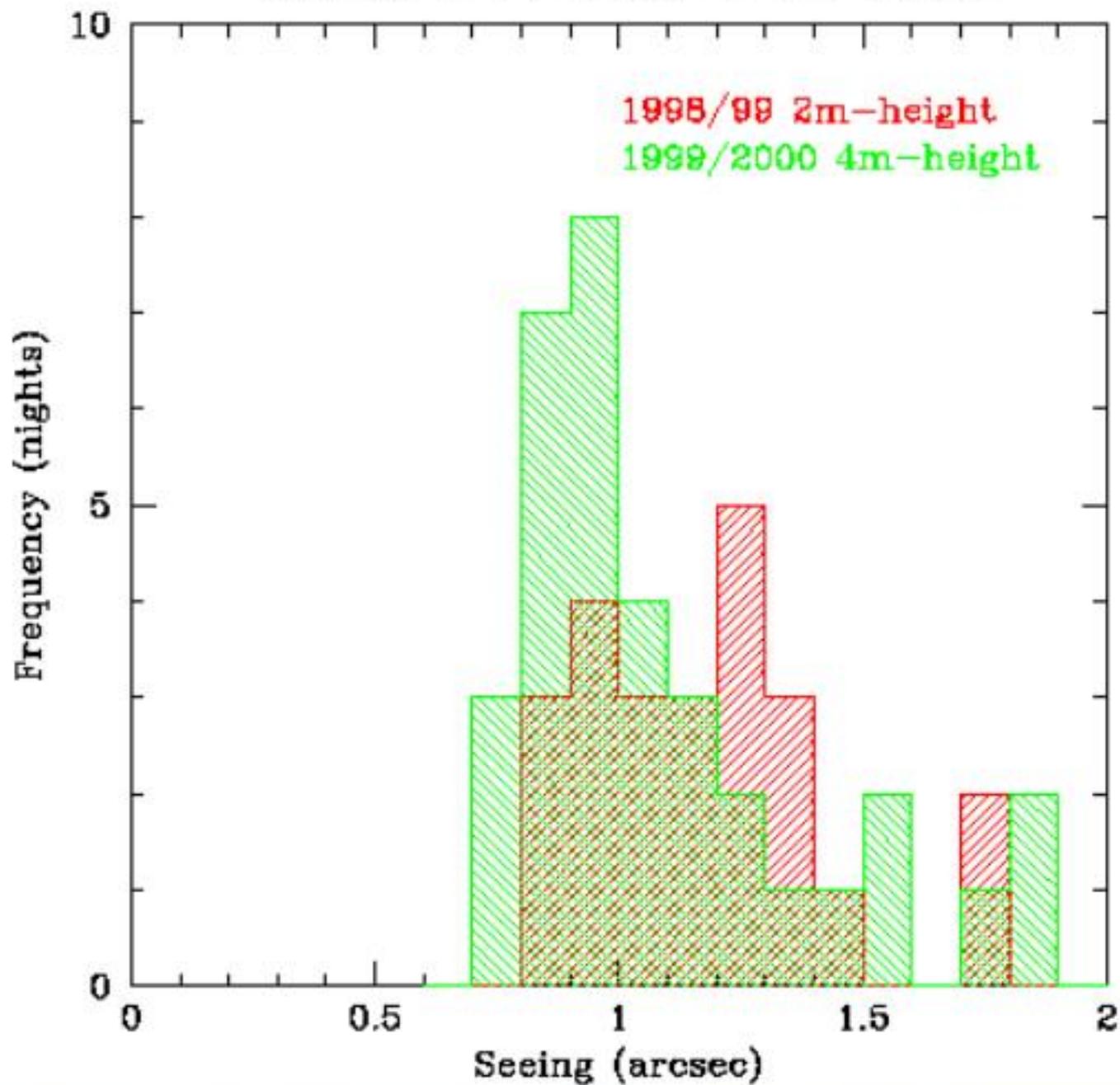
Distribution of Clear Nights at Harle



The characteristics of Hanle (II)

- Extinction in V band:
~ 0.1 mag/airmass
- Sky brightness:
21.5(V) mag/arcsec²
- Median Seeing:
< 1 arcsec

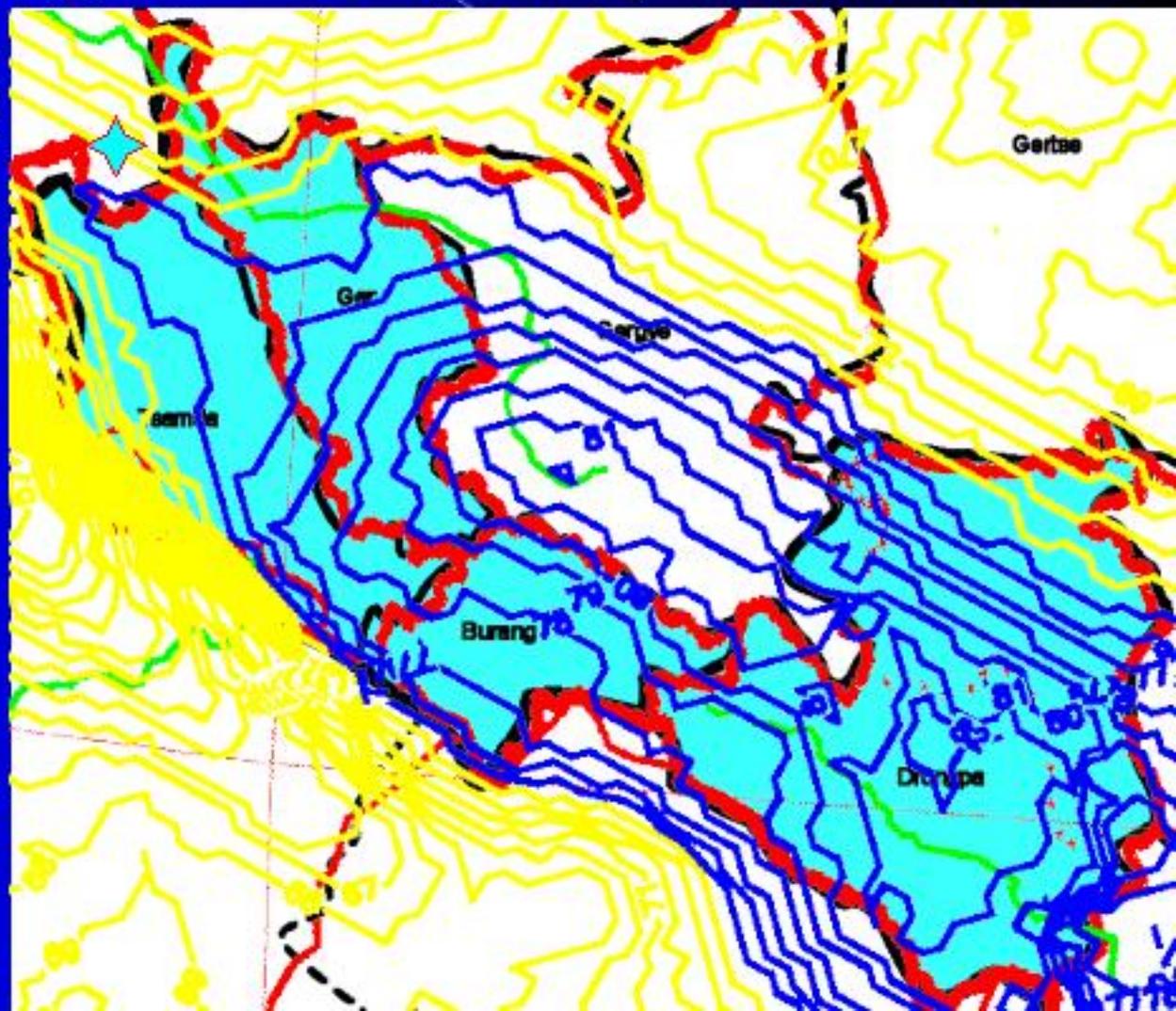
Nightly Median Seeing at Mt Saraswati



Four counties with high clear-nights

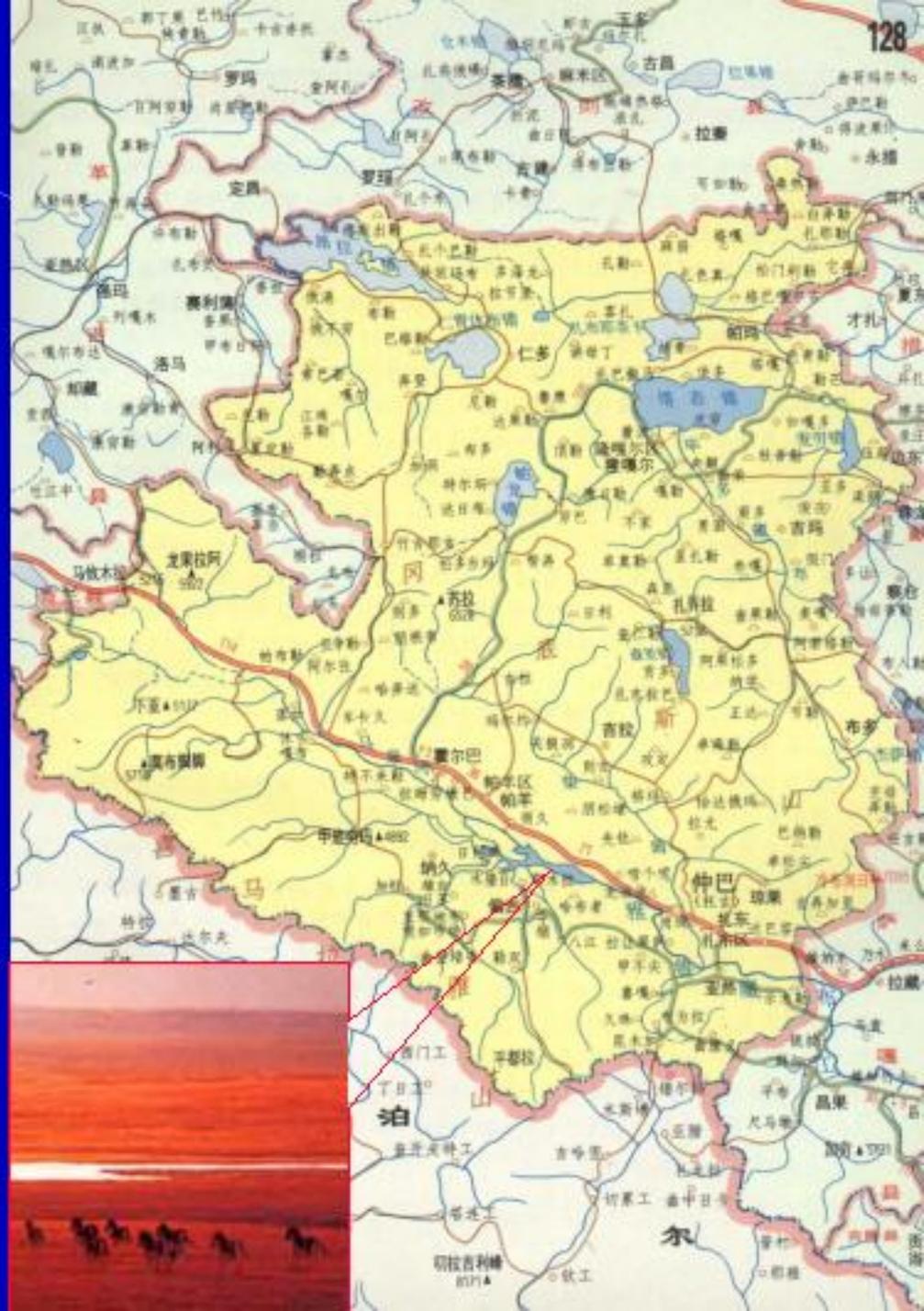
- Drongpa (仲巴)
- Burang (普兰)
- Gar (噶尔)
- Tsamda (札达)

Tsamda & Gar are
close to the Hanle.



Drongpa (仲巴)

- Area
43617 km²
- Population
~ 20000
- But strong wind
& sands



Burang (普兰)

- Area
12539 km²
- Population
~ 10000
- without
strong wind



Gar (噶尔)

- The capital of Ngari Prefecture
- Area
17918 km²
- Population
~ 10000



Tsamda (札达)

- Area
24580 km²
- Population
~ 10000



Traffic

- **Xinjiang → Gar**

- Highway from Xinjiang is more convenient than from Lhasa now.

- **Lhasa → Gar**

- a high quantity highway is under construction now, will be finished in 3 years.
- It will through 3 counties: Drongpa, Burang & Gar.

- **Airport**

- Lhasa (at present)
- Shigatze & Gar (in 2 years)

- **Railway**

- → Lhasa (in 5 years)

Site Survey in West Tibet

Call For

Cooperation!