

Mapping the hotspots and coldspots of the cultural ecosystem services in the Kailash Sacred Landscape

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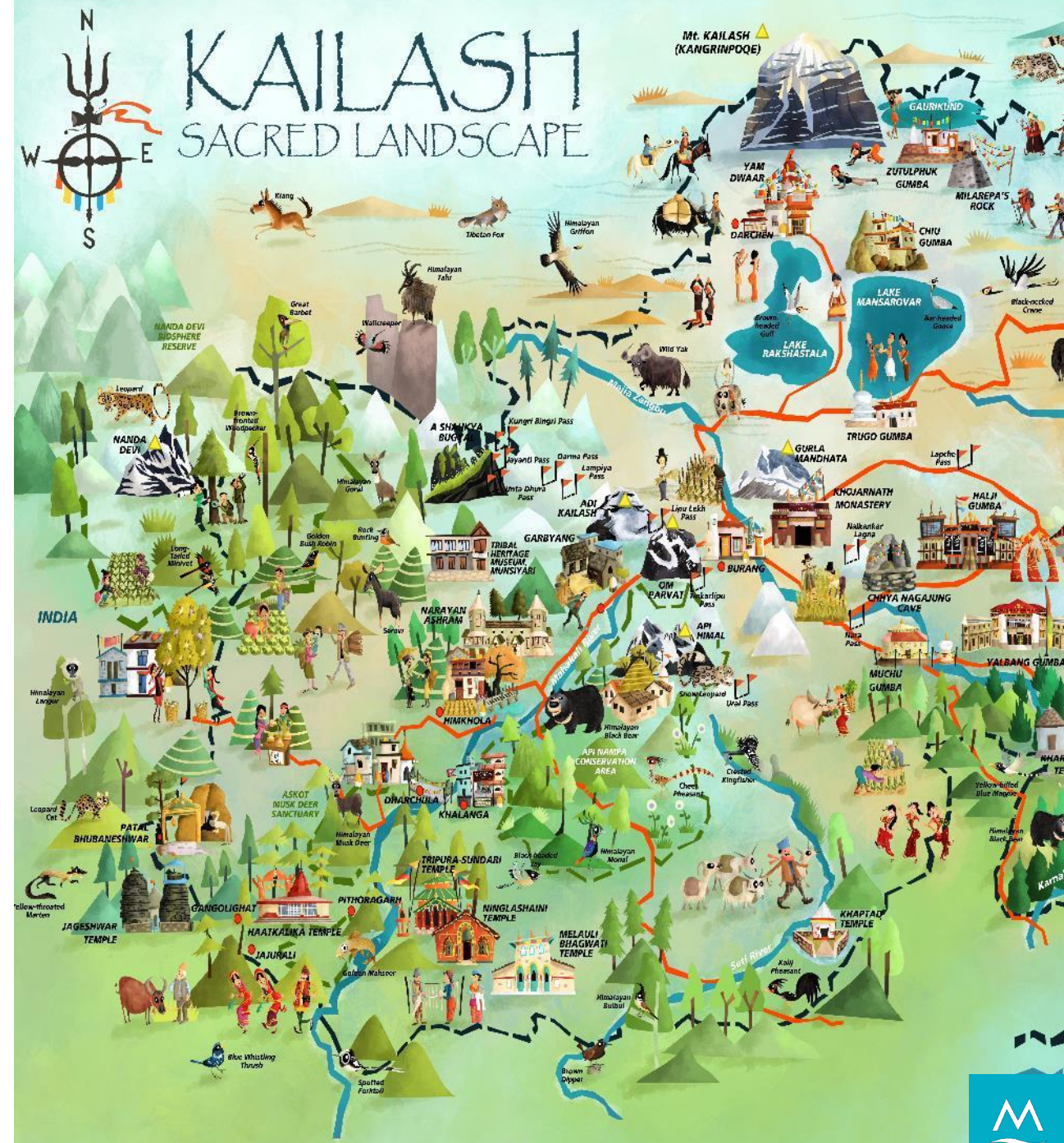


Introduction



Kailash Sacred Landscape

A cultural landscape
Culture and heritage
Sacred sites
Tourism opportunities



Cultural ecosystem services

CES: non-material benefits that people obtain from ecosystems

Contribute to a sense of place and foster social cohesion



Objective

To document hotspots and coldspots of cultural ecosystem services in the Kailash Sacred Landscape

Definition:

- 'hotspot' is statistically significant spatial clusters of high values
- 'coldspot' is statistically significant spatial clusters of low values

Methodology



Getis-Ord G_i^* Statistics

Spatial clustering method

Other hotspot analysis such as Kernel Density Estimation (KDE)

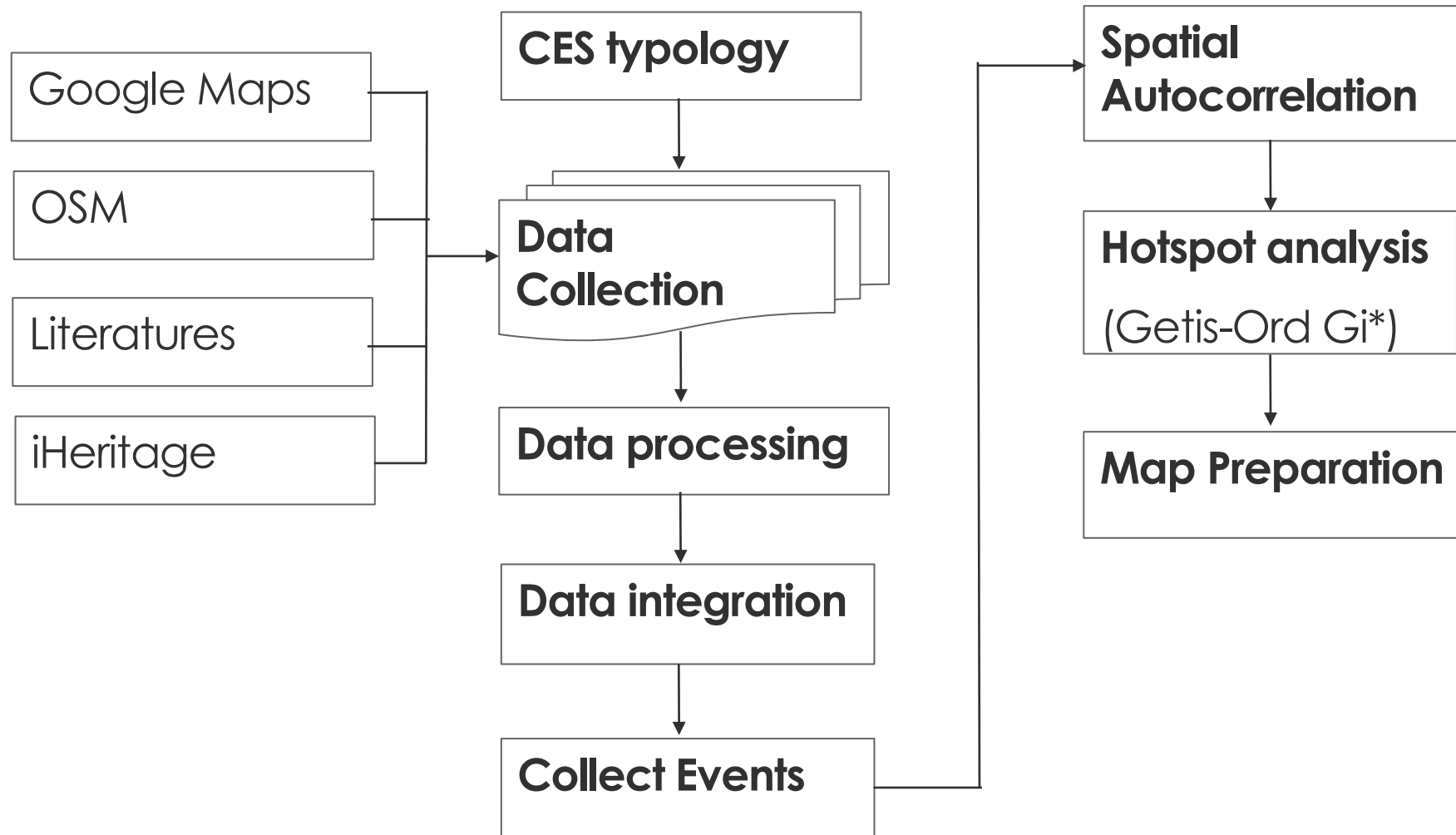
$$G_i^* = \frac{\sum_{j=1}^n w_{i,j} x_j - \bar{X} \sum_{j=1}^n w_{i,j}}{S \sqrt{\frac{\left[n \sum_{j=1}^n w_{i,j}^2 - \left(\sum_{j=1}^n w_{i,j} \right)^2 \right]}{n-1}}}$$

Produces z-score and p-value

CES Components

- Millennium Ecosystem Assessment (2005)

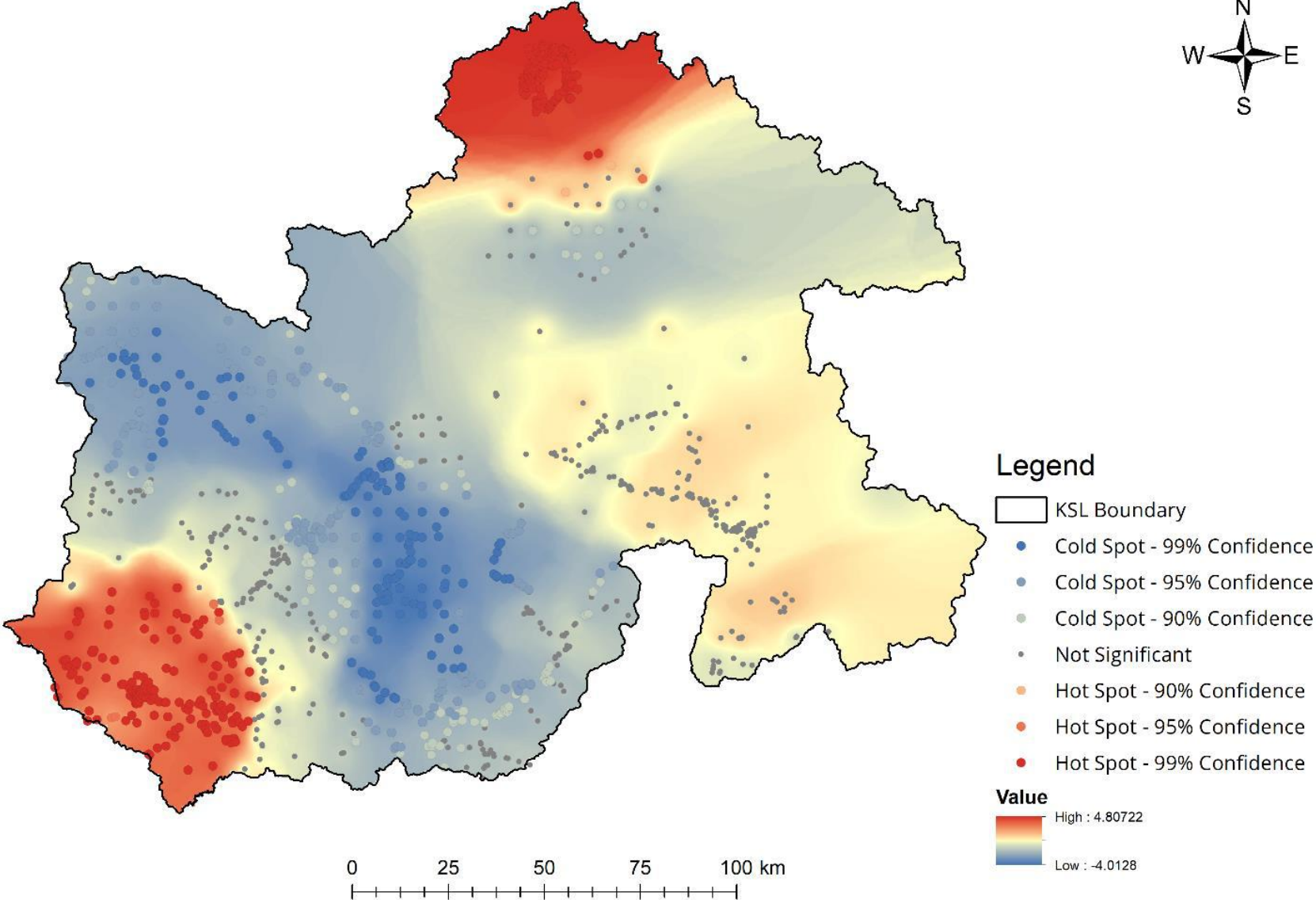
1. Cultural diversity
2. Spiritual and religious values
3. Knowledge systems
4. Educational values
5. Inspiration
6. Aesthetic values
7. Social relations
8. Sense of place
9. Cultural heritage values
10. Recreation and ecotourism



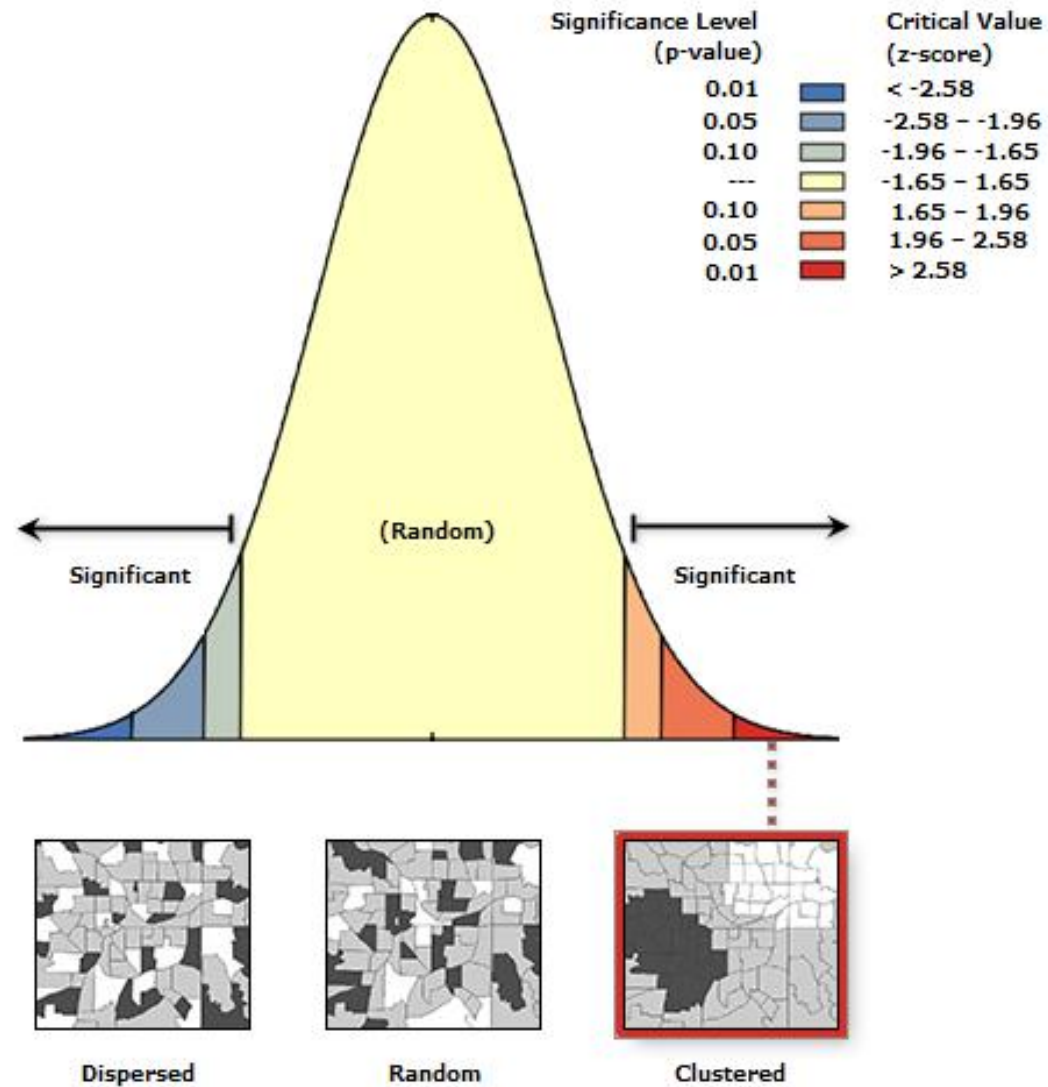
Results



CES hotspots and coldspots



Spatial autocorrelation report



% confidence

Hotspot



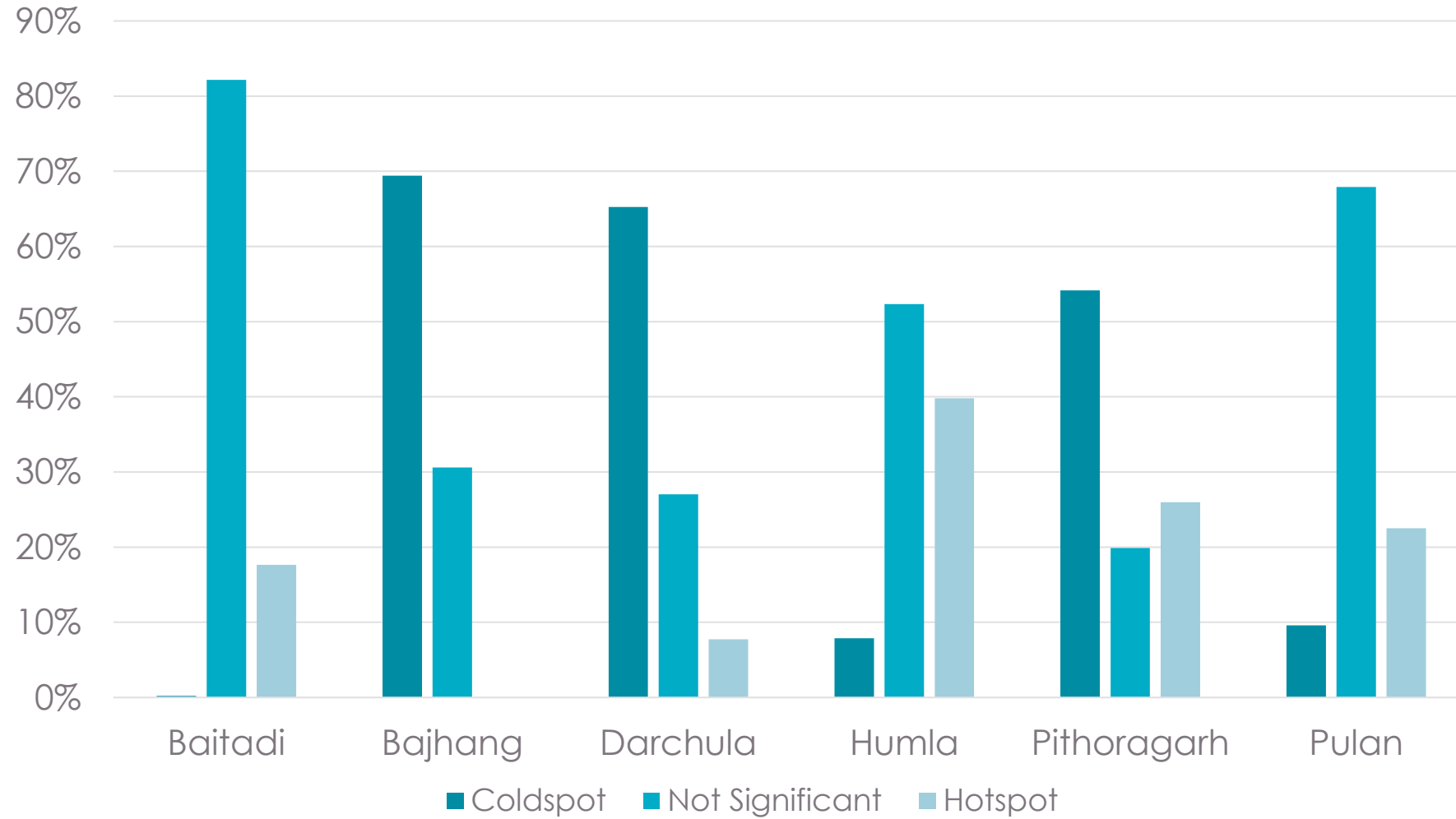
Coldspot



Not significant



% area



Conclusion

High level of CES

Information can be used to
prioritize research and
management interventions

Limitations:

Results depend on the level of
data input, hence additional CES
data are recommended



Thank you

Protect the pulse.





