



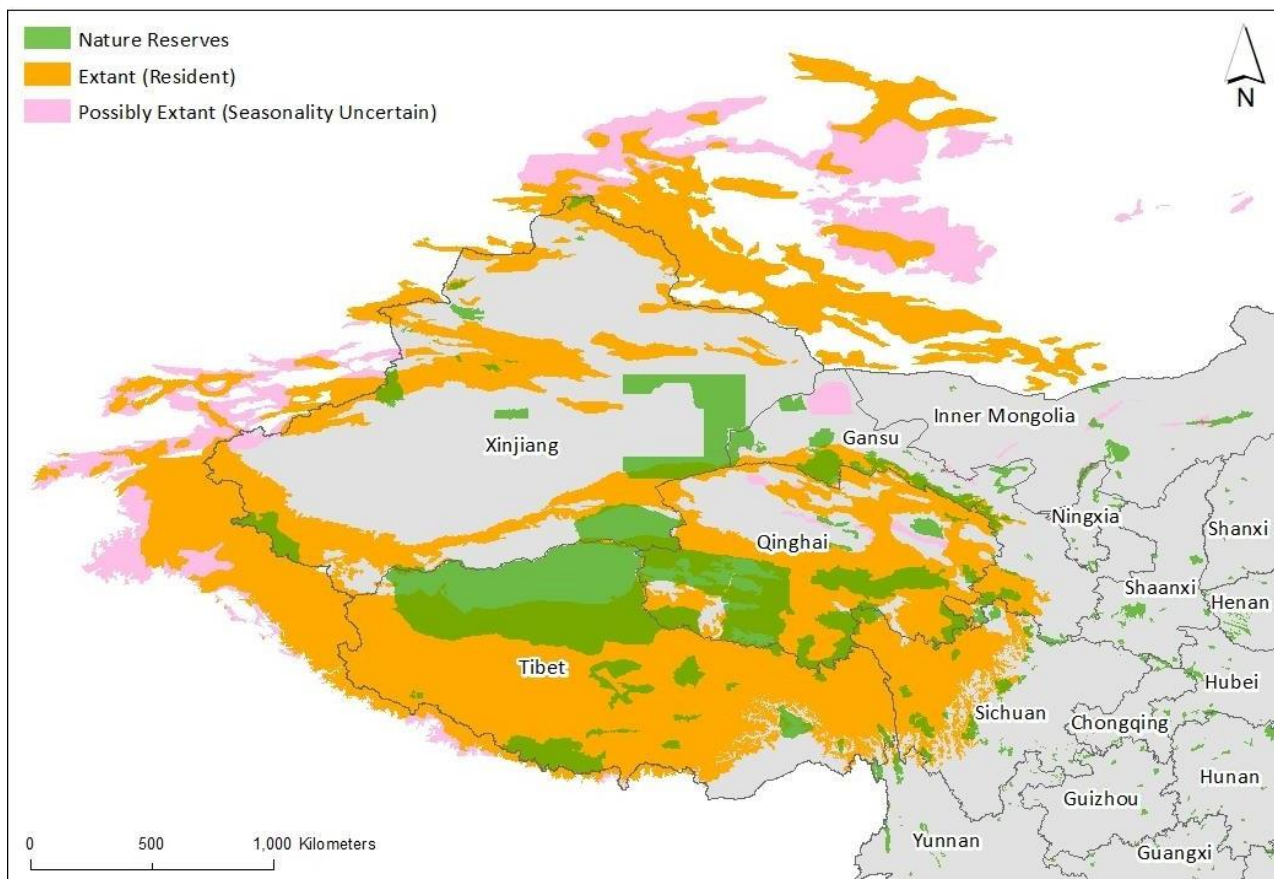
Progress on snow leopard research and conservation practice in China

CN

Leopard Land National Park
Primorsky Krai, Russian Federation
MAY 2026



Overview on snow leopard status in CHINA



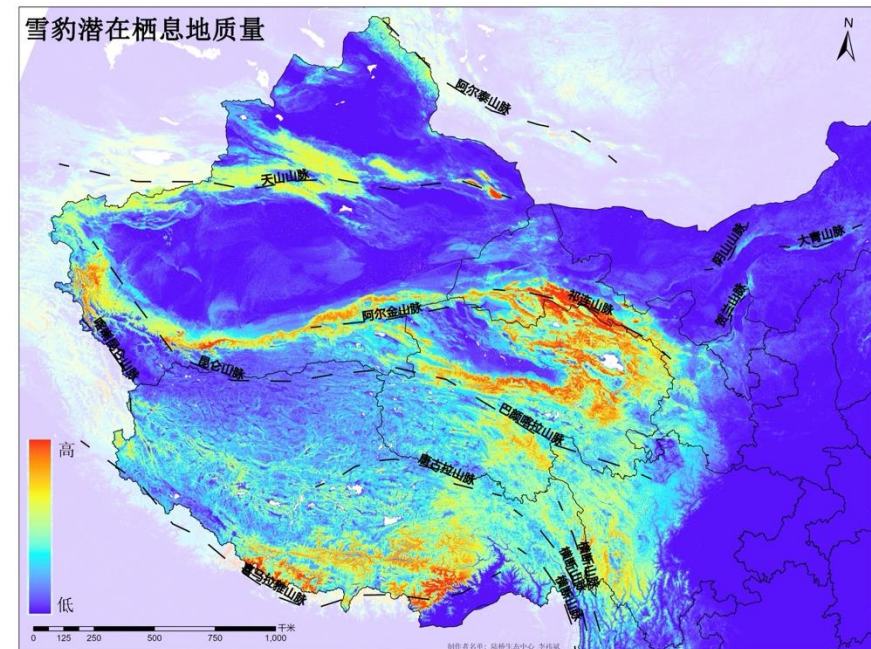
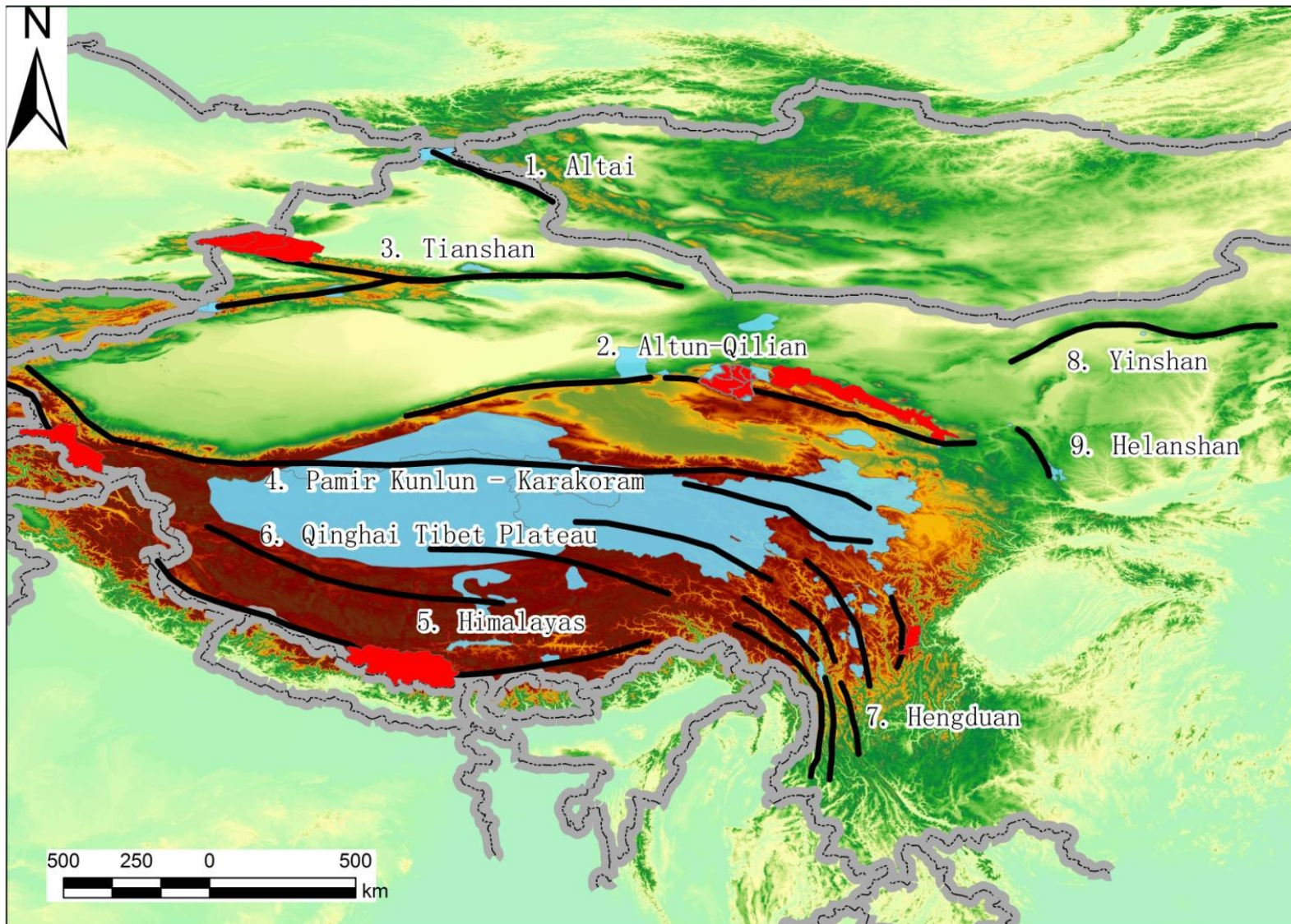
- As the most important snow leopard range country, China contains as much as 60% of the potential habitat (McCarthy and Chapron, 2003), and approximately 60% of the global population of snow leopard (Riordan and Shi, 2016).
- An estimated 5200 individuals inhabit over 1.4million of suitable habitat(extant + possibly extant), which includes numerous mountain ranges across 6 provinces and 2 Autonomous Regions (A.R.) in West and Central China. Currently, snow leopards in China are known to be present in Tibet, Qinghai, Xinjiang, Gansu, Sichuan, Yunnan, Inner Mongolia, and Ningxia (Snow Leopard (*Panthera uncia*) Status in China,2026)
- China established 3 National parks and 78 newly listed Important Wildlife Habitat across at least 831,700 km² of land.

Kun Shi, Lingyun Xiao, Luciano Atzeni, Zhuoluo Lyu, Yixuan Liu, Jun Wang, Xuchang Liang, Yanlin Liu, Xiang Zhao, Justine Shanti Alexander, Byron Weckworth, Zhi Lu, Philip Riordan, Chapter 46 - Snow leopard status and conservation in China, Editor(s): David Mallon, Tom McCarthy, In Biodiversity of World: Conservation from Genes to Landscapes, Snow Leopards (Second Edition), Academic Press, 2024, Pages 577-601, ISBN 9780323857758, <https://doi.org/10.1016/B978-0-323-85775-8.00021-2>.

McCarthy, T., Mallon, D., Jackson, R., Zahler, P. & McCarthy, K. 2017. *Panthera uncia*. The IUCN Red List of Threatened Species 2017: e.T22732A50664030.



Snow leopard landscapes in China



Nine regions:

- (1) Altai Mountain
- (2) Altun-Qilian
- (3) Tianshan
- (4) Pamir's Kunlun- Karakoram
- (5) Himalayas
- (6) Qinghai Tibet Plateau
- (7) Hengduan Mountain
- (8) Yinshan
- (9) Helanshan Mountain

Nine core distribution regions of snow leopard in China (CSLCAP, 2013)



Research & Monitoring Methods



Increased publications on snow leopard-related topics in China

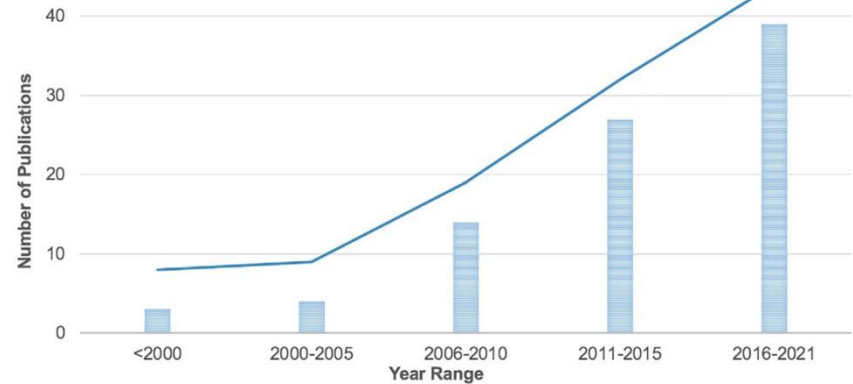
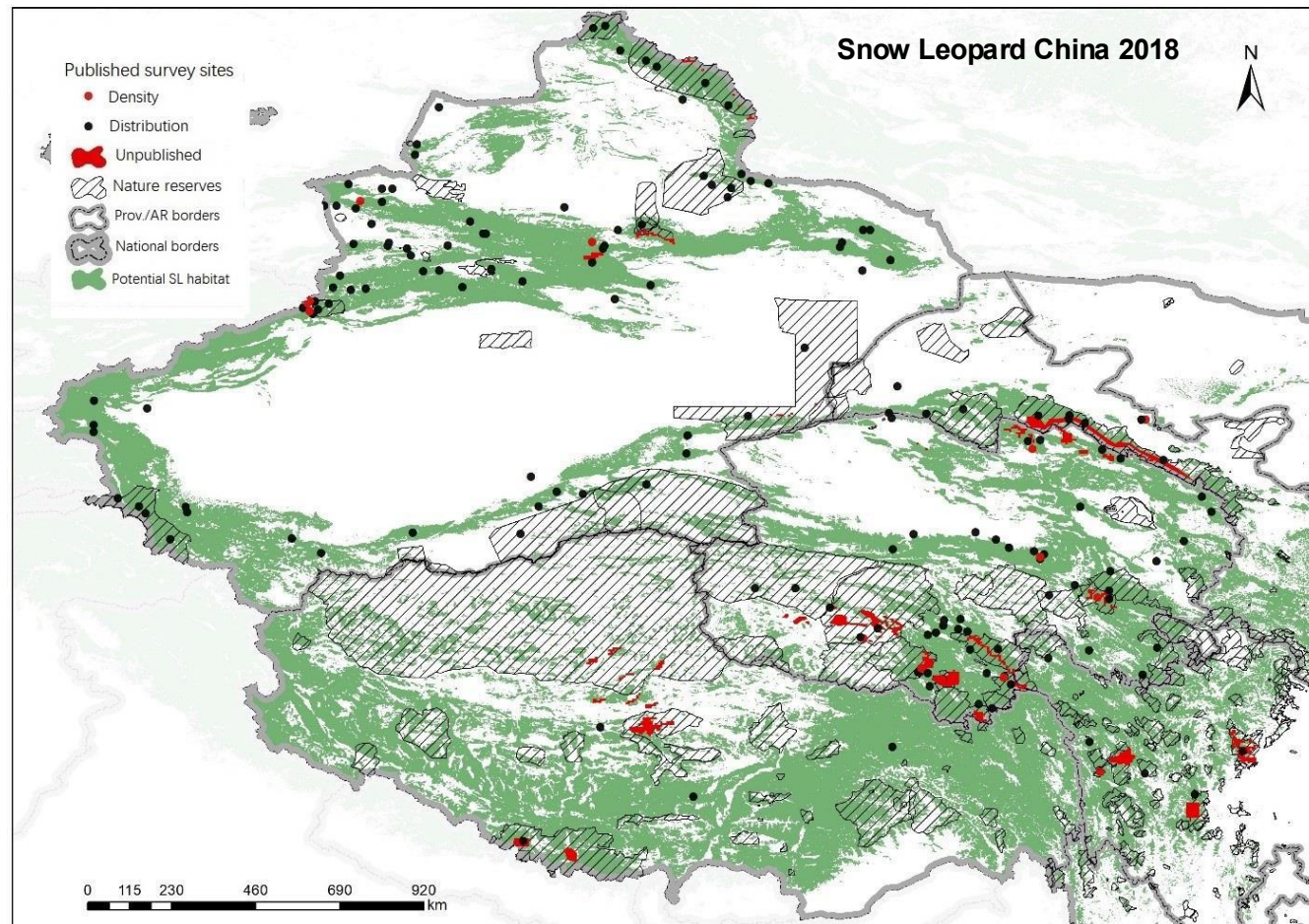


FIG. 46.3 The number of snow leopard-focused publications in China for all years prior to 2000 and by year of publication in 5-year intervals since 2000.



Snow leopard distribution and abundance studies



Survey Efforts

Scope	Habitat area/km ²	20% SL habitat/km ²	Actual coverage/km ²	% of SL habitat
Xinjiang	476398	95280	2315	0.49
Inner Mongolia	21762	4352	0	0
Gansu	105815	21163	4300	4.06
Qinghai	330768	66154	14680	4.44
Tibet	660798	132160	4503	0.68
Yunnan	15756	3151	0	0
Sichuan	160366	32073	4578	2.85
Nation-wide	1771662	354332	29934	1.69

Topics of Study

1 Distribution/dispersal

2 Diet/prey

3 Abundance/density

4 Habitat connectivity

5 Niche Overlap

6 Conflict/threats

7 Genetic diversity

8 Breeding & Disease

9 Climate Change

Surveys are primarily based on **grid-connected camera trapping and sign surveys**, and to apply **spatial/non-spatial mark and recapture models** based on results from rosette-based identification of individuals to estimate density and distribution.

**Ongoing and planned surveys are expanding, but long-term efforts are still needed to cover both protected and unprotected areas*



Status of identified snow leopard landscapes

✓ **Global-Leading Protection Network:**

- 155 protected areas covering **768,000 km²** of habitat
- Includes: **2 national parks, 26 national nature reserves**

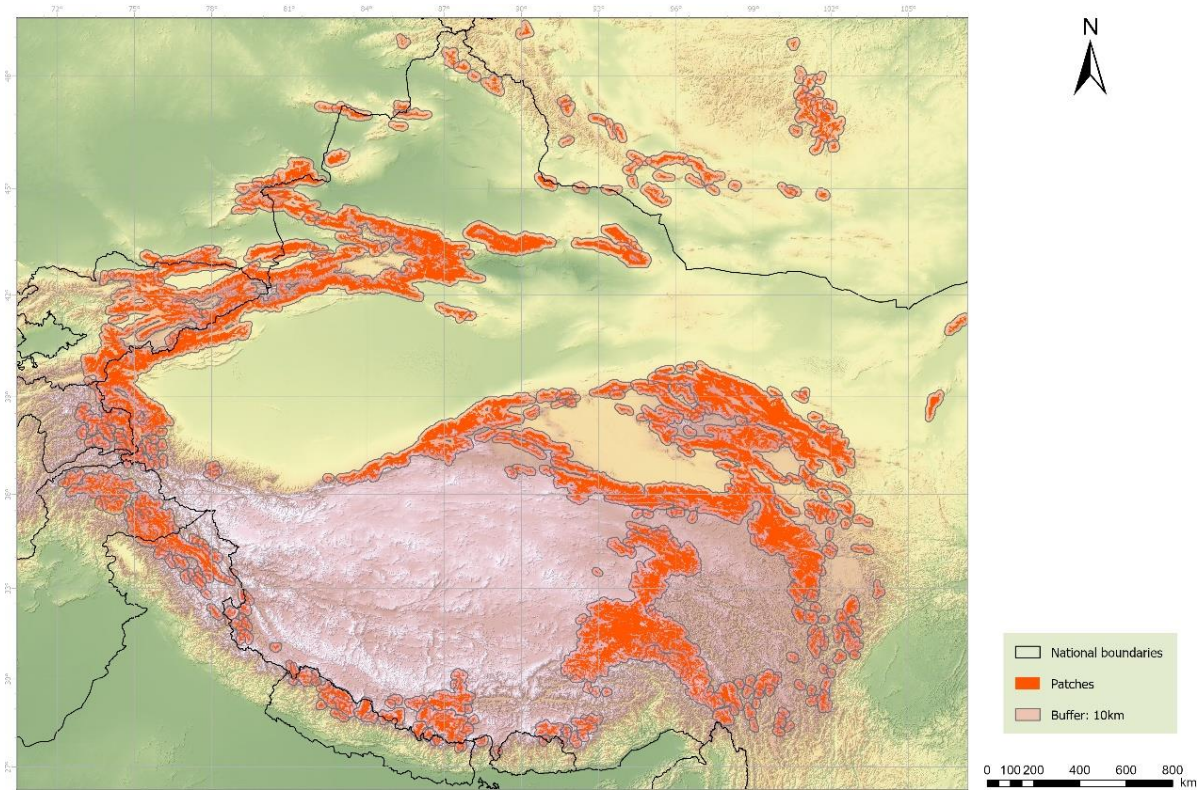
✓ **Policy Reinforcement:**

- Ecological Compensation Regulation: \$2.76B/year* (¥20B) cross-provincial funding
- 780 key wildlife habitats** designated (2023), **179** protecting **85%** of snow leopard range

✓ **Action Outcomes:**

- **destructive projects halted within or near wildlife habitat**
- Central funding: **\$2.48B/year** (¥18B) to range provinces

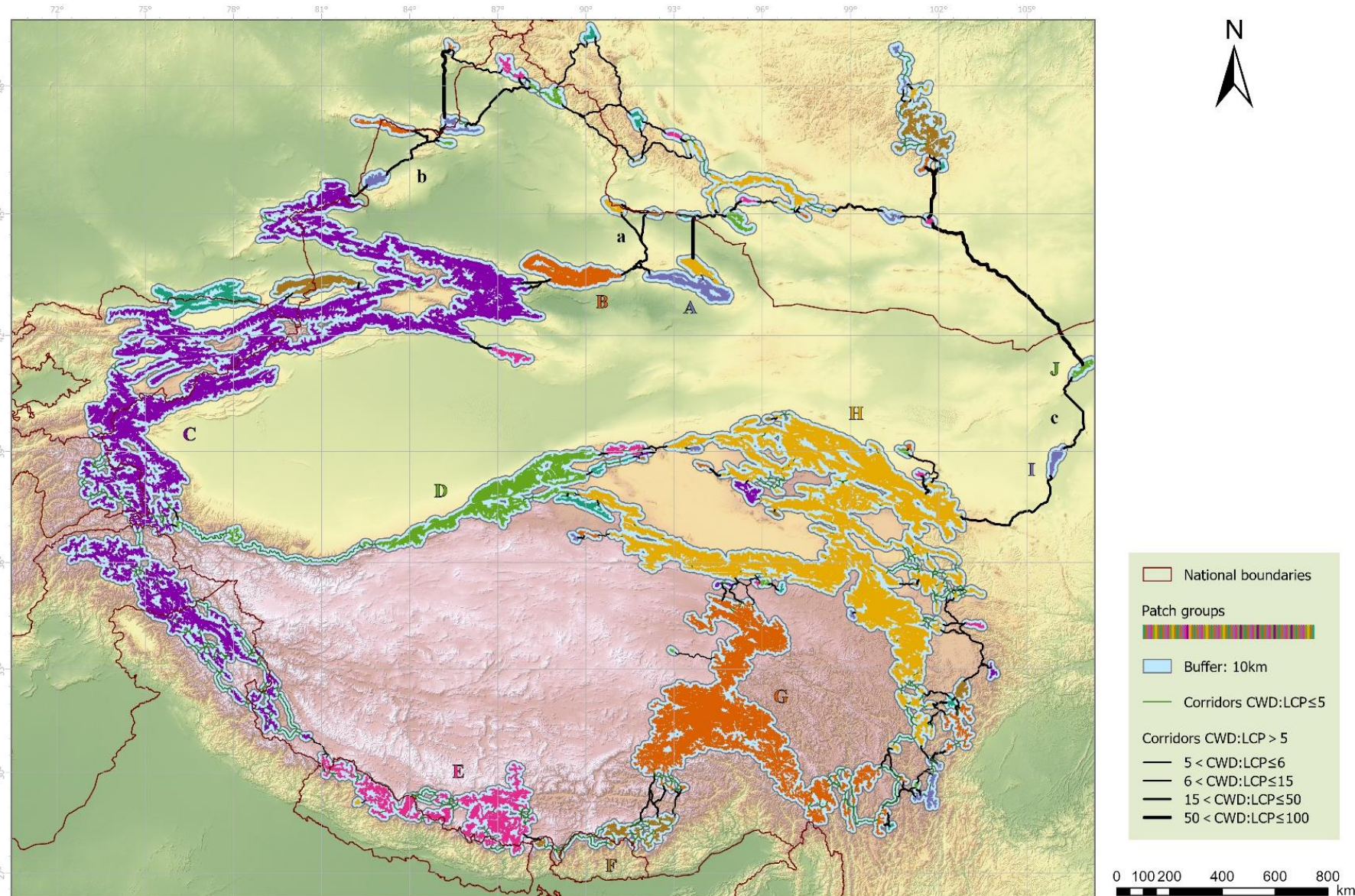
Kun Shi, Lingyun Xiao, Luciano Atzeni, Zhuoluo Lyu, Yixuan Liu, Jun Wang, Xuchang Liang, Yanlin Liu, Xiang Zhao, Justine Shanti Alexander, Byron Weckworth, Zhi Lu, Philip Riordan, Chapter 46 - Snow leopard status and conservation in China, Editor(s): David Malon, Tom McCarthy, In Biodiversity of World: Conservation from Genes to Landscapes, Snow Leopards (Second Edition), Academic Press, 2024, Pages 577-601, ISBN 9780323857758, <https://doi.org/10.1016/B978-0-323-85775-8.00021-2>.



Protected Area Type	Quantity	Coverage Area	% of Snow Leopard Habitat	Key Area
National Parks	2	253,000 km ²	33%	Sanjiangyuan, Giant Panda NP
National-Level Reserves	26	418,000 km ²	54%	Arjin Shan, Mount Qomolangma
Provincial-Level Reserves	127	97,000 km ²	13%	Gansu Yanchiwan, Sichuan Wolong
Total	155	768,000 km ²	100%	



Snow leopard national habitat network and potential corridors



Unpublished data

Core Habitat Patches

- A total of **329 core snow leopard habitat patches** were identified across China and neighboring regions.

Potential Dispersal Corridors

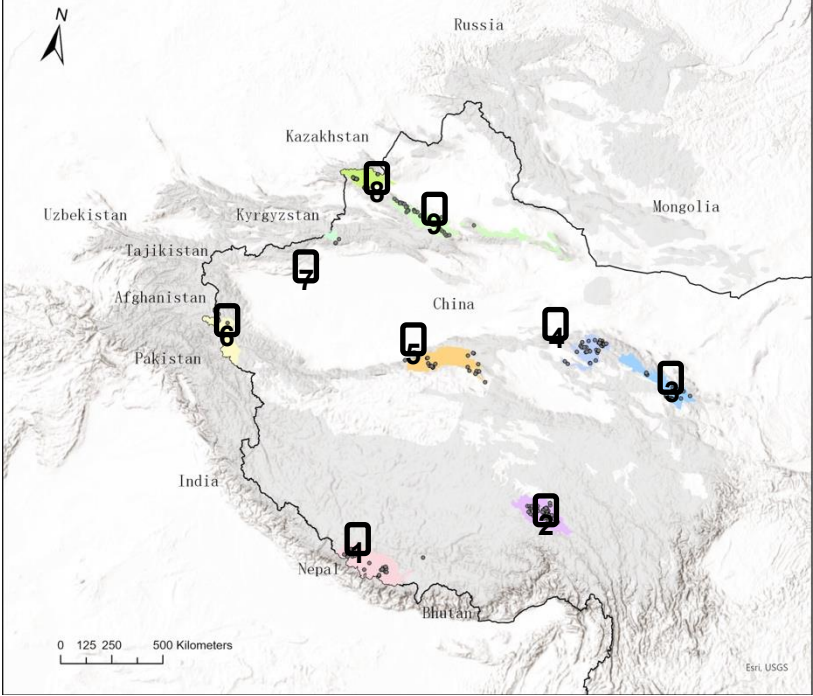
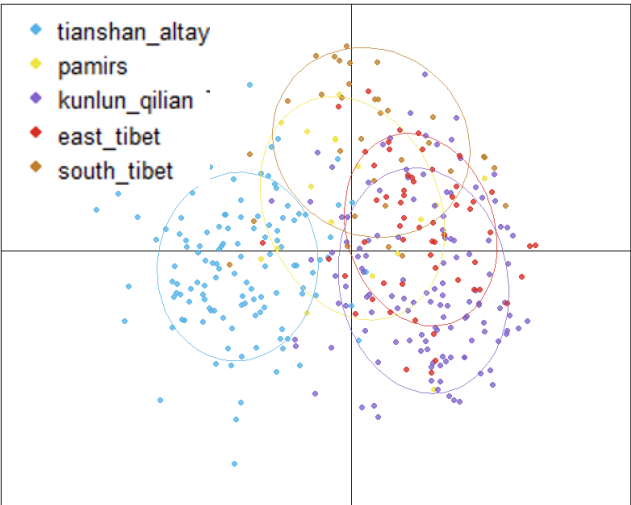
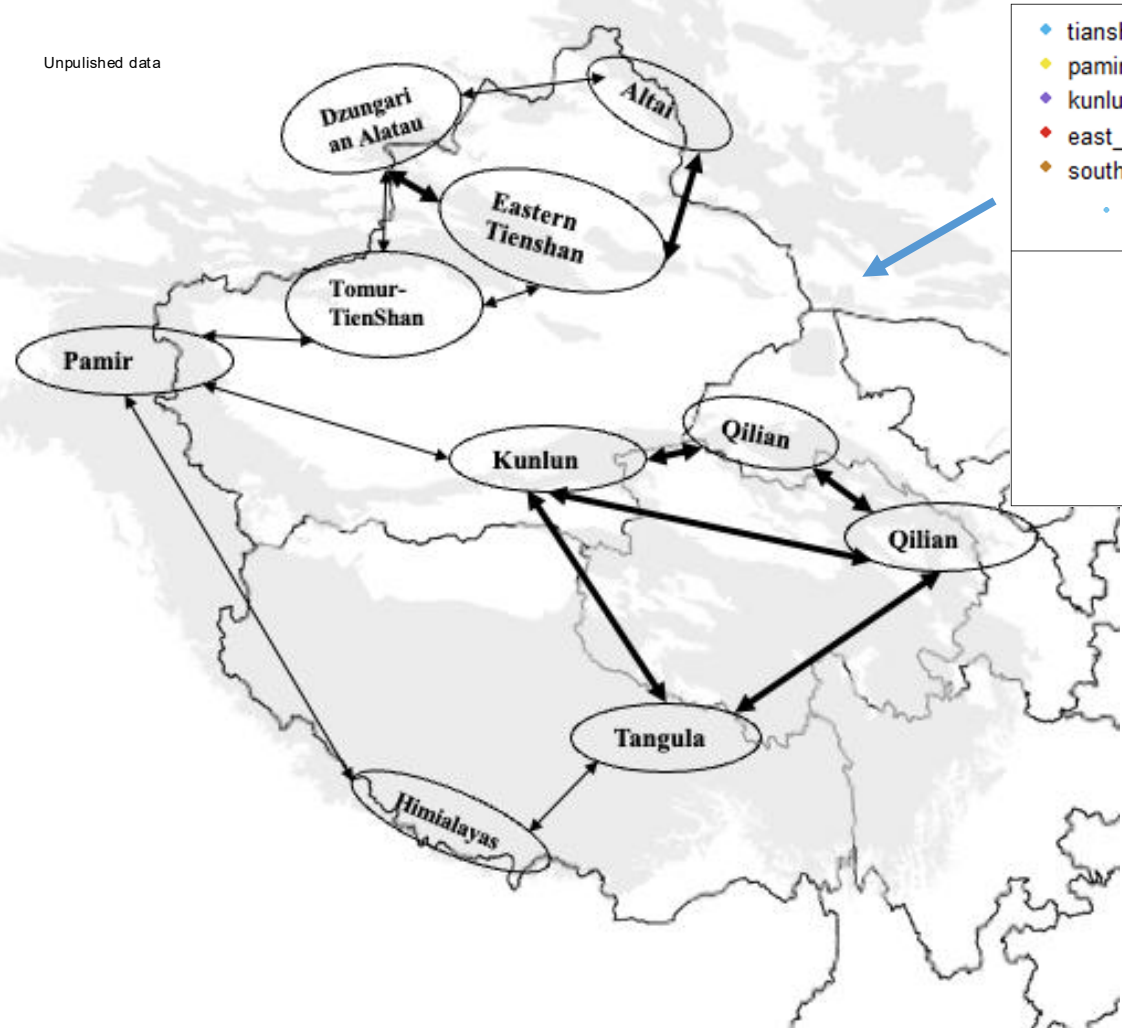
- Using a least-cost path modeling approach, researchers identified:

- **512 potential dispersal corridors**
- connecting the 329 core habitat patches.



Snow leopard genetic diversity

Unpublished data

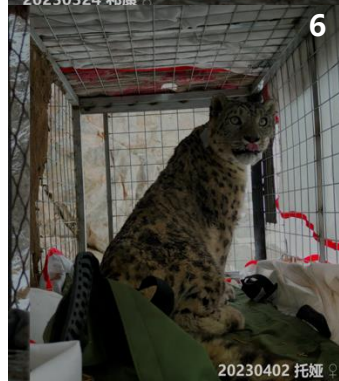


- Genetic evidence and corridor modeling produced highly consistent results.
- Functional ecological corridors are effectively maintaining landscape-scale connectivity among snow leopard populations.

Mountain ranges	Study areas	Sampling time	Carnivores fecal samples	Snow leopard samples	Snow leopard individuals
Himalaya mountains	1	2017-2020	233	42	33
Tanggula-Hengduan Mountains	2	2020-2024	107	25	
Qilian Mountains	3	2020-2024	277	91	57
Qilian Mountains	4	2019	268	104	63
Kunlun Mountains	5	2019	84	49	30
Pamirs Plateau	6	2024	156	45	31
Tianshan Mountains	7	2019	146	24	13
Tianshan Mountains	8	2020	201	63	25
Tianshan Mountains	9	2018	128	31	23
Tianshan Mountains		2024	67	30	
Tianshan Mountains		2018-2023	266	113	58
TOTAL			1900+	619	305



Cases of Satellite collaring and tracking in China



#	Sex	Est. Age	Region	Capture Date
1	F	3-4	Gansu	2021.2
2	M	3-4	Qinghai	2021.3
3	M	5-7	Gansu	2021.4
4	M	4-5	Inner Mogolia	2021.9
5	M	6-7	Qinghai	2023.3
6	F	5-6	Qinghai	2023.4
7	M	4-5	Xizang	2025.3
8	F	3-5	Xizang	2026.1
9	M	7-8	Xizang	2026.2
10	F	3-4	Xinjiang	2025.10



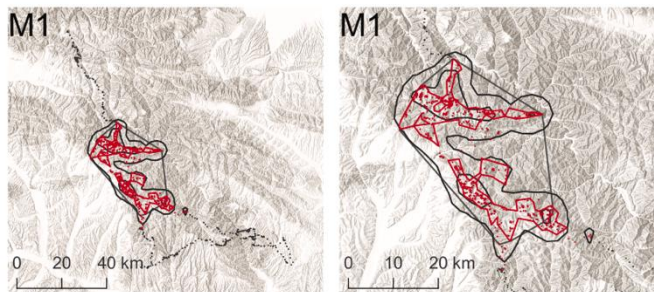
- 1.Yanchiwan Reserve_F1;
- 2.Qinghai Menyuan_M1
- 3. Yanchiwan Reserve_M2;
- 4.Helan Mountain_M3
- 5. Qinghai Qilian_M4 ;

- 6. Qinghai Menyuan_F2
- 7/8/9. Xizang Mount Qomolangma_M1,F1,M2
- 10.Xinjiang Tomur_F1





Cases of Satellite collaring and tracking in China



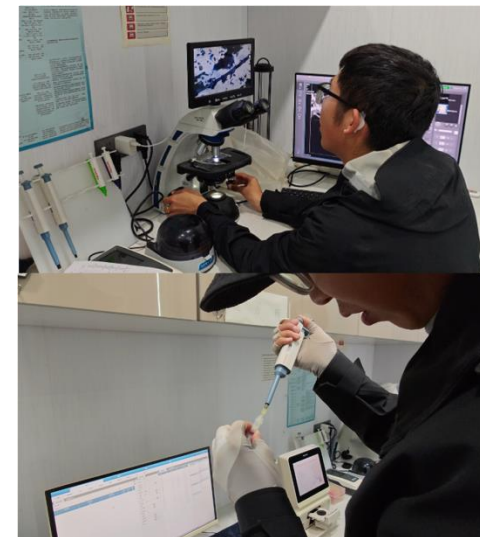
- Locations remained
- Locations deleted

- a-LoCoH (95%)
- KDE (95%, 50%)
- MCP (95%)



- Satellite collars gather key data on **individual behavior**.
- Snow leopards **movement across seasons and altitudes**.
- **Cluster study and on-site visit to verify normal predation**
- Blood samples and scat samples for **gene pool and infectious disease monitoring**
- **HWC prevention and alerting** through satellite monitoring

ID	Sex	Estimate d Age (year)	Tracking days Original / truncated	Locations Original / truncated	95% MCP (km ²)	95% KDE (km ²)	50% KDE (km ²)	a- LoCoH (km ²)
F1	Female	3-4	149/120	3216/2687	872	758	93	174
M1	Male	3-4	189/138	2625/1617	838	783	134	261
M2	Male	5-7	102	2004	106	92	16	47





Community-based conservation & Public Awareness and Education



雪豹保护，关注就是力量。



讲解生物多样性保护的措施

学生们认真听讲



介绍雪豹

问答互动环节



安装通电线



粘贴项目 logo



会议讨论



参会人员合照



为牧羊犬注射狂犬疫苗

Community Stewardship

300+ camera traps, 254 local monitors, and 12 monitoring sites formed a sustainable community monitoring network in Sanjiangyuan

HWC Mitigation

compensation upgrade
wildlife insurance expansion
in 2023, wildlife insurance expanded to 12 provinces

Eco-Livelihoods

“Valley of the Cats” wildlife watching tourism in Sanjiangyuan

Conservation Branding & Public Engagement

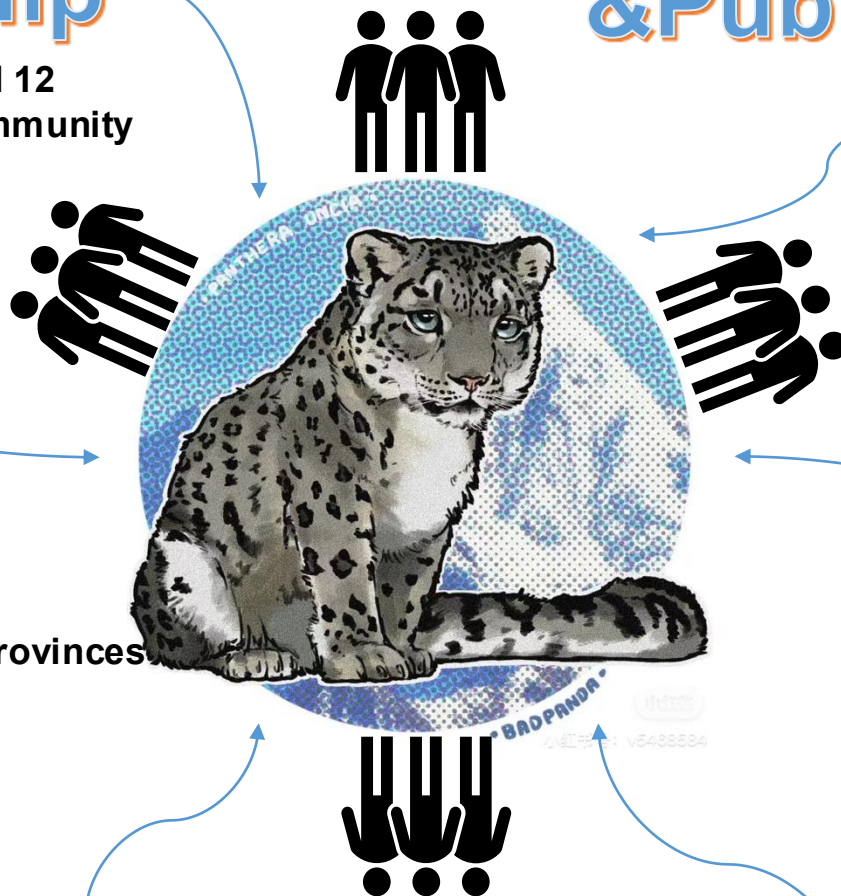
10.23 Snow Leopard Day campaigns
Qinghai as “Province of Snow Leopards”
Tencent public fundraising

Digital & Media Outreach

CCTV documentary “Snow Leopards and Their Friends”
national media reports news on latest snow leopard research

Policy & Global Leadership

coexistence philosophy
national Snow Leopard Conservation Summit





Key threats faced by snow leopards in CHINA

Despite progress, several challenges remain in snow leopard conservation:

- **Climate change** is shrinking alpine habitat ranges and contributing to habitat fragmentation.

i.e The Tibetan Plateau is warming at twice the global average, leading to degradation of 30% of low- and mid-altitude habitats (IPCC 2023).
- **Survey gaps** persist, especially in remote and high-altitude areas where monitoring infrastructure and resources are still limited.
- **Human-wildlife conflict** continues to occur, posing risks to both local livelihoods and snow leopard populations.

i.e. Livestock depredation incidents by snow leopards in Yushu, Qinghai, rose by 15% in 2023 year-on-year.





Initiatives towards reducing key threats

China is implementing three targeted actions to reduce key threats to snow leopards:

- Ecological Restoration:**

i.e Through the ¥12 billion *Qinghai-Tibet Plateau Ecological Barrier Project*, 4.5 million hectares of degraded grassland have been restored, improving habitat connectivity in Sanjiangyuan by 37%.

- Climate Adaptation:**

i.e In Nagqu, Tibet, 3,200 herder households have been relocated, with pasture recovery reaching 42%. Cold-resistant forage crops have been introduced across 720,000 hectares.

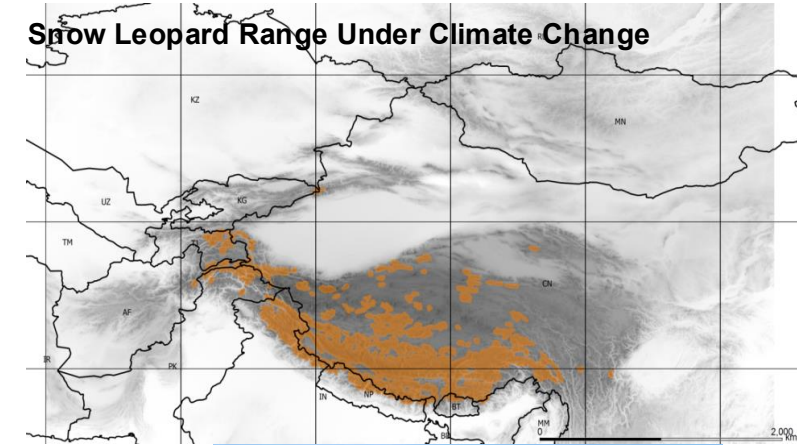
- HWC Prevention:**

i.e. A pilot electronic fencing program in Xinjiang reduced livestock depredation by 90%.

Nationwide, over ¥100 million in compensation was paid out through wildlife damage insurance in 2023.

Recent Policy Tools:

- ❖ ► *National Park Law (Pilot, 2023)*: Grants priority protection status to snow leopard habitats; bans human activities in core zones.
- ❖ ► *Ecological Protection Compensation Regulation (2024)*: Establishes inter-provincial compensation mechanisms with ¥2 billion in annual transfers to snow leopard range provinces.





Trans-boundary initiatives

China also shares over 10,000 km of national borders with 10 snow leopard range countries (Riordan and Shi, 2016)

Protected areas in China located on, or within approximately 10–30 km of, an international boundary

China

Yaluzangbudaxiagu Nature Reserve (8982km²); Qomolangma National Nature Reserve (34,000km²); Taxkorgan Nature Reserve (15,863km²), Tomur (Tuomeurfeng) Nature Reserve (2299km²); Kanas (Hamasi) Nature Reserve (2500km²); and Buersenheli Nature Reserve (88km²)

- **Hosted key forums:**

- ✓ International Snow Leopard Conservation Conference → **Global Snow Leopard Conservation Shenzhen Consensus**
- ✓ Transboundary Tiger/Leopard Conservation Symposium (Harbin) → **Harbin Consensus**

- **Established global consensus:**

- ✓ Shenzhen Consensus & Harbin Consensus

- **Transboundary partnerships:**

- ✓ Direct collaboration with Kyrgyzstan, Kazakhstan, Mongolia, Russia, Pakistan, Nepal

- **Multilateral engagement:**

- ✓ Active in **GSLEP**, **CITES**, **CBD**, **IUCN** (conservation)
- ✓ Cooperates with **WCO**, **INTERPOL** (enforcement)

- **Support for developing nations:**

- ✓ Deployed foreign aid projects
- ✓ Funded via Kunming Biodiversity Fund



A close-up, slightly blurred photograph of a snow leopard cub walking from left to right across a snowy surface. The cub's fur is thick and spotted with dark rosettes. In the background, a dark, craggy rock face is visible.

Thank you!

Спасибо!

