

Geo SMART ASIA 2017
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Geographic Information Infrastructure and Policy Framework for Sustainable Mountain Development in the Hindu Kush-Himalayas

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HINDU KUSH HIMALAYAS

A Global Asset



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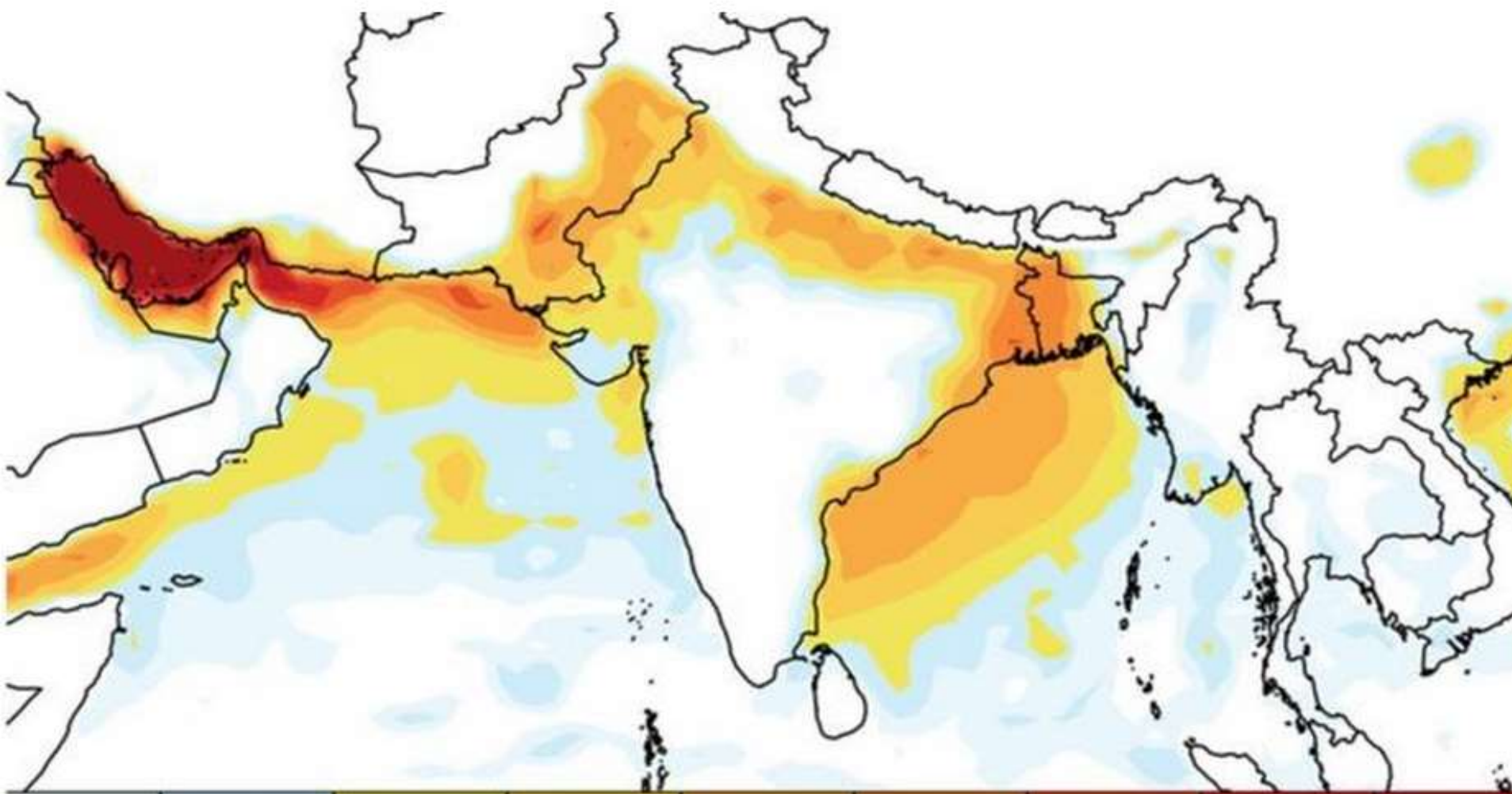
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- Afghanistan
- Bangladesh
- Bhutan
- China
- India
- Myanmar
- Nepal
- Pakistan

One of the most vulnerable regions of the world due to environmental and climate change



ELTHAHIR/PAL/IM

This map shows the combined temperature and humidity figures recorded in this region since 1979.

Science Advance

More than 30% population will face severe threats raising the alarm bell of Survivability?

The Changing face of Hindu Kush-Himalayan



Water
Biodiversity
Agriculture
Forest
Cultural/natural
heritage
...

Geographic Information and appropriate policy framework key to understanding of dynamic mountain system and enabling actions

- Climate change
- Demographic change
- Land Use change
- Globalization and social change

Understanding Change: Glaciers

2009

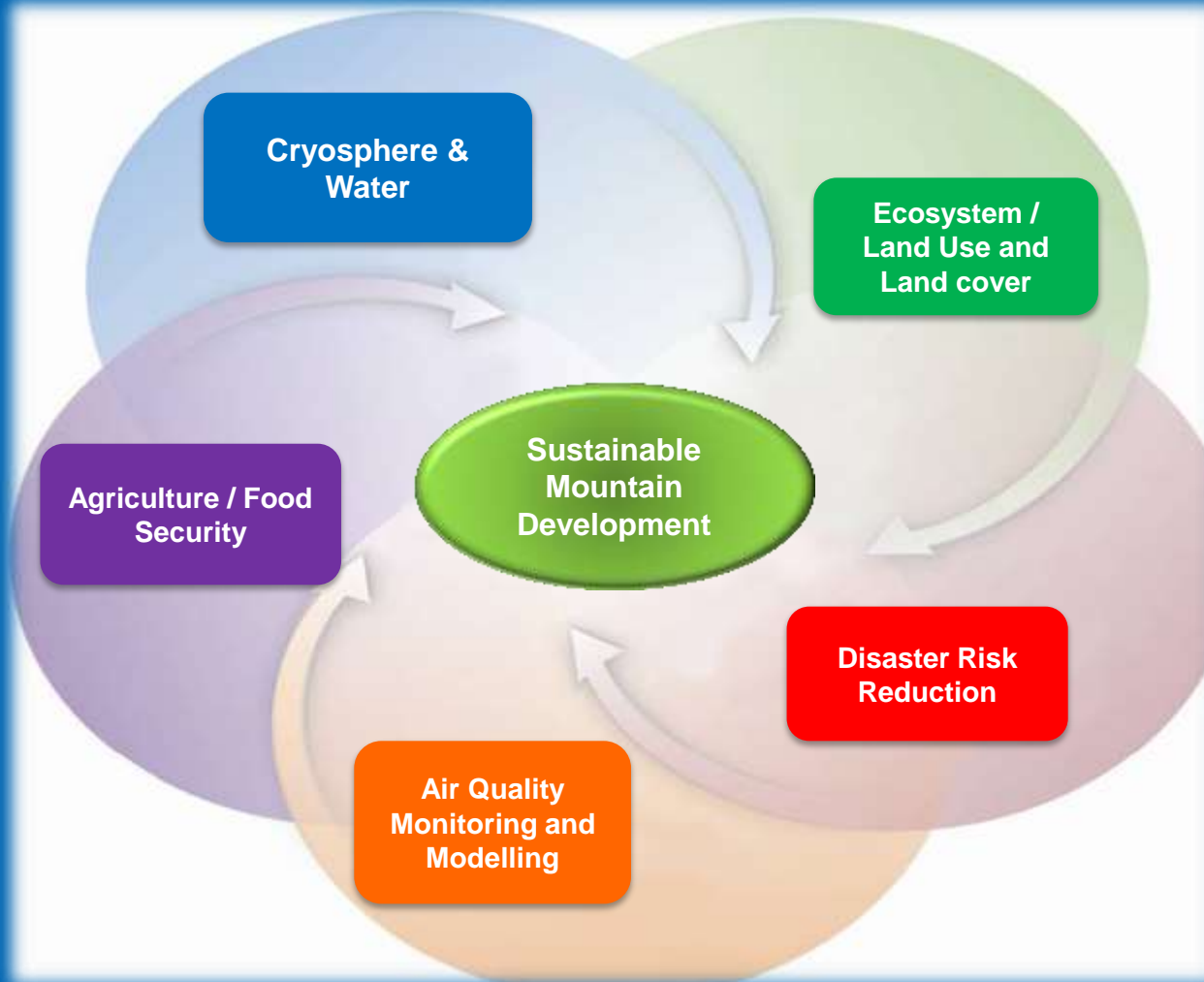
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Water Security?

- Known as Third Pole of the World
- Largest concentration of snow and glaciers besides the north and south poles
- Important fresh water reserve and source of hydropower
- About 20% of glaciers surface area loss in last three decades

Geospatial and allied technologies and solutions in addressing mountain development challenges



Improve access to data, tools, model and online mapping and visualization

Strengthen capacity of regional stakeholders and youths

Creates user-tailored decision support tools and information services

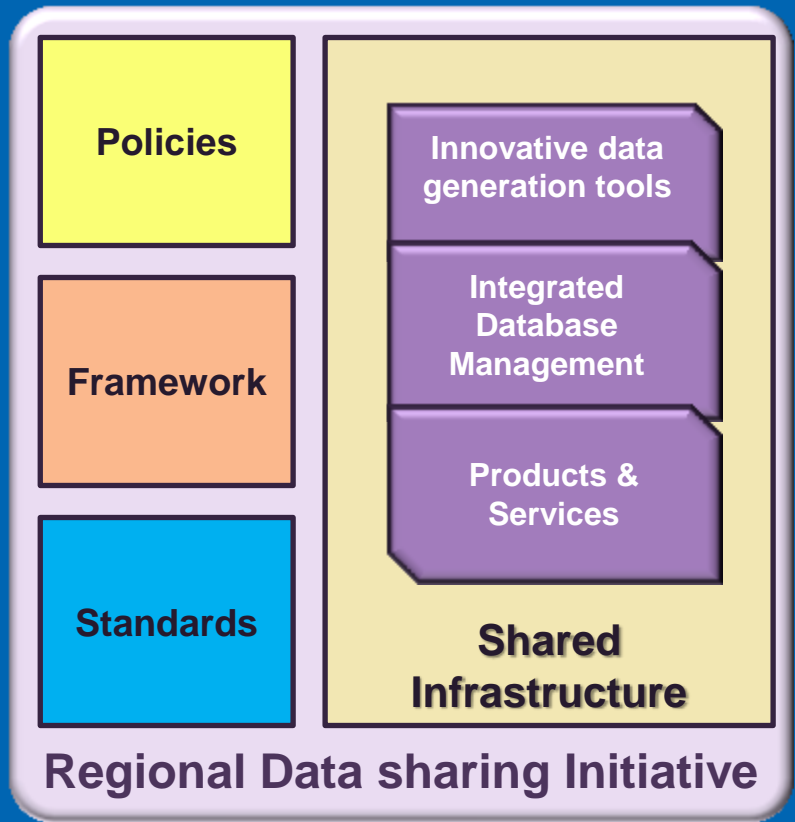
Foster regional cooperation and build international partnerships

Enabling Regional database Sharing framework

Thematic Areas

- Cryosphere and water resources management
- Agriculture and Food Security
- Disaster risk reduction and emergency response
- Ecosystem and land use and land cover
- Transboundary air pollution and black carbon

- EO data
- GIS data
- Field data
- Socio-economic



Stakeholders /users

- Government agencies
- Multilateral agencies, I/NGOs, CBOs
- Universities, Research
- Global Public

Network of Partners

Bhutan Geospatial Platform

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Bhutan GeoSpatial Portal

Login

Home

Data

Apps

About

Contact



Enter text to search data



Featured Dataset

MODIS Active Fire Data of Bhutan

Glaciers of Bhutan 2010

Dzongkhag Boundary of Bhutan

Mountain GeoPortal

<p>Status of Glaciers in the HKH Region Cartographic glacier inventory and status of the entire Hindu Kush Himalayan region</p> <p>View Details</p>	<p>Land Cover Dynamics in Bhutan Statistics on five harmonized land cover datasets of Bhutan for 1990, 2000 and 2010</p> <p>View Details</p>	<p>Nepal Disaster Information System Historical disaster events data and information on environmental hazards, vulnerability and risk assessments</p> <p>View Details</p>	<p>Phobjikha Valley Resource Inventory Resource inventory for supporting the conservation efforts of Phobjikha wetland ecosystem in Bhutan</p> <p>View Details</p>	<p>Bhutan GNH Index 2010 Diverse data visualization of Gross National Happiness Index of Bhutan for 2010</p> <p>View Details</p>	<p>Historic Changes in Snow Cover in the HKH Region Weekly snow cover statistics for major river basins and sub-basins in the Hindu Kush Himalaya region</p> <p>View Details</p>
<p>Glacier Dynamics in Nepal Himalaya Interactive mapping of glacier dynamics in Nepal for 1980, 1990, 2000, and 2010</p> <p>View Details</p>	<p>Glacier Dynamics in Bhutan Himalaya Interactive mapping of glacier dynamics in Bhutan for 1980, 1990, 2000, and 2010</p> <p>View Details</p>	<p>Nepal Land Cover 1990 and 2010 Land cover data of Nepal for 1990 and 2010 with a river reclassification system for validation</p> <p>View Details</p>	<p>HKH Glacial Lake Inventory of the HKH Region Detailed mapping and inventory of glacial lakes in the major basins of the HKH region</p> <p>View Details</p>	<p>Flood Forecasting for Bangladesh Experimental eight day JICA's a Kavirata based forecasting for Bangladesh</p> <p>View Details</p>	<p>Land cover dynamics in Myanmar Land cover statistics for Chin, Kachin, Rakhine and Shan States of Myanmar, and for their corresponding districts</p> <p>View Details</p>
<p>Agriculture Atlas of Nepal Visualization of climate based agriculture statistics for agriculture products in the form of maps atlas</p> <p>View Details</p>	<p>CREST Model Viewer for Bhutan Climate change impact on hydrological flows of Wangchuck Bazar in Bhutan</p> <p>View Details</p>	<p>Forest Fire Detection & Monitoring in Nepal Aerosol based active fire detection and monitoring system in Nepal with SMS and email alerts</p> <p>View Details</p>	<p>Land cover dynamics in Pakistan Harmonized land cover database for three of the four provinces of Pakistan that lie in the HKH region for 1990, 2000 and 2010</p> <p>View Details</p>	<p>Land cover dynamics in Greater Chittagong area Visualization and mapping of land cover data of Greater Chittagong area</p> <p>View Details</p>	<p>Emergency Management & Response System GIS based emergency management & response system for Karmachhu valley, Nepal</p> <p>View Details</p>

Featured Applications

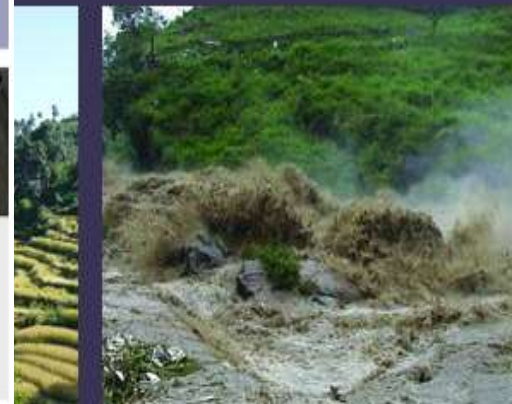
Nepal Earthquake 2015 Disaster Recovery and Reconstruction Information Platform

Potentially Dangerous Glacial Lakes of Nepal

Imja lake - Fastest growing glacial lake of the HKH region

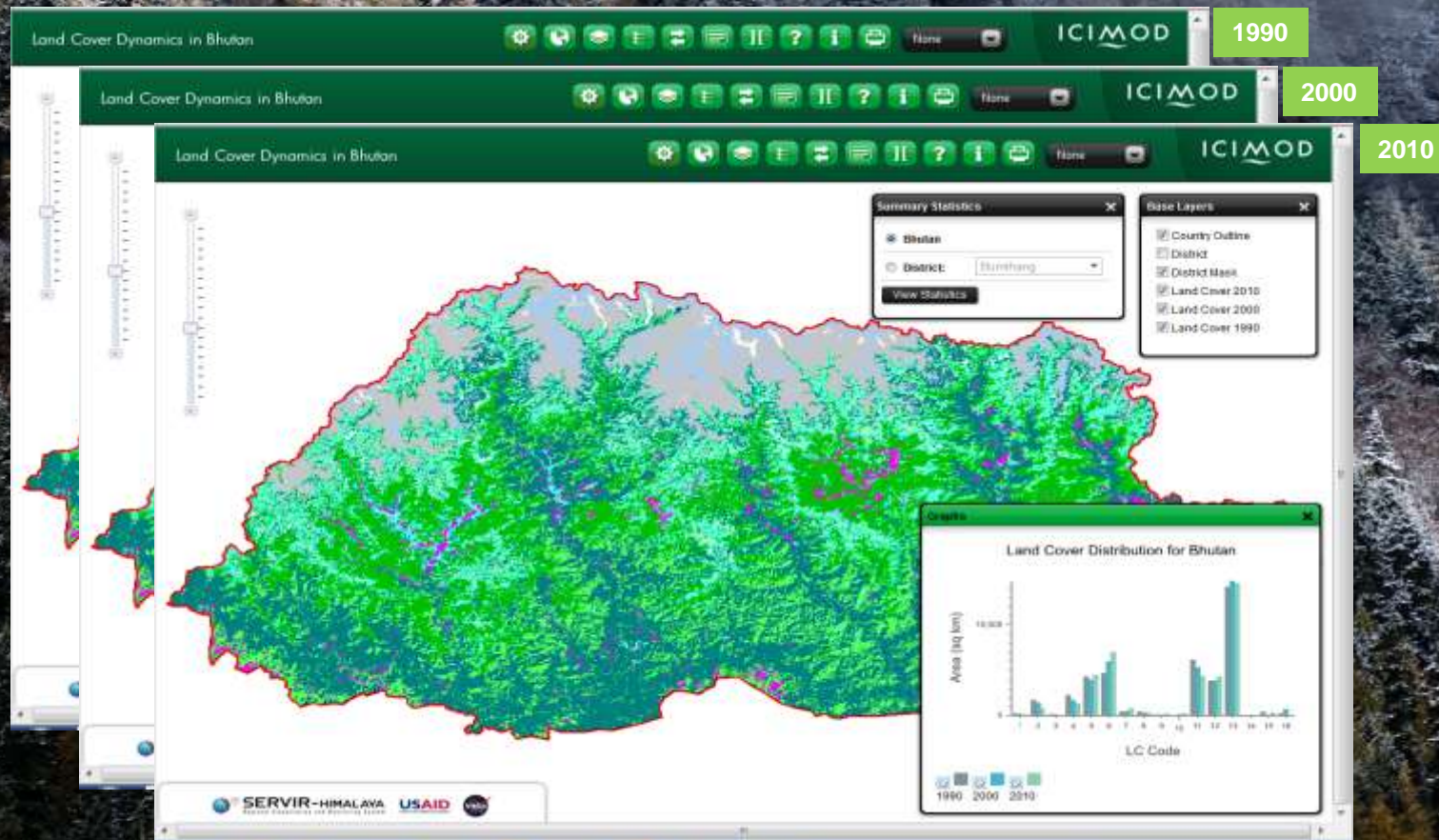
The World's 14 Highest Mountain Peaks

- Land use / land cover change
- Glaciers and snow
- Forest Fire Alert System
- Agriculture Advisory / Drought monitoring
- Flood Outlook
- Climate Services
- Regional flood warning system /
- Disaster management and response
- ...



Geospatial Application Solutions

Land Use and Land Cover



Green house gas inventory
(Forest carbon flux)

Operational forest monitoring system
at the national level

Landscape level
REDD MRV system

International Symposium

Connecting from Space to Village

Enabling Climate Policy and Actions in the Himalayas

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- Capacity development at multiple levels
- Policy / decision makers
- Development practitioners
- Professional and technical



ICIMOD Youth Forum; SERVIR MyCoE / NASA-DEVELOP



■ Focusing on youth

■ Himalayan University consortium

■ Public at large

SERVIR HIMALAYA

Connecting Space to Village

Improving environmental management and resilience to climate change by strengthening the capacity of governments and other key stakeholders to **integrate earth observation information and geospatial technologies** into development decision-making



SER **SERVIR**  **HIMALAYA**



USAID
FROM THE AMERICAN PEOPLE



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Earth Observation for sustainable mountain development

Aligning with GEO Priority → Himalayan GEOSS



- Benefitting the use of earth observation for mountain communities
- Catering to the specific needs of Himalayan ecosystems
- Leveraging existing regional and national programmes
- Fostering regional cooperation
- Supporting SDGs

Global Agenda and Political Momentum

SUSTAINABLE DEVELOPMENT GOALS



Sendai Framework for Disaster Risk Reduction 2015-2030



Thank you for your attention !

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Stay Happy ☺ !

A close-up photograph of a woman with long dark hair, smiling broadly with her eyes closed. She is wearing a traditional woven hat with a pointed top and a colorful tassel. The background is a blurred mountain range under a clear blue sky.