



 DIVECHA CENTRE FOR CLIMATE CHANGE





President Trump opposes wind turbines because they kill more than 200,000 birds every year.

Why is this irrelevant?






Watershed Development Department
 Government of Karnataka
 In Collaboration With

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TYAMAGONDALU SOILS

Location: ZARS, GKVK, Bengaluru District, Karnataka, 13° 05' 4.9" N, 77° 34' 08" E
 Classification (USDA): Fine, mixed, semi-active, isohyperthermic, Typic Paleustalfs
 Traditional Soil Name: Red clayey soils
 Land Use: Finger millet, Sorghum, Other Millets

Soil profile description:

Ap

Bt₁

Bt₂

Bt₃

Bt₄

Bt₅

Bt₆

Bt₇

Bt₈

Bt₉

Bt₁₀

Bt₁₁

Bt₁₂

Bt₁₃

Bt₁₄

Bt₁₅

Bt₁₆

Bt₁₇

Bt₁₈

Bt₁₉

Bt₂₀





Land Use

Soils are occurring on Deccan (Karnataka) Ghats and Tamil Nadu uplands comprising of semi-arid to arid climate with an average annual rainfall of 570-876 mm and a growing period of 120-150 days with ustic soil regime and isohyperthermic temperature regime. Soils are developed from granite parent material on level topography with 1-3 per cent slope at an elevation above mean sea level.

Soils are deep, well drained, dark reddish brown with low erosion and low run off. Soils are rich in organic carbon at the surface, low in nitrogen fixation. The soils are having sufficient available nutrients N, P and K.

pH	OC %	AWC	CEC	Each bases				ESP
				Ca	Mg	Na	K	
cmol (p ⁺) kg ⁻¹ soil								
7.15	0.85	8.60	20.43	13.7	4.68	0.39	0.33	1.91
7.04	0.83	21.5	19.68	12.33	3.31	0.33	0.33	1.66
7.19	0.86	18.9	15.12	9.46	2.69	0.33	0.14	2.18
6.91	0.42	15.6	14.12	8.41	2.87	0.25	0.22	1.80
7.05	0.34	21.4	10.08	6.13	2.81	0.24	0.19	2.38
6.96	0.42	ND	8.80	4.80	3.26	0.26	0.32	2.95

CEC: 20.43

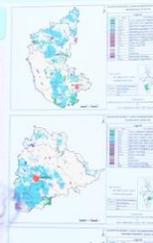
Clay %: 50

Depth (cm): 0, 50, 100, 150


ICAR-National Bureau of Soil Survey and Land Use Planning, Regional Centre, Bengaluru

Desertification And Land Degradation Mapping At Different Time Frames

- Desertification status maps of Karnataka, Andhra Pradesh and Telangana were developed for 2018-19 and compared with previous cycles (2012-13 and 2009-05).
- About 36.29% (6.66 Mha.) of the total geographical area of Karnataka is undergoing Desertification/ Land Degradation (DLD) and the most significant process of DLD in the state is Water erosion (25.19%) followed by Vegetation Degradation (8.89%).
- In Andhra Pradesh, 14.84% (2.37 M ha.) of the total geographical area is undergoing DLD. The area undergoing DLD during (2012-13 and 2009-05) is observed to be 14.44% (2.26 Mha.) and 14.44% (2.26 Mha.) respectively.
- In Telangana, 14.44% (2.26 Mha.) of the total geographical area is undergoing DLD. The area undergoing DLD during (2012-13 and 2009-05) is observed to be 14.44% (2.26 Mha.) and 14.44% (2.26 Mha.) respectively.




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 Food System Change to Mitigate Agriculture Emission and Soil Resilience

INTRODUCTION

OBJECTIVE

METHODS

RESULTS




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Pollution-Health Nexus:
 Interconnections Between Environment and Human Disease
 Healthy Environment = Healthy Population

AIR POLLUTION

Key pollutants: PM_{2.5}, NO₂, SO₂, Ozone

Sources: Transport, Industry, Agriculture, Biomass Burning

WATER POLLUTION

Contaminants: Pesticides, Heavy Metals, Chemicals

Exposure: Drinking Water + Food Chain, Beaches, Parks, Diarrhoeal Diseases, Typhoid & Hepatitis, Cancer, Kidney & Liver Damage

SOIL POLLUTION

Contaminants: Pesticides, Heavy Metals, Chemicals

Exposure: Drinking Water + Food Chain, Beaches, Parks, Diarrhoeal Diseases, Typhoid & Hepatitis, Cancer, Kidney & Liver Damage

Pathway



A man in a maroon shirt and glasses is speaking to a group of people. He is wearing a blue lanyard with an ID card.



Pollution-Health Nexus:

Interconnections Between Environment and Human Disease

Healthy Environment = Healthy Population

AIR POLLUTION

- Any pollutants
- PM2.5, NO2, SO2, Ozone
- Smog
- Respiratory
- Cardiovascular
- Neurological
- Reproductive
- Diabetes
- Cancer

WATER POLLUTION

- Contaminants
- Microplastics
- Industrial
- Heavy Metals
- Pesticides
- Pathogens
- Pharmaceuticals
- Oil Spills
- Acid Rain

SOIL POLLUTION

- Heavy Metals
- Organic Compounds
- Pesticides
- Fertilizers
- Plastic Waste
- Radioactive
- Acid Rain

Impact of Climate Change on Himalayan Glaciers

Divyasha Center for Climate Change, Indian Institute of Space Science and Technology

How does climate change impact glacier mass loss?

Recent IPCC (AR6) report projects that even if global warming is limited to 1.5°C, the HAIH region will warm by at least 0.3°C more than the global average. How will this impact future water security?

GLACIER

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IMPACTS

- Reduced water availability
- Increased risk of glacial lake outburst floods (GLOFs)
- Loss of biodiversity
- Displacement of communities
- Increased risk of landslides

Glacial lake outburst floods (GLOFs) in the Indian Himalayas

Divyasha Center for Climate Change, Indian Institute of Space Science and Technology

What is glacial lake?

A glacial lake is a lake that forms when a glacier melts, leaving a gap in the ice that fills with water. As the glacier retreats, the water collects in a low area, forming a lake.

Major types of glacial lakes

- Proglacial lakes
- Periglacial lakes
- Cirque lakes
- Kettle lakes
- Ice-dammed lakes

What is GLOF?

A sudden release of water from a glacial lake, which can cause significant damage and loss of life.