

STUDY MATERIAL FOR STUDENTS OF DEPARTMENT OF GEOGRAPHY, B.P.CHALIHA COLLEGE

BIODIVERSITY HOTSPOTS ARE DEFINED AS REGIONS “WHERE EXCEPTIONAL CONCENTRATIONS OF ENDEMIC SPECIES ARE UNDERGOING AN EXCEPTIONAL LOSS OF HABITAT”. THE CONCEPT OF BIODIVERSITY HOTSPOTS WAS DEVELOPED BY THE **NORMAN MYERS IN 1988**, WHEN HE IDENTIFIED THAT THE TROPICAL FOREST LOSING ITS PLANTS SPECIES AS WELL AS HABITAT. IUCN PREPARES ‘**RED DATA BOOK**’. THERE ARE **34 AREAS AROUND THE WORLD** WHICH ARE QUALIFIED AS **BIODIVERSITY HOTSPOTS**. THESE HOTSPOTS REPRESENT ONLY 2.3% OF THE TOTAL EARTH'S LAND SURFACE. THESE HOTSPOTS ARE IMPORTANT BECAUSE BIODIVERSITY UNDERPINS ALL LIFE ON EARTH. WITHOUT SPECIES, THERE WOULD BE NO AIR TO BREATHE, NO FOOD TO EAT, NO WATER TO DRINK. THERE WOULD BE NO HUMAN SOCIETY AT ALL. AND AS THE PLACES ON EARTH, WHERE THE MOST BIODIVERSITY IS UNDER THE MOST THREAT, HOTSPOTS ARE CRITICAL TO HUMAN SURVIVAL.

WHY ARE BIODIVERSITY HOTSPOTS IMPORTANT?

THERE ARE PLACES ON EARTH THAT ARE BOTH BIOLOGICALLY RICH – AND DEEPLY THREATENED. FOR OUR OWN SAKE, WE MUST WORK TO PROTECT THEM.

SPECIES ARE THE BUILDING BLOCKS OF EARTH'S LIFE-SUPPORT SYSTEMS. WE ALL DEPEND ON THEM.

BUT OUR PLANET’S “BIODIVERSITY,” THE VAST ARRAY OF LIFE ON EARTH, FACES A CRISIS OF HISTORIC PROPORTIONS. DEVELOPMENT, URBANIZATION, POLLUTION, DISEASE – THEY’RE ALL WREAKING HAVOC ON THE TREE OF LIFE. TODAY, SPECIES ARE GOING EXTINCT AT THE FASTEST RATE SINCE THE MASS EXTINCTION OF THE DINOSAURS.

TO STEM THIS CRISIS, WE MUST PROTECT THE PLACES WHERE BIODIVERSITY LIVES. BUT SPECIES AREN’T EVENLY DISTRIBUTED AROUND THE PLANET. CERTAIN AREAS HAVE LARGE NUMBERS OF ENDEMIC SPECIES – THOSE FOUND NOWHERE ELSE. MANY OF THESE ARE HEAVILY THREATENED BY HABITAT LOSS AND OTHER HUMAN ACTIVITIES. THESE AREAS ARE THE

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BIODIVERSITY HOTSPOTS, 36 REGIONS WHERE SUCCESS IN CONSERVING SPECIES CAN HAVE AN ENORMOUS IMPACT IN SECURING OUR GLOBAL BIODIVERSITY.

THE FORESTS AND OTHER REMNANT HABITATS IN HOTSPOTS REPRESENT JUST 2.4% OF EARTH'S LAND SURFACE. BUT YOU'D BE HARD-PRESSED TO FIND ANOTHER 2.4% OF THE PLANET THAT'S MORE IMPORTANT.

WHAT ARE BIODIVERSITY HOTSPOTS?

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CRITERIA TO QUALIFY AS A BIODIVERSITY HOTSPOT

A REGION MUST MEET TWO STRICT CRITERIA TO QUALIFY AS A BIODIVERSITY HOTSPOT WHICH IS GIVEN BELOW:

1. IT MUST HAVE AT LEAST **1,500 VASCULAR PLANTS** AS ENDEMICS WHICH ARE TO SAY, IT MUST HAVE A HIGH PERCENTAGE OF PLANT LIFE FOUND NOWHERE ELSE ON THE PLANET. A HOTSPOT, IN OTHER WORDS, IS IRREPLACEABLE.
2. IT MUST HAVE **30% OR LESS OF ITS ORIGINAL NATURAL VEGETATION**. IN OTHER WORDS, IT MUST BE THREATENED.

WHY DO BIODIVERSITY HOTSPOTS MATTER?

CONSERVATION INTERNATIONAL WAS A PIONEER IN DEFINING AND PROMOTING THE CONCEPT OF HOTSPOTS. IN 1989, JUST ONE YEAR AFTER SCIENTIST NORMAN MYERS WROTE THE PAPER THAT INTRODUCED THE HOTSPOTS CONCEPT, CONSERVATION INTERNATIONAL ADOPTED THE IDEA OF PROTECTING THESE INCREDIBLE PLACES AS THE GUIDING PRINCIPLE OF OUR INVESTMENTS. FOR NEARLY TWO DECADES THEREAFTER, HOTSPOTS WERE THE BLUEPRINT FOR OUR WORK.

TODAY, OUR MISSION HAS EXPANDED BEYOND THE PROTECTION OF HOTSPOTS. WE RECOGNIZE THAT IT IS NOT ENOUGH TO PROTECT SPECIES

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AND PLACES; FOR HUMANITY TO SURVIVE AND THRIVE, THE PROTECTION OF NATURE MUST BE A FUNDAMENTAL PART OF EVERY HUMAN SOCIETY.

YET THE HOTSPOTS REMAIN IMPORTANT IN OUR WORK FOR TWO IMPORTANT REASONS:

- **BIODIVERSITY UNDERPINS ALL LIFE ON EARTH.** WITHOUT SPECIES, THERE WOULD BE NO AIR TO BREATHE, NO FOOD TO EAT, NO WATER TO DRINK. THERE WOULD BE NO HUMAN SOCIETY AT ALL. AND AS THE PLACES ON EARTH WHERE THE MOST BIODIVERSITY IS UNDER THE MOST THREAT, HOTSPOTS ARE CRITICAL TO HUMAN SURVIVAL.
- **THE MAP OF HOTSPOTS OVERLAPS EXTRAORDINARILY WELL WITH THE MAP OF THE NATURAL PLACES THAT MOST BENEFIT PEOPLE.** THAT'S BECAUSE HOTSPOTS ARE AMONG THE RICHEST AND MOST IMPORTANT ECOSYSTEMS IN THE WORLD – AND THEY ARE HOME TO MANY VULNERABLE POPULATIONS WHO ARE DIRECTLY DEPENDENT ON NATURE TO SURVIVE. BY ONE ESTIMATE, DESPITE COMPRISING 2.4% OF EARTH'S LAND SURFACE, FORESTS, WETLANDS AND OTHER ECOSYSTEMS IN HOTSPOTS ACCOUNT FOR 35% OF THE "ECOSYSTEM SERVICES" THAT VULNERABLE HUMAN POPULATIONS DEPEND ON.

BIODIVERSITY HOTSPOTS OF THE WORLD

THESE HOTSPOTS REGIONS SUPPORT A RICH BIODIVERSITY BECAUSE OF GEOLOGIC FORMATIONS AND ENDEMIC FLORA AND FAUNA AND ALSO EXHIBIT EXCEPTIONAL SCIENTIFIC INTEREST. IT IS IMPORTANT ECOSYSTEM IN THE WORLD AND THE HABITAT OF ENDEMIC SPECIES. THE BIODIVERSITY HOTSPOTS OF THE WORLD ARE GIVEN BELOW:

AFRICA

1. EASTERN AFRO-MONTANE
2. THE GUINEAN FORESTS OF WESTERN AFRICA
3. HORN OF AFRICA
4. MADAGASCAR AND THE INDIAN OCEAN ISLANDS

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5. MAPUTOLAND, PODOLAND, ALBANY HOTSPOT

6. SUCCULENT KAROU

7. EAST MALANESIAN ISLANDS

8. SOUTH AFRICA'S CAPE FLORISTIC HOTSPOT

9. COASTAL FORESTS OF EASTERN AFRICA

TERRESTRIAL BIOMES OF THE WORLD

ASIA AND AUSTRALIA

1. HIMALAYAN HOTSPOT

2. THE EASTERN HIMALAYAS

3. JAPAN BIODIVERSITY HOTSPOT

4. MOUNTAINS OF SOUTH-WEST CHINA

5. NEW CALEDONIA

6. NEW ZEALAND BIODIVERSITY HOTSPOT

7. PHILIPPINE BIODIVERSITY HOTSPOT

8. WESTERN SUNDA (INDONESIA, MALAS AND BRUNEI)

9. WALLACE (EASTERN INDONESIA)

10. THE WESTERN GHATS OF INDIA AND ISLANDS OF SRI LANKA

11. POLYNESIA AND MICRONESIAN ISLANDS COMPLEX INCLUDING HAWAII

12. SOUTH-WESTERN AUSTRALIA

NORTH AND CENTRAL AMERICA

1. CALIFORNIA FLORISTIC PROVINCE

2. CARIBBEAN ISLANDS HOTSPOT

3. MODREAN PINE-OAK WOOD LANDS OF THE USA AND MEXICO BORDER

4. THE MESOAMERICAN FORESTS

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AQUATIC BIOMES OF THE WORLD

SOUTH AMERICA

1. BRAZIL'S CERRADO
2. CHILEAN WINTER RAINFALL (VALDIVIAN) FORESTS
3. TUMBES-CHOCO-MAGDALENA
4. TROPICAL ANDES
5. ATLANTIC FOREST

EUROPE AND CENTRAL ASIA

1. CAUCASUS REGION
2. IRAN-ANATOLIA REGION
3. THE MEDITERRANEAN BASIN AND ITS EASTERN COASTAL REGION
4. MOUNTAINS OF CENTRAL ASIA

ABOVE BIODIVERSITY HOTSPOT REGIONS ARE BLESSED WITH A VARIETY OF EXCEPTIONAL PLANT SPECIES AND HABITAT, BUT FACING ENDEMISM AND SERIOUS HABITAT LOSS. HENCE, IT IS OUR DUTY TO PROTECT AND CONSERVE THE ENDEMIC SPECIES AND THEIR HABITAT. WE CAN CONSERVE BIODIVERSITY IN TWO WAYS- FIRST IS IN-SITU AND SECOND IS EX-SITU. IN-SITU CONSERVATION INVOLVES IN THE MAINTENANCE OF BIO-DIVERSITY RICH AREA IN ITS NATURAL FORM, WHEREAS IN EX-SITU CONSERVATION, THE ENDANGERED SPECIES ARE KEPT IN A SPECIALLY PROTECTED AREA WHICH IS SEPARATED FROM ITS NATURAL HABITAT REGION.

REFERENCE:

[HTTPS://WWW.CONSERVATION.ORG/PRIORITIES/BIODIVERSITY-HOTSPOTS](https://www.conservation.org/priorities/biodiversity-hotspots)

[HTTPS://WWW.JAGRANJOSH.COM/GENERAL-KNOWLEDGE/BIODIVERSITY-HOTSPOTS-OF-THE-WORLD-1523356211-1](https://www.jagranjosh.com/general-knowledge/biodiversity-hotspots-of-the-world-1523356211-1)