



Reference No.

## **TECHNICAL NOTES**

### **Compendium of Philippine Environment Statistics 2012 – 2022**

#### **Component 1: Environmental Conditions and Quality**

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## **I. Conceptual Framework**

The Compendium is a compilation of environment and related socio-economic statistics collected from various government agencies. It is an adoption of the Framework for the Development of Environment Statistics (FDES) 2013.

FDES covers a core set of environment statistics which is grouped into six components, namely: 1) environmental conditions and quality; 2) environmental resources and their use; 3) residuals; 4) extreme events and disasters; 5) human settlements and environmental health; and 6) environmental protection, management, and engagement.

As described in FDES, the Basic Set of Environment Statistics has been set up following a progression of three tiers based on the level of relevance, availability, and methodological development of the statistics.

- Tier 1 is the core set of environment statistics that serves as an agreed and limited set of environment statistics that are of high priority and relevance to most countries.
- Tier 2 includes environment statistics which are of priority and relevance to most countries but require greater investment of time, resources, or methodological development. It is recommended that countries consider producing them in the medium term.
- Tier 3 includes environment statistics which are either of lower priority or require significant methodological development. It is recommended that countries consider producing them in the long term.

The Global Set of Climate Change Statistics and Indicators (GSCCSI) is a comprehensive statistical framework, with statistics, indicators, and metadata, designed to support countries in preparing their own sets of climate change statistics and indicators according to their individual concerns, priorities, and resources. The Global Set is developed by the United Nations Statistics Division in collaboration with the UN Framework

Convention on Climate Change. The GSCCSI consists of five thematic areas, namely: drivers, impacts, vulnerability, mitigation, and adaptation.

## **Component 1: Environmental Conditions and Quality**

The environment provides goods and services essential to human well-being. The human sub-system uses the environment for habitat, to obtain important physical resources and as a recipient or sink for various residuals. Human societies, as well as their production and consumption patterns, affect the quality and condition of the environment, its natural processes, and its capacity to provide goods and services (UN FDES, 2013). The changing environment, in turn, affects humans in different ways over time.

This component has three subcomponents: physical conditions, land cover, ecosystems and biodiversity, and environmental quality. These statistics are useful in compiling ecosystem condition accounts as described in the System of Environmental-Economic Accounting Ecosystem Accounting. These are also linked to the GSCCSI, particularly, on the thematic area of Impacts.

### **Subcomponent 1.1: Physical Conditions**

Physical Conditions aims to capture the physical aspects of the environment and includes statistics on meteorological, hydrographical, geological, geographical conditions and soil characteristics. These statistics are important in determining the scope of and influences on the environmental resources of a country. Furthermore, statistics on physical conditions provide baseline information that may aid the government in assessing the need for and the effectiveness of environment-related policies. There are four topics under this subcomponent.

1.1.1 Atmosphere, climate, and weather - information on weather describes the atmosphere's behavior over a given territory in the short term. On the other hand, climate is determined by long-term weather conditions over that territory. Information on climate includes temperature, precipitation, humidity, pressure, wind speed, solar radiation, ultraviolet (UV) radiation and the occurrence of El Niño and La Niña events.

1.1.2 Hydrological characteristics – includes information on the extent, location and characteristics of lakes, rivers and streams, artificial reservoirs, watersheds, seas, aquifers, and glaciers.

1.1.3 Geological and geographical information – includes general geological and topographic information on the extent and characteristics of the country's territory and relief.

1.1.4 Soil characteristics – information on soil characteristics include soil types and soil degradation.

### **Subcomponent 1.2: Land Cover, Ecosystems, and Biodiversity**

Land cover, as defined by the Food and Agriculture Organization (FAO), is the observed (bio) physical cover of the earth's surface. Ecosystems are a community of organisms which have interacting and interdependent relationships. Biodiversity, a measure of ecosystem health, is the variability among living organisms from all sources including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part, including diversity within species, between species and of ecosystems. There are three topics under this subcomponent. These are 1) land cover; 2) ecosystems and biodiversity; and 3) forests.

1.2.1 Land cover – includes information on the extent, and the physical and spatial characteristics of the land cover.

1.2.2 Ecosystems and biodiversity – covers information on the physical quantitative as well as qualitative information and statistics about a country's main ecosystems, including the extent, chemical and physical characteristics, and biological components (biodiversity) of the ecosystems.

1.2.3 Forests – provide livelihoods for millions of people around the world. It offers timber, food, shelter, fuel and medicinal products and performs significant ecosystem functions such as hydrological regulation, soil protection and biodiversity protection, and act as carbon sinks.

### **Subcomponent 1.3: Environmental Quality**

Environmental quality deals with the concentration of pollutants in the air, freshwater and marine water, and on soil pollution and noise levels which is a result from combined and cumulative impacts of human and natural processes. This information is important in monitoring pollution impacts to human sub-system and ecosystems. There are five topics under this subcomponent.

1.3.1 Air quality – includes information on the ambient monitoring pollution impacts to human sub-system and ecosystems.

1.3.2 Freshwater quality – it can be described based on concentrations of nutrients and chlorophyll, organic matter, pathogens, metals and organic contaminants, and by physical and chemical characteristics in surface water and groundwater.

1.3.3 Marine water quality – oceans play a significant role in regulating weather and atmospheric processes, absorbing CO<sub>2</sub> emissions and provisioning of food and livelihood to humans. Statistics about marine and coastal water quality and pollutant concentrations may include, but are not limited to, nutrients and chlorophyll, organic matter, pathogens, metals, organic contaminants, physical and chemical characteristics, and coral bleaching.

1.3.4 Soil pollution – a result of disposing chemicals and other residuals by humans and directly affects human and environmental health and land productivity.

1.3.5 Noise pollution – this pollution exists in places where human activities are conducted and negatively affects the welfare and health of humans, as well as ecosystems.

## II. Data Sources

The data on physical conditions, land cover, ecosystems, and biodiversity, and environmental quality of component 1 were obtained from the following:

Data Item	Source
<b>Physical Conditions</b>	
<ul style="list-style-type: none"> <li>● Temperature by Monitoring Station</li> <li>● Amount of Rainfall by Monitoring Station</li> <li>● Climatological Normals of Precipitation by Month and Monitoring Station</li> <li>● Relative Humidity by Monitoring Station</li> <li>● Wind Speed by Monitoring Station</li> </ul>	Philippine Atmospheric, Geophysical and Astronomical Services Administration
<ul style="list-style-type: none"> <li>● Area of Lakes in the Philippines by Region</li> <li>● Approximate Area of Philippine Waters</li> <li>● Annual Sea Level by Monitoring Station</li> </ul>	National Mapping and Resource Information Authority

Data Item	Source
<ul style="list-style-type: none"> <li>● Land Cover of the Philippines by Region and Province</li> <li>● Coastal Resource Statistics</li> </ul>	
<ul style="list-style-type: none"> <li>● List of Proclaimed Watershed by Region</li> <li>● Priority Critical Watersheds Supporting National Irrigation System by Region</li> <li>● Forest Cover of the Philippines by Forest Type</li> <li>● Forest Characteristics</li> <li>● Forest Fire Incidence by Region</li> <li>● Forest Biomass</li> <li>● Carbon Storage in Living Forest Biomass</li> </ul>	Forest Management Bureau
<ul style="list-style-type: none"> <li>● Area by Soil Types</li> <li>● Area by Soil Taxonomy</li> <li>● Coastal Areas Affected by Salinity</li> <li>● Soil Nutrient Content</li> </ul>	Bureau of Soils and Water Management
<b>Land Cover, Ecosystem and Biodiversity</b>	
<ul style="list-style-type: none"> <li>● Area of Ecosystems by Land Cover</li> <li>● Known Flora and Fauna Species by Taxonomic Group</li> <li>● Known Fauna Species by Ecosystem</li> <li>● Number of Endemic Known Flora and Fauna Species by Taxonomic Group</li> <li>● Number of Invasive Alien Fauna Species by Taxonomic Group</li> <li>● Population of Threatened Species</li> <li>● Number of Threatened Wildlife Species by Taxonomic Group</li> <li>● List and Status of Protected Areas</li> <li>● Number of Threatened Wildlife Species by Taxonomic Group</li> </ul>	Biodiversity Management Bureau
<b>Environmental Quality</b>	
<ul style="list-style-type: none"> <li>● Concentration Levels of PM<sub>10</sub> by Monitoring Station</li> <li>● Concentration Levels of PM<sub>2.5</sub> by Monitoring Station</li> <li>● Concentration Levels of Ozone by Monitoring Station</li> <li>● Concentration Levels of CO by Monitoring Station</li> </ul>	Environmental Management Bureau

Data Item	Source
<ul style="list-style-type: none"> <li>● Concentration Levels of SO<sub>2</sub> by Monitoring Station</li> <li>● Concentration Levels of NO<sub>2</sub> by Monitoring Station</li> <li>● Distribution of Pollutants by Type of Emission in the NCR</li> <li>● Annual Geometric Mean of TSP by Monitoring Station</li> <li>● Concentration Level of BOD of Selected Freshwater Bodies by Region</li> <li>● Concentration Level of DO in Selected Freshwater Bodies by Region</li> <li>● Annual Geometric Mean of Total Coliform in Selected Marine Waterbodies</li> <li>● Average Fecal Coliform of Recreational Waters in the Philippines</li> </ul>	
<ul style="list-style-type: none"> <li>● Concentration Level of Nitrate in Laguna de Bay and its Major Tributaries</li> <li>● Concentration Level of Phosphate in Laguna de Bay and its Major Tributaries</li> <li>● Concentration Level of BOD in Laguna de Bay and its Tributaries</li> <li>● Concentration Level of COD in Laguna de Bay and its Tributaries</li> <li>● Annual Average of Total Coliform in Laguna de Bay and its Tributaries</li> <li>● Concentration Level of Lead in Laguna de Bay and its Tributaries</li> <li>● Concentration Level of Cadmium in Laguna de Bay and its Tributaries</li> <li>● Levels of pH in Laguna de Bay and its Tributaries</li> <li>● Temperature of Laguna de Bay and its Tributaries</li> <li>● Concentration Level of DO in Laguna de Bay and its Tributaries</li> </ul>	Laguna Lake Development Authority

### III. Compilation Methodology

Following the structure and statistics listed in the FDES 2013, data available within the national statistical system were identified and requested from data source agencies, gathered from statistical publications, or collected from websites. The collected data are checked for consistency and formatted into statistical tables.

#### IV. Definition of Terms

1. Above Ground Biomass – living vegetation above the soil, including stem, stump, branches, bark, seeds, and foliage (*Managing Forest Carbon in a Changing Climate Glossary*).
2. Angiosperm – any of the flower producing plant (*Biology Dictionary Online*).
3. Argo-ecological Zone – a land resource mapping unit, defined in terms of climate, landform, and soils, and/or land cover, and having a specific range of potentials and constraints for land use (*Food Agricultural Organization Soils bulletin 73 “Agro Ecological Zoning Guidelines”*).
4. Assisted Natural Regeneration – process of rehabilitating denuded forest lands by taking advantage of trees already growing in the area. This usually involves the following activities: locating and releasing indigenous trees, maintenance, and augmentation planting and protection (*Department Administrative Order 1991-31. Revised Guidelines for Contract Reforestation. 1991*).
5. Atmospheric Pressure – the amount of force exerted on a unit surface area. Also called “air pressure” (*PAGASA Meteorological Terms Online*).
6. Below Ground Biomass – the living biomass of roots greater than 2 mm diameter (*Managing Forest Carbon in a Changing Climate Glossary*).
7. Biochemical Oxygen Demand (BOD) – the amount of dissolved oxygen which is used up by these microorganisms and is roughly equivalent to the amount of "food" (organic matter) found in the wastewater (*American Public Health Association, American Water Works Association, and Water Environment Federation. 1998. Standard Methods for the Examination of Water and Wastewater. American Public Health Association, Washington, D.C.*).

8. Biomass – the amount of living matter expressed in terms of weight per unit area or unit volume of water. It is total mass of life in an ecosystem any given time. It is an indicator of the productivity of the ecosystem (*Protected Area Managers. Essentials of Protected Area Management in the Philippines. Vol. 3. NIPAP, PAWB DENR. Philippines.*).
9. Built-up – the presence of buildings (roofed structures). This definition largely excludes other parts of urban environments and the human footprint such as paved surfaces (roads, parking lots), commercial and industrial sites (ports, landfills, quarries, runways) and urban green spaces (parks, gardens) (*Organization for Economic Co-Operation and Development iLibrary*).
10. Carbon Monoxide – a colorless, odorless, and poisonous gas produced by incomplete fossil fuel combustion. It combines with the hemoglobin of the human beings reducing its oxygen carrying capacity with effects harmful to human beings (*UN Glossary of Environment Statistics Updated Web Version 2001*).
11. Climatological Normals – normal values of selected elements, i.e., Rainfall, Temperature (maximum, minimum and mean) and Wind, which are presented in graphical form, represent the long-term averages over a 30-year period (*PAGASA website*).
12. Coliform Organism – micro-organism found in the intestinal tract of human beings and animals. Its presence in water indicates faecal pollution and potentially dangerous bacterial contamination. See also *Escherichia coli* (*UN Glossary of Environment Statistics Updated Web Version 2001*).
13. Contiguous Zone (CZ) – from 12 to 24 nautical miles seaward (Contiguous Zone is part of the EEZ) (*National Mapping and Resource Agency of the Government*).
14. Coral – a general term used to describe a group of cnidarians; indicates the presence of skeletal material that is embedded in the living tissue or encloses the animal altogether (*National Oceanic and Atmospheric Administration (NOAA) Coral Reef Information System – Glossary of Terms*).
15. Dissolved Oxygen – the amount of gaseous oxygen (O<sub>2</sub>) presents in water expressed in terms either of its presence in the volume of water (milligrams of O<sub>2</sub> per liter) or of its share in saturated water (percentage) (*UN Glossary of Environment Statistics Updated Web Version 2001*).



16. Exclusive Economic Zone (EEZ) – from the 12 Nautical Miles (outside of the Territorial Sea) to 200 Nautical Miles seaward (*National Mapping and Resource Agency of the Government*).
17. Fecal Coliform – bacteria associated with fecal material from humans and other animals. They enter bodies of water from sources such as direct defecation or sewage overflow. The presence of fecal coliform in water bodies indicates contamination from sewage (*Department of Environment and Natural Resources*).
18. Forest Plantation – a forest established by planting or/and seeding in the process of afforestation or reforestation. It consists of introduced species or, in some cases, indigenous species (*Convention on Biological Diversity, Food and Agriculture Organization definitions*).
19. Gymnosperms – group of plants which produce seeds that are not contained within an ovary or fruit. The seeds are open to the air and are directly *fertilized by pollination* (*Biology Dictionary Online*).
20. Highland Pedo-Ecological Zone – highlands are areas technically described as agro-ecological areas with greater than 500 meters elevation regardless of slope, and general temperature of  $>22.5^{\circ}\text{C}$  (*Bureau of Soils and Water Management*).
21. Hillyland Pedo-Ecological Zone – hillylands are areas technically described as agro-ecological areas less than 500 meters elevation, undulating to steep slope ( $>8\%$ ), and general temperature of  $>22.5^{\circ}\text{C}$  (*Bureau of Soils and Water Management*).
22. Humidity – the amount of water vapor in a given volume of air (*National Geographic Resource Library Encyclopedia Online*).
23. Lake – body of water that is surrounded by land (*National Geographic Resource Library Encyclopedia Online*).
24. Land Cover – refers to the surface cover on the ground, whether vegetation, urban infrastructure, water, bare soil or other (*Michigan State University Extension*).
25. Lowland Pedo-Ecological Zone – lowlands are areas technically described as agro-ecological areas with less than or equal to 100 meters elevation, level to gently sloping ( $0-8\%$ ), and average temperature of  $>25^{\circ}\text{C}$  (*Bureau of Soils and Water Management*).
26. Mangrove Forest – a forested wetland growing along tidal mudflats and along shallow water coastal areas extending inland along rivers, streams, and their tributaries where the water is generally brackish and composed mainly of *Rhizophora*, *Bruguiera*, *Ceriops*,

*Avicenia, Aegiceras, and Nipa species (DENR Memorandum Circular 2005-05).*

27. Natural Forest – a forest that has evolved and reproduced itself naturally from organisms previously established, and that has not been significantly altered by human activity (*Food and Agriculture Organization of the United Nations “Definitons and Basic Principles of Sustainable Forest Management in Relation to Criteria and Indicators” Annex 6*).
28. Natural Regeneration – the establishment of a plant or a plant age class from natural seeding, sprouting, suckering, or layering (*Foreign-Assisted and Special Projects Service Glossary of Terms*).
29. Nitrogen Dioxide (NO<sub>2</sub>) – a group of highly reactive gases known as oxides of nitrogen or nitrogen oxides (NO<sub>x</sub>). Other nitrogen oxides include nitrous acid and nitric acid. NO<sub>2</sub> is used as the indicator for the larger group of nitrogen oxides. NO<sub>2</sub> primarily gets in the air from the burning of fuel. NO<sub>2</sub> forms from emissions from cars, trucks and buses, power plants, and off-road equipment. (*United States Environmental Protection Agency*).
30. Ozone (O<sub>3</sub>) – a pungent, colorless, toxic gas that contains three atoms of oxygen in each molecule. It occurs naturally at a concentration of about 0.01 parts per million (p.p.m.) of air. Levels of 0.1 p.p.m. are toxic. In the stratosphere, ozone provides a protective layer shielding the earth from the harmful effects of ultraviolet radiation on human beings and other biota. In the troposphere, it is a major component of photochemical smog, which seriously affects the human respiratory system (*UN Glossary of Environment Statistics Updated Web Version 2001*).
31. Planted Forest – defined as a forest that at maturity is predominantly composed of trees established through planting and/or deliberate seeding. Planted forest includes but is not limited to plantation forest (*Food and Agricultrre Organization of the United Nations, FAO 2023*).
32. PM<sub>10</sub> – particles less than 10 micrometers (µm) in diameter. Sources include sea salt, crushing or grinding operations and dust stirred up by winds over exposed soils or vehicles on roads. The AAQ NEPM has set the 24-hour national standard for PM<sub>10</sub> as 50 µg/m<sup>3</sup>, defined as a calendar day 24-hour average (*NSW*

*Government Department of Planning and Environment Glossary of Air quality terms).*

33. PM<sub>2.5</sub> – fine particles less than 2.5 µm in diameter. Sources include all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. May also include sea salt. The AAQ NEPM has set the 24-hour national standard for PM<sub>2.5</sub> as 25 µg/m<sup>3</sup>, defined as a calendar day 24-hour average (*NSW Department of Planning and Environment Glossary of Air quality terms*).
34. Precipitation – any liquid or frozen water that forms in the atmosphere and falls back to the earth. It comes in many forms, like rain, sleet, and snow. Along with evaporation and condensation, precipitation is one of the three major parts of the global water cycle. It is always fresh water, even when the water originated from the ocean. This is because sea salt does not evaporate with water (*National Geographic Resource Library Encyclopedia Online*).
35. Production Forest – forest lands that can be made available for timber and agroforestry production, range lands for grazing, and other forest lands special uses (*Alvarez, H. House Bill No. 170. An Act Providing for the National Land Use Code of the Philippines and for other Purposes. 1998*).
36. Protected Area – as defined by the International Union of Nature Conservation (IUCN) a protected area is an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, managed through legal or other effective means (*Food and Agriculture Organization of the United Nations “Definitons and Basic Principles of Sustainable Forest Management in Relation to Criteria and Indicators” Annex 6*).
37. Pteridopyhtes – seedless vascular plants. They have spores that develop freely into gametophytes. They are complex and varied categories. They represent both different evolutionary clades and antiquity (*UN academy website “Pteridophytes: Characteristics, Classification and Life Cycle”*).
38. Protection Forest – a forest that is generally situated on broken ground, or ground subjected to periodic or permanent floods, and therefore rendered physically non-productive and difficult to manage, with the exception of the lands included in the category below (*Food and Agriculture Organization of the United Nations*

*“Definitons and Basic Principles of Sustainable Forest Management in Relation to Criteria and Indicators” Annex 6).*

39. Rainfall – a term sometimes synonymous with rain, but mostly used in reference to amounts of precipitation which includes snow, hail, etc. *{Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) Meteorological Terms Online}*.
40. Relative Humidity – ratio between the amount of water vapor in the air and the air's saturation point. Relative humidity is expressed as a percentage *(National Geographic Encyclopedia)*.
41. Reforestation – artificial establishment of forests on land which carried forestry before and involving the replacement of the indigenous tree species by a new and essential different species or genetic variety *(Food and Agriculture Organization of the United Nations “Definitons and Basic Principles of Sustainable Forest Management in Relation to Criteria and Indicators” Annex 6)*.
42. Regeneration – re-establishment of a forest stand by natural or artificial means following the removal of the previous stand by felling or as a result of natural causes, e.g., fire or storm *(Food and Agriculture Organization of the United Nations “Definitons and Basic Principles of Sustainable Forest Management in Relation to Criteria and Indicators” Annex 6)*.
43. Salinity – pertains to the degree of saltiness or the relative proportion of salt in a solution *(Biology Dictionary Online)*.
44. Seagrass – like terrestrial grasses, seagrasses are vascular plants with well-specialized roots, leaves, and underground stems, also known as rhizomes *(Marine Comparison, Ocean Info website)*.
45. Sea Level – the base level for measuring elevation and depth on Earth *(National Geographic Resource Library Encyclopedia Online)*.
46. Shrub – a woody plant that is typically less than 8 meters tall. Unlike a tree, shrubs have several stems and vary widely in size; some shrubs are less than 2 meters high, while others are around 6 to 8 meters tall *(Biology Dictionary Online)*.
47. Solar Radiation – often called the solar resource or just sunlight, is a general term for the electromagnetic radiation emitted by the sun. It can be captured and turned into useful forms of energy, such as heat and electricity, using a variety of technologies *(Department of Energy “Solar Radiation Basics”)*.

48. Soil Series – the lowest category of the national soil classification system. It is the most homogenous classes in the system of taxonomy (*Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture, Official Soil Series Descriptions*).
49. Sulfur Dioxide (SO<sub>2</sub>) – a colorless gas that is readily soluble in water. It is predominantly derived from the combustion of fossil fuels for domestic heating, industries, and power generation (World Health Organization).
50. Temperature – the degree of hotness or coldness of an object. The temperature of an object, usually measured in degrees-Fahrenheit or degrees-Celsius, tells us how much heat, or energy, the object has (*National Geographic Resource Library Encyclopedia Online*).
51. Territorial Sea (TS) – from the coastline (where the land meets the water) to 12 Nautical Miles seaward (*National Mapping and Resource Agency of the Government*).
52. Total Coliform Bacteria – commonly found in the environment (e.g., soil or vegetation) and are generally harmless. If only total coliform bacteria are detected in drinking water, the source is probably environmental. Fecal contamination is not likely. However, if environmental contamination can enter the system, there may also be a way for pathogens to enter the system. (*Washington States Department of Health*).
53. Total Suspended Particulate (TSP) – solid particles and liquid droplets 100 micrometers or less in diameter. They come from natural and human-made sources (e.g., pollen, bushfires, motor vehicle emissions). PM<sub>10</sub> and PM<sub>2.5</sub>, the smaller components of TSP, are associated with adverse health effects ranging from respiratory problems to premature death of people with heart and lung disease (*NSW Government Department of Planning and Environment Glossary of Air quality terms*).
54. Unexploitable Forest – forest and other wooded land on which there are legal, economic, or technical restrictions on wood and non-wood production. Includes: a) forest and other wooded land with severe legal restrictions on wood production, e.g., national parks, nature reserves and other protected areas such as those of special scientific, historical, or cultural interests; b) forest and other wooded land where physical productivity is too low or harvesting and transportation costs to the nearest market are too high to warrant

wood harvesting (*Food and Agriculture Organization of the United Nations “Definitons and Basic Principles of Sustainable Forest Management in Relation to Criteria and Indicators” Annex 6*).

55. Unproductive Forest – a forest, which is not regularly managed, yielding timber less than a certain amount, e.g., the increment volume is less than 1 m<sup>3</sup>/ha/year in the foreseeable future (*Food and Agriculture Organization of the United Nations “Definitons and Basic Principles of Sustainable Forest Management in Relation to Criteria and Indicators” Annex 6*).
56. Upland Pedo-Ecological Zone – uplands are areas technically described as agro-ecological areas less than 500 meters elevation, gently sloping to undulating (<18%), and general temperature of >22.5°C (*Bureau of Soils and Water Management*).

## V. Dissemination of Results and Revision

The Compendium of Philippine Environment Statistics is updated annually. The web release material includes press release, statistical tables, infographics, and social cards.

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## VI. Citation

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