

BRANCHES OF GEOGRAPHY

Physical geography Branches include:

Geomorphology

Surface of the Earth

Geomorphology (from Greek: γή, ge, "earth"; μορφή, morfé, "form"; and λόγος, logos, "study") is the scientific study of landforms and the processes that shape them. Geomorphologists seek to understand why landscapes look the way they do, to understand landform history and dynamics, and to predict future changes through a combination of field observations, physical experiments, and numerical modeling. Geomorphology is practiced within geography, geology, geodesy, engineering geology, archaeology, and geotechnical engineering, and this broad base of interest contributes to a wide variety of research [styles and interests within the field.

Biogeography

Biogeography is the study of the distribution of species (biology), organisms, and ecosystems in space and through

geological time. Organisms and biological communities vary in a highly regular fashion along geographic gradients of latitude, elevation, isolation and habitat area.

Knowledge of spatial variation in the numbers and types of organisms is as vital to us today as it was to our early human ancestors, as we adapt to heterogeneous but geographically predictable environments. Biogeography is an integrative field of inquiry that unites concepts and information from ecology, evolutionary biology, geology, and physical geography.

Modern biogeographic research combines information and ideas from many fields, from the physiological and ecological constraints on organismal dispersal to geological and climatological phenomena operating at global spatial scales and evolutionary time frames.

Climatology (from Greek κλίμα, klima, "place, zone"; and -λογία, -logia) is the study of climate, scientifically defined as weather conditions averaged over a period of time, and is a branch of the atmospheric sciences. Basic knowledge of climate can be used within shorter term weather forecasting using analog techniques such as the El Niño. Climate models are used for a variety of purposes from study of the dynamics of the weather and climate system to projections of future climate.

Oceanography (compound of the Greek words ὠκεανός meaning "ocean" and γράφω meaning "to write"), also called oceanology or marine science, is the branch of Earth science that studies the ocean. It covers a wide range of topics, including marine organisms and ecosystem dynamics; ocean currents, waves, and geophysical fluid

dynamics; plate tectonics and the geology of the sea floor; and fluxes of various chemical substances and physical properties within the ocean and across its boundaries. These diverse topics reflect multiple disciplines that oceanographers blend to further knowledge of the world ocean and understanding of processes within it: biology, chemistry, geology, meteorology, and physics as well as geography.

Pedology (from Greek: πέδον, pedon, "soil"; and λόγος, logos, "study") is the study of soils in their natural environment. It is one of two main branches of soil science, the other being edaphology. Pedology deals with pedogenesis, soil morphology, and soil classification, while edaphology studies the way soils influence plants, fungi, and other living things.

Hydrology is the study of the movement, distribution, and quality of water on Earth and other planets, including the hydrologic cycle, water resources and environmental watershed sustainability. A practitioner of hydrology is a hydrologist, working within the fields of earth or environmental science, physical geography, geology or civil and environmental engineering.

Domains of hydrology include hydrometeorology, surface hydrology, hydrogeology, drainage basin management and water quality, where water plays the central role.

Oceanography and meteorology are not included because water is only one of many important aspects within those fields.

Hydrological research can inform environmental engineering, policy and planning.

**The term hydrology is from Greek: ὕδωρ, hydōr, "water";
and λόγος, logos,**