

Biogeography

Alexey Shipunov

Minot State University

Lecture 2

Outline

Biogeography
Introduction

Basics of physical geography
Main categories

Outline

Biogeography

Introduction

Basics of physical geography

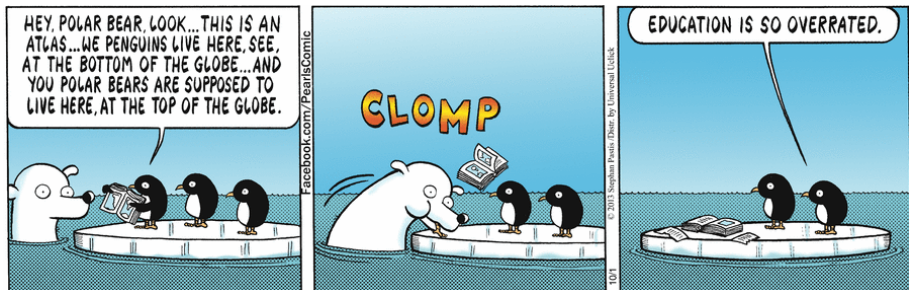
Main categories

Presentations, syllabus etc.

- ▶ Exam dates are set
- ▶ 4 PDF file names
- ▶ Availability / time preferences
- ▶ Class ID (4 digits, not starting from zero)

Biogeography

Introduction



So why do polar bears not eat penguins?

(Yes, they do not intersect but they are not so far from each other as many think. So why they did not meet?)

http://msubiology.info/shipunov/ph/20151223_chile/20151224_patagonia/mov/

http://msubiology.info/shipunov/ph/20160626_sa/20160711_cape_town/20160713_stone_point/mov/

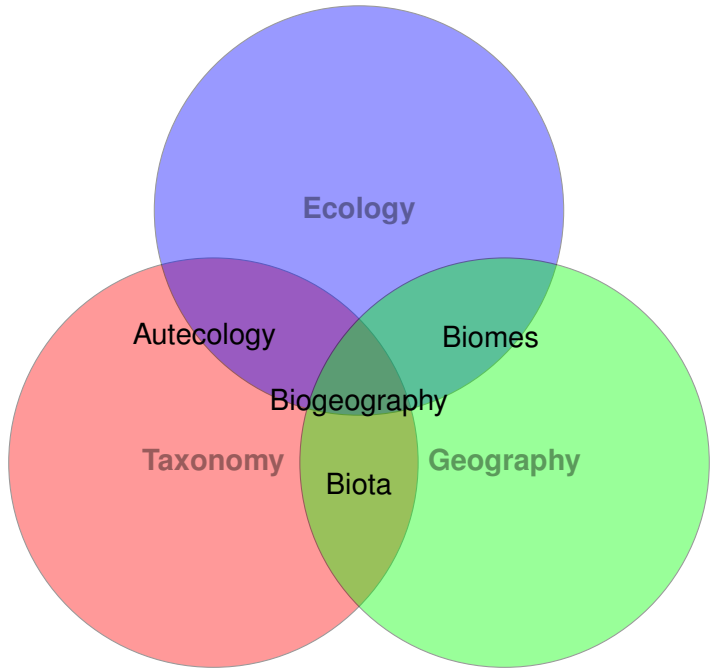
http://www.komar.org/faq/churchill_polar_bear_tours/other-animals-fun-stuff/Polar-Bear-BBQ-Penguin.gif

So what is biogeography?

Intersection between:

- ▶ Geography in wide sense (including climatology, landscape science, and even historical geology)
- ▶ Ecology (both of organisms and communities)
- ▶ Taxonomy (including phylogeny)

Contemporary biogeography always always takes into account the historical aspect.



My contributions to biogeography

- ▶ Island biogeography: small uprising islands of White Sea (Russian Arctic)
- ▶ Species biogeography: color polymorphism in Caucasian primroses
- ▶ Regional biogeography: flora of North Dakota

Around biogeography

- ▶ Geography + ecology + taxonomy = biogeography
- ▶ Geography + ecology = geographic ecology, Earth biomes
- ▶ Geography + taxonomy = floristics and faunistics
- ▶ Ecology + taxonomy = autecology, ecology of species

Basics of physical geography

Main categories

Physical geography

- ▶ Geodesy, cartography and spatial science
- ▶ Climatology
- ▶ Palaeogeography
- ▶ Geomorphology
- ▶ Glaciology
- ▶ Hydrology and limnology
- ▶ Oceanography

Main parts of Earth: horizontal

- ▶ Continents and islands: Greenland criterion, Panama isthmus, isthmus of Suez, Europe-Asia border (Sea of Marmara – Black Sea – North Caucasus – Caspian Sea – River Ural – Ural mountains); Madagascar, Indonesian archipelago
- ▶ Oceans and seas: Arctic ocean criterion, different approaches, Tethys traces (Mediterranean, Marmara, Black, Caspian and Aral seas)
- ▶ Lakes and rivers: Great Lakes, Great African lakes, Baikal, Lake Eyre, Lake Chad
- ▶ Mountains and depressions: Himalayan ridge, Andes and Cordilleras, European ridges, Puerto Rico depression, Mariana trench
- ▶ Straits and currents: Gibraltar, Torres and Magellan straits; Gulf stream, Labrador and North Pacific current, equatorial currents, Antarctic circumpolar current

Summary

- ▶ Biogeography is an intersection between geography, ecology and taxonomy
- ▶ For biogeography, the most important geographical sciences are geodesy, climatology and palaeogeography.

For Further Reading



A. Shipunov.

Biogeography [Electronic resource].

2014—onwards.

Mode of access:

http://ashipunov.info/shipunov/school/biol_330