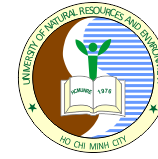




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COURSE PRESENTATION

RIVER-SEA INTERACTIONS

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Institute of Oceanography
2021



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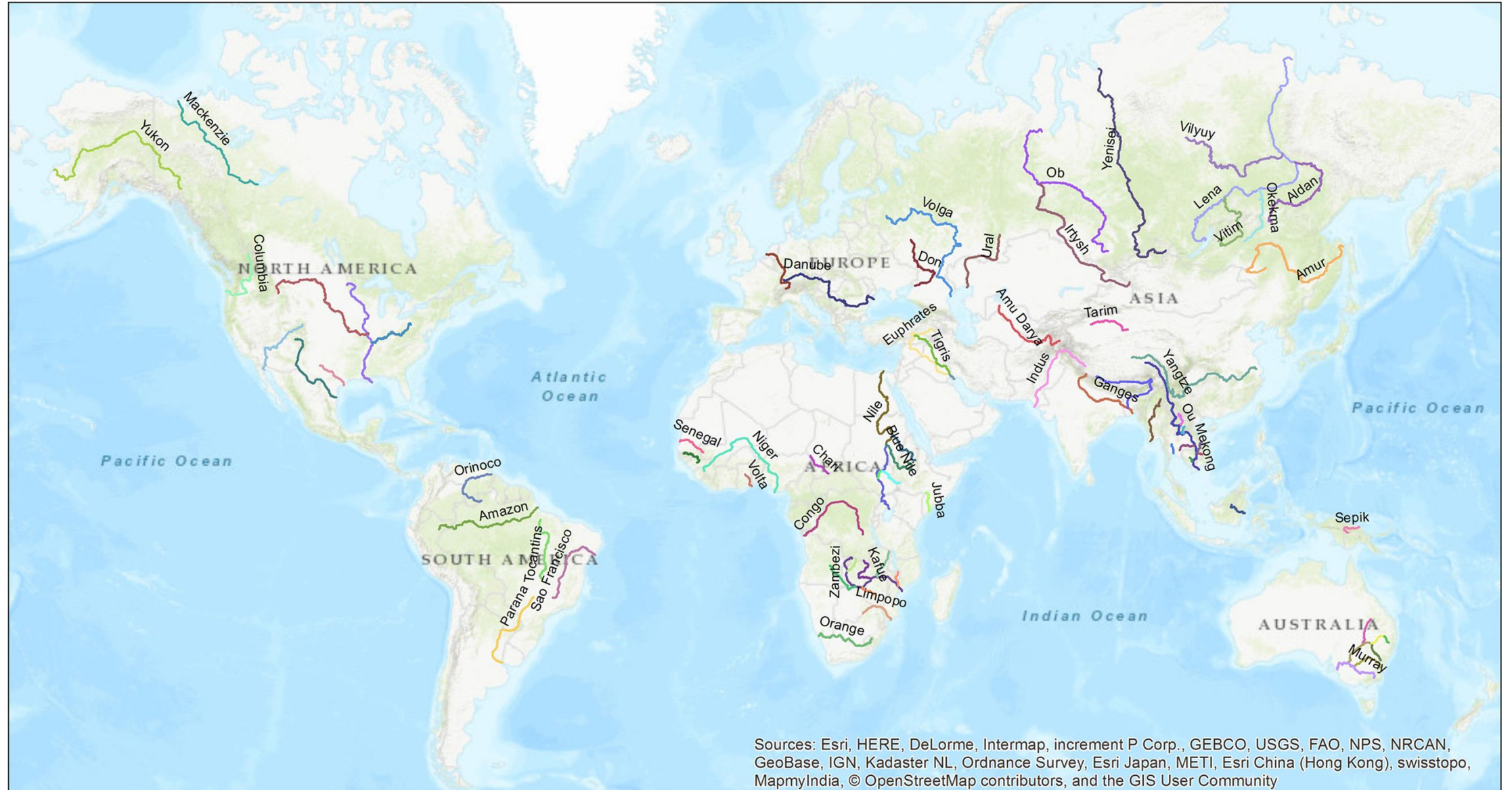
Overview of course

- Name: River-sea interactions
- Language: Vietnamese
- Coordinator: Institute of Oceanography
- Credits: 4.5 ECTs
- Lecturers: Bui Hong Long, Phan Minh Thu
- Level: BSc.
- Host institution: Ho Chi Minh City University of Natural Resources and Environment
- Course duration: 1 semester (the classes will be scheduled in accordance with the university timetable)

Introduction

- Estuary areas and continental shelves cover 5.2% of the earth's surface area and only 2% of the ocean's volume
- Link between continents and oceans, every year, the world's major rivers discharge about 41,744 km³ of sediment into the oceans.
- Large deltas such as: Yellow River, Yangtze River, Mekong, Red River, Nile River, Mississippi River, etc.
- In the world, there are more than 50 major deltas distributed on almost all continents with a total population of about 325 million people (ORNL, 2002).

Major rivers overseas



Roles

- Estuary: where the river meets the sea, typical for the coastal flow system.
- Transitional ecosystems between continents and oceans
- Important roles of ecological and economic sectors



Impacts to estuaries and coastal waters



Issues

- In the interactions of river-sea, estuaries and deltas are most affected. According to several studies, most of the world's deltas have been facing 3 major problems:
 - Shrinking Deltas;
 - Ground Subsidence;
 - Sinking Deltas.
- The causes: mixtures of climate change and human impact.

Rives in Việt Nam

- One of the most vulnerable countries in the world to the effects of climate change.
- located in the belt affected by natural disasters such as storms, floods and droughts, which is high compared to other regions in the world
- Dense river systems

Courses objectives

- The influence of the river into the sea; identify scientific issue of upper boundary of sea impacts into the river, supporting to determinate the scope of coastal management.
- Identify marine fronts (hydrology, tide...) that help to detect potential areas for high primary productivity and fishing grounds;
- Determinate the Regions Of Fresh water Influence (ROFI) in the coastal areas as well as the areas affected by physical processes (such as stratification, disturbance caused by wind, waves, tides and currents).
- River - sea interaction processes and theirs influence by the of socio-economic development and climate change.

Chapter contents

- Chapter I : Estuaries.
- Chapter II : Delta
- Chapter III : Dynamics of sediment in estuaries.
- Chapter IV: Types of Estuaries, exempling in Vietnam
- Chapter V: Natural hazard in estuaries

Evaluation

- Participate: 10%
- Progress assessment (30%):
 - Exercise (15%):
 - Homework (15%):
- Final assessment (60%):
 - Final examination (45%)
 - Semi- Final examination (15%)
- Grade:
 - A (8,5-10)
 - B (7,0 – 8,4)
 - C (5,5 – 6,9)
 - D (4,0 – 5,4)