

MIDWEST INSTITUTE INTERNATIONAL/INTERCULTURAL MODULE

Developer: Jeff Fesperman

College: Illinois Valley Community College

Discipline: Geography

Course: GEG 1004 – World Regional Geography

Module Title: Hydrogeography as an Instructional Template for World Regional Geography

Module Description:

The study of each world region will be approached from a water resource perspective. A template will be utilized that organizes course content according to three themes associated with water resource allocation and water utilization: environmental issues, socioeconomic issues, and geopolitical issues. A one-hour lecture period will be dedicated to a case study of a river system that is indicative of the region being studied, with the exception of the Caribbean and Australia/Oceania regions where there are no comparably large river systems as a result of either aridity or the insular character of these regions.

Educational Objectives:

1. Students will be able to differentiate world regions on the basis of their available water resources.
2. Students will learn about the role that river systems play with respect to economic development and the geopolitical relations.
3. Students will learn how climate change will contribute to water insecurity, thereby destabilizing the existing socioeconomic systems and geopolitical order at both regional and global scales.

Outline of Lectures/Discussion Used to Implement the Module:

Week 1

North America

case study: Rio Grande River
(a) environmental issues
(b) socioeconomic issues
(c) geopolitical issues

source article: "Scarcity and Power in US-Mexico Transboundary Water Governance: Has the Architecture Changed Since Nafta?"
Globalizations (2016), Vol. 13, No. 6, pp. 702-718
by Stephen P. Mumme

Week 2

Latin America

case study: Amazon River

- (a) environmental issues
- (b) socioeconomic issues
- (c) geopolitical issues

source article: "Where Resource Extraction Leads to Urbanization: How Resource Extraction Is Leading to Urban Growth in the Brazilian Amazon"

Annals of the Association of American Geographers (2015),
Vol. 105, No. 4, pp. 806-823
by Peter Richards and Leah VanWey

Week 3

Caribbean

case study: none

Week 4

Subsaharan Africa

case study: Zambezi River

- (a) environmental issues
- (b) socioeconomic issues
- (c) geopolitical issues

source article: "Hydropower Production in Future Climate Scenarios; the Case of the Zambezi River"

Energies (2016), Vol. 9, No. 7, pp. 1-18
by Byman H. Hamududu and Anund Killingtveit

Week 5

Southwest Asia/North Africa

case study: Nile River

- (a) environmental issues
- (b) socioeconomic issues
- (c) geopolitical issues

source article: "The Future of Transboundary Water Conflicts"

Political Science Quarterly (2016), Vol. 131, No. 4, pp. 717-748
by Miroslav Nincic and Matthew Weiss

Week 6

Europe

case study: Rhine River

- (a) environmental issues
- (b) socioeconomic issues
- (c) geopolitical issues

source article: "From a sewer into a living river: the Rhine between Sandoz and Salmon"

Hydrobiologia (2014), Vol. 729, No. 1, pp. 95-106
by Nathalie Plum and Anne Schulte-Wulmer-Leidig

Week 7

Russian and the Near Abroad

case study: Volga River

- (a) environmental issues
- (b) socioeconomic issues
- (c) geopolitical issues

source article: "Rivers, Memory, and Nation-building: A History of the Volga and Mississippi Rivers"
Canadian Journal of History (2016), Vol. 51, No. 2, pp. 428-429
by Philip V. Scarpino

Week 8

Central Asia

case study: Syr Darya River

- (a) environmental issues
- (b) socioeconomic issues
- (c) geopolitical issues

source article: "Dynamics of water reallocation and cost implications in the transboundary setting of the Ferghana Valley"
Central Asian Survey (2016), Vol. 35, No. 1, pp. 38-60
by Kai Wegerich, Ilkhom Soliev, and Indira Akramova

Week 9

East Asia

case study: Huang He (Yellow River)

- (a) environmental issues
- (b) socioeconomic issues
- (c) geopolitical issues

source article: "Human Activity and climatic variability on sediment discharge and runoff in the Yellow River"
Theoretical and Applied Climatology (2017), Vol. 129, No. 1/2, pp. 645-654
by Yi He, Fei Wang, Xinming Mu, Lanqin Guo, Peng Gao, and Guangju Zhao

Week 10

South Asia

case study: Indus River

- (a) environmental issues
- (b) socioeconomic issues
- (c) geopolitical issues

source article: "Threats of global warming for Pakistan's Agriculture: An Evidence from Shigari Kalan Watershed, Skardu"
Sarhad Journal of Agriculture (2018), Vol. 34, No. 3, pp. 569-574
by Muhammad Zulfiqar, Muhammad Jamal Khan, Irshad Khan Abbasi, Muhammad Tariq, Jawad Ali, Melad Karim, and Rizwan Ahmad

Week 11

Southeast Asia

case study: Mekong River

- (a) environmental issues
- (b) socioeconomic issues
- (c) geopolitical issues

source article: "Environmental and political implications of Vietnam's water vulnerabilities: A multiscale assessment"

Singapore Journal of Tropical Geography (2016), Vol. 37, No. 1, pp. 59-75
by Elena Givental and Dianne Meredith

Week 12

Australia and Oceania

case study: none

Student Evaluation

- Case study material presented during lectures will be covered on the respective exams
- Each student will compile an annotated bibliography (1200 to 1500 words in length) that provides summaries of on one news article detailing a water resource issue in each one of the twelve world regions.

BIBLIOGRAPHY

Givental, E., & Meredith, D. (2016). Environmental and Political Implication of Vietnam's water vulnerabilities: a multiscale assessment. *Singapore Journal of Tropical Geography*, 37(1), 59-75.

Hamududu, B. H., & Killingtveit, A. (2016). Hydropower Production in Future Climate Scenarios: the Case of the Zambezi River. *Energies*, 9(7), 1-18.

He, Y., Wang, F., Mu, X., Guo, L., Gao, P., & Zhao, G. (2017). Human Activity and climatic variability on sediment discharge and runoff in the Yellow River. *Theoretical and Applied Climatology*, 129(1/2), 645-654.

Mumme, S. P. (2016). Scarcity and Power in US-Mexico Transboundary Water Governance: Has the Architecture Changed Since NAFTA? *Globalizations*, 13(6), 702-718.

Nincic, M., & Weiss, M. (2016). The Future of Transboundary Water Conflicts. *Political Science Quarterly*, 131(4), 717-748.

Plum, N., & Schulte-Wulmer-Leidig, A. (2014). From a sewer into a living river: the Rhine between Sandoz and Salmon. *Hydrobiologia*, 729(1), 95-106.

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- Scarpino, P. V. (2016). Rivers, Memory, and Nation-building: A History of the Volga and Mississippi Rivers. *Canadian Journal of History*, 51(2), 428-429.
- Wegerich, K., Soliev, I., & Akramova, I. (2016). Dynamics of water reallocation and cost implications in the transboundary setting of the Ferghana Valley. *Central Asian Science*, 35(1), 38-60.
- Zulfiqar, M., Khan, M. J., Abbasi, I. K., Tariq, M., Ali, J., Karim, M., & Ahmad, R. (2018). Threats of global warming for Pakistan's Agriculture: An Evidence from Shigari Kalan Watershed, Skardu. *Sarhad Journal of Agriculture*, 34(3), 569-574.