



Announcement of Opportunity to potential lesson authors for BILKO for Windows Module 9: "Coastal Erosion"

About UNESCO BILKO

The UNESCO BILKO project has over the last 10 years developed a resource for the International Community by furnishing individuals and institutions with learning materials, free of charge, to enhance knowledge and interpretation of digital image data from airborne, satellite and in situ sensors. The pedagogical materials have evolved over a decade in support of human resources and infrastructure development, especially in economically less favored countries. UNESCO continues to support the BILKO project under the Environment and development in coastal regions and small islands (CSI) which is concerned with the encouragement of intersectoral actions that assist member states towards environmentally sustainable, socially equitable and culturally appropriate development in their coastal regions. There is a web site dedicated to the project where you may download a copy of the software and lesson materials free of charge after registering your interest at <http://www.ncl.ac.uk/tcmweb/bilko/bilko.htm>. The BILKO project co-ordination office is hosted by ITC's Division of Applied Geomorphological Surveys in Enschede, The Netherlands.

Upcoming modules for distance learning

The BILKO project is now co-ordinating the development of new modules on various applications of remote sensing to coastal areas. Upcoming modules will deal with remote sensing for e.g.: Fisheries, Coastal Erosion, Global Vulnerability, The Baltic Region, Integrated Coastal Zone Management in India and Natural Hazards. This announcement of opportunity is directed to earth scientists willing to contribute structured lessons to the BILKO project, free of charge, that focus on the use of remote sensing data sets (satellite and/or airborne images) for studying the dynamic processes of coastal erosion and accretion. These lessons will be accompanied by a multimedia tutorial on the subject in the new Module 9.

Aims and objectives of Module 9

The aim of BILKO for Windows Module 9 is *To demonstrate the use of multi-sensor, multi-temporal remote sensing data sets for monitoring dynamic coastal processes of erosion and accretion.*

The specific objectives of Module 9 are:

- to provide an overview of coastal landforms and development over time;
- to relate image features to processes that cause sedimentation and erosion;
- to highlight the synergy benefits of adopting a multi-sensor and multi-temporal remote sensing approach for monitoring changing coastal environments;
- to demonstrate analysis strategies, tools and techniques appropriate to operational use of remote sensing for coastal management

International Executive Steering Committee: Dr. David Blackburn, Edinburgh, UK; Dr. Richard Callison, Pharos Scientific Ltd, Dundee, UK; Mr. Malcolm Dobson, Pharos Scientific Ltd Dundee, UK; Dr. Craig Donlon, CEC-JRC SAI, Ispra, Italy; Dr. Alasdair Edwards, University of Newcastle, Newcastle Upon Tyne, UK; Prof. John van Genderen, ITC, Enschede, The Netherlands; Dr. Ir. Tjeerd W. Hobma, ITC, Enschede, The Netherlands; Dr. Jesus Morales, CICEM "Aqua del Pino", Huelva, Spain; Prof. Ian Robinson, University of Southampton, Southampton, UK; Dr. Sudarshana, Indian Institute of Remote Sensing, Dehradun, India; Dr. Vitaly Sychev, Russian State Hydrometeorological University, St. Petersburg, Russia; Dr. Dirk Troost, UNESCO-CSI, Paris, France.

Suggested lesson contents

An overview of coastal landforms and processes that cause sedimentation and erosion is being produced for learning with a multi-media tutorial by ITC. Ideally, the lessons in module 9, for use with the BILKO for Windows software, should cover a large range of remote sensing applications and data sets from coastal environments across the globe. *For example*, the study of morphodynamics of a coastal barrier island could use a combination of remote sensing data (e.g. from scanned aerial photographs, multi-spectral scanning, radar) and elevation data (e.g. from digitized maps or laser altimetry) to unravel the mutual influencing of processes and landforms. *As a second example*, monitoring the process of rapid delta formation in a lagoonal environment could use a (historical) series of scanned aerial photographs, a recent Landsat TM image and locational field data (e.g. from GPS) of vegetation structure, soils and hydrology to explain changes over time. *As a third example*, the use of remote sensing as a geophysical measuring instrument could be demonstrated for (optical) analysis of turbidity of coastal waters. Landsat MSS, Landsat TM and SPOT HRV imagery in combination with some field samples might be used to support management in assessing the degradation of coral reefs or the silting up of seaways.

Each lesson should have a clear aim and suite of objectives that address a particular sedimentary coastal environment, a process of coastal change or a coastal management problem. Each lesson should demonstrate and highlight the benefits of a multi-sensor and multi-temporal approach (where appropriate and feasible) using colorful, interesting image data sets. Authors are encouraged to use additional picture format (i.e., jpg images, animated gif images) and to enhance the lesson content. For example, (composite) images of multi-spectral satellite instruments, high-resolution airborne scanner images or scanned aerial photographs highlighting natural and human induced impacts. Innovative and interesting lesson material, capitalizing on the capabilities of the electronic publishing are particularly encouraged. The lessons in the latest module 7 may serve as a useful example.

BILKO activities on Internet

It is foreseen to provide both hard copy and electronic versions of Module 9 and follow-ups. Authors are encouraged to use Microsoft Word or if possible, the Adobe portable document format (pdf) to submit lesson material. Lesson examples, templates and guidance is readily available from the BILKO project co-ordination office at ITC. A 'Handbook for Authors' is currently being prepared by the members of the International Executive Steering Committee. The BILKO discussion board for authors and users of the upcoming BILKO modules, and for discussing software issues, will be operational on the worldwide web by early 2000. FTP-sites are being set up on every continent around the globe to make downloading of the BILKO modules more easy. Feel free to check the BILKO website for the nearest site to you and for other recent developments.

Software requirements

The UNESCO BILKO project is an evolving project. If an author has a particular need for a function or analysis tool not currently supported by the BILKO for Windows software that would be of use in general sense (e.g. widespread data formats, multi-sensor, multi-temporal, geo-referencing or classification analysis tools) there may be a possibility to have particular functionality implemented into the BILKO for Windows software. For this, authors should contact the module co-ordinator who is responsible for the structure, contents and pedagogical aspects of a series of lessons on one of the upcoming themes. Your BILKO Module 9 co-ordinator is Dr.Ir. Tjeerd W. Hobma from ITC, Enschede, The Netherlands (see contact below).

Although there is no dedicated funding available to authors in support of their contributions, UNESCO will produce a CD-ROM containing the module together with a bound hard-copy of Module 9 material. These will be made available and distributed, free of charge, to interested individuals or institutions under the UNESCO CSI mandate.

Preliminary timetable

At the last meeting of the BILKO Steering Committee in Huelva Spain (Nov.'99), the following tentative time-scale was discussed:

December 1, 1999:	Announcement of opportunity to contribute to Module 9
February 1, 2000:	Selection of Lessons and commitment of Authors
July, 1 2000:	Deadline for submitting draft lessons by authors; Interim report to Steering Committee, Edinburgh, Scotland
December 2000:	Complete draft of the multi-media tutorial and lessons available for testing
February 2001:	Final revision of lessons taking input from testing phase
June 2001:	Production of Module workbook and CD package
August 2001:	Distribution and release of BILKO Module 9: "Coastal erosion"

Suggested lesson topics

The following lesson topics are meant to be a *guide* to the type of lesson desired for Module 9. It is by no means exhaustive or definitive and authors are encouraged to suggest their own titles and lesson contents.

1. Monitoring Yellow river delta, China (M. Damen)	8. Beach erosion in Mexico (A. Pacheco)
2. Rapid delta formation in Laguna de Tacarigua, Venezuela (A. Caldazilla Perez)	9. Physiography and vegetation of dry coastal dunes in Central Patagonia, Argentina (H. del Valle)
3. R.S. for CZM of Caribbean coast of Belize (T.W. Hobma)	10. Multi-scale approach at dynamics of coastal dune vegetation on island of Ameland (H. Kloosterman)
4. R.S. of the Mauretanian coast (G. Reinink)	11. R.S. in Gulf of Cambay, India (D. Mitra)
5. Morphodynamics of coastal barrier island of Ameland, The Netherlands (M. Margani)	12. R.S. for CZM in Banten Bay, Indonesia (N. Sukmantalya)
6. Maintaining the seaway of Port of Banjarmasin, South-Kalimantan, Indonesia (S. Peters)	13. R.S. for CZM in Golfo Morresquillo, Colombia (K. Sijmons)
7. Coastal morphology of Western Scheldt river, The Netherlands (R. Jordans)	14. R.S. of Bankulu coast in Southwest Sumatra, Indonesia (C. Pohl)

Contact

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