

Appendix A

Contents of Module 7

The programme file for *Bilko for Windows* v. 2.0, associated Help files, documentation, files containing images (.BMP, .GIF, .DAT and .BIN files), look-up tables (.STR files), palettes (.PAL files), formulas (.FRM files), and *Excel* spreadsheet files associated with some lessons, are either available on a CD-ROM distributed with this booklet or can be downloaded over the internet.

The total amount of free disk space required for all the files associated with Module 7 is about 60 Mbytes. The five *Word* document files making up the Introduction comprise about 15 Mbytes.

CD-ROM

1. Insert the compact disc into your CD-ROM drive.
2. In Windows 3.1 select **File, Run** from the **Programme Manager** menu and type **e:\setup** as the **Command line:** of the **Run** dialog box where **e:** is the drive letter of your CD-ROM drive.

or

2. In Windows 95/NT the installation should start automatically ('autoplay'). If you right-click the Bilko-CD icon in 'My Computer' the menu should include **AutoPlay**; if it doesn't, click on the **Start** button and select the **Run** option. In the **Open** dialog box, type **e:\setup** where **e:** is the drive letter of your CD-ROM drive or use the **Browse** menu to find the SETUP.EXE program on the CD-ROM. Then click on OK.
3. Follow the Install Shield instructions.

Note: All the files required for modules 1-6 are also included on the CD-ROM and may be installed if required.

Downloading over the internet

An "anonymous ftp" site has been set up from which all the files needed for Module 7 can be downloaded. All the files have been zipped to make them as small as possible. Even so the largest lesson is still 5 Mbytes in size so a reasonably fast internet connection is needed to download. You can either download using ftp or via some specially prepared web pages using a web browser. For details of where to find the files and how to download them you should visit the web page on URL:

<http://www.unesco.bilko.org/>

and fill in an electronic form which can be accessed from that page. You will then be e-mailed instructions on how to download the files.

Note: All the files required for modules 1-6 are also available in zipped form on the anonymous ftp site and may be downloaded if required.

The text of the Introduction and lessons for Module 7 is stored as a series of Word (6.0/95) document files (.doc) and Adobe Acrobat portable document files (.pdf). The Word files are formatted for a Hewlett-Packard Laserjet 6P printer and may need some editing if printed on other printers. The Acrobat files are formatted for A4 paper.

The contents of Module 7 are listed on the following pages under the section heading of the modules to which files belong.

Contents of Module 7

The CD-ROM and *Bilko* anonymous ftp site contain the programme WINBILKO.EXE and the help file WINBILKO.HLP used by all the lessons and exercises. They also contain all the documentation and other files required for the introduction, the on-line introductory tutorial, and the lessons themselves. In a number of lessons special *Trainers' reference files* are included to aid those using this module to train others. Document files are also available in Acrobat format (.pdf extension).

Programme	WINBILKO	EXE
	WINBILKO	HLP

Module introduction and appendices

Text file	MODULE7	DOC
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Section 1: Introduction to *Bilko for Windows 2.0* image processing software

Text files	INTRO1	DOC
	INTRO2	DOC
	INTRO3	DOC
	INTRO4	DOC
	INTRO5	DOC

Image files	EIRE2	BMP
	EIRE4	BMP
	TM1CC	GIF
	TM2CC	GIF
	TM3CC	GIF
	TM4CC	GIF
	CASI2INT	BIN

Accessory files	CASI2INT	STR
	EIRE4_T	STR (Trainers' reference file)
	EIRE4_T	PAL (Trainers' reference file)

Introductory on-line tutorials

	IN_TUT00	HLP
	IN_TUT01	HLP
	IN_TUT02	HLP
	IN_TUT03	HLP
	IN_TUT04	HLP
	IN_TUT05	HLP
	IN_TUT06	HLP
	IN_TUT07	HLP
	IN_TUT08	HLP
	IN_TUT09	HLP
Image files	GT_93MN	GIF
	IB_CHLOR	GIF
	SARDINIA	GIF
	S_ATLAN	GIF
	SARDS002	GIF
	GIR_SP1	GIF
	GIR_SP2	GIF

	GIR_SP3	GIF
	GIR861	GIF
	GIR862	GIF
	GIR863	GIF
	SST0290	GIF
	SST0890	GIF
Accessory files	CHLOR2	PAL
	GLOBTEMP	PAL
	GREY1	PAL

Section 2: Practical lessons using coastal image data of the Caicos Bank

Lesson 1: Visual interpretation of images with the help of colour composites: getting to know the study area

Text file	LESSON1	DOC
Image files	XS1SUB	GIF
	XS2SUB	GIF
	XS3SUB	GIF
	CASIHARB	GIF
Scanned photographs	MANG_AIR	GIF
	MANG_RMS	GIF
	MANG_RMT	GIF
	MANG_WHT	GIF
	MANG_BLA	GIF
	SEAG_DEN	GIF
	CCC_SND	GIF
	CASI_SEN	GIF
	COCKHARB	GIF
	BROWN_AL	GIF
	MONT_COL	GIF
	MONT_SVY	GIF
	CCC_PALM	GIF
	GORGPLAN	GIF
	SEAG_SPR	GIF
	BLOWOUT	GIF

Lesson 2: The importance of acquiring images of the appropriate scale and spatial resolution for your objectives

Text file	LESSON2	DOC
Image files	AP_MANG	GIF
	XPSUBSET	GIF
	MSS1	GIF
	MSS2	GIF
	MSS3	GIF
	CASIMANG	GIF
	XS1SUB	GIF*
	XS2SUB	GIF*
	XS3SUB	GIF*
	CASIHARB	GIF*
	AP_SCAIC	GIF

	TM1_SC	GIF
	TM2_SC	GIF
	TM3_SC	GIF
	AP_EAST1	GIF
Scanned photographs	BLOWOUT	GIF*
	SEAG_DEN	GIF*
	MONT_COL	GIF*

* Denotes files also used in Lesson 1.

Lesson 3: Radiometric correction of satellite images: when and why radiometric correction is necessary

Text file	LESSON3	DOC
Image files	TMNOVDN1	GIF
	TMNOVDN2	GIF
	TMNOVDN3	GIF
	TMJUNDN1	GIF
	TMJUNDN2	GIF
	TMJUNDN3	GIF
Accessory files	RADCOJUN	FRM
	RADCO1_T	FRM (Trainers' reference file)
	RADCO2_T	FRM (Trainers' reference file)

Lesson 4: Crude bathymetric mapping using Landsat TM satellite imagery

Text file	LESSON4	DOC
Image files	TMBATHY1	GIF
	TMBATHY2	GIF
	TMBATHY3	GIF
	TMBATHY4	GIF
	LANDMSK4	GIF
	BATHYMAP	GIF
Accessory files	DEPTHS	XLS
	DOPZONES	FRM
	DOP4ZONE	FRM
	DOP4ZONE	PAL
	BATHYMAP	FRM
	BATHYGRY	PAL
	BATHYBLU	PAL
	BATHYCON	PAL
	ZONE2_T	FRM (Trainers' reference file)

Lesson 5: Compensating for variable water depth to improve mapping of underwater habitats: why it is necessary

Text file	LESSON5	DOC
Image files	CASI3C16	DAT
	CASI4C16	DAT
	CASI2C16	DAT
	CASI5C16	DAT
	CASI2_4	DAT

	CASI3_5	DAT
Accessory files	DEEP	XLS
	CASI3	STR
	CASI4	STR
	CASISAND	XLS
	CASIB3B4	XLS
	CASI3_4	FRM
	DEPTHINV	FRM
	CASI34_T	FRM (Trainers' reference file)
	CASISA_T	XLS (Trainers' reference file)

Lesson 6: Mapping the major inshore marine habitats of the Caicos Bank by multispectral classification using Landsat TM

Text file	LESSON6	DOC
Image files	DI_TM13	DAT
	DI_TM23	DAT
	TMBAND5	GIF
Accessory files	HABITATS	XLS
	CLASSIF1	PAL
	CLASSIF1	FRM
	CLASSIF2	FRM
	HABITA_T	XLS (Trainers' reference file)

Lesson 7: Predicting seagrass standing crop using SPOT XS satellite imagery

Text file	LESSON7	DOC
Image files	XS_DI	DAT
	LANDMSK7	GIF
	SEAGMASK	GIF
	SEAGAREA	GIF
Accessory files	LESSON7	XLS
	STEP1	FRM
	STEP2	FRM
	SEAGRAS1	PAL
	SEAGRAS2	PAL
	LESS7_T	XLS (Trainers' reference file)

Lesson 8: Assessing mangrove leaf-area index (LAI) using CASI airborne imagery

Text file	LESSON8	DOC
Image files	CASIMNG6	DAT
	CASIMNG7	DAT
Accessory files	MANGNDVI	XLS
	LAI	PAL
	MANGND_T	XLS (Trainers' reference file)

Appendix B

Contents of First Module (MARINF/70, July 1989)

Introduction

Section 1: Introductory Tutorial: the BILKO Image Processing Software

Section 2: Practical Lessons in Satellite Oceanography

- Images of open ocean sea-surface temperature
- Thermal images of ocean fronts
- Coastal zone colour scanner data off Iceland
- Comparison of coincident AVHRR and CZCS data
- Shelf seas thermal structure
 - North Sea, early summer
 - Early summer stratification in the Irish Sea
- Airborne thematic mapper data- Southampton Docks

Section 3: Sea-Surface Temperature Exercise

Section 4: Further Action

Appendix: Contents of the floppy disks

Contents of Second Module (MARINF/81, February 1991)

Introduction

Section 1: Introductory Tutorial: the BILKO 1.2 Image Processing Software

Section 2: Practical Lessons Using Image Data

- Analysis of a synthetic aperture radar image of the Straits of Dover
- Seasonal variation of phytoplankton distribution in the Arabian Sea
- Studies of South American coastal discharge using Landsat data
- Display and analysis of acoustic doppler current profiler (ADCP) data
- Wind-driven upwelling off the coast of South Australia
- Thermal structure of the southern Coral Sea

Section 3: A Lesson for Lesson Creators

Appendix: Contents of the floppy disks

Contents of Third Module (MARINF/83, February 1992)

Introduction

Section 1: Introductory Tutorial: the BILKO 1.3 Image Processing Software

Section 2: Practical Lessons Using Marine and Coastal Image Data

- 1: Extent and content differentiation of coastal plumes
- 2: Using Landsat for coastal management - 1: Mapping and determining major substrate categories
- 3: Using Landsat for coastal management - 2: Vegetation mapping
- 4: Detection of potential areas for coastal aquaculture using the Indian remote sensing satellite - IRS 1A
- 5: Study of coastal lagoonal features using IRS-1A LISS data
- 6: Temporal and spatial variations in sea-ice concentration in the Southern Ocean
- 7: Global waves and winds from Geosat
- 8: Ocean eddy dynamics generated by a numerical model

Appendices

- A: Contents of the floppy disks
- B: Contents of module 1 (MARINF/70) and module 2 (MARINF/81)
- C: Reply sheet for user response to UNESCO

Contents of Fourth Module (MARINF/90, July 1993)

Introduction

Networking

Section 1: Introductory Tutorial: the BILKO 1.3 Image Processing Software

Section 2: Practical Lessons Using Marine and Coastal Image Data

- 1: Imaging in-situ bio-optical and physical parameters
- 2: Spatio-temporal evolution of coastal upwelling in the Senegalese and Mauritanian littoral
- 3: Variation of AVHRR-derived sea-surface temperature with satellite zenith angles
- 4: Seasonal and yearly variation of surface temperature distributions in the North Sea
- 5: Analysis of the turbid plume of the Gironde Estuary (France) using SPOT data
- 6: Detection of sea-surface life with an Airborne Synthetic Aperture Radar
- 7: Bathymetry prediction from satellite altimeter data

Appendices

- A: Contents of floppy disks
- B: Contents of module 1 (MARINF/70), module 2 (MARINF/81) and module 3 (MARINF/83).
- C: Reply sheet for user response to UNESCO

Note: Module 4 is also available in **Russian** (see Module4r directory on the CD-ROM). Also downloadable over the internet from <http://www.dux.ru/csi/dosbilko/module4r.zip>.

**Contents of Fifth Module (MARINF/96, December 1995)
Originally issued in Spanish (MARINF/96, September 1994)**

Introduction

Section 1: Introductory Tutorial: the BILKO 1.3 Image Processing Software

Section 2: Practical Lessons Using Marine and Coastal Image Data

- 1: Identification and differentiation of coastal ecosystems
- 2: Principal characteristics of the area around the Lagartos River, Yucatan, México
- 3: Evolution of a coastal upwelling event at 30°S
- 4: Observation and analysis of a red tide event from NOAA/AVHRR images in the Argentinean Sea
- 5: Research on physiographic phenomena influenced by marine currents in the Terminos Lagoon
- 6: Thermal structures associated with the superficial, general circulation observed between Cape Verde and Freetown (North-West Africa)
- 7: Monitoring the coastal upwelling NW of Africa with AVHRR-APT images
- 8: Study of the distribution of suspended solids in the western coast of Maracaibo Lake (Venezuela), using Landsat data
- 9: Identification of physical processes favouring the development of phytoplankton, based on the colour characteristics of the sea

Appendices

- A: Contents of the floppy disks
- B: Contents of first module (MARINF/70), second module (MARINF/81), third module (MARINF/83) and fourth module (MARINF/90)
- C: Reply sheet

Contents of Sixth Module

Introduction

Section 1: Microsoft Windows: Getting started

Section 2: Introduction to *Bilko for Windows* 1.0 image processing software
Introductory on-line tutorials

Section 3: Practical lessons using marine and coastal image data

- 1: Deriving sea surface temperature maps from the ERS-1 Along Track Scanning Radiometer (ATSR)
- 2: Using Landsat for coastal management-1: Mapping and determining major substrate categories
- 3: Using Landsat for coastal management-2: Vegetation mapping
- 4: Imaging coastal features with ERS-1 Synthetic Aperture Radar (SAR); central English Channel

Appendices

- A: Files needed for Module 6
- B: Contents of first module (MARINF/70), second module (MARINF/81), third module (MARINF/83), fourth module (MARINF/90) and fifth module (MARINF/96)
- C: Reply sheet

REPLY SHEET

Seventh computer-based learning module on
Applications of Satellite and Airborne Image Data to Coastal Management

Name and address of respondent:

.....

Fax number:..... E-mail:.....

Respondent's discipline or interest (*): *coastal zone management/ socio-economics / environment / coastal planning / cultural issues / physical oceanography / marine biology / marine pollution / meteorology / hydrology / marine geology / other (please specify)*.....

- (a) I am / am not (*) in a position to contribute a lesson to a further module. If affirmative:
 - (i) tentative title
 - (ii) tentative date for first draft.....
 - (iii) what additional software function(s), if any, would enhance your lesson?

 - (iv) I would/ would not (*) like my lesson to make use of HTML or Windows hypertext functions.
- (b) I will/ will not (*) contribute additional material to enhance lessons in existing modules. If affirmative: *additional images/ alternative questions/ further explanations (*)* for lesson no..... in module.....
- (c) Among future lesson subjects, the following applications, phenomena, data or geographical area would be of particular interest to me and/or my students

- (d) I am using the *Bilko* software and modules for the following purposes (tick as appropriate):

Teaching	():	University level ()	High school ()	Other, please specify
Research	():	Please specify discipline		
Other	():	Please specify		

- (e) I recommend that a copy of the seventh module be sent to the following person(s) who is (are) likely to be in a position to contribute lessons to further modules:

.....

(*) Please delete or encircle as appropriate

Return to: UNESCO-Bilko Project Coordinator,
 c/o International Institute for Aerospace Survey and Earth Sciences (ITC),
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 7500 AA Enschede,
 The Netherlands.
 Fax: +31 53 4874482 E-mail: module7@unesco.bilko.org