



IO-BAS, VARNA

PROGRAM

Workshop on application of acoustic surveys in the assessment of pelagic fish stocks

25 – 30 June 2012

Institute of Oceanology – BAS, Varna, Bulgaria

Lecturer:

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<u>25 June</u> Time	Lecture
09:00	Welcome and opening (IO - BAS)
09:15	General remarks, Short introduction of participants, Course organisation and Introduction to course materials, Installation of Echoview software (on participants laptops)
11:00	Coffee
11:30	Introduction to fisheries acoustics (1): Underwater sound, Basic acoustics, Acoustics terminology - General concepts
13:00	Lunch
14:00	Introduction to fisheries acoustics (2): Echogram interpretation, Echo-counting, Echo-integration, multifrequency acoustics, Target strength
15:30	Coffee
16:00	Survey design (1): General remarks and introduction, Survey preparations and planning, Geographical area, Time considerations
18:00	Close of workshop day 1

26 June Time	Lecture
09:00	Survey design (2): Design options, Multi-ship surveys, EDSU
11:00	Coffee
11:30	Data analysis (1): Processing of echograms, Partitioning, Classification, Species composition, Fishing samples
13:00	Lunch
14:00	Data analysis (2): From echo-integrals to density estimates, Single and Mixed species
15:30	Coffee
16:00	Data analysis (3): Abundance estimation, Map creation, Geostatistics
18:00	Close of workshop day 2

27 June Time	Lecture
09:00	Data analysis (4): Precision of abundance estimates, Degree of coverage
11:00	Coffee
11:30	Sources of error and error estimation
13:00	Lunch
14:00	MEDIAS Protocol (1)
15:30	Coffee
16:00	MEDIAS Protocol (2), General questions on course content
18:00	Close of workshop day 3

28 June Time	Acoustic survey
07:00	Start of acoustic survey on board of RV "Akademik" for data collection
8:00	Description of hydroacoustic equipment on board of RV "Akademik" (IO-BAS)
10:00	Presentation of Partner 1 (NIMRD)
10:30	Presentation of Partner 2 (IFR)
11:00	Presentation of Partner 3 (IO-BAS): Acoustic surveys in Bulgarian Black Sea area (Marina Panayotova)
11:30	Presentation of Partner 4 (YugNIRO)
12:00	Lunch
14:00	Presentation of Partner 5 (CFRI): Stock assessment of anchovy by acoustic method in the Southern Black sea coast (Orhan Ak)

14:30	Presentation of Partner 6 (KTU - MSF)
15:00	General discussion
18:30	Dinner
20:00	Close of workshop day 4

29 June	Lecture and practical exercises
Time	
09:00	Presentation of Echoview software
11:00	Coffee
11:30	Processing of survey data with Echoview (1): View and inspect data
13:00	Lunch
14:00	Processing of survey data with Echoview (2): Calibration
15:30	Coffee
16:00	Processing of survey data with Echoview (3): Scrutinization
18:00	Close of workshop day 5

30 June	Lecture and practical exercises
Time	
09:00	Processing of survey data with Echoview (4): Analysis
11:00	Coffee
11:30	Processing of survey data with Echoview (5): Multiple frequency data
13:00	Lunch
14:00	Processing of survey data with Echoview (6): Export and further calculations
15:30	Coffee
16:00	Processing of survey data with Echoview (7): Advanced visualization Processing of survey data with Echoview (8): Templates and live viewing
18:00	Close of workshop day 6