

AUSTRALIAN RESOURCES AND ENVIRONMENTAL ASSESSMENT (AREA) MODEL

A study by the Department of Science and the Environment in consultation with Commonwealth departments and agencies

INFOTERRA SOURCES RELATING TO
ENVIRONMENTAL ASPECTS OF
GLOBAL MODELLING

by

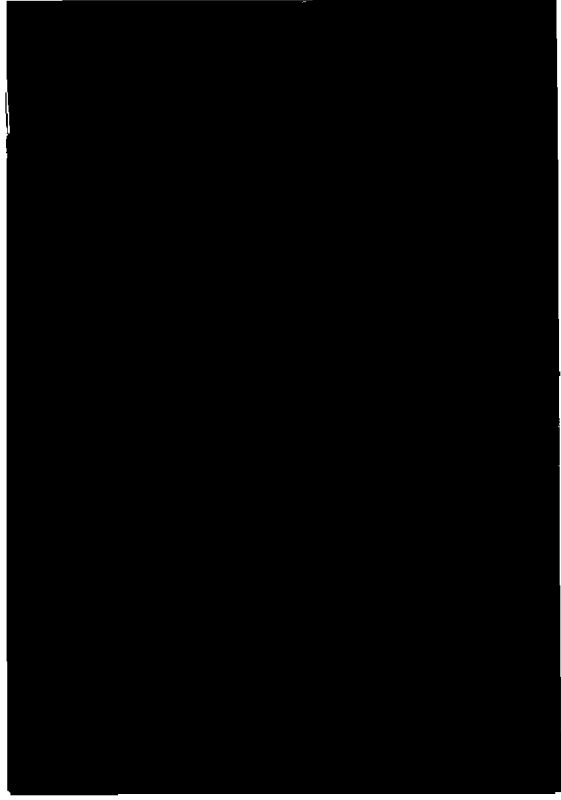
K. Phong Tran

and

J.M. Mula

The views expressed in this paper do not necessarily reflect the opinions of the Department of Science and the Environment, nor of the Australian Government.

SARUM is a world econometric model developed by the System Analysis Research Unit of the UK's Department of the Environment, in which prices do not adjust to equilibrate supply and demand in each period, but rather recognise the many factors that inhibit instantaneous clearing of markets. The world can be regionalised into twelve regions and a number of industrial and agricultural activities.



AREAM is the Australian version of SARUM for the analysis of Australian Resources and Environmental Assessment. The project was formulated in the light of a need to assess the impact of world change on the development of the Australian environment and its natural resources. In order to be able to look at environmental factors, SARUM is extended by the addition of an environment sector and the demographic sector is endogenised.

Paper prepared for the
SEVENTH IIASA CONFERENCE ON GLOBAL MODELLING,
International Institute for Applied Systems Analysis (IIASA),
Laxenburg, Austria,
October 2-5, 1979

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INTRODUCTION

The purpose of this paper is twofold. Firstly it gathers together sources of environmental information for the Australian Resources and Environmental Assessment (AREA) Modelling Project. Secondly, the paper is part of our contribution to the 7th Global Modelling Conference conducted by the International Institute of Applied System Analysis (IIASA) in October 1979 to look at the question of how environmental aspects can be incorporated into global modelling work. The paper aims to bring to the attention of research workers participating in the conference, the potential usefulness and applicability of the International Referral System (INFOTERRA, formerly IRS) in the fields of environmental modelling and studies, by providing a list of names and addresses of organisations with expertise in this field.

The International Referral System for sources of environmental information was initiated by the United Nations Environment Program (UNEP) in response to a recommendation of the Stockholm Conference on the Human Environment (June 1972). The purpose of INFOTERRA is to improve the accessibility of environmental information by providing, in response to specific requests, lists of information sources which have declared themselves to be able and willing to supply information on a particular topic or set of topics.

INFOTERRA now contains over seven thousand information sources in sixty-three countries as well as a number of international and non-governmental organisations. In fact, IIASA is an INFOTERRA focal point and the Institute is registered as ten separate sources, each being responsible for different aspects of environmental and economic information.

The paper is concerned with sources which deal with modelling and simulation, and long-term global trends and forecasting, of environmental problems of international importance. It focusses on modelling and simulation of the impact on the environment of pollutants, food and agricultural production, economic planning and resource management.

The paper consists of a summary table which lists source number followed by the page number at which the full description concerning this source may be found. A brief description of each source grouped by subject category follows the source number. In the full description that follows this table, each is identified by a nine-digit number which consists of:

DIGITS 1-3 : Focal Point Code
DIGITS 4-7 : Parent Organisation Code
DIGITS 8-9 : Source Code

The Focal Point Code is a constant number for each focal point. For Australia it is 036, Japan 392, NGO 903, non-government organisation, etc.

The Parent Organisation Code is allocated to each individual/organisation within a focal point in ascending numerical sequence. In Australia, the following categories apply.

1000 - 1999	: Australian Government
2000 - 2999	: State Government
3000 - 3999	: Education
4000 - 4999	: Business Organisations
5000 - 5999	: Private Individuals and Private Organisations.

The Source Code is used for separating individual information sources within a given parent organisation and is in ascending numerical sequence. Therefore if an organisation has various branches which are identifiably unique in areas of information or expertise and warrant registration as separate information sources then each branch would be allocated a unique source code. For example, IIASA is registered as ten separate sources.

Each source is also described by a number of subject attributes which represent its field of expertise. Each attribute is equivalenced to a unique four-character attribute code which is a convenient method of providing a language-independent notation.

In order to look up a fuller description of the source relating to the subject of your interest, first locate the page number from the summary table along side the source number and then turn to that page number in the paper. For example, if your subject of interest is Agricultural Production and its Environmental Impact, ie the first subject heading in the table, the only source that is shown, is 903 (NGO) - 0040-36 p.29; thus a full description of this source can be found on page 29.

It is recognised that the list of sources included in this paper is by no means exhaustive as there are many aspects of environmental modelling which have not been covered and also because there are many organisations with environmental information who are not registered in the system. It is hoped that the paper can be used by research workers as a source of reference and encourage them to participate in INFOTERRA, both as a user and a provider (ie source) of environmental information. The authors wish to thank INFOTERRA for the use of the system and have taken the liberty of reproducing source descriptions from the INFOTERRA International Directory of Sources.

Source Number:
Name and Address
for Referral:

036-1006-01
J.M. Mula, - AREA Project Leader
Department of Science and the Environment
PO Box 449, WODEN
CANNBERRA, ACT 2606 AUSTRALIA
Telephone: (062) 452135, Telex: AA62484

Source Description:

Development of an Australian Resources
and Environmental Assessment (AREA) model
to assess the impact of World Change on
the development of the Australian environ-
ment and its natural resources. Emphasis
is on the Asian-Pacific Region and
migration and trade in food, energy,
minerals, industrial goods and aid.

Most Relevant Subjects

1010 Natural Resources
1030 Long-Term Global Trends
1040 Resources Management
1070 Population
1072 Human Migration
1300 Manpower and Employment
1390 International Trade
2620 Agriculture
4100 General Manufacturing
4560 Environmental Assessment
4580 Forecasting and Long-Term Trends
4760 Pollutant Effect Beyond National Boundaries
5282 Modelling and Simulation
6940 Industrialised Countries
6950 Less Industrialised Countries
7070 Computer Methods

Associated Subjects

1015 Renewable Resources
1020 Non-Renewable Resources
1021 Mineral Resources
1050 Economic Planning
1261 Demography
2030 Land Use
2625 Agricultural Land
2661 Agricultural Economics
2820 Water Resources
2910 Irrigation
3489 Consumer Goods
3720 Energy Sources and Fuels
3982 Basic Food Requirements
4620 Polluter Pays Principle
4700 Pollutant Disposal
4750 Pollutant Effect on Man and Society
4930 Land Pollution
4940 Air Pollution
4980 Pollution Indices

Associated Subjects (continued)

5201 Atmospheric Monitoring
5340 Oils and Petrols
6120 Fertilisers
6132 Application of Pesticides
6271 Agricultural Wastes
6300 Industrial Effluents
6472 Thermal Pollution
6800 Alternative Technologies
6840 Technological Development
6981 Environmental Data
6982 Environmental Statistics
6995 Assessment and Analysis
7021 Environmental Policy

Source Number
Name and Address:
for Referrals:

036-3001-26
The Professor of Agriculture
Department of Agriculture
University of Queensland
ST LUCIA. QLD 4067 AUSTRALIA
Telephone (07) 3700111 Telex: UNIVQLDAA40315

Source Description:

Crop and Pasture Production, Soil Science,
Agricultural Economics and Extension,
Biometrics, Land Use, Plant Breeding, and
Animal Nutrition

Most Relevant Subjects

1040	Resource Management
1055	Economics
1072	Human Migration
1110	Community Structure and Behaviour
1120	Social Surveys
1130	Traditional Cultures
1150	Social and Cultural Indicators
1160	Spiritual and Social Values
2620	Agriculture
2660	Agricultural Production
2661	Agricultural Economics
5280	Data-Analysis Techniques
5282	Modelling and Simulation
7011	Administrative and Managerial Information
7030	Organisation and Methods
7060	Mathematics and Statistics
7080	Cost Benefit Analysis

Associated Subjects

1011	Resource Development
1013	Resource Exploitation
1050	Economic Planning
1370	Finance, Taxation and Currency
1390	International Trade
1550	Community Services
1570	Public Participation
2180	New Communities
2670	Amenity Farming
4140	Advertising and Promotion
4580	Forecasting and Long-Term Trends
5211	Sampling Techniques
5212	Sampling Devices
6910	Specialist Assistance
6960	Economic and Technical Advancement
6982	Environmental Statistics
6995	Assessment and Analysis
7040	Environmental R&D, Programmes and Policy

Source Number:
Name and Address
for Referrals:

036-3004-02
Professor H.S. Green,
Department of Mathematical Physics,
University of Adelaide,
ADELAIDE SA 5066 AUSTRALIA
Telephone: (08) 2234333 Telex

Source Description:

Environmental Investigations related to
Diffusion in Fluid Media: Quantitative
Assessment of Pollution and Environmental
Changes.

Most Relevant Subjects

1030	Long-Term Global Trends
3090	Hydrology
4650	Pollutant Source
4660	Pollutant Assessment
4690	Pollutant Distribution
4710	Pollution Control
4940	Air Pollution
4950	Upper Atmosphere Pollution
4970	Marine Pollution
4990	Pollution Criteria
5282	Modelling and Simulation
5442	Liquid Wastes
6990	Scientific and Technical Information

Associated Subjects

1010	Natural Resources
1020	Non-Renewable Resources
1060	Environmental Impact
1750	Climatology and Meteorology
2010	Rural Environment
2154	Urban Micro-Climate Effects
2481	Arid Lands
2840	River Basins
2841	Rivers and Streams
2900	Run-off and Seepage
3082	Ocean Currents
3720	Energy Sources and Fuels
3751	Electricity Utilisation
4560	Environmental Assessment
4580	Forecasting and Long-Term Trends
4740	Pollutant Effects on Climates
4760	Pollutant Effects Beyond National Boundaries
4930	Land Pollution
5280	Data-Analysis Techniques
5310	Physics
5363	Industrial Liquid Wastes
6040	Atmospheric Particulates
6060	Deposited Particulate Matter
6300	Industrial Effluents
6440	Radioactive Wastes
6470	Waste Heat
6980	Environmental Information

Source Number:
Name and Address
for Referrals:

152-2012-00
Sr Ministro Director - Roberto Kelly Vas
Oficina De Planificacion Nacional
(ODEPLAN)
Huerfanos 863-2 PISO
SANTIAGO CHILE
Telephone 722033 Telex

Source Description:

Proposes Blanket and Sectorial Economic
Development Policy IES. Lays down short,
medium and long term national and
regional development strategy. Assesses
results of plans and makes periodic
diagnoses of the country's economics and
social situation. Assists president
with Development Policy.

Most Relevant Subjects

1030	Long-Term Global Trends
1050	Economic Planning
1970	Planning and Development
2080	Planning Blight
4580	Forecasting and Long-Term Trends
5282	Modelling and Simulation
6995	Assessment and Analysis
7090	Programme Analysis and Review

Associated Subjects

1580	Health and Well-Being
2390	National Parks and Protected Areas
2670	Amenity Farming
3010	Fisheries
3330	Housing Programmes
3672	Mining
3755	Energy Distribution Systems
4130	Industry
4291	Transport Planning
7001	Radio and Telecommunications

Source Number:
Name and Address
for Referrals:

250-4033-01
Poquet (Monsieur Guy)
Association Internationale Futuribles
10 Rue Cernushi
PARIS SEINE 75017 FRANCE
Telephone: (1)924 54 79

Source Description:

Centre of Information, Documentation
and Research for Studies on Future
and Research on Facts, ideas and
Options on which the future of our
Society Depends. Specialised Library
300000, Documentation Service 40000
Cards. Relay System with other Centres.
150 Specialised Documents.

Most Relevant Subjects

1050	Economic Planning
1610	Epidemiology
1611	Virology
1970	Planning and Development
2770	Microbiology
4560	Environmental Assessment
4580	Forecasting and Long-Term Trends
5282	Modelling and Simulation
5301	Biochemistry
6140	Biodegradation
7090	Programme Analysis and Review

Associated Subjects

1030	Long-Term Global Trends
1150	Social and Cultural Indicators
1360	Productivity and Growth Rates
1490	International Monetary System
6995	Assessment and Analysis

Source Number:
Name and Address
for Referrals:

278-0002-01
Director, Institute of Water Management
Ministry for Environment Protection and
Water Management
Schnellerstrasse 140 Berlin 119
German Democratic Republic
Telephone 6 35 28 21 Telex: 112 368 IFW DD

Source Description:

Library and Information Analysis Centre
for Research Activities concerning
connections between biosphere and
anthropogenic processes in view of keeping
and preserve man's best environment
circumstances especially problems on the
structure of territory economic ecological
and hydrological problems

Most Relevant Subjects:

1000 Quality of Life
1050 Economic Planning
1060 Environmental Impact
1701 Ecological Balance
1850 Geography
1860 Mapping and Photographic Surveys
1960 Terrestrial Ecology
2210 Industrial Areas
3090 Hydrology
4560 Environmental Assessment
4580 Forecasting and Long-Term Trends
5282 Modelling and Simulation

Associated Subjects

1110 Community Structure and Behaviour
1200 Urban Stresses
1710 Biotopes and Ecosystems
2713 Temperate Forests & Woodlands
2820 Water Resources
4750 Pollutant on Man and Society
4770 Pollutant Interaction with Environment
4800 Toxicology
6130 Pesticides and other Biocides
6350 Water Quality
6980 Environmental Information

Source Number:
Name and Address
for Referrals:

356-0088-01
Dr Hari Narain, Director
National Geophysical Research Institute
Uppal Road
HYDERABAD ANDHRA PRADESH 500007 INDIA
Telephone 71831 Telex: 015-478

Source Description:

Research and Application Geophysical
Methods including Deep Seismic Sounding,
Induced Polarisation Resistivity,
Development, Fabrication Geophysical
Instruments, Significant Emphasis on
Ground Water Development

Most Relevant Subjects

1010 Natural Resources
1014 Resource Appraisal
1021 Mineral Resources
1040 Resource Management
1880 Geology
1886 Geophysical Changes
1950 Earthquakes
2820 Water Resources
2821 Subterranean Water
2831 Watershed Development
3090 Hydrology
3680 Ore Deposits
5213 Instrumentation
5281 Data Recording, Processing and Storage
5282 Modelling and Simulation
5310 Physics
7070 Computer Methods

Associated Subject

1013 Resource Exploitation
1030 Long-Term Global Trends
1240 Disasters
1243 Seismic Sea (TSUNAMI)
1480 Licensing
1780 Droughts
1870 Geomorphology
1944 Subsidence
1980 Geostatistics
2822 Dams and Reservoirs
2823 Water Reticulation Systems
2830 Shared Watersheds
2840 River Basins
2900 Run-Off and Seepage
3060 Sea Floor Exploration and Exploitation
3744 Geothermal Electric Power Generation
5280 Data-Analysis Techniques
6990 Scientific and Technical Information

Source Number:
Name and Address
for Referral:

392-2220-00
Director, Research Section
The Institute for AREA Studies
ICKGAYASADOHARA-CHO 3-4
SHINJUKU KU TOKYO 162 JAPAN
Telephone: 03-267-3361 Telex:

Source Description:

Research Activities:
(1) Survey for Planning and Implementation
of the Regional Development programs
(2) Research and Development of Methods
and Technology to be utilised in
the above surveys

Most Relevant Subjects

1110 Community Structure and Behaviour
1260 Population Movement
2030 Land Use
2152 Urban Growth
2155 Urban Development
2200 Location of Offices and Shops
2220 Location of Industry
4130 Industry
4291 Transport Planning
4560 Environmental Assessment
5282 Modelling and Simulation

Associated Subjects

1241 Environmental Emergencies
1300 Manpower and Employment
1550 Community Services
1886 Geophysical Changes
2000 Built Environment
2010 Rural Environment
2015 Rural Areas
2060 Land Values
2095 Zoning
2100 Land Use Classification
2120 Residential Areas
2125 Urban Areas
2180 New Communities
2420 Nature Conservation
2820 Water Resources
2822 Dams and Reservoirs
2860 Drinking Water
4150 Marketing and Distribution
4580 Forecasting and Long-Term Trends
5110 Environmental Quality Standards
5280 Data-Analysis Techniques

Source Number:
Name and Address
for Referral:

392-2229-04
Manager, Research Management Section
Otemachi Administrative Dept. Economic
Research Center,
Central Research Institute of Electric
Power Industry,
OTEMACHI 1-6-1 CHIYODA-KU, TOKYO 100
JAPAN
Telephone: 03-201-6601 Telex:

Source Description -

R&D in Environmental Information on Electric Power
Industry (1) Juridical Studies on Environmental
Problems (2) Development of Assessment Models of
Social Environment (3) Studies on Environmental
Policy-making (4) Beautification of Power Facility.
(5) Public Acceptance of Power Development Promotion

Most Relevant Subjects

1060 Environmental Impact
2280 Landscape Design
4560 Environmental Assessment
4570 Environmental Priorities
4580 Forecasting and Long-Term Trends
5282 Modelling and Simulation
6995 Assessment & Analysis
7021 Environmental Policy

Source Number: 710-0038-01
 Name and Address: Director (Prof D.C. Midgley)
 for Referral: Hydrological Research Unit, University
 of the Witwatersrand
 1 Jan Smuts Avenue
 Johannesburg Transvaal 2001
 SOUTH AFRICA
 Telephone: 011 7241311 Telex:
 Cable: University JO'BURG

Source Description: Hydrological Research Unit of the
 Witwatersrand University, Undertakes
 Mathematical Modelling of Hydrologic/
 Hydraulic Systems, Lakes, Swamps, Rivers,
 Flood Plains, Estuaries, Rivers,
 Quantification of Man's Influences;
 Irrigation, Afforestation, Water Resources
 Appraisal; Simulation; Hydro-Electric

Most Relevant Subjects

- 1780 Droughts
- 1790 Rainfall
- 1800 Flooding
- 1840 Evaporation and Transpiration
- 1912 Sediment Transport
- 2820 Water Resources
- 2822 Dams and Reservoirs
- 2825 Natural Drainage Systems
- 2840 River Basins
- 2841 Rivers and Streams
- 2844 Surface Waters
- 2850 Limnology
- 2855 Water
- 2890 Storm Water
- 2900 Run-off and Seepage
- 3090 Hydrology

Associated Subjects

- 1010 Natural Resources
- 1011 Resource Development
- 1014 Resource Appraisal
- 1040 Resources Management
- 1070 Population
- 1261 Demography
- 1360 Productivity and Growth Rates
- 1749 Climate & Weather
- 1750 Climatology and Meteorology
- 1795 Flash Floods
- 1940 Erosion
- 1943 Sedimentation
- 2100 Land Use Classification
- 2101 Land Capabilities
- 2470 Wetlands and Swamps
- 2481 Arid Lands
- 2821 Subterranean Water
- 2826 Conservation & Collection of Water
- 2831 Watershed Development
- 2832 Water Flow

Source Number: 528-0329-00
 Name and Address: Faculteit Der Economische Wetenschappen
 for Referral: Inst Economisch Onderzoek
 Rijkuniversiteit Rotterdam
 Burgemeester Oudlaan 50
 Rotterdam
 Netherlands

Source Description: Description in English not yet available

Most Relevant Subjects

- 1030 Long-Term Global Trends
- 1055 Economics
- 1300 Manpower and Employment
- 1400 Raw Materials
- 2120 Residential Areas
- 3751 Electricity Utilisation
- 4720 Pollutant Recipients
- 4910 Air Pollution
- 5282 Modelling and Simulation
- 5292 Physical/Chemical Processes
- 6020 Gaseous Air Pollutants
- 7021 Environmental Policy
- 7070 Computer Methods

Associated Subjects (Continued)

2842 Lakes and Ponds
2843 Estuaries
2910 Irrigation
3081 Tides and Sea Levels
3092 Hydraulics
3110 Civil Engineering
3630 Pipelines
3742 Hydro Electric Power Generation
4221 Pipeline Transportation
4580 Forecasting and Long-Term Trends
5205 Weather and Climate Monitoring
5280 Data Analysis Techniques
5281 Data Recording Processing and Storage
5282 Modelling and Simulation
6350 Water Quality
6840 Technological Development
6900 Technical Assistance
6981 Environmental Data

Source Number:
Name and Address
for Referral:

752-0013-01
Swedish Council of Environmental
Information
Jordsbruksdepartementet
FACK
S-103 20 STOCKHOLM SWEDEN
Telephone: (08) 763-10-00 Telex: 11461
LOENDEP S

Source Description:

The Department of Forest Survey carries out a National Forest Survey, based on Systematic Sampling and Covering all Land Area of Sweden every year. The organisation is also responsible for Processing, Analysing, Documentation and Publication of collected Information.

Most Relevant Subjects

1010 Natural Resources
1014 Resource Appraisal
2030 Land Use
2100 Land Use Classification
2240 Marginal Lands
2430 Biological Resources
2440 Biological Parameters
2460 Vegetational Types
2470 Wetlands and Swamps
2710 Forest Cover
4560 Environmental Assessment
4580 Forecasting and Long-Term Trends
5200 Monitoring
5211 Sampling Techniques
5220 Recording Devices
5281 Data Recording Processing and Storage
5282 Modelling and Simulation
6980 Environmental Information

Associated Subjects

1710 Biotopes and Ecosystems
1830 Biometeorology
1840 Evaporation and Transpiration
1860 Mapping and Photographic Surveys
1900 Soil Types
2350 Recreation
2410 Public Rights of Way
2450 Wildlife
2510 Plant Breeding and Genetics
2530 Animal Population Assessment
2580 Genetic Resources
2600 Taxonomy
2722 Nitrogen Fixation
2790 Pest Control
2791 Insect Control
2800 Biological Control

Source Number: 752-0020-02
Name and Address
for Referral: Swedish Council of Environmental
Information
JORDSBRUKSDEPARTMENTET
FACK
S-103 20 STOCKHOLM SWEDEN
Telephone: (08) 763-10-00 Telex: 11461
LOENDEP S

Source Description
IVL/Swedish water and air pollution
Research Laboratory IVL-Stockholm

Most Relevant Subjects

1060 Environmental Impact
1967 Benthic Ecology
2774 Aquatic Microbiology
2850 Limnology
4560 Environmental Assessment
4580 Forecasting and Long-Term Trends
4660 Pollutant Assessment
4670 Concentration/Effects Relationships
4710 Pollutant Control
4730 Pollutant Effects
4960 Water Pollution and Contamination
5281 Data Recording Processing and Storage
5282 Modelling and Simulation
5364 Waste Water Treatment
5441 Solid Waste Disposal Techniques
5481 Waste Conversion Techniques
6500 Pollution Control Technology
6980 Environmental Information
6990 Scientific and Technical Information
7070 Computer Methods

Associated Subjects

1241 Environmental Emergencies
2771 Aerobic Processes
3960 Food Processing Industry
4090 Paper and Board Manufacture
4720 Pollutant Recipients
4750 Pollutant Effect on Man and Society
4800 Toxicology
4980 Pollution Indices
5291 Catalysts and Catalytic Reactions
5363 Industrial Liquid Wastes
5370 Toxic Wastes
5471 Biodegradability
6970 International Standardisation
6981 Environmental Data

Associated Subjects (Continued)

4022 Wood Preservation
4590 Quality Characteristics and Parameters
4890 Biological Indicators
5206 Remote Sensing
5208 Monitoring (Regional)
5381 Controlled Fires
5740 Sulphur and Sulphur Dioxide
5790 Nitrates, Nitrites and Nitrosamines
5800 Ammoniacal Compounds
6120 Fertilisers
6130 Pesticides and other Biocides
6131 Herbicides and Weed Control Agents
7060 Mathematics and Statistics
7120 Birds
7170 Invertebrates

Source Number:
Name and Address
for Referral:

826-5651-10
Librarian
Monitoring & Assessment Research Centre
The Octagon Building, 459A Fulham Road
London SW10 0QX
UNITED KINGDOM
Telephone: 01-351-3577 Telex: 915407
MARC G Cable: ENVIRMOLE SW10

Source Description:

Objectives are: to increase knowledge about movements and effects of pollutants in the Environment; to predict present and future environmental damage from pollutant releases; to design pollutant monitoring programmes; to review existing monitoring systems in selected countries.

Most Relevant Subjects

4580	Forecasting and Long-Term Trends
4680	Pollutant Surveillance
4730	Pollutant Effects
4750	Pollutant Effect on Man and Society
4770	Pollutant Interaction with Environment
4780	Pollutant Pathways
5200	Monitoring
5282	Modelling and Simulation
6995	Assessment & Analysis

840-5000-78

Name and Address
for Referral:
Dr Nicholas L. Clesteri - Director
Rensselaer Polytechnic Institute
Rensselaer Fresh Water Institute at
Lake George
TROY NEW YORK 12180
UNITED STATES
Telephone (518) 270 6541 Telex

Source Description

Conducts Basic Ecological Research and Applies Analytic Capabilities to solving Problems within all spheres of the Freshwater Ecosystems in Order to Preserve its potentials as a Natural Resource. Research is conducted in Freshwater Systems in the Northeast.

Most Relevant Subjects

1040	Resources Management
1727	Freshwater Ecosystems
2870	Process Waters and Effluents
4771	Pollutant Effect on Fish
4960	Water Pollution and Contamination
5202	Freshwater Monitoring
5209	Monitoring (Local)
5282	Modelling and Simulation
5366	Municipal Waste Disposal
6141	Chemical Degradation of Waste
6281	Sewage Systems
6282	Septic Tanks
6290	Organic Effluents
6300	Industrial Effluents
6340	Eutrophication

Associated Subjects

2390	National Parks and Protected Areas
2774	Aquatic Microbiology
4580	Forecasting and Long-Term Trends
4651	Organic Pollutants
4652	Inorganic Pollutants
4660	Pollutant Assessment
4820	Synergistic Effects
4880	Long-Term Effects of Chemicals
4890	Biological Indicators
5208	Monitoring (Regional)
5441	Solid Waste Disposal Techniques
5790	Nitrates, Nitrites and Nitrosamines
6080	Pollutants in Rain
6090	Acidic Deposition
6360	Biological Oxygen Demand

Source Number:
Name and Address
for Referral:

840-6000-75
Vice President Inc
Aerovironmental Inc
Environmental Programs/145 Vista Avenue
PASADENA CALIFORNIA 91107
UNITED STATES
Telephone: (213) 449 4392 Telex:

Source Description:

Air Quality Monitoring, Analysis and Impact Assessment (Airports, Cities, Industrial Developments, Highways, Mining and Milling Facilities). Research in Phenomena of Vortex Wakes of Aircraft. Manufacture of and Research using Acoustic Radar (for Monitoring Atmospheric Structure).

Most Relevant Subjects

1761 Atmospheric Physics
1763 Atmospheric Models
4660 Pollutant Assessment
4690 Pollutant Distribution
4941 Air Quality
5140 Emission Standards
5200 Monitoring
5201 Atmospheric Monitoring
5282 Modelling and Simulation
6981 Environmental Data

Associated Subjects

1750 Climatology and Meteorology
3746 Wind Electric Power Generation
4560 Environmental Assessment
4580 Forecasting and Long-Term Trends
5204 Radiation Monitoring
5205 Weather and Climate Monitoring
5230 Analytical Apparatus
5280 Data-Analysis Techniques
5281 Data Recording Processing and Storage
6040 Atmospheric Particulates

Source Number:
Name and Address
for Referral:

840-7000-67
Futuremics, Inc
Future-Abstracts Office/1529 K ST NW-
Suite 5129
WASHINGTON DC 20006
UNITED STATES
Telephone: (202) 667 5620 Telex:

Source Description:

Consulting firm helps people achieve preferable and desirable futures. Provides speakers, research and writing, runs workshops, consults on Planning and Management. Publishes "FutureAbstracts" (System Accessing Futures Publications) and "Footnotes to the Future" (Monthly Newsletter).

Most Relevant Subjects

1030 Long-Term Global Trends
4580 Forecasting and Long-Term Trends
6830 Innovation

Associated Subjects

1000 Quality of Life
1050 Economic Planning
1150 Social and Cultural Indicators
1160 Spiritual and Social Values
1570 Public Participation
1691 Human Psychology
2600 Taxonomy
2610 Nomenclature
4820 Synergistic Effects
5282 Modelling and Simulation
6870 Self Help Programmes

Source Number:
Name and Address
for Referral:

840-7004-99
Julia A. Watts
Oak Ridge National Laboratory
Ecosystem Analysis Data Center
PO Box X,
OAK RIDGE TENNESSEE 37830
UNITED STATES
Telephone: (615) 483 8611 X3049
Telex: 810 572 1076USDOEOKR

Source Description:

Data base and bibliographic files to document data and locate information. Involved extensively in data analysis and graphic display of environmental data. Numeric data sets collected in international biological program/eastern deciduous forest biome are maintained and utilized.

Most Relevant Subjects

1060 Environmental Impact
1701 Ecological Balance
2440 Biological Parameters
4560 Environmental Assessment
5280 Data-Analysis Techniques
5281 Data Recording Processing and Storage
5282 Modelling and Simulation
6790 Technology Transfer
6982 Environmental Statistics

Associated Subjects

1030 Long-Term Global Trends
1754 Climate/Weather Modification
1860 Mapping and Photographic Surveys
5207 Monitoring (Baseline)
5211 Sampling Techniques

Source Number:
Name and Address
for Referral:

903-0040-31
Prof O. Vasiliev, Leader of Area,
Area of Resources and Environment (IIASA)
IIASA
A-2361 LAXENBURG A-2361
AUSTRIA
Telephone: 02236/7521-0 Telex: 079137

Source Description

The source carries out basic and applied researches in the resources and environment area including regional water management, environmental quality modelling, environmental problems of agriculture, regional environmental policy design and management, global climate, water quality regulations, etc

Most Relevant Subjects

1011 Resource Development
1020 Non-Renewable Resources
1030 Long-Term Global Trends
1040 Resources Management
1060 Environmental Impact
1749 Climate & Weather
1750 Climatology and Meteorology
1754 Climate/Weather Modification
1763 Atmospheric Models
2661 Agricultural Economics
2820 Water Resources
3681 Coal
4560 Environmental Assessment
4590 Quality Characteristics and Parameters
4710 Pollution Control
5282 Modelling and Simulation
6350 Water Quality
7021 Environmental Policy
7040 Environmental R&D Programmes & Policy
7070 Computer Methods

Associated Subjects

1021 Mineral Resources
1050 Economic Planning
1751 Air-Water Interaction
1753 Climatic Change (Natural)
2620 Agriculture
4941 Air Quality
5110 Environmental Quality Standards
6981 Environmental Data
7090 Programme Analysis and Review

Source Number:
Name and Address
for Referral:

903-0040-32
Dr J. Kindler, Leader of Task
The Regional Water Management Task,
Resources and Environment Area,
IIASA
A-2361 LAXENBURG A-2361
AUSTRIA
Telephone: 02236/7521 Ext 480
Telex: 079137

Source Description:

The task concentration is the application of systems analysis techniques for planning and real-time management of the integrated regional water resources systems, developed of new methods and approaches illustrated by a number of real-world applications, re the food and agriculture program

Most Relevant Subjects

1011 Resource Development
1030 Long-Term Global Trends
1040 Resources Management
2010 Rural Environment
2820 Water Resources
2855 Water
4560 Environmental Assessment
4580 Forecasting and Long-Term Trends
5282 Modelling and Simulation
6350 Water Quality
6996 Scientific Methods
7030 Organisation and Methods

Associated Subjects

1010 Natural Resources
1970 Planning and Development
2826 Conservation and Collection of Water
2831 Watershed Development
2860 Drinking Water
3970 Staple Foods
6850 Demonstration Projects
7020 Science Policy

Source Number:
Name and Address
for Referral:

903-0040-36
Prof Ferenc Rabar, Leader of Program,
Food and Agriculture Research Program,
I.I.A.S.A.,
IIASA,
A-2361 LAXENBURG 4-2361
AUSTRIA
Telephone: 02236/7521-0 Telex: 079137

Source Description:

F&A program evaluates the nature and dimensions of the world food situation and identifies the alternative policy actions at the national regional and global level. It includes tasks: Resources and Technology, water irrigation development, models for agro-industrial development, grain production

Most Relevant Subjects

1040 Resources Management
1060 Environmental Impact
1910 Soil Capabilities
2030 Land Use
2620 Agriculture
2625 Agricultural Land
2660 Agricultural Production
2661 Agricultural Economics
2820 Water Resources
2855 Water
2910 Irrigation
3982 Basic Food Requirements
4000 Applied Nutrition
4131 Agricultural Industry - Food
4580 Forecasting and Long-Term Trends
4960 Water Pollution and Contamination
5282 Modelling and Simulation
5850 Phosphates
6132 Application of Pesticides
7070 Computer Methods

Associated Subjects

1050 Economic Planning
1860 Mapping and Photographic Surveys
1920 Soil Degradation
1921 Soil Conservation
2101 Land Capabilities
2790 Pest Control
3980 High Protein Foods
3990 Food Science and Technology
4990 Pollution Criteria
5020 Biochemical Pollution Criteria
5910 Organo-Phosphates
6120 Fertilisers
6134 Interaction of Pesticides
6137 Toxicity of Pesticides
6790 Technology Transfer
6800 Alternative Technologies
7021 Environmental Policy

Source Number:
Name and Address
for Referral:

903-0040-39
Peter De Yanosi, Acting Leader of Area
System and Decision Science Area I.I.A.S.A.
IIASA
A-2361 LAXENBURG
AUSTRIA

Source Description:

Developing of detailed models of particular sectors, eg Food, energy, water, the choice of price vs quantity signals in inter-temporal resource allocation; the macroeconomic perspective plans for the economy as a whole; carrying out researches in the field of econometric input-output modelling and forecast.

Most Relevant Subjects

1011	Resource Development
1040	Resources Management
1050	Economic Planning
1060	Environmental Impact
2855	Water
3720	Energy Sources and Fuels
3982	Basic Food Requirements
4560	Environmental Assessment
4580	Forecasting and Long-Term Trends
5282	Modelling and Simulation
7021	Environmental Policy
7670	Computer Methods
7080	Cost Benefit Analysis