



MEDITERRANEAN ACTION PLAN  
MED POL

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UNITED NATIONS ENVIRONMENT PROGRAMME

BIBLIOGRAPHY  
ON  
MARINE POLLUTION BY ORGANOTIN COMPOUNDS

MAP Technical Reports Series No. 35

This volume is the thirty-fifth issue of the Mediterranean Action Plan Technical Reports Series.

This series contains selected reports resulting from the various activities performed within the framework of the components of the Mediterranean Action Plan: Pollution Monitoring and Research Programme (MED POL), Blue Plan, Priority Actions Programme, Specially Protected Areas and Regional Oil Combating Centre.

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## INTRODUCTION

The Bibliography on Marine Pollution by Organotin Compounds is one of the series of specialized bibliographies compiled by the Co-ordinating Unit for the Mediterranean Action Plan (MEDU) of UNEP, with the support of the Oceans and Coastal Areas Programme (OCA/PAC) of UNEP, and constitutes the MEDLIB database.

A bibliography on Effects of Climatic Change and Related Topics, containing 1407 references, was published in June of 1989 as MAP Technical Reports Series No.29, while one on Pollution by Organophosphorus Compounds and one on Marine Litter are under preparation.

This volume of 707 references, includes citations from monographs, periodicals, and bibliographies in the MEDU library collection and from "on-line" literature searches undertaken by the National Hellenic Research Foundation, Athens. Databases searched "on-line" were:

ASFA  
BIOLOGICAL ABSTRACTS (BIOSIS)  
CHEMICAL ABSTRACTS  
ENVIROLINE  
OCEANIC ABSTRACTS  
POLLUTION ABSTRACTS  
TOXLINE

All papers contained in both IEEE Organotin Symposia of Oceans '86 and Oceans '87 Conferences have been included, and all references cited in these papers have been considered. Additional references, particularly those from the "grey literature" contributed by Dr. Michael A. Champ of the U.S. National Science Foundation, have also been included.

Material retrieved was checked against the original or other sources. The criterion on the basis of which the selection was made was the need to include all references concerning the Mediterranean, and all references possibly relevant to the Mediterranean, either in providing information on marine pollution by organotin compounds, or in giving examples of methodological approaches which could be used in Mediterranean studies.

The time-span for "on-line" literature searches was limited to post-1983. However, several pre-1983 references of particular interest and all specific references to the Mediterranean were included.

A draft of this bibliography was sent to about 50 prominent scientists, experts in the field. Their contributions, corrections and comments have also been included.

An IBM PC/AT compatible, equipped with the software Micro-CDS/ISIS was used for the compilation of this bibliography and for the compilation and management of the MEDLIB database. The database may be queried, and deposited references may be retrieved to produce specialized literature searches on request.

In the Author bibliography that follows this introduction, each reference is cited by Personal Author or Corporate Body, followed by the Year of publication; the Title in its original language, except for Russian and Japanese which are cited in English; the Source of publication, with volume number, and pages in the case of a periodical; Title and other pertinent information, pages and editor, in the case of a monograph or proceedings; Document No. where it applies, and publication details. Each bibliographic entry has been assigned a number which is reflected in the Subject/Keyword index.

The ten main subject areas which are covered are listed below:

1. ANALYSIS/ANALYTICAL METHODS
2. CONTROL
3. DECISION-MAKING PROCESS
4. ECONOMIC IMPACT
5. EFFECTS/TOXICITY
6. FATE/ENVIRONMENTAL TRANSFORMATION
7. GEOGRAPHIC AREA
8. GENERAL
9. LEVELS
10. SOURCES/INPUT

Descriptors relevant to each main subject area, are listed within the main subject headings. Publications containing references to more than one subject appear under more than one descriptor since the retrieval of records has been done electronically, by means of a keyword either assigned in the descriptor field or contained in the title.

It is hoped that this bibliography will be of use to scientists in the field.

Athena Davaki

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## SUBJECT/KEYWORD INDEX

Ten main subject areas are listed. Relevant descriptors appear within each main subject heading in alphabetical order. Publications containing references to more than one subject appear under more than one keyword/descriptor.

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### Regulatory actions

0002, 0003, 0006, 0012, 0014, 0031, 0033, 0034, 0057, 0136, 0142,  
0220, 0478, 0559, 0629, 0630, 0633, 0639, 0640, 0643, 0647, 0648,  
0661

## 3. DECISION-MAKING PROCESS

0057, 0101, 0145, 0474, 0517, 0623, 0637, 0638, 0639

## 4. ECONOMIC IMPACT

0179, 0402, 0517

## 5. EFFECTS/TOXICITY

0007, 0009, 0013, 0014, 0015, 0016, 0017, 0018, 0020, 0036, 0038,  
0041, 0046, 0058, 0061, 0062, 0063, 0064, 0065, 0071, 0072, 0073,  
0074, 0075, 0076, 0079, 0080, 0081, 0083, 0084, 0096, 0098, 0101,  
0102, 0103, 0104, 0108, 0110, 0112, 0113, 0114, 0115, 0116, 0121,  
0122, 0124, 0125, 0132, 0134, 0135, 0136, 0137, 0139, 0144, 0150,  
0161, 0162, 0166, 0167, 0172, 0173, 0183, 0184, 0186, 0188, 0189,  
0191, 0192, 0196, 0197, 0198, 0199, 0201, 0202, 0210, 0221, 0223,  
0224, 0227, 0230, 0231, 0240, 0242, 0243, 0244, 0248, 0249, 0251,  
0252, 0253, 0254, 0255, 0256, 0257, 0258, 0260, 0261, 0262, 0265,  
0266, 0267, 0268, 0269, 0271, 0276, 0277, 0278, 0279, 0281, 0288,  
0292, 0296, 0298, 0301, 0302, 0304, 0316, 0318, 0321, 0322, 0323,  
0324, 0326, 0339, 0341, 0343, 0345, 0346, 0354, 0356, 0357, 0359,  
0360, 0366, 0368, 0370, 0372, 0373, 0374, 0375, 0376, 0380, 0382,  
0383, 0385, 0386, 0387, 0388, 0389, 0390, 0396, 0398, 0403, 0405,  
0406, 0407, 0411, 0416, 0419, 0422, 0425, 0428, 0434, 0437, 0441,  
0445, 0447, 0448, 0449, 0452, 0454, 0460, 0464, 0466, 0468, 0475,  
0478, 0479, 0481, 0483, 0484, 0486, 0489, 0490, 0491, 0494, 0503,  
0505, 0508, 0509, 0510, 0511, 0512, 0513, 0514, 0517, 0518, 0519,  
0520, 0521, 0522, 0527, 0528, 0533, 0536, 0543, 0544, 0545, 0549,  
0551, 0553, 0554, 0555, 0556, 0559, 0561, 0562, 0563, 0565, 0567,  
0570, 0571, 0572, 0576, 0577, 0581, 0584, 0585, 0586, 0588, 0594,  
0597, 0601, 0602, 0603, 0604, 0605, 0606, 0607, 0608, 0610, 0611,  
0612, 0613, 0615, 0616, 0622, 0623, 0626, 0630, 0642, 0649, 0650,  
0651, 0660, 0662, 0663, 0664, 0665, 0668, 0670, 0673, 0675, 0676,  
0677, 0679, 0683, 0684, 0685, 0686, 0689, 0692, 0693, 0694, 0695,  
0699, 0703, 0704, 0705, 0706

### Aquaculture/Mariculture

0014, 0112, 0188, 0324, 0554, 0555, 0556, 0605

### Bacteria

0210, 0416, 0447, 0483, 0570, 0612

### Biota

0116, 0121, 0122, 0144, 0192, 0197, 0276, 0298, 0301, 0304, 0316,  
0318, 0339, 0346, 0370, 0372, 0382, 0385, 0398, 0448, 0478, 0484,  
0511, 0513, 0514, 0522, 0527, 0528, 0543, 0544, 0545, 0559, 0567,  
0576, 0577, 0588, 0594, 0597, 0601, 0650, 0663, 0673, 0675, 0677

### Crustacea

0014, 0080, 0162, 0186, 0196, 0279, 0343, 0373, 0375, 0376, 0387,  
0388, 0406, 0466, 0489, 0505, 0597, 0660, 0683, 0684, 0685, 0686,  
0699, 0704

### Estuaries

0116, 0202, 0249, 0251, 0255, 0271, 0302, 0304, 0346, 0368, 0484,  
0489, 0626, 0664, 0670

### Fish

0007, 0084, 0104, 0112, 0121, 0125, 0137, 0196, 0243, 0276, 0302,  
0341, 0359, 0460, 0466, 0489, 0490, 0536, 0551, 0554, 0555, 0556,  
0594, 0597, 0605, 0615, 0650, 0679, 0686, 0689

### Human health

0009, 0150, 0223, 0224, 0248, 0281, 0292, 0441, 0464, 0479, 0533,  
0554, 0616, 0630, 0642, 0662, 0665

### Mammals

0256, 0257, 0339, 0533

### Molluscs

0013, 0014, 0015, 0016, 0017, 0018, 0020, 0038, 0061, 0062, 0063,  
0071, 0075, 0080, 0083, 0113, 0114, 0115, 0124, 0125, 0137, 0139,  
0183, 0184, 0188, 0191, 0196, 0198, 0199, 0242, 0254, 0260, 0261,  
0265, 0266, 0267, 0268, 0276, 0318, 0321, 0322, 0323, 0324, 0326,  
0357, 0368, 0374, 0380, 0383, 0389, 0390, 0396, 0407, 0445, 0449,  
0466, 0475, 0481, 0486, 0508, 0509, 0510, 0520, 0553, 0561, 0562,  
0563, 0565, 0572, 0581, 0584, 0586, 0594, 0597, 0602, 0603, 0604,  
0605, 0606, 0649, 0651, 0664, 0668, 0693, 0703

### Plankton

0041, 0062, 0072, 0073, 0074, 0132, 0137, 0186, 0196, 0201, 0251,  
0258, 0278, 0296, 0324, 0354, 0366, 0368, 0386, 0396, 0405, 0422,  
0428, 0434, 0437, 0512, 0521, 0549, 0559, 0610, 0611, 0612, 0622,  
0676, 0694, 0695, 0705

## 6. FATE/ENVIRONMENTAL TRANSFORMATION

0010, 0011, 0028, 0043, 0051, 0058, 0060, 0068, 0088, 0091, 0093,  
0094, 0096, 0097, 0098, 0102, 0108, 0109, 0127, 0129, 0132, 0135,  
0156, 0157, 0159, 0161, 0171, 0172, 0175, 0176, 0177, 0178, 0200,  
0203, 0206, 0208, 0209, 0215, 0227, 0238, 0239, 0249, 0250, 0258,  
0269, 0270, 0271, 0272, 0274, 0283, 0289, 0291, 0303, 0307, 0309,  
0312, 0337, 0338, 0345, 0358, 0360, 0366, 0367, 0370, 0381, 0383,  
0391, 0392, 0393, 0394, 0408, 0410, 0411, 0412, 0418, 0422, 0435,  
0453, 0454, 0461, 0467, 0468, 0472, 0482, 0494, 0499, 0500, 0506,  
0507, 0528, 0531, 0538, 0540, 0541, 0542, 0548, 0557, 0560, 0569,  
0574, 0585, 0600, 0607, 0623, 0625, 0626, 0628, 0652, 0656, 0663,  
0678, 0679, 0688, 0706, 0707

### Accumulation/Bioaccumulation

0088, 0156, 0157, 0250, 0370, 0422, 0435, 0679

#### Degradation

0010, 0068, 0091, 0093, 0098, 0215, 0283, 0312, 0410, 0412, 0418,  
0454, 0472, 0540, 0541, 0542, 0548, 0569, 0607

#### Distribution

0043, 0129, 0538, 0574

#### Metabolism

0338, 0392, 0393, 0422

#### Methylation

0051, 0178, 0269, 0270, 0271, 0272, 0274, 0289, 0303, 0391, 0500,  
0507

#### Persistence

0250, 0410, 0411

#### Sorption

0209, 0626, 0688

### **7. GEOGRAPHIC AREAS**

#### Mediterranean

0004, 0048, 0058, 0059, 0181, 0225, 0241, 0252, 0322, 0335, 0425,  
0440, 0524, 0525, 0621, 0623, 0700

#### Egypt

0004, 0181, 0225, 0226, 0440

#### France

0013, 0014, 0018, 0137, 0252, 0322, 0323, 0324, 0383, 0425

#### Spain

0048

#### Turkey

0241, 0524

Non-Mediterranean

Australia

0030, 0101

Bolivia

0084

Canada

0117, 0152, 0348, 0409, 0410, 0413, 0414, 0418, 0420

Denmark

0334, 0343

England

0002, 0003, 0012, 0036, 0052, 0061, 0062, 0067, 0114, 0115, 0116,  
0139, 0164, 0166, 0167, 0188, 0220, 0222, 0267, 0268, 0368, 0369,  
0383, 0426, 0445, 0474, 0495, 0627, 0629, 0630, 0666, 0670, 0672

Ireland

0448, 0449, 0630

Japan

0315, 0478, 0519, 0594, 0596, 0597, 0600

Portugal

0027, 0496

Scandinavia

0399

Scotland

0061, 0062, 0063, 0188, 0190, 0630

Sweden

0196

Thailand

0110

United States

0006, 0057, 0069, 0080, 0099, 0121, 0122, 0142, 0144, 0173, 0203,  
0212, 0224, 0251, 0255, 0286, 0287, 0295, 0297, 0298, 0299, 0300,  
0316, 0331, 0337, 0340, 0344, 0347, 0356, 0359, 0396, 0397, 0402,  
0421, 0445, 0462, 0467, 0529, 0537, 0538, 0539, 0541, 0553, 0572,  
0574, 0575, 0581, 0584, 0626, 0631, 0632, 0633, 0634, 0636, 0637,  
0638, 0639, 0640, 0641, 0643, 0644, 0645, 0646, 0647, 0648, 0654,  
0664, 0681, 0693, 0701

8. GENERAL

0021, 0024, 0030, 0032, 0033, 0039, 0058, 0078, 0096, 0102, 0103,  
0105, 0123, 0131, 0138, 0141, 0145, 0146, 0160, 0172, 0182, 0187,  
0214, 0216, 0218, 0221, 0234, 0237, 0240, 0241, 0245, 0246, 0264,  
0275, 0280, 0282, 0295, 0308, 0330, 0335, 0336, 0345, 0348, 0352,  
0362, 0365, 0366, 0383, 0384, 0399, 0400, 0424, 0427, 0451, 0452,  
0485, 0491, 0492, 0502, 0503, 0515, 0516, 0524, 0528, 0529, 0532,  
0534, 0535, 0544, 0550, 0558, 0559, 0564, 0566, 0567, 0578, 0579,  
0587, 0591, 0608, 0613, 0620, 0635, 0637, 0646, 0680, 0682, 0691,  
0697, 0702, 0706, 0707

9. LEVELS

0019, 0027, 0059, 0062, 0069, 0079, 0100, 0101, 0114, 0121, 0126,  
0134, 0152, 0166, 0167, 0168, 0173, 0190, 0191, 0211, 0236, 0250,  
0260, 0273, 0287, 0297, 0299, 0300, 0315, 0326, 0331, 0334, 0337,  
0343, 0344, 0345, 0346, 0368, 0369, 0374, 0377, 0397, 0409, 0413,  
0414, 0419, 0420, 0421, 0425, 0459, 0480, 0486, 0496, 0498, 0524,  
0525, 0530, 0539, 0553, 0554, 0556, 0566, 0574, 0575, 0581, 0582,  
0594, 0595, 0618, 0620, 0649, 0650, 0654, 0660, 0666, 0667, 0669,  
0670, 0693, 0695, 0700, 0703

Aquaculture

0014, 0190, 0287, 0554, 0556

Biota

0121, 0346, 0459, 0525, 0594, 0595, 0650

Crustacea

0014, 0236, 0343, 0595, 0660

### Fish

0121, 0125, 0190, 0315, 0459, 0460, 0554, 0556, 0594, 0595, 0618, 0620

### Freshwater

0027, 0300, 0326, 0344, 0413, 0419, 0420, 0695, 0703

### Molluscs

0013, 0014, 0015, 0016, 0017, 0018, 0020, 0038, 0061, 0062, 0063, 0071, 0075, 0080, 0083, 0113, 0114, 0115, 0124, 0125, 0137, 0139, 0183, 0184, 0188, 0191, 0196, 0198, 0199, 0242, 0254, 0260, 0261, 0265, 0266, 0267, 0268, 0276, 0318, 0321, 0322, 0323, 0324, 0326, 0357, 0368, 0374, 0380, 0383, 0389, 0390, 0396, 0407, 0445, 0449, 0466, 0475, 0481, 0486, 0508, 0509, 0510, 0520, 0553, 0561, 0562, 0563, 0565, 0572, 0581, 0584, 0586, 0594, 0597, 0602, 0603, 0604, 0605, 0606, 0649, 0651, 0664, 0668, 0693, 0703

### Seawater

0019, 0027, 0059, 0066, 0069, 0126, 0166, 0167, 0168, 0287, 0299, 0300, 0315, 0334, 0344, 0369, 0419, 0420, 0425, 0431, 0456, 0525, 0530, 0539, 0556, 0654, 0667, 0693

### Sediment

0052, 0079, 0273, 0287, 0344, 0368, 0369, 0409, 0420, 0421, 0425, 0456, 0496, 0498, 0525, 0574, 0575, 0582, 0620, 0654

## 10. Sources/Input

0001, 0005, 0006, 0020, 0023, 0024, 0033, 0037, 0039, 0046, 0047, 0048, 0054, 0058, 0064, 0065, 0067, 0078, 0079, 0081, 0082, 0084, 0085, 0095, 0098, 0099, 0110, 0115, 0130, 0131, 0138, 0144, 0145, 0158, 0159, 0167, 0170, 0171, 0185, 0188, 0190, 0191, 0193, 0194, 0195, 0196, 0212, 0213, 0218, 0220, 0221, 0224, 0225, 0226, 0233, 0234, 0235, 0240, 0244, 0245, 0252, 0255, 0264, 0265, 0268, 0276, 0277, 0286, 0287, 0297, 0300, 0306, 0316, 0317, 0323, 0329, 0331, 0333, 0334, 0343, 0352, 0356, 0365, 0369, 0385, 0386, 0396, 0397, 0401, 0403, 0413, 0414, 0420, 0421, 0427, 0432, 0434, 0440, 0445, 0452, 0455, 0462, 0464, 0468, 0493, 0494, 0529, 0534, 0535, 0543, 0544, 0554, 0555, 0556, 0559, 0562, 0571, 0572, 0585, 0587, 0591, 0604, 0623, 0626, 0627, 0628, 0635, 0638, 0644, 0646, 0654, 0666, 0667, 0668, 0672, 0687, 0692, 0701

### Aquaculture

0067, 0188, 0190, 0287, 0554, 0555, 0556, 0687

Boats/Boatyards

0079, 0144, 0170, 0188, 0196, 0212, 0252, 0268, 0300, 0333, 0334,  
0343, 0365, 0369, 0396, 0401, 0413, 0420, 0462, 0494, 0559, 0626,  
0654, 0667, 0672, 0701

Construction (underwater)

0067, 0188, 0190, 0194, 0333, 0455, 0554, 0555, 0687

Drydocks

0005, 0046, 0065, 0130, 0144, 0212

Industry

0001, 0047, 0082, 0233, 0235, 0264, 0413, 0692

Marinas/Recreation

0047, 0252, 0287, 0297, 0300, 0334, 0343, 0445, 0494, 0572, 0654,  
0667, 0672

Military vessels

0005, 0006, 0064, 0144, 0170, 0212, 0218, 0356, 0397, 0427, 0529,  
0585, 0635, 0644, 0646, 0701



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