

# Table of Contents

<b>Preface .....</b>	
<b>Integration of Environmental Information in Europe .....</b>	<b>1</b>
<i>Blaschke, T., Mittlböck, M., Biberacher, M. Gadocha, S., Vockner, B., Hochwimmer, B. und Lang, S.:</i> The GEOSS - ENERGEOT portal: towards an interactive platform to calculate, forecast and monitor the environmental impact of energy carriers .....	2
<i>Marsh, J., Maurer, L. und Molinari, F.:</i> Social Validation of INSPIRE Annex III Data Structures in EU Habitats .....	10
<i>Steuer, H., Kunert, M., Schulz, M. und Schilcher, Prof. M.:</i> Standards based and automated processing of Forest Spatial Indicators in the context of GMES and INSPIRE .....	17
<b>ICT for Environmental Sustainability .....</b>	<b>22</b>
<i>Becker, J., Maurer, L. und Tochtermann, K.:</i> Web-based Support for Community Building of an European network of experts & professionals of ICT for environmental sustainability .....	23
<i>Chiabai, A. und Maurer, L.:</i> Analysis of ICT Research Demand in Environmental Research: A User-Centric Approach .....	33
<i>Hřebíček, J. und Pillmann, W.:</i> eEnvironment and the Single Information Space in Europe for the Environment .....	45
<i>Maurer, L., Marsh, J. und Tochtermann, K.:</i> Limitations and Potential of Information and Communication Technologies for Environmental Sustainability .....	56
<i>Stehliková, M.:</i> Czech and Slovak Research Programmes in the Field of ICT for Environmental Sustainability .....	64
<i>Carrara, P.:</i> The Italian Survey on ICT in Environmental and Sustainability Research within ICT-ENSURE: Experiences and Lessons Learned .....	73
<i>Ribeiro, A.B. und Fonseca, A.:</i> A Glance on ICT Programmes and Projects in the Field of Sustainable Development in Portugal.....	82
<i>Schneider, H., Geiger, W. und Lutz, R.:</i> National European Research Programmes in the Field of ICT for Environmental Sustainability .....	93
<i>Lutz, R., Geiger, W., Schmitt, C. und Schreiber, M.:</i> Information System on Literature in the Field of ICT for Environmental Sustainability .....	104

<b>Modeling ICT for Environmental Sustainability.....</b>	<b>112</b>
<i>Pillmann, W. und Simon, K.-H.:</i>	
Meta-Modeling as a Tool to Access the European Environmental Information Space .....	113
<i>Isenmann, R.:</i>	
Modeling environmental information relevant for industry in the European information space .....	123
<i>Fleissner, P.:</i>	
Inserting the Economy into the Environmental Meta-Model .....	136
<i>Gnauck, A. und Pillmann, W.:</i>	
A Meta-model for Water Quantity and Water Quality.....	148
<b>ICT and Climate Change .....</b>	<b>155</b>
<i>Manh, V.V., Hoang, T.M. und Van, P.T.:</i>	
Using environmental niche model to study the distribution of Tonkin snub-nosed monkey (Rhinopithecus avunculus) in the Northeastern Vietnam under some climate change scenarios .....	156
<i>Michel, F. und Steffen, D.:</i>	
Visualization for Climate Change Adaptation in SUDPLAN .....	165
<i>Storch, H., Downes, N. und Rujner, H.:</i>	
The Challenge of Spatial Information Management for Adaptation to Climate Change in Ho Chi Minh City .....	169
<i>Zapico, J.L., Kjelkerud, D., Berggren, H., Turpeinen, M. und Brandt, N.:</i>	
Carbon.to: improving the understanding of carbon dioxide information .....	177
<b>Environmental Management Information- and Decision Support Systems .....</b>	<b>186</b>
<i>Rezgui, A. und Naana, M.:</i>	
Improving of environmental management accounting system for support the environmental information management.....	187
<i>Allam, N., Junker, H. und Gómez, J.M.:</i>	
Collaborative corporate environmental management information systems .....	197
<i>Giesen, N., Haak, L. und Gómez, J.M.:</i>	
DEEBIS-Net: Doctoral Education in Environmental and Business Information Systems - Bi-national PhD-Programme with Cuba .....	205
<i>Arndt, H.-K. und Jacob, S.:</i>	
Ein Konzept zur Steuerung von Organisationen bei unklaren Zieldefinitionen unter Berücksichtigung von ökologischen Forderungen mit Hilfe von semantischen Netzen.....	212
<i>Jamous, N., Kassem, G., Gómez, J.M. und Dumke, R.:</i>	
Proposed Light-Weight Composite Environmental Performance Indicators (LWC-EPI) Model .....	222

<i>Junker, H.:</i>	
Die Beliebigkeit betrieblicher Umweltinformationssysteme – eine Polemik .....	232
<i>Krehahn, P., Wohlgemuth, V. und Meyer, H.A.:</i>	
UxLab: Usability Optimization Case Study of a Environmental Management Information System (EMIS) using Eyetracking Studies .....	248
<i>Rudolf, H.:</i>	
Umweltmanagement mit envVision: Eine nachhaltige GIS-gestützte Lösung für die Umsetzung der EU-Umgebungslärm- und Luftqualitätsrichtlinie .....	258
<i>Meyer, S., Pollman, O., Raschke, S., Blumenstein, O., van Rensburg, L. und Tobler, H.:</i>	
Decision support systems for environmental problems: Scientific approach, requirements of structure and data on specific purpose types .....	269
<i>Möller, A.:</i>	
About the Sense of Useless Software .....	279
<i>Pehlken, A., Rolbiecki, M., Decker, A. und Thoben, K.-D.:</i>	
Contribution of Material Flow Assessment in Recycling Processes to Environmental Management Information Systems (EMIS) .....	288
<i>Pontikakos, C. und Tsiligiridis, T.:</i>	
Location aware system for olive fruit fly spray .....	295
<i>Ziep, T., Krehahn, P. und Wohlgemuth, V.:</i>	
Mobile Applications for Industrial Environmental Protection .....	306
<b>Betriebliche Umweltinformationssysteme .....</b> <b>314</b>	
<i>Stranz, S., Finkbeiner, M. und Ackermann, R.:</i>	
INSPIRE-Daten für die Ökologische Risikoanalyse .....	315
<i>Arndt, H.-K. und Jacob, S.:</i>	
EnviroMaps – Eine Modellierungsvorschrift zur Abbildung von Umweltkennzahlensystemen mit Topic Maps .....	326
<i>Arndt, H.-K. und Tietz, S.:</i>	
IT-Lösungen zur Freigabe und Dokumentation von Gefahrstoffen in einem Großunternehmen der Automobilindustrie .....	337
<i>Bachmann, E.:</i>	
Product Compliance Business Network – Be connected with your business partner to increase your product know-how .....	347
<i>Joschko, P., Page, B., Schmitz, C. und Denz, N.:</i>	
Implementation eines Workflow-basierten IT-Assistenten für Anlagenbetreiber im europäischen Emissionshandel .....	355
<i>Kowalewski, B., Senn, A. und Jäger, A.:</i>	
GIS-basiertes Altlasteninformationssystem im Gesamtkontext eines Unternehmens .....	365

<i>Möller, A.:</i>	
Software-Unterstützung für Routine im betrieblichen Umweltschutz .....	375
<i>Personn, N., Krehahn, P., Ziep, T. und Wohlgemuth, V.:</i>	
Prototypische Umsetzung einer mobilen open-source Applikation zur Material Stream Mapping Methode .....	383
<i>Zabel, M., Schiemann, L. und Wohlgemuth, V.:</i>	
RESEFI Netzwerk und internetbasierte Plattform zur Ressourceneffizienz als Lern- und Anwendungsmittel .....	393
<i>Boehnke, B. und Wohlgemuth, V.:</i>	
Transparenz schon im Planungsprozess schaffen durch Energie- und Stoffstrommanagement .....	402
<i>Witte, S., Boehnke, B. und Wohlgemuth, V.:</i>	
Analyse der Materialströme einer idealisierten Automobilackiererei mit Hilfe eines parametrisierten benutzergeführten Simulationsmodells .....	410
<b>Environmental Information and Reporting Systems .....</b>	<b>419</b>
<i>Feiden, K. und Kruse, F.:</i>	
The GS SOIL portal prototype and its integrated network .....	420
<i>Fischer-Stabel, P., Mattern, M. und Schäfer, K.:</i>	
An Information Portal for the Research in Nature Reserves: The UNESCO MaB Biosphere Reserve Bliesgau .....	429
<i>Giesen, N., Jürgens, P., Gómez, J.M. und Omumi, H.:</i>	
ProPlaNET – Web 2.0 based Sustainable Project Planning .....	436
<i>Granke, O., Hosenfeld, F., Rinker, A., Schnack, K. und Mues, V.:</i>	
European Forest Monitoring Information System Data management for EU project FutMon .....	446
<i>Knol, O.:</i>	
Successful Biodiversity Monitoring in the Netherlands: The Network Ecological Monitoring (NEM) .....	457
<i>Lukacs, G. und Kazakos, W.:</i>	
Semantic Search over Structured Environmental and Geographic Data .....	462
<i>Rüther, M., Fock, J. und Hübener, J.:</i>	
Linked Environment Data .....	470
<i>Süpke, D.:</i>	
Reference Architecture for Dialogue-Based Sustainability Reporting .....	480
<i>Rudolf, H.:</i>	
Umweltschutz – Wasserrechte digital: Eine Datenbank-Applikation und ihre Komponenten .....	488
<i>Michels, H. und Mauè, P.:</i>	
Semantics for notifying events in the affecting environment .....	501

<i>Velthorst, A.H.:</i>	
Can changes in nitrogen deposition be detected in vegetation composition using Ellenberg indicator values? A study using ten years of data from the National Monitoring Network Flora for Environmental Quality .....	508
<i>Wondergem, J. und Klein, P.:</i>	
The Netherlands Environmental Data Compendium (EDC): Key factors for Communication of Environmental Information .....	513
<b>Environmental Information Infrastructure ..... 517</b>	
<i>Klenke, M., Kruse, F. und Schenk, F.:</i>	
OpenSearch - Simple formats to share environmental information .....	518
<i>Schade, S. und Craglia, M.:</i>	
A Future Sensor Web for the Environment in Europe .....	529
<i>Schenk, F., Kruse, F. und Klenke, M.:</i>	
From Simple Data Sources to a Complex Information System: Integrating Heterogeneous Data Models into an Information Infrastructure for the Public Administration .....	540
<i>Schäffler, U., Moraru, D., Heier, C., Spies, K.-H. und Schilcher, M.:</i>	
Interpolation of Precipitation Sensor Measurements using OGC Web Services .....	549
<i>Lukács, G. und Cseh, M.:</i>	
An Information Search and Filtering Engine for a Sustainable Consumption Portal .....	556
<b>Environmental Health, Quality of Life and Pollution Management ..... 563</b>	
<i>Arndt, H.-K. und Tietz, S.:</i>	
IT-solutions for Occupational Safety and Health Management Systems: A Knowledge Management-based approach .....	564
<i>Clune, W.H.:</i>	
An Incentives-Based Analysis Of Pollution Prevention Regulation in The United States .....	574
<i>Armen, S., Lilit, S., Shushanik, A., Meline, A. und Vahagn, M.:</i>	
Development of remote sensing methods for assessment of heavy metal soil pollution near the city of Kajaran .....	582
<i>Hearl, F., Tisdale-Pardi, J., Blosser, F., Lum, M., Sublet, V. und Howard, J.:</i>	
The NIOSH Science Blog: Social Media Dissemination of Occupational Safety and Health Information .....	589
<i>Lakes, T., Leser, U. und Senf, C.:</i>	
An urban health risk analysis for Berlin: exploration and integration of spatio-temporal information on the urban environment .....	593
<i>Thinh, N.X., Müller, B., Terne, F. und Hofeld, M.:</i>	
Methodology and application development for monitoring quality of life in Dresden .....	604

<i>Kusmierz, R., Voigt, K. und Scherb, H.:</i>	
Is the human sex odds at birth distorted in the vicinity of nuclear facilities (NF)? A preliminary geo-spatial-temporal approach .....	616
<b>Environmental Modelling and Simulation .....</b> 627	
<i>Bauböck, R.:</i>	
BioSTAR: A simple crop model for the assessment of agricultural biomass potentials in Lower Saxony, Germany .....	628
<i>Caponigro, R. und Iannucci, C.:</i>	
Dynamical modeling for data collection and reporting: a system view of DPSIR .....	641
<i>Niklaus, M., Tum, M. und Günther, K.P.:</i>	
Modeling Carbon Sinks and Sources in semi-arid Environments for a Land Degradation Assessment Approach .....	648
<i>Rapp, B., Bremer, J. und Sonnenschein, M.:</i>	
Simulating the transport performance of online traded biomass .....	657
<i>Soukápavá, J. und Hřebíček, J.:</i>	
Environmental-Economic Modelling Municipal Solid Waste Management System of the Czech Republic .....	667
<i>Theisselmann, F., Kühnlenz, F., Krüger, C., Fischer, J. und Lakes, T.:</i>	
How to reuse and modify an existing land use change model? Exploring the benefits of language-centered tool support .....	678
<i>Tum, M., Niklaus, M., Günther, K.P. und Kappas, M.:</i>	
A new validation approach to assess the quality of modeled agricultural biomass potentials using BETHY/DLR .....	689
<b>Software Tools and Databases .....</b> 700	
<i>Bock, M., Glowinski, R. und Voß, S.:</i>	
Entwicklung eines Artenkatasters für die Freie und Hansestadt Hamburg .....	701
<i>Dick, M. und Naumann, S.:</i>	
Enhancing Software Engineering Processes towards Sustainable Software Product Design .....	706
<i>Fischer, J., Naumann, S. und Dick, M.:</i>	
Enhancing Sustainability of the Software Life Cycle via a Generic Knowledge Base .....	716
<i>Epitropou, V., Karatzas, K. und Bassoukos, A.:</i>	
Open tools and services for INSPIRE related environmental data and metadata: reporting on experiences gained in GS SOIL .....	726
<i>Lünsdorf, O. und Sonnenschein, M.:</i>	
A pooling based load shift strategy for household appliances .....	734

<i>Waldvogel, B., Wotruba, L., Müller, K. und Bischof, S.:</i>	
Drowning in Geospatial Point Data: A Pattern Based Approach .....	744
<i>Zapico, J.L., Turpeinen, M. und Brandt, N.:</i>	
Greenalytics: a tool for mash-up life cycle assessment of websites .....	754
<b>Author Index .....</b>	<b>764</b>