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Title:	Autors:	Afiliation:
MAR technical solutions assessment. Guidelines obtained from the experience in eight Mediterranean demo sites	E. Fernández Escalante*, J. San Sebastián Sauto** and M. García-Rodríguez***	Department of R&D Integrated Water Management, Tragsa, Maldonado 58, Madrid, Spain ** Department of Water Engineering, Tragsatec, Julián Camarillo 6, Madrid, Spain *** Department of Analytical Sciences UNED, Av. Senda del Rey 9, Madrid, Spain
BENCHMARKING PROPOSAL FOR MAR SYSTEMS. BENCHING AND COMPARING SEVEN MEDITERRANEAN MARSOL SITES	J. San Sebastián Sauto*, E. Fernández Escalante**, R. Calero Gil**, Tiago Carvalho*** and Paula Rodríguez-Escales****	* Department of Engineering and Building, Tragsatec, Julián Camarillo 6, Madrid, Spain ** Department of R&D Integrated Water Management, Tragsa, Maldonado 58, Madrid, Spain *** TARH Terra, Ambiente e Recursos Hídricos, Lda, Rua Forte do Monte Cintra 1, 2º C, Sacavém, Portugal **** Group d'Hidrologia Subterrània (UPC-CSIC), Civil and Environmental Engineering Department. Universitat Politècnica de Catalunya-BarcelonaTech, Jordi Girona 1-3, Mòdul D-2, 08034 Barcelona, Spain.
THREE-IN-ONE USES OF A MANAGED AQUIFER RECHARGE SYSTEM: THE TRIPLETS IN LOS ARENALES (SPAIN)	E. Fernández Escalante* and J. San Sebastián Sauto**	Department of R&D Integrated water management, Tragsa, Maldonado 58, Madrid, Spain ** Department of Water engineering, Tragsatec, Julián Camarillo 6, Madrid, Spain
TYPES OF CLOGGING, DISTRIBUTION AND INTERACTION WITH GROUNDWATER QUALITY IN AN AQUIFER UNDER LONG M.A.R. PRACTICES. LOS ARENALES (SPAIN)	E. Fernández Escalante*, J. San Sebastián Sauto** and C. Schütz***	Department of R&D Integrated water management, Tragsa, Maldonado 58, Madrid, Spain ** Department of Water engineering, Tragsatec, Julián Camarillo 6, Madrid, Spain *** Department of Geology, Technical University of Darmstadt, Germany
Guidelines for MAR water quality. International overview and lessons learnt	E. Fernández Escalante*, J. San Sebastián Sauto** and A.Mª. Vidal Medeiros	Management, Tragsa, Maldonado 58, Madrid, Spain ** Department of Water Engineering, Tragsatec, Julián Camarillo 6, Madrid, Spain *** World Bank Water Resources Management Consultant, Carlos Berg 2558, Montevideo, Uruguay
Protection of groundwater dependent ecosystems in Canterbury, New Zealand: the Targeted Stream Augmentation Project	B. D. M. Painter	Canterbury Regional Council, Canterbury, New Zealand (corresponding author)
An integrated modelling approach to the design of the Hinds catchments proposed regional scale MAR project	P. Durney	Canterbury Regional Council, Canterbury, New Zealand (corresponding author)

The Challenges of Operating a Large Scale Spreading Basin Recharge Program in a Semi-Arid Region	Timothy Gorey	Central Arizona Project
Water Banking in Australia: Progress and Issues	A. Ross	Fenner School of Environment and Society Australian National University
Meeting Melbourne's Growing Demand for Water Using Aquifer Storage and Recovery	M. Hudson*, M. Muthukaruppan*	* Department of Water Solutions, City West Water, 1 McNab Avenue, Footscray, Melbourne, Australia
MANAGED BASIN RECHARGE – PROPER PLANNING ENSURES SUCCESS	Donald P. Hanson, R.G.	Clear Creek Associates, PLC., 6155 E. Indian School Road
Effects of water chemistry and flow rate on in-situ clay release and clogging in consolidated aquifer materials	S. Torkzaban*, J. L. Vanderzalm*, P. J. Dillon*	* CSIRO Land and Water, Glen Osmond, SA, Australia
Modelling Fate and Transport of Viruses in Porous Media: Implication for Managed Aquifer Recharge	S. Torkzaban*, S. Sasidharan*, D. Page*, J. L. Vanderzalm*, P. J. Dillon*	* CSIRO Land and Water, Glen Osmond, SA, Australia
Authorising MAR projects within the context of South Africa's National Water Act	S. A. Fourie* [#] , R. Murray**, D. Hohne*, N. Vermaak* and F van der Merwe*	* Department of Water & Sanitation, 185 Francis Baard Street, Pretoria, South Africa
The Influence of Filtration Treatment on Soil Aquifer Treatment (SAT) Infiltration Rates and Water Quality	Gilboa Arye*, Omer Mienis* **, Avi Aharoni** and Ido Negev**	*Ben-Gurion University of the Negev, Israel, the Jacob Blaustein Institutes for Desert Research (BIDR)
Crucial Role of Managed Aquifer Recharge as an Adaptation Strategy for Groundwater Sustainability in the Face of Climate Change in India	Dr. R.C.Jain	Consultant, National Water Mission, Ministry of Water Resources, River development and Ganga Rejuvenation, New Delhi, India
The Use of Water H and O Isotopes as Tracers in Regional Water Systems	I. Negev** and J. Guttman*	*Mekorot, National Water Company, Tel Aviv, Israel
Using numerical modelling to investigate the behavior of the shallow quaternary aquifer in the west part of Damascus and possibilities to optimize this process	M. Wannous, F. Bauer and U. Tröger	Technische Universität Berlin/ ZI Campus Elgouna, Department of water engineering, Fraunhoferstr.33-36, 10587 Berlin, Germany
Assessing infiltration rates and clogging impacts during recycled water managed aquifer recharge (MAR) in Floreat (WA) and Alice Springs (NT)	K. Barry* ^a , J. Vanderzalm*, E. Bekele**, M. Donn**, K. Miotlinski***, P. Dillon****	* CSIRO Land and Water, Waite Road Urrbrae, SA, Australia
History and Present situation of Managed Aquifer Recharge in China	X. Du, X. YE and Y. Lu	College of Environment and Resources, Jilin University, 2519 Jiefang Road, Changchun, China

Negotiating water governance: towards collaboration in large scale MAR projects	V. Kurki*	* Department of Civil Engineering, Tampere University of Technology, P.O.B. 600, 33101 Tampere, Finland
Blending Stormwater and Treated Wastewater for Managed Aquifer Recharge to Support Irrigation Expansion and Economic Development	R R Martin*, J Vanderzalm**, D Page** and D Gonzalez**	* Aqueon Pty Ltd 80 Wyatt St, Adelaide, South Australia ** CSIRO Land and Water, Waite Laboratories, Waite Rd, Urrbrae SA 5064, Australia.
Characterization of the Yucatan karst aquifer, pollution scenarios and possible solutions	M. Moreno, C. Stefan and R. Liedl	Department of Hydrosiences, Technische Universität Dresden, Germany
Windhoek, Namibia: From conceptualising to operating and expanding a MAR scheme in a fractured quartzite aquifer for the city's water security	R. Murray#, I. Peters*, D. Louw*, B. van der Merwe**	# Groundwater Africa, 38 Disa Avenue, Kommetjie, South Africa * City of Windhoek, Namibia **ENVES, Windhoek, Namibia
Observations and prediction of recovered quality of desalinated sea water in the Strategic ASR Project in Liwa, Abu Dhabi	P.J. Stuyfzand*, **, E. Smidt***, K. Zuurbier*, **, N. Hartog*, M. Dawoud****	*KWR Watercycle Research Institute, Nieuwegein, Netherlands; **Technical University Delft, Netherlands; ***Waterfocus, Netherlands; ****Environmental Agency Abu Dhabi
Impact in the quality of surface and groundwater generated by the leachates at the Municipal Landfill Linares/Mexico	H. de León-Gómez*, R.A. Dávila Pórcel* and A. Cruz López*	* Facultad de Ingeniería Civil, Universidad Autónoma de Nuevo León, Av. Universidad S/N, Cd. Universitaria, 66455 San Nicolás de los Garza, N.L., México
Controlling the formation of the reaction zone around an injection well during subsurface iron removal	R. Bartak*, W. Macheleidt*, J. Ahnrs*, T. Grischek*	* Faculty of Civil Engineering & Architecture, University of Applied Sciences (HTW) Dresden, Germany; bartak@htw-dresden.de
Riverbed clogging and sustainability of riverbank filtration	T. Grischek1, R. Bartak1	1 Faculty of Civil Engineering & Architecture, University of Applied Sciences (HTW) Dresden, Germany; grischek@htw-dresden.de
Prediction of iron and manganese release during riverbank filtration	T. Grischek1, S. Paufler1	1 Faculty of Civil Engineering & Architecture, University of Applied Sciences (HTW) Dresden, Germany; grischek@htw-dresden.de
Measures to mitigate flood-risks at riverbank filtration sites with a focus on India	C. Sandhu1, T. Grischek1, W. Macheleidt1, A. Heisler2, P.C. Kimothi3 and P.S. Patwal4	1 Faculty of Civil Engineering & Architecture, University of Applied Sciences (HTW) Dresden, Germany; sandhu@htw-dresden.de 2 GFU – Gesellschaft für technische Umweltuntersuhungen mbH, Kemberg, Germany 3 Uttarakhand State Water Supply & Sewerage Organisation (UJS), Dehradun, India 4 Cooperation Centre for Riverbank Filtration (CCRBF), Dehradun, India

Application of cylinder infiltrometer for analyzing the vertical water flow to bankfiltration technology in Beberibe river, Pernambuco - Brazil	T. B. V. Albuquerque*, J. J. S. P. Cabral** and A. L. R. de Paiva**	* Civil Engineering Pos-graduate Program, Federal University of Pernambuco - UFPE, Av. Prof. Acadêmico Hélio Ramos s/n, Recife, Pernambuco, Brazil. ** Civil Engineering Department, UFPE, Recife, Pernambuco, Brazil
Combining aquifer storage and recovery with reverse osmosis (ASRO Westland)	K.G. Zuurbier***, Marcel Paalman*, Kjell Haas***, Gerard van den Berg*	*KWR Watercycle Research Institute, Nieuwegein, Netherlands; **Technical University Delft, Netherlands; Bruine de Bruin, Netherlands
Increasing freshwater recovery upon aquifer storage in brackish-saline aquifers: what can hydrological engineering bring?	K.G. Zuurbier***, P.J. Stuyfzand***, and N. Hartog*,**	*KWR Watercycle Research Institute, Nieuwegein, Netherlands; **Technical University Delft, Netherlands: Utrecht University, Netherlands
Development of adsorption treatment by iron oxide nanoparticles and biological degradation in mimetic column for managed aquifer recharge	S. U. Yoon*, B. Mahanty* and C. G. Kim*	* Department of environmental engineering, INHA University, 100 Inha-ro, Nam-gu, Incheon, Korea
Artificial recharge using treated waste water: Tunisian experience	B. Chelli	Water Researches and Technologie Center, Carthage University, Borj-Cedria Technopark, Route Touristique Soliman, BP 273, 8020, Tunisia
Title: Minimal hydrological parameters necessary for the feasibility evaluation of shallow managed artificial aquifer recharge projects and an overview of the most cited analytical solutions for estimating groundwater mounding	A. C. Petrides-Jimenez*	* Department of Mathematics, University of Portland, 5000 N Willamette Blvd. Portland OR 9720399
Management Aquifer Recharge used for water reservoir against climatic change in paper plant in Mexico	Miguel Alejandro Juárez Manjarrez*, José Antonio Gutiérrez Zenteno**	Environmental Consultant *, Director Geoevaluaciones y Perforaciones S.A. de C.V.**, Mexico City, MX
Groundwater modelling of the Coastal Aquifer of Santa Marta, Colombia, under different hydrological and pumping scenarios, including sea-water intrusion, artificial recharge and Interbasin transfer	G. Cifuentes* and C. Molano**	*Research Assistant in Water Distribution and Sewerage System Research Center (CIACUA), Universidad de Los Andes, Bogotá, Colombia. ** Assistant Professor at Department of Civil and Environmental Engineering, Universidad de Los Andes, Bogotá, Colombia. Also CEO at Hidrogeocol S.A., Colombia.
Identification of recharge area for potential flooding recharge in Leizhou Peninsula, Guangdong, China	J. Chen*, D. Liang* and J. Cao**	* School of Geography and Planning, Sun Yatsen University, 135 Xingang Xi, Guangzhou, China ** Zhanjiang Bureau of Hydrology, Zhanjiang, Guangdong, China

Evaluating locations for distributed stormwater collection with regional surface hydrologic models in central coastal California	S. Beganskas ^{1*} , K. Young ¹ , R. Harmon ² , E. Teo ¹ , W. Weir ¹ , S. Lozano ³ , A. Fisher ¹	¹ Earth and Planetary Sciences Department, University of California Santa Cruz, Santa Cruz, California, USA. ² Geology and Geological Engineering Department, Colorado School of Mines, Golden, CO, USA ³ Resource Conservation District of Santa Cruz County, Santa Cruz, California, USA *Presenting Author
RECHARGE AREAS USING REMOTE SENSING AND GEOPHYSICAL METHODS IN THE CENTRAL VALLEY AQUIFER OAXACA STATE	<u>R. I. Hernández*</u> , S. I. Belmonte* y J.O. Campos**	* National Polytechnic Institute. Interdisciplinary Research Center for Regional Integral Development Unit Oaxaca ** Institute of Geophysics. National Autonomous University of Mexico
Seeking Sustainability: The Evolving Role of Managed Aquifer Recharge in Arizona	<u>Jeff Meyer</u> , Mark Cross, and Juliet McKenna	Montgomery & Associates, 1550 East Prince Road, Tucson, AZ, U.S.A.
Supporting discussion among water users and managers on the suitability of ASR to increase on-farm water availability by using cross-over analysis	<u>M.J. Nikkels^{abc}</u> , J.H.A Guillaume ^d , K.G. Zuurbier ^e , P.R. van Oel ^a , R.A. Nelson ^b , P.J.G.J. Hellegers ^a	^a Water Resources Management (WRM) group, Wageningen University, Wageningen, Netherlands, ^b School of Land and Food, University of Tasmania, Hobart, Australia, ^c Aequator Groen & Ruimte, Harderwijk, Netherlands, ^d Water & Development Research Group (WDRG), Aalto University, Finland, ^e KWR Watercycle Research Institute, Nieuwegein, Netherlands
Could the MAR be a main path to the pollution of aquifers? Investigations on the risk factors on the MAR of Geneva - Switzerland	G. de los Cobos* and S. Vargas**	* GESDEC-DGE/DETA, 12 quai du Rhône, 1205 Geneva, Switzerland, ** SECOE-LPEE – DGeau/DETA, av. Ste-Clotilde 23, CP78, 1211 Geneva 8, Switzerland
Processing drinking water by managed aquifer recharge in Tuusula region, Finland	Unto Tantt, MD	Tuusula Region Water Utility
Raw Water Quality and Pretreatment in Managed Aquifer Recharge for Drinking Water Production in Finland	P. Jokela ¹ , T. Eskola ² , T. Heinonen ³ , U. Tantt ⁴ , J. Tyrväinen ⁵ and A. Artimo ⁶	¹ Tavase Ltd., Kalevantie 2, FIN-33100 Tampere, FINLAND, ² Kymenlaakso Water Ltd., Malminkatu 16, FIN-48600 Kotka, FINLAND, ³ Tampere Region Central Wastewater Treatment Plant Ltd., Hatanpään valtatie 26, FIN-33100 Tampere, FINLAND, ⁴ Tuusula Region Water Utility, Kirkkotie 49, FIN-04310 Tuusula, FINLAND, ⁵ Jyväskylä Energy Ltd., P.O.Box 4, FIN-40101 Jyväskylä, FINLAND, ⁶ Turku Region Water Ltd., Maariankatu 1, FIN-20100 Turku, FINLAND
Remediating Clogging At The Flemington Managed Aquifer Recharge Project, Melbourne, Australia	Craig Benjamin Flavel	Australian Groundwater Technologies, Adelaide, South Australia, Australia
ASR in Barcelona: new operational regimes of aquifer recharge to deal with new scenarios	M. Hernández*, P. Camprovín*, J. Martín**, J. Castelló**, E. Custodio***	* Cetaqua, Water Technology Center. Carretera de Esplugues 75, Cornellà de Llobregat, 08940 Barcelona (Spain), ** Aigües de Barcelona, Empresa Metropolitana de Gestió del Cicle Integral de l'Aigua, S.A. Calle General Batet, 1-7, 08028 Barcelona, ***Universitat Politècnica de Catalunya, C/ Jordi Girona 31, 08034 Barcelona.

Maximizing Infiltration Rates by Removing Suspended Solids: Results of Demonstration Testing of Riverbed Filtration in Orange County, California.	Adam S. Hutchinson* and Greg D. Woodside	Orange County Water District, Fountain Valley, California, USA
Regulatory Scheme for Assessing the Feasibility of Proposed MAR Schemes	M. Sapiano ¹ , M. Schembri ¹ , F. Capone ² , M.E. Bonfanti ²	Sustainable Energy and Water Conseration Unit, MALTA (1), Scuola Superiore Sant' Anna, ITALY (2)
Quantifying Groundwater Travel Time Near Managed Recharge Operations Using ³⁵ S as an Intrinsic Tracer	Jordan F. Clark [*] , Stephanie H. Urióstegui [*] , Richard K. Bibby ^{**} , Bradley K. Esser ^{**} , and Gideon Tredoux ^{***}	[*] Department of Earth Science, University of California, Santa Barbara, CA, 93106, USA ^{**} Nuclear and Chemical Sciences Division, Lawrence Livermore National Laboratory, Livermore, CA 94551, USA ^{***} CSIR Natural Resources and the Environment (retired), Stellenbosch, South Africa
Computational modeling of aquifer system of Nazareno Etna, Oaxaca, México	L. A. García-García [*] , S. I. Belmonte-Jiménez ^{**} and E. A. Ojeda-Olivares ^{**}	[*] Consultant in computational modeling of aquifer systems, Porfirio Díaz 7, San Juan Guelavía, Tlacolula, Oaxaca, México ^{**} Interdisciplinary Research Center for Integrated Regional Development, Hornos 1003, Colonia Nochebuena, Santa Cruz, Xoxocotlán, Oaxaca, México
Bayesian analysis of the value of clogging investigations for recycled water ASR at Werribee, Melbourne, Australia	P. Dillon [*] , J. Vanderzalm ^{**} , M. Muthukaruppan ^{***} and M. Hudson ^{***}	[*] CSIRO Land and Water, Honorary Fellow, Adelaide, South Australia. pdillon500@gmail.com; ^{**} CSIRO Land and Water, PMB2, Glen Osmond, South Australia 5064. joanne.vanderzalm@csiro.au ^{***} City West Water, 1 McNab Avenue, Footscray VIC 3011, Australia. mmuthukaruppan@citywestwater.com.au; Matthew.Hudson@citywestwater.com.au
Feasibility of Using Treated Wastewater in Aquifer Recharge in Abu Dhabi Emirate, UAE	M. A. Dawoud	Water Resources Advisor, Environment Agency - Abu Dhabi
Transient flow modelling of an exploited aquifer in the city of Hanoi, Vietnam and simulation of managed aquifer recharge measures	J. Ringleb [*] , D. A. Via Rico [*] , C. Stefan [*] , V. N. Tran ^{**}	[*] Department of Hydrosiences, Technische Universität Dresden, Germany ^{**} Institute of Environmental Science and Engineering, Hanoi University of Civil Engineering, Vietnam

Operation of the surface recharge pond of Sant Vicenç dels Horts (Barcelona, Spain): Experiences and lessons learned	E. Queralt*, J. Massana*, V. Solà*, V. Colomer**, M. Hernández***, E. Custodio****	* Comunitat d'Usuaris d'Aigües del Delta del Llobregat. Avda. Verge de Montserrat 133 1 ^o 2 ^a , 08820 El Prat de Llobregat, Barcelona, SPAIN **Agència Catalana de l'Aigua, Provença 204-208, 08036 Barcelona, SPAIN ***Cetaqua, Centro Tecnológico del Agua, Crta. Esplugues 75, 08940 Cornellà de Llobregat, Barcelona, SPAIN ****Universitat Politècnica de Catalunya, C/ Jordi Girona 31, 08034 Barcelona, SPAIN
Investigating conditions for denitrification during controlled MAR experiments using reactive barrier technology	G. Gorski1*, S. Beganskas1, W. Weir1, J. Murray1, C.W. Saltikov2, A.T. Fisher1	1 Earth and Planetary Sciences Department, University of California, Santa Cruz, Santa Cruz, CA, USA 2 Department of Microbiology and Environmental Toxicology, University of California, Santa Cruz, Santa Cruz, CA, USA
Predictability of Water-table Changes Using Artificial Neural Networks and Support Vector Machine Modeling	A. Amaranto*, G. E. Meyer*, D. Solomatine**, G. C. Perez**, F. Muñoz Arriola*.	Department of Biological Systems Engineering, University of Lincoln-Nebraska, Lincoln, Nebraska, United States **UNESCO-IHE, Institute of Water Education, Westvest 7, 2611 AX Delft, Netherlands
Designing MAR as a management tool for catchment-scale water quality and quantity issues	R. J. Bower*, and B. Sinclair**	* Golder Associates (NZ) Limited, 214 Durham Street, Christchurch New Zealand 8011 (presenter), ** Golder Associates (NZ) Limited, 129 Hurstmere Road, Takapuna, Auckland 0622, New Zealand
Site characterisation for MAR infiltration basins using percolation testing and SEEP/W.	B. Sinclair*, C. Cockburn* and R. J. Bower**	* Golder Associates (NZ) Limited, 129 Hurstmere Road, Takapuna, Auckland 0622, New Zealand ** Golder Associates (NZ) Limited, 214 Durham Street, Christchurch New Zealand 8011 (presenter),
Inventory of managed aquifer recharge schemes in Latin America	J. P. Bonilla Valverde*, E. B. da Silva*, H. L. Pivaral Vivar*, C. Stefan* and A. Palma Nava**	* Department of Hydrosociences, Technische Universität Dresden, Germany ** Engineering Institute, National Autonomous University of Mexico
MAR for Irrigation in the Yellow River Floodplain Area of North China	Weiping Wang*, Qian Rong*, Shisong Qu *, Jinchao Li *	School of Resources and Environment, University of Jinan, 336 Nanxin Zhuang West Road, Jinan, China
Management of Aquifer Recharge in River Bank Filter: Study Case	E.Y. Mendoza-Cázares*, R.D. Hernández-López* and J.H. Aguilar-Damián**	* Subordinación de hidrología subterránea, Mexican Institute of Water, 8535 Paseo Cuauhnáhuac, Jiutepec, MEX ** Subdirección de Agua Potable, National Commission Of Water, 907 Paseo Tabasco, Tabasco, MEX
Meeting Water Management Objectives through Water Storage and Recovery in Arizona, USA	Sharon. B. Megdal*	* Water Resources Research Center, University of Arizona, 350 N. Campbell Ave., Tucson, AZ 85719 USA smegdal@email.arizona.edu

Mechanism and Laws of Clay particle clogging in sand column	X. YE, X. Du, X. Zhang and Y. Lu	College of Environment and Resources, Jilin University, 2519 Jiefang Road, Changchun, China
Updated ASCE\EWRI Guidelines on Managed Aquifer Recharge	Douglas Bartlett ^a ; Gordon McCurry, Ph.D., P.G. ^b ; Peter Barkmann ^c ; Zhuping Sheng, Ph.D., P.E., P.H. ^d ; Phyllis Stanin ^e ; and Dennis McGrane, P.E., CPG ^f ,	^a Clear Creek Associates, Scottsdale, AZ; ^b McCurry Hydrology, Boulder, CO; ^c Colorado Geological Survey, Denver, CO ^d Texas A&M Agrilife Research Center at El Paso, El Paso, TX; ^e Todd Engineers, Emeryville, CA; ^f McGrane Water Engineering LLC, Denver, CO
Potential of unsaturated soil zone models for assessment of managed aquifer recharge	J. Sallwey, J. Ringleb and C. Stefan	Department of Hydrosociences, Technische Universität Dresden, Germany
A project investigating health risks, distribution infrastructure, social acceptance and economic realities of stormwater use with managed aquifer recharge	Peter Dillon ¹ , Declan Page ¹ , Graeme Dandy ² , Aditi Mankad ³ , Grace Tjandraatmadja ¹ , Dennis Gonzalez ¹ , Karen Barry ¹ , Joanne Vanderzalm ¹ , Geoff Puzon ¹ , Anna Kaksonen ¹ , Elizabeth Schmidt ¹ , Andrea Walton ³ , Rosemary Leonard ³ , John Kandulu ³ , Darla Hatton-Macdonald ³ , Holger Maier ² , Arman Gangi ² , Baden Myers ⁴ , David Pezzaniti ⁴ , Bruce Naumann ⁵ , Neil Power ⁶	1. CSIRO Land and Water, Australia 2. University of Adelaide, Department of Civil and Environmental Engineering, Adelaide, South Australia 3. CSIRO Ecosystem Sciences, Australia, 4. SA Water Centre for Water Management and Reuse, University of South Australia, Mawson Lakes, South Australia 5. City of Salisbury, South Australia 6. Department for Environment, Water and Natural Resources, South Australian Government
Economic evaluation of subsurface and surface water banking options for drinking water supplies in arid rural Australia	K. Lawrie, R.S. Brodie, S. Marshall * and P. Dillon**	* Geoscience Australia, Canberra, ACT, Australia. Ken.Lawrie@ga.gov.au; Ross.Brodie2@ga.gov.au; Sarah.Marshall@ga.gov.au; ** CSIRO Land and Water, Honorary Fellow, Adelaide, South Australia. pdillon500@gmail.com
EVALUATING CURRENT AND HISTORICAL ASR SYSTEM PERFORMANCE IN FLORIDA	June E. Mirecki*, Don Ellison**, Mark B. McNeal ***, R. David G. Pyne****, Robert Verrastro*****	* US Army Corps of Engineers, Jacksonville FL ** Southwest Florida Water Management District, Brooksville FL *** ASRus LLC, Tampa FL **** ASR Systems LLC, Gainesville FL ***** South Florida Water Management District, West Palm Beach FL
Community driven MAR using a pilot to develop a Groundwater Replenishment Scheme, Poverty Bay, New Zealand	C. Houlbrooke* B. Sinclair* and R. J. Bower**	* Golder Associates (NZ) Limited, 129 Hurstmere Road, Takapuna, Auckland 0622, New Zealand (presenter), ** Golder Associates (NZ) Limited, 214 Durham Street, Christchurch New Zealand 8011
Integrated Modeling Provides Conjunctive-Use Analysis of Alternative Sources to Groundwater within the Pajaro Valley, California	R.T. Hanson*, Brian Lockwood**, Casey Meusel***, and S.E. Boyce****	*U.S. Geological Survey, rthanson@usgs.gov, San Diego, CA, USA (presenter) **Pajaro Valley Water Management Agency, lockwood@pvwater.org, Watsonville, CA, USA ***Pajaro Valley Water Management Agency, meusel@pvwater.org, Watsonville, CA, USA ****U.S. Geological Survey, seboyce@usgs.gov, San Diego, CA, USA
Comparison of economics of subsurface and surface storage of stormwater in City of Onkaparinga South Australia	J. James*, B. Hall*, R. Martin** and P. Dillon***	* City of Onkaparinga, South Australia JulJam@onkaparinga.sa.gov.au; BenHal@onkaparinga.sa.gov.au ** Aqueon Pty Ltd, GPO BOX 2446, Adelaide SA 5001, Australia russell.martin@aqueon.com.au *** CSIRO Land and Water, Honorary Fellow, Adelaide, South Australia, pdillon500@gmail.com

Seasonal Water Storage and Replenishment of a Fractured Granitic Aquifer Using ASR Wells	Mario R. Lluria and Gary G. Smal	HydroSystems, Inc., Phoenix, Arizona, 85044, U.S.A
Hydraulic and Modeling Aspects of Managed Aquifer Recharge in Arid Regions: Oman and Jordan	A. R. Kacimov*, A.Al-Maktoumi*, V. Zlotnik**, M.Al Raggad***, M. El-Rawy****	* Dept. of Soils, Water and Agricultural Engineering, Sultan Qaboos University, Oman anvar@squ.edu.om, ali4530@squ.edu.om ** Dept. of Earth and Atmospheric Sciences, University of Nebraska-Lincoln, USA vzlotnik1@unl.edu *** Water, Energy and Environment Center, The University of Jordan, mar_raggad@yahoo.com ****Dept. of Civil Engineering, Faculty of Engineering, Minia University, Minia 61111, Egypt
Problems of Artificial Recharge in Unconfined Aquifers – Examples from Germany and Syria	U. Tröger & M. Wannous	Technische Universität Berlin, Department of Water Engineering, Campus Elgouna, Fraunhoferstr. 32-36, FH 5-1, D - 10587 Berlin
Successful Implementation of Aquifer Storage Recovery	R. David G. Pyne	ASR Systems/ Gainesville, Florida USA
Artificial recharge systems applied in the Low Llobregat aquifer (Barcelona, Spain)	, V. Colomer**, M. Ondiviela**, J. Castelló**	* Comunitat d'Usuaris d'Aigües del Delta del Llobregat (CUADLL). Avda. Verge de Montserrat 133 1ª 2ª, 08820 El Prat de Llobregat, Barcelona, SPAIN **Agència Catalana de l'Aigua (ACA), Provença 204-208, 08036 Barcelona, SPAIN ***Aigües de Barcelona, Empresa Metropolitana de Gestió del Cicle Integral de l'Aigua S.A. (AB), General Batet 1-7, 08028, Barcelona, SPAIN ****Àrea Metropolitana de Barcelona (AMB), C/ 62, 16-18 Zona Franca, 08040 Barcelona, SPAIN *****Universitat Politècnica de Catalunya (UPC), C/ Jordi Girona 31, 08034 Barcelona, SPAIN
Using Daily Rainfall Data to Predict Design Parameters for DRWHS in Mexico - Abstract	Alma Chávez-Mejía, Marina Mautner, Fernando J. González Villarreal y Blanca Jiménez Cisneros	Engineering Institute, UNAM
Multi-criteria analysis for site selection for the reuse of reclaimed water: a case study in Mexico.	Inés Navarro, Elías Becerril, José Antonio Barrios, Alma Chávez, Catalina Maya, Soledad Lucario, Fernando González, and Blanca Jiménez	Engineering Institute, UNAM
Aquifer Recharge Experiences in Mexico City	J.M Lesser, and D. González	Lesser y Asociados S.A. de C.V.

Coupled surfaces water and groundwater model to managed artificial recharge for the valley of Santo Domingo	J.Wurl* and M. Imaz Lamdrid**	Universidad Autónoma de Baja California Sur, La paz (BCS), Pemex, Villahermosa Tabasco
Multiple barrier processes for indirect potable reuse: a lab-scale study for the Metropolitan Area of Mexico City.	Inés Navarro, Roxana Martínez, Soledad Lucario, Catalina Maya, Elías Becerril, José Antonio Barrios, and Blanca Jiménez	Engineering Institute, UNAM
MAR in san Luis Rio Colorado, Mexico	Martín Humberto Hernández	OOMAPAS
Mapping Potential Zones for artificial Recharge using a GIS	Luis E. Marín and Rosa Maria Leal	Unidad de Ciencias del Agua del Centro de Investigación Científico de Yucatán A.C.
Managed aquifer recharge project for Chihuahua, Mexico	Gonzalez F., Alonso C., Cruickshank C., Palma A., Mendoza A.	Engineering Institute, UNAM
Pilot test design for MAR projects in Northern of Mexico	Gonzalez F., Cruickshank C., Palma A., Mendoza A.	Engineering Institute, UNAM
Temperature measurements during Managed Aquifer Recharge for safeguarding subsurface travel times	C.Sprenger*, H.Schwarzmueller*, G.Lorenzen**, R. Gnirss**, G.Gruetzmacher**	* Kompetenzzentrum Wasser Berlin, Ciceronstr. 24, 10709 Berlin ** Berliner Wasserbetriebe, Neue Jüdenstraße 1, 10179 Berlin
Managed Aquifer Recharge and Aquifer Characterization Within The Complex Esker Deposits in Pälkäne, Finland	J. Mäkinen*, E. Kallio** and P. Jokela***	* Department of Geography and Geology, University of Turku, FIN-20014 Turku, FINLAND, ** Finnish Consulting Group Ltd., P.O.Box 950, FIN-00601 Helsinki, FINLAND *** Tavase Ltd., Kalevantie 2, FIN-33100 Tampere, FINLAND
Can village ponds be modified to mitigate floods and meet local irrigation demands?	Brindha K.1, Gangopadhyay P.1, P. Pavelic1*, Sharma, N.2, Verma C.L.2, Mishra V.K.2 and Kant L.3	1 International Water Management Institute (IWMI), Lao PDR / India 2 Central Soil Salinity Research Institute (CSSRI), Lucknow, India 3 Krishi Vigyan Kendra (KVK), Rampur, India
Co-managing disastrous floods and droughts through UTFI - an innovative MAR modality	Pavelic, P.1*, Brindha K.1, Gangopadhyay P.1, Smakhtin V.1, Sharma B.R.1, Hanjra M.A.1, Mutuwatte L.1, Eriyagama N.1, Nair, N.1, Chinnasamy, P.1, Reddy V. Ratna2, Rout S.K.2, Mishra V.K.3, Verma C.L.3, Sharma, N.3, Kant L.4, Govindan, M.5, Tuinhof, A.6, Ahmed, K.M.7 and Xie, H.8	1 International Water Management Institute (IWMI), Lao PDR / Sri Lanka / India / Nepal / South Africa 2 Livelihoods and Natural Resource Management Institute (LNRMI), Hyderabad, India 3 Central Soil Salinity Research Institute (CSSRI), Lucknow, India 4 Krishi Vigyan Kendra (KVK), Rampur, India 5 The Energy and Resources Institute (TERI), New Delhi, India 6 Acacia Water, Gouda, Netherlands 7 University of Dhaka, Dhaka, Bangladesh 8 International Food Policy Research Institute (IFPRI), Washington DC, USA
Aquifer Storage and Recovery Well Systems Factory Pump Injection Testing: Is This Necessary?	Nathan Nutter, P.E. (presenter)* and Gary Gin, R.G.**	*Carollo Engineers, Inc, 4600 E. Washington St., Suite 500, Phoenix, AZ 85034 **City of Phoenix, 400 W. Washington St., 8th Floor, Phoenix, AZ 85003

Increasing Storage Capacity for Urban Drainage Using MAR	D. Ife*	* AECOM Australia, Melbourne, Australia
Integrated web-based framework for planning and assessment of managed aquifer recharge	C. Stefan, A. Fatkhutdinov, J. Ringleb, J. Sallwey	Department of Hydrosociences, Technische Universität Dresden, Germany
Integrating suitable sites for managed aquifer recharge with drinking water demand in Costa Rica	J. P. Bonilla Valverde*, C. Stefan* and J. L. Arguedas Negrini**	* Department of Hydrosociences, Technische Universität Dresden, Germany ** Instituto Costarricense de Acueductos y Alcantarillados, Costa Rica
Web-GIS of global inventory of managed aquifer recharge applications	C. Stefan*, A.S. Strues*, N. Ansems**	* Department of Hydrosociences, Technische Universität Dresden, Germany ** International Groundwater Resources Assessment Centre (IGRAC), The Netherlands
Understanding the economic viability of recycled water for managed aquifer recharge (MAR)	J. Vanderzalm*, P. Dillon**, P. Pickering***, N. Arold***, S. Tapsuwan****, D. McFarlane**** and E. Bekele****	* CSIRO Land and Water, PMB2, Glen Osmond, South Australia 5064. joanne.vanderzalm@csiro.au ** CSIRO Land and Water, Honorary Fellow, Adelaide, South Australia. *** Marsden Jacob Associates, Melbourne and Sydney, Australia. **** CSIRO Land and Water, Wembley, Western Australia.
Urban stormwater ASR: a decade of operational experience	J. Vanderzalm*, B. Naumann**, D. Page*, P. Dillon***, K. Barry* and D. Gonzalez*	* CSIRO Land and Water, PMB2, Glen Osmond, South Australia 5064. joanne.vanderzalm@csiro.au ** Salisbury Water, Salisbury, South Australia. *** CSIRO Land and Water, Honorary Fellow, Adelaide, South Australia.
Water recharge reduction in the Alto Atoyac subbasin, Oaxaca, by climate change, and identification of recharge zones	E. A. Ojeda-Olivares*, S. I. Belmonte-Jiménez*, T. K. Takaro**, L. A. García-García*** and M. A. Ladrón de Guevara-Torres*	* Instituto Politécnico Nacional, Hornos 1003, Colonia Nochebuena, Santa Cruz, Xoxocotlán, Oaxaca, México. ** Simon Fraser University, Faculty of Health Sciences, Blusson Hall 8888 University Drive Burnaby, BC V5A 1S6 CANADA *** Consultant in computational modeling of aquifer systems, Porfirio Díaz 7, San Juan Guelavía, Tlacolula, Oaxaca, México
Prediction of Removal of Contaminants during Soil Passage	W. Z. Huaman*, S.K. Sharma*+ and M. Kennedy*	UNESCO-IHE Institute for Water Education, P. O. Box 3015, 2601 DA, Delft, The Netherlands. Email: s.sharma@unesco-ihc.org, Tel: +31 15 2151772, Fax: +31 15 2122921 + corresponding author
MAR Site Suitability using GIS and Modeling: Case studies in coastal California, US and Guanajuato, Mexico	T. A. Russo*, A. T. Fisher**, B. Lockwood***, and P. C. Larraurj****	* Department of Geosciences, Pennsylvania State University, University Park, PA USA (presenter) ** Department of Earth and Planetary Sciences, Unive

Quantification of recharge and assessment of region benefitted due to a check dam by numerical modelling	S. Parimala Renganayaki* and L. Elango**	* Department of Civil Engineering, UAE University, UAE ** Dept.of Geology, Anna University, Chennai, India
Aquifer storage recovery for water supply using handpumps in a saline aquifer, North of Chennai, Tamil Nadu, India	M. C. Raicy* and L. Elango*	* Department of Geology, Anna University, Sardar Patel Road, Chennai, India
Experiences of recharge ponds in Sant Andreu de la Barca small basin aquifer (Barcelona, Spain)	J. Queralt*, Josep Maria Planas* E. Custodio*	Comunitat d'Usuaris d'Aigües de la Cubeta de Sant Andreu de la Barca (CUACSA). C/ Major 22 1ªA, 08755 Castellbisbal, Barcelona, SPAIN ** Universitat Politècnica de Catalunya (UPC), C/ Jordi Girona 31, 08034 Barcelona, SPAIN
Drainage and re-injection system in Cobre Las Cruces mine. A mechanism for the preservation of the Niebla-Posadas aquifer	J.C. Baquero ^a , M ^a J. de los Reyes ^a , E. Custodio ^b , L. Scheiber ^{c, d} , and E. Vázquez-Suñe ^c	^a Water Technology Department of Cobre Las Cruces mine (CLC). Ctra. SE-3410, km 4,100. 41860 Gerena, Sevilla (Spain) ^b Department of Geo-Engineering, Technical University of Catalonia (UPC), Barcelona (Spain) ^c Institute of Environmental Assessment and Water Research, CSIC, Jordi Girona 18. 08034 Barcelona (Spain) ^d Migres Foundation. Avda. De María Luisa, s/n, 41013 Sevilla (Spain)
Artificial Recharge Pilot Testing in Chile: Lessons Learned, the Aconcagua Case	C. Ortiz*, N. Ramirez*, M. Lloria**, B. Ronda* and P Rengifo*.	* ARCADIS Chile, Antonio Varas 621 Providencia Santiago, Chile **Hydrosystems, Inc., USA
Methodology for Identification of aptitude of basin-scale aquifer artificial recharge areas	N. Ramirez*, C. Ortiz* and A. Palacios*	* ARCADIS, Antonio Varas 621 Providencia Santiago, Chile
Artificial Recharge of Aquifers as a Mitigation Measure in the Atacama Desert	C. Ortiz*, F. Varas*, M. Solari* and M. Lloria**	* ARCADIS Chile, Antonio Varas 621 Providencia Santiago, Chile ** Hydrosystems, Inc., USA
Soil Moisture Retention in Gradational Burn Severity: Arizona Ponderosa Pine Forests	Authors: William Woods (Presenting Author), Dr. Abraham Springer, Dr. Frances	O'Donnell, Northern Arizona University School of Earth Sciences and Environmental Sustainability, Building 12, 1 S. San Francisco St., Flagstaff, AZ, 86001
Integrated Approach for Artificial Recharge to Ground Water in an Infrastructure Project, Haryana, India	Dr. D.K. Chaddha* & S. K. Mohiddin**	*Principal Advisor, Global Hydrogeological Solutions, New Delhi, **Scientist, MoWR, RD & GR, New Delhi
Design and Testing of Recharge Wells in a Coastal Aquifer: Summary of a Field Scale Pilot Test	I. Negev* [^] , G. Rubin* and J. Guttman*	*Mekorot, National Water Company, Tel Aviv, Israel [^] corresponding author; email: nido@mekorot.co.il
Evaluating Impact of Artificial Groundwater Recharge Structures using Geo-spatial Techniques in Hard-rock Terrain of Rajasthan, India	S. Kumar ¹ *, B. K. Bhadra ² and R. Paliwal ²	1Krishi Vigyan Kendra, CAZRI, ICAR, Kukma, Bhuj-Kachchh, Gujarat (India). 2Regional Remote Sensing Center-West, NRSC, ISRO, Jodhpur, Rajasthan (India). *Email of presenter/ corresponding author: dhakadsk@gmail.com; Tel. +91 9427646730 (M)

Perth's Stage 1 Groundwater Replenishment Scheme	S. Higginson ¹ , B. Harris ² and B. Patterson ^{3,4}	1 Water Corporation, Perth, Western Australia 2 Department of Exploration Geophysics, Curtin University, Bentley, Western Australia 3 CSIRO Land and Water, Wembley, Western Australia 4 School of Chemistry and Biochemistry, University of Western Australia, Crawley, Western Australia
Infiltration Basin: an Alternative Recharge Method for El Paso's Managed Aquifer Recharge Program	Zhuping Sheng*, Abudu Shalamu*, Gretchen Miller**, Scott Reinert***, Ben Smith** and Olga Rodriguez*	* Texas AgriLife Research Center at El Paso, 1380 A&M Circle, El Paso, TX, USA ** Department of Civil Engineering, Texas A&M University, College Station, TX, USA *** El Paso Water Utilities, El Paso, TX, USA
Understanding Groundwater Recharge Dynamics of Anicuts in Hard Rock Areas in Rajasthan, India	Y. Dashora*, P. Dillon**, B. Maheshwari***, R. C. Purohit*, R. Dashora* and P. Soni****	*Maharana Pratap University of Agriculture and Technology, Udaipur, India **CSIRO Land & Water, Adelaide, Australia ***Western Sydney University, Penrith South, Australia ****Vidya Bhawan Krishi Vigyan Kendra, Udaipur, India e-Mail: b.maheshwari@westernsydney.edu.au
An Experiment on artificial recharge of groundwater — effect on Infiltration velocity by vegetation residue	Cheh-Shyh Ting * and Jiin-Liang Lin **	* Professor, Department of Civil Engineering and Dean, College of Engineering, National Pingtung University of Science and Technology, No.1 Hsueh Fu Rd. Neipu, Pingtung, 91207, Taiwan Presenting author Cheh-Shyh Ting: Email:; csting@mail.npust.edu.tw ** Master of Science, Department of Civil Engineering National Pingtung University of Science and Technology, Taiwan
Engaging Village Communities in Groundwater Monitoring and Management – Lessons from Rajasthan and Gujarat, India	B. Maheshwari ¹ , Y. Jadeja ² , R. Packham ¹ , Hakimuddin ³ , R. Purohit ⁴ , B. Thaker ² , V. Goradiya ² , S. Oza ⁵ , P. Soni ³ , Y. Dashora ⁴ , R. Dashora ³ , T Shah ⁶ , J. Gorsiya ² , P. Katara ⁴ , J. Ward ⁷ , R. Kookana ⁷ , P. Dillon ⁷ , S. Prathapar ⁶ , P. Chinnasamy ⁶ and M. Varua ¹	1Western Sydney University, Locked Bag 1797, Penrith NSW 2751, Australia 2Arid Communities and Technologies, Bhuj, Guj. 370001, India; 3Vidya Bhawan Krishi Vigyan Kendra, Udaipur, Raj. 313001, India; 4Maharana Pratap University of Agriculture and Technology, Udaipur, Raj. 313001, India 5Development Support Centre, Ahmedabad, Guj. 380058, India; 6International Water Management Institute, PO Box 2075, Colombo, Sri Lanka; 7CSIRO Land and Water Flagship, Glen Osmond, SA 5064, Australia e-Mail: b.maheshwari@westernsydney.edu.au
Modeling the impact of aquifer recharge, instream water savings, and canal lining on water resources in the Walla Walla Basin	Jacob Scherberg ¹ , Jason Keller ¹ , Steven Patten ² , Troy Baker ²	1 GeoSystems Analysis, Inc., 1412 13th St., Suite 200, Hood River, OR 97031, USA 2 Walla Walla Basin Watershed Council, 810 S. Main St., Milton-Freewater, Oregon, 97862, USA
Hydrogeological Feasibility of Aquifer Storage and Recovery in Northern Qatar	R.G.S. Ingram	Amec Foster Wheeler (Amec Black Cat), PO Box 24523, Doha, State of Qatar
The Cabo Aquifer System: Regional Groundwater Level Dynamics in Recife City (Brazil)	S. M. G. L. Montenegro*, A. L. R. de Paiva*, V. H. Coelho** and G. S. Fagundes**	* Department of Civil Engineering, Federal University of Pernambuco - UFPE, Av. Prof. Acadêmico Hélio Ramos s/n, Recife, Pernambuco, Brazil ** Civil Engineering Post-Graduate Program,

Managed Aquifer Recharge Opportunities in the Arid and Semiarid Cordilleran Region of the Americas	Robert G. Maliva*, William S. Manahan*, Juan Miguel Zuñiga Hernandez**, and Abraham Tacho**	* Schlumberger Water Services, 1567 Hayley Lane, Suite 202, Fort Myers, FL 33907, USA ** Schlumberger Water Services, Blvd. Fco. Eusebio Kino 309 Ote., Piso 3 Centro Edif. Torre Hermosillo, Col. Country Club C.P.
Groundwater Modeling to Support Water Resources Management in Clarkdale, Arizona, USA	L.J. Lacher*, J. Filardo**, G. Mabery**, and D. Von Gausig**	* Lacher Hydrological Consulting, 821 S. Meyer Ave., Tucson, Arizona, USA ** Town of Clarkdale, Clarkdale, Arizona, USA
Combination of Ozonation and Managed Aquifer Recharge for Advanced Wastewater Treatment and Reuse	U. Hübner*, M. Jekel** and J. E. Drewes*	* Chair of Urban Water Systems Engineering, Technical University of Munich, Am Colulombwall 8, 85748 Garching, Germany ** Chair of Water Quality Control, Technical University of Munich, Str. D. 17. Juni 135, 10623 Berlin, Germany
Sequential Managed Aquifer Recharge Technology (SMART) for Enhanced Removal of Trace Organic Chemicals	K. Hellauer*, U. Hübner*, J. Regnery** and J. E. Drewes*	* Chair of Urban Water Systems Engineering, Technical University of Munich, Am Colulombwall 8, 85748 Garching, Germany ** Advanced Water Technology Center, Colorado School of Mines, 1500 Illinois Street, Golden, CO 80401, USA
Surface runoff use for artificial recharge in fractured zones. Study Case: Ojos del Chuviscar, Mexico.	Miguel Angel González Núñez*, Humberto Silva Hidalgo*	Facultad de Ingeniería, Universidad Autónoma de Chihuahua Circuito No. 1, Nuevo Campus Universitario, Apdo. postal 1552, Chihuahua, Chih., México. C.P. 31240
An account of Artificial Groundwater Recharge in an Overexploited Block with special reference to Kottukal	Lal Thompson and Pritam Nair.P	State Groundwater Department, Thiruvananthapuram, Kerala, S India.
Identification discharge and recharge zones related to regional groundwater flow in northern part of Mexico and their impact in groundwater balance	Roberto Sención Aceves	National Water Comision, Mexico
Integrated Modeling Approach for Sustainable Water Resources Management: The Case of Mexico City Metropolitan Zone Aquifer	M. C. Hernández-Rendón*, E. Abdelshahid** and M. Schöniger***	*Consultant, Periférico Sur 7666-229, Rinconada Coapa, México, D.F., México. ** Technische Universität Berlin, Institute for Civil Engineering, Germany. *** Technische Universität Braunschweig, Leichtweiß Institute for Hydraulic and Water Resources Engineering, Germany.
Artificial Recharge of Groundwater: High Time to Rethink Our Approaches	Y. B. Sharma and K. B. Biswas	Y. B. Sharma is an Executive Engineer with Government of India, Ministry of Water Resources, River Development and Ganga Rejuvenation, Central Ground Water Board, GSI Post, Bandlaguda, Hyderabad, 500068 India (phone: +91-8331933847, fax: +91-24225211; e-mail: yogendrabusharma@gmail.com) K. B. Biswas is Chairman with Government of India, Ministry of Water Resources, River Development and Ganga Rejuvenation, Central Ground Water Board, Jamnagar House, Mansigh Road, New Delhi, 110011 India (phone: +91-11-23383561, fax: +91-11-23386743; e-mail: chmn-cgwb@nic.in)
Evaluation of aquifer-circulating water-curtain-insulated greenhouse system coupled with various MARS	Y. Kim*, K. Y. Lee*, S. H. Moon*, S. Y. Kim*, M. K. Ki*, S. Y. Cho*, J. H. Ahn** and J. H. Lee**	** Geologic Environment Division, Korea Institute of Geoscience and Mineral Resources, 124 Gwahang-no, Yuseong, Daejeon, ROK ** HNS engineering, Inc, 14 Dongnamro-9-gil, Songpa, Seoul, ROK

<p>Groundwater Quality Improvement due to Rainwater Harvesting in Coastal Aquifers</p>	<p>N. K. Gontia¹ P. G. Vadher² and Sharma Y B³</p>	<p>¹Principal and Dean, ²Associate Professor (Retd.) College of Agricultural Engineering and Technology Junagadh Agricultural University, Junagadh.- 362001 (Gujarat), India and ³ SE, CGWB, Hyderabad</p>
<p>Multiple barrier processes for indirect potable reuse: a lab-scale study for the Metropolitan Area of Mexico City.</p>	<p>Inés Navarro, Roxana Martínez, Soledad Lucario, Catalina Maya, Elías Becerril, José Antonio Barrios, and Blanca Jiménez</p>	<p>Engineering Institute, UNAM</p>