



ASCE AMERICAN SOCIETY
OF CIVIL ENGINEERS



ISMAR 10

INTERNATIONAL SYMPOSIUM ON
MANAGED AQUIFER RECHARGE



Madrid (Spain)
2019 May 20-24th



Themes and topics

1. MAR AND INTEGRATED WATER RESOURCES MANAGEMENT

MAR & rural. MAR for rural and irrigation water supplies
 Potential of MAR in long-term/distance water diversion schemes
 Establishing strategic groundwater reserves

2. MAR AS A KEY CLIMATE CHANGE ADAPTATION MEASURE

Innovation in harvesting and storing flood water
 Detention and infiltration systems
 Mitigation of climate change adverse impacts by means of MAR

3. NEW REGIONAL/LOCAL CASE STUDIES

MAR in developing countries

4. MAR MAPPING

Advanced methodologies for the selection of aquifers/sites
 MAR maps methods & new MAR maps

5. MAR AND ECONOMIC ASPECTS

Quantification of benefits and costs of MAR
 Circular economy and MAR (from cradle to cradle)
 Financing MAR for water and food security
 Water footprint from MAR activities. Green and blue waters
 Public Procurement of MAR Innovative Solutions

6. MAR to MAR-ket

MAR to complement groundwater demand management
 Industrial applications of MAR, agroindustry and mining
 Geothermal injection, MAR to source heat pumps...

7. MAR AND WATER REUSE

Water reclamation technologies for MAR
 Reclaimed water reuse via aquifers

8. SUSTAINABLE MAR TECHNICAL SOLUTIONS

Advances in design and construction criteria of MAR systems, BIM
 MAR Technical Solutions (SMARTS). Methods and strategies
 Alternative and innovative water recharge systems
 Operations and maintenance of MAR

9. MAR AND MANAGEMENT OF CLOGGING

10. MAR & REGULATIONS

MAR worldwide regulations
 Recharge policies, quality standards
 Institutional innovation for MAR. Water banks, groundwater user groups...
 Governance & Decision Support Systems (DSS)

11. MAR AND MONITORING

Water management and MAR innovative systems
 IT applications
 Normalization, standardization and interoperability advances

12. MAR AND MODELING

New developments and codes. Practical examples
 Water quality interaction codes & hydro-economic modeling

13. MAR AND ECOSYSTEMS

Riparian restoration
 Mitigating geological/geotechnical impacts using MAR, land subsidence...

14. MAR IN COASTAL AREAS AND ISLANDS

MAR for mitigating saltwater intrusion
 MAR with desalinated water

15. MAR AND ENVIRONMENTAL IMPACTS/RISKS

Risk and impacts assessment. Specific indicator systems for MAR
 MAR activities impact evaluation assessment & Benchmarking

16. MAR WATER QUALITY & RELATED HYDROGEOCHEMISTRY ASPECTS

MAR for drinking water quality improvement
 Techniques to break/recycle emergent compounds

17. MAR HEALTH ASPECTS

Removal and fate of microorganisms and organic compounds
 Fate of pathogens and pollutants of concern in MAR system
 Microbial ecology of MAR aquifer storage zones

18. URBAN MAR

Sustainable Urban Drainage systems (SUDS)
 Rainwater/stormwater harvesting

19. R&D PROJECTS ON MAR

Innovation and integration in MAR
 Recent and ongoing R&D projects (EC perspective)
 Research gaps

20. RESEARCH AND EDUCATION ON MAR

Training for MAR operators & future water managers
 Dissemination strategies and examples



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INTERNATIONAL SYMPOSIUM ON MANAGED AQUIFER RECHARGE

Madrid, 2019 May



10th International Symposium on Managed Aquifer Recharge

2ND CIRCULAR | 2018 June 15th

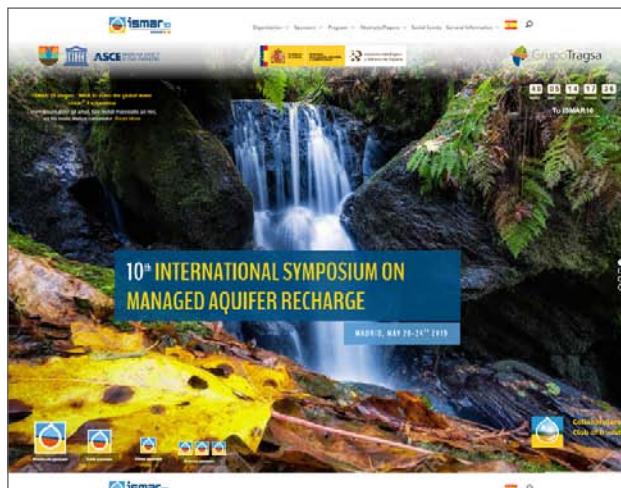


<http://ismar10.net>

May 20-24, 2019

<http://ismar10.net>

ISMAR 10 Official Website Already Available



Madrid (Spain), May 20-24, 2019

Organizers: Tragsa, Geological Survey of Spain (IGME)
Co-organizers: UNESCO, IAH, ASCE.

ISMAR 10 SLOGAN EXPLANATION

“MAR to solve the global water crisis”

During ISMAR 9 Symposium, attendants voted among several options to choose the ISMAR 10 slogan.
The basis of the winner proposal is explained now:

MAR is part of the palette of solutions to water shortage, water security, water quality decline, falling water tables and endangered groundwater dependent ecosystems.

Often it is the most economic, most benign, most resilient and most socially acceptable solution, but has not been considered out of lack of awareness, inadequate knowledge of aquifers, immature perception of risk and inadequate policies for integrated water management, including linking MAR with demand management.

MAR can achieve much towards solving the myriad of local water problems that collectively have been termed “the global water crisis”, if it is included among the options evaluated locally.

ISMAR10 strives to make transparent the effectiveness, benefits, constraints, limitations and applicability of MAR, together with its supporting scientific advances, to a wide variety of situations that have global relevance. No groundwater manager or consultant is complete without a comprehensive knowledge of MAR, and the fastest way to get up to date with international knowledge and connections is to attend ISMAR10.

This premium international symposium dedicated to MAR comes along only once in three years. Spain has been a hotbed of innovation and application in this field, with the fastest national rate of growth in MAR, so Madrid is the perfect destination for water problem solvers from around the world. You are warmly invited and will be truly welcome and vocationally recharged at ISMAR10.

Peter Dillon, Weiping Wang and Enrique Fernández-Escalante
(Co-chairs of IAH Commission on Managing Aquifer Recharge)
<http://www.ismar10.net/2018/04/22/noticia-1/>

EXPLICACIÓN DEL ESLOGAN ISMAR 10

“MAR para solucionar la crisis global del agua”

De todas las opciones y sugerencias expuestas en el congreso ISMAR 9, los congresistas eligieron este eslogan como el más realista y que resume el talante pretendido para el simposio ISMAR 10. Los proponentes del mismo ahora explican en qué se apoyó su propuesta.

La recarga gestionada de los acuíferos o simplemente “MAR” forma parte de una paleta de soluciones contra la escasez del agua que incrementa su seguridad, su mejora cualitativa y combate el descenso de los niveles freáticos que ponen en peligro a los ecosistemas hidro-dependientes.

Con frecuencia es la solución más económica, más benigna, más resiliente y de mayor aceptación social, pero no es tenida en cuenta por falta de concienciación, por un conocimiento insuficiente de los acuíferos, una percepción inmadura de los riesgos que entraña y una legislación inadecuada para la gestión integrada del agua, incluyendo el vínculo de la técnica MAR con la gestión de la demanda.

MAR puede tener una alta capacidad para solucionar problemas locales que en su colectividad han sido designados “la crisis global del agua”.

ISMAR 10 persigue que la efectividad de esta técnica, así como sus beneficios, desventajas, limitaciones y su aplicabilidad, adquieran transparencia. Para ello se apoya en los nuevos avances científicos y tecnológicos aplicables a una amplia variedad de situaciones, que pueden alcanzar una relevancia global. Ningún hidrogestor o consultor debería ignorar el potencial y el alcance de esta técnica.

La vía más rápida para actualizar los conocimientos y contactos a nivel internacional es asistir al congreso ISMAR 10. Este ya tradicional simposio sobre gestión del agua y recarga gestionada (o artificial) tiene lugar cada tres años. España ha sido un punto caliente para la innovación y la aplicación de esta técnica, con un destacable aumento de su aplicabilidad en las últimas décadas a nivel nacional. De este modo, Madrid es el destino perfecto para los técnicos, científicos y estudiantes encargados de aportar soluciones en materia de planificación y gestión hídrica de todo el mundo. Reciba Vd. la cálida invitación de la organización, será realmente bienvenido y “recargado” en conocimientos y vocación durante el ISMAR 10.



Peter Dillon, Weiping Wang y Enrique Fernández-Escalante
(Co-chairs of IAH Commission on Managing Aquifer Recharge)
<http://www.ismar10.net/2018/04/22/noticia-1/>

1ST Day Workshops and Short Courses¹

Call for proposals

As the tradition of ISMAR conferences, several pre- and post-seminars will be held in Madrid.

Official language: English. No simultaneous translation will be provided.

<http://www.ismar10.net/en/pre-and-post-conference-seminars/>

Workshops / Short Course Application

Those wishing to suggest and run workshops or short courses should respond to this call for expressions of interest and complete and submit a Workshops / Short Course Application by 31 July 2018 for consideration by the organising committee, with notification by 1 September 2018 (when the call for papers is coming out).

Templates: <http://www.ismar10.net/en/templates/>

- Call for expressions of interest in running workshops at ISMAR9.doc
- workshop application template for selected short-courses.doc

<http://www.ismar10.net/wp-content/uploads/docs/Call%20for%20expressions%>
<http://www.ismar10.net/wp-content/uploads/docs/workshop%20application%>

Please, fill up your application form and send before 2018 July 31th

info@ismar10.net / ismar10@tragsa.es

More details about the workshops procedure: info@ismar10.net



¹ **Workshops** are to discuss particular topics to facilitate international exchange of ideas where advances are particularly needed. **Short courses** are offered by experts to give efficient learning at introductory or advanced level to attendees, and attendance may require registration fee supplement.

Topics & Conveners

(Provisional)

There have been envisaged 20 sessions by the Sc/Tc Committee on the following topics:

1. **MAR and Integrated Water Resources Management.** MAR & rural. MAR for rural and irrigation water supplies Potential of MAR in long-term/distance water diversion schemes MAR in conjunctive use of surface water and groundwater Establishing strategic groundwater reserves. River Bank Filtration. CONVENERS: Dr. Sharon B. Megdal. University of Arizona, Tucson, USA. Prof. Jeff Camkin. Univ. of Western Australia-LNEC. Australia-Portugal.
2. **MAR as a key Climate Change adaptation measure.** Innovation in harvesting and storing flood water Detention and infiltration systems Mitigation of climate change adverse impacts by means of MAR. CONVENERS: Dr. Paul Pavelic. IWMI. Laos-Australia. Dr. Noureddine Gaaloul. INRGREF. Tunisia-France.
3. **Sustainable MAR in developing countries.** MAR in developing countries CONVENERS: Dr. Yan Zheng. Univ. of Science and Technology, China.
4. **MAR mapping.** Advanced methodologies for the selection of aquifers/sites MAR maps methods New MAR maps. CONVENERS: Dr. Arnaud Sterckx. IGRAC. The Netherlands-Belgium. Dr. Catalin Stefan. University of Dresden. Germany.
5. **MAR and economic aspects.** Quantification of benefits and costs of MAR Circular economy and MAR (from cradle to cradle) Financing MAR for water and food security Water footprint from MAR activities. Green and blue waters Public Procurement of MAR Innovative Solutions. CONVENERS: Dr. Andrew Ross. Australian National University. Australia. (TBC)
6. **MAR to MAR-k€t.** MAR to complement groundwater demand management MAR and agroindustry MAR and Mining Industrial applications of MAR Geothermal injection, MAR to source heat pumps... CONVENERS: Dr. Jon San Sebastián. Tragsatec. Spain (TBC)
7. **MAR and water reuse.** Water reclamation technologies for MAR Reclaimed water reuse via aquifers. CONVENERS: Dr. Christoph Sprenger. Berlin Kompetenz Wasser. Germany. Dr. Ido Negev. Mekorot Inc. Israel.
8. **Sustainable Managed aquifer Recharge Technical Solutions.** Advances in design and construction criteria of MAR systems, BIM MAR Technical Solutions (SMARTS). Methods and strategies Alternative and innovative water recharge systems Operations and maintenance of MAR. CONVENERS: Dr. David G. Pyne. ASR Systems. USA. Dr. Enrique Fernández Escalante. TRAGSA-IAH-MAR Comm. Spain.
9. **MAR and management of clogging.** CONVENERS: Dr. Jordan Clark. University of California, Santa Barbara. USA. Russell Martin. (TBC)
10. **MAR Regulations.** MAR regulations Recharge policies, quality standards Institutional innovation for MAR. Water banks, groundwater user groups... Governance Decision Support Systems (DSS). CONVENERS: Dr. Rudy Rossetto. Schola Superior Ingenieria Santa Anna, Pisa. Italy. Manuel Sapiano. (TBC)
11. **MAR and monitoring.** Water management and MAR innovative systems IT applications Normalization, standardization and interoperability advances. CONVENERS: Dr. Othman Almashaqbeh. Royal Scientific Society. Jordan. (TBC)
12. **MAR and modeling.** New developments and codes Practical examples Water quality interaction codes Hydro-economic modeling. CONVENERS: Dr. Shakeel Ahmed. CSIR-Nat. Geophysical Res. Inst. Saphpani. India. (TBC)
13. **MAR and ecosystems.** Riparian restoration Mitigating geological/geotechnical impacts using MAR, land subsidence, collapses... CONVENERS: Dr. Juan Grima Olmedo. IWRA-IGME. Spain. Dr. Suzana de Lima Montenegro. Pernambuco University. Brasil.

- 14. MAR in coastal areas and islands.** MAR for mitigating saltwater intrusion MAR with desalinated water.
CONVENERS: Dr. Kim Yongcheol. KIGAM. Korea. PC
- 15. MAR and environmental impacts/risks.** Risk and impacts assessment Specific indicator systems for MAR MAR activities impact evaluation assessment Benchmarking. CONVENERS: Dr. José Antonio de la Orden Gómez. IGME. Spain. (TBC)
- 16. MAR water quality and related hydrogeochemistry aspects.** MAR for drinking water quality. Improvement Techniques to break/recycle emergent compounds. CONVENERS: Dr. Pieter J. Stuyfzand. University of Delft-KWR. The Netherlands. Dr. Teresa Leitão. LNEC. Portugal.
- 17. MAR Health Aspects.** Removal and fate of microorganisms and organic compounds Fate of pathogens in the aquifer and fate of pollutants of concern in MAR system Microbial ecology of MAR aquifer storage zones. CONVENERS: Dr. Declan Page. CSIRO Land and Water. Australia. (TBC)
- 18. Urban MAR.** Sustainable Urban Drainage systems (SUDS) Rainwater/stormwater harvesting CONVENERS: Dr. Koen Zuurbier. KWR. The Netherlands. (TBC)
- 19. R&D projects on MAR.** Innovation and integration in MAR Recent and ongoing R&D projects (EC perspective) Research gaps. CONVENERS: Dr. Peter Dillon. Former CSIRO -IAH-MAR Comm. Australia. (TBC)
- 20. Education and Training on MAR.** Training for MAR operators Training for future water managers Dissemination strategies and examples. CONVENERS: Dr. Wang Weiping. Univ. of Jinan Shandong. IAH-MAR Comm. China. (TBC)

<http://www.ismar10.net/en/sessions-conveners/>

Please, check the 20 sessions planned and start thinking your best proposal and papers to take part in them.

Abstracts / Papers Templates

All the necessary templates are already available. Download link: <http://www.ismar10.net/en/templates/>

Templates



Links and Social Networks

IAH-MAR Managed
Aquifer Recharge



<https://recharge.iah.org/>



<http://www.dina-mar.es/>



<http://www.ismar9.org/Default.htm>

Social networks

<http://www.ismar10.net/>

<https://www.linkedin.com/in/ismartenmadrid-grupo-tragsa-772aab161>

Linked-in Group: [ISMARtenMadrid](#)

Twitter: [@ismar10madrid](#)

Milestones

SCHEDULE	DATES
First announcement	February 2, 2018
Second announcement. Workshops call	June 15, 2018
Call for abstracts and papers	September 1, 2018
Deadline for abstracts submission	November 1, 2018
Registration opens	January 15, 2019
Notification of acceptance of abstracts	March 1, 2019
Submission of final manuscript	March 31, 2019
Deadline for early-bird registration	April 1, 2019
Third circular	April 15, 2019
Notification of acceptance of papers	April 20, 2019
ISMAR 10 Symposium	20-24 May 2019

Contact: info@ismar10.net / lsmar10@tragsa.es



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