



ASCE AMERICAN SOCIETY OF CIVIL ENGINEERS



# ISMAR 10

INTERNATIONAL SYMPOSIUM ON  
MANAGED AQUIFER RECHARGE



Madrid (Spain)  
2019 May 20-24<sup>th</sup>



www.ismar10.net  
info@ismar10.net

## 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- $\kappa$ et

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 & LEX

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

