

Dear Ladies and Gentlemen, dear MAR family, good morning!

Please, have a look on these MAR pieces of news for 2023 October and November

## IAH MAR Commission Newsletter. 2023 October-November

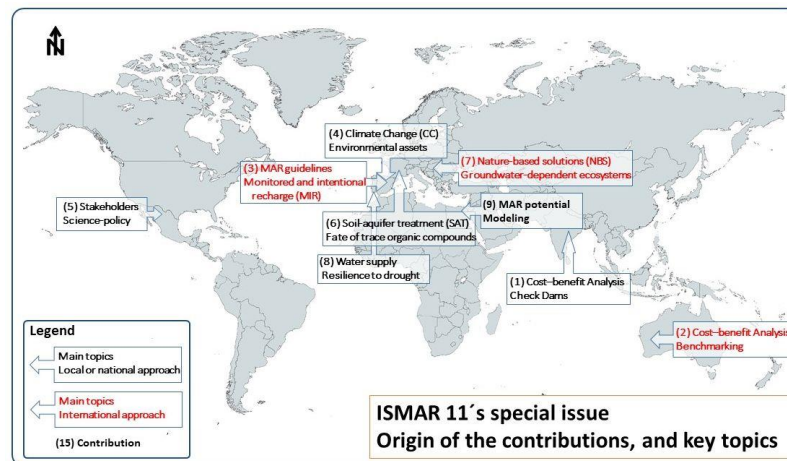
### INDEX:

- Managed Aquifer Recharge. A key to sustainability special issue has finished!
- Critical review. Agricultural managed aquifer recharge (Ag-MAR)—a method for sustainable groundwater management.
- No58 Serie comunicacional CRHIAM recarga de aguas subterráneas (Chile, in Spanish)
- Groundwater Governance in Pakistan: An Emerging Challenge.
- Beijing declaration on water after the IWRA 18 international conference, 2023, September
- ISMAR 12. The IAH-MAR's main conference is approaching
- 50th IAH congress. Cape Town, South Africa. September 18th to 22<sup>nd</sup>. Specific MAR session
- Western Groundwater Congress
- MEWAC-FEMAR Project-Workshop on Managed Aquifer Recharge & Riverbank Filtration
- Hybrid workshop. Nature-based solutions in the real world. Application, case studies and market perspectives.
- Second International Conference on "Water Resources Management and Sustainability: Solutions for Arid Regions", 26-28 February 2024, Dubai, United Arab Emirates
- AGU Fall 2023 meeting. Dec. 11 – 15, 2023. San Francisco
- The next BSMAR Symposium will take place in Arizona from April 3-6, 2024! Call for abstracts
- IWRA conference. 1st Islands Water Congress. Call for abstracts open
- Arizona WRRRC 2024 Annual Conference
- IAH 2024 Conference. Davos, Switzerland
- Workshop: Groundwater Monitoring in the context of Climate Change
- CIS Madrid workshop and Plenary (October 9-11)
- Integrating Surface Water Management and Managed Aquifer Recharge: Case Study from a USACE-OCWD Partnership
- 2023 Flood-MAR Forum on Nov. 7-8
- Lessons Learned in Stormwater Capture and Groundwater Recharge in 2022-2023
- GRA has organized the San Joaquin Valley branch meeting
- Webinar on transboundary groundwater in America (in Spanish)
- River Basin Management Plan (RBMP) project
- Benchmark MAR in Europe. MARWAL project has closed their survey, but welcomes future inputs
- MAR2protect project
- Exciting news from San Bernardino Valley, California
- Position for MAR work at Granada University (Spain) (in Spanish)
- MAR news from the US
- Still more MAR news. Now from California
- Huarpe daily newspaper. Crisis hídrica en San Juan: proponen reutilizar aguas grises para recargar los acuíferos (in Spanish)
- Still facing terminological concerns on MAR
- Changes in the MAR Mexican Law
- Spanish Groundwater Action Plan recently published. Unfortunately MAR has been considered very scarcely
- MAR and Water harvesting in Huaytara, Peru
- More information on MAR from Pakistan . Rooftop rain-harvesting for MAR
- LunchMAR | FloodMAR Implementation at Terranova Ranch (Oct 2023)
- El Carracillo MAR system. Castile and Leon, Spain. 3rd stage (in Spanish)
- MARSOL project website will close shortly
- Whatsapp group on Aquifer Recharge Management
- Previous IAH-MAR Newsletters
- IAH-MAR Commission on Twitter
- IAH-MAR Commission's sister Web sites
- IAH MAR Commission Forum

## PUBLICATIONS ABOUT MAR

### Managed Aquifer Recharge. A key to sustainability special issue has finished!

Selected papers on MAR, specially presented at ISMAR 11, are published in this Special Issue of the open-access Journal WATER. Ten papers have been gathered. The last one is editorial, and includes a summary of each paper and statistical treatment of the data for the last four ISMAR's special issues.



So, the **ISMAR 11 special issue is already formally closed**. Thank you very much to all the contributing authors, and the editorial team. It is an outstanding collection ready for the community!

[https://www.mdpi.com/journal/water/special\\_issues/Aquifer\\_Recharge](https://www.mdpi.com/journal/water/special_issues/Aquifer_Recharge).

IAH-MAR co-chairs start exploring another editorial for the future ISMAR 12's special issue, after intense disagreements with MDPI

## NEW MAR-RELATED PUBLICATIONS

### **Critical review. Agricultural managed aquifer recharge (Ag-MAR)—a method for sustainable groundwater management.**

More than two billion people and 40% of global agricultural production depend upon unsustainable groundwater extraction. Managed aquifer recharge (MAR), the practice of strategically recharging water to replenish subsurface storage, It is an important subbasin scale practice for managing groundwater more sustainably... Read more...



Link:

<https://www.tandfonline.com/doi/epdf/10.1080/10643389.2022.2050160?needAccess=true>

### **No58 Serie comunicacional CRHIAM recarga de aguas subterráneas (Chile, in Spanish)**

The "CRHIAM Communication Series" aims to promote topics from an interdisciplinary point of view, in order to disseminating them to public and private public, decision-makers, and the general community... read more...



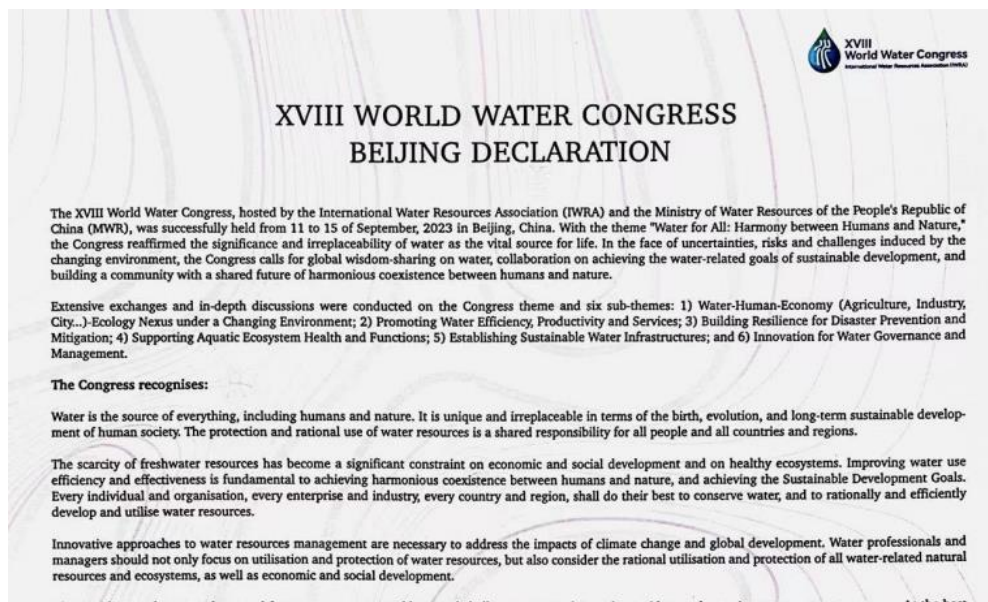
Download: [https://www.crhiam.cl/wp-content/uploads/2023/11/No58\\_Serie-comunicacional-CRHIAM-recarga-de-aguas-subterranneas.pdf](https://www.crhiam.cl/wp-content/uploads/2023/11/No58_Serie-comunicacional-CRHIAM-recarga-de-aguas-subterranneas.pdf)

## Groundwater Governance in Pakistan: An Emerging Challenge.

Zakir-Hassan, G., et al (2023). Groundwater Governance in Pakistan: An Emerging Challenge. In: M. Ahmad (Editor), Water Policy in Pakistan: Issues and Options. Springer International Publishing, Cham, pp. 143-180. [https://doi.org/10.1007/978-3-031-36131-9\\_6](https://doi.org/10.1007/978-3-031-36131-9_6)

## Beijing declaration on water after the IWRA 18 international conference, 2023, September

After the IWRA 18 int conference in Sept, the Beijing declaration has been signed and published. Not exactly 'more of the same'. It calls my attention paragraph 8. Good step.

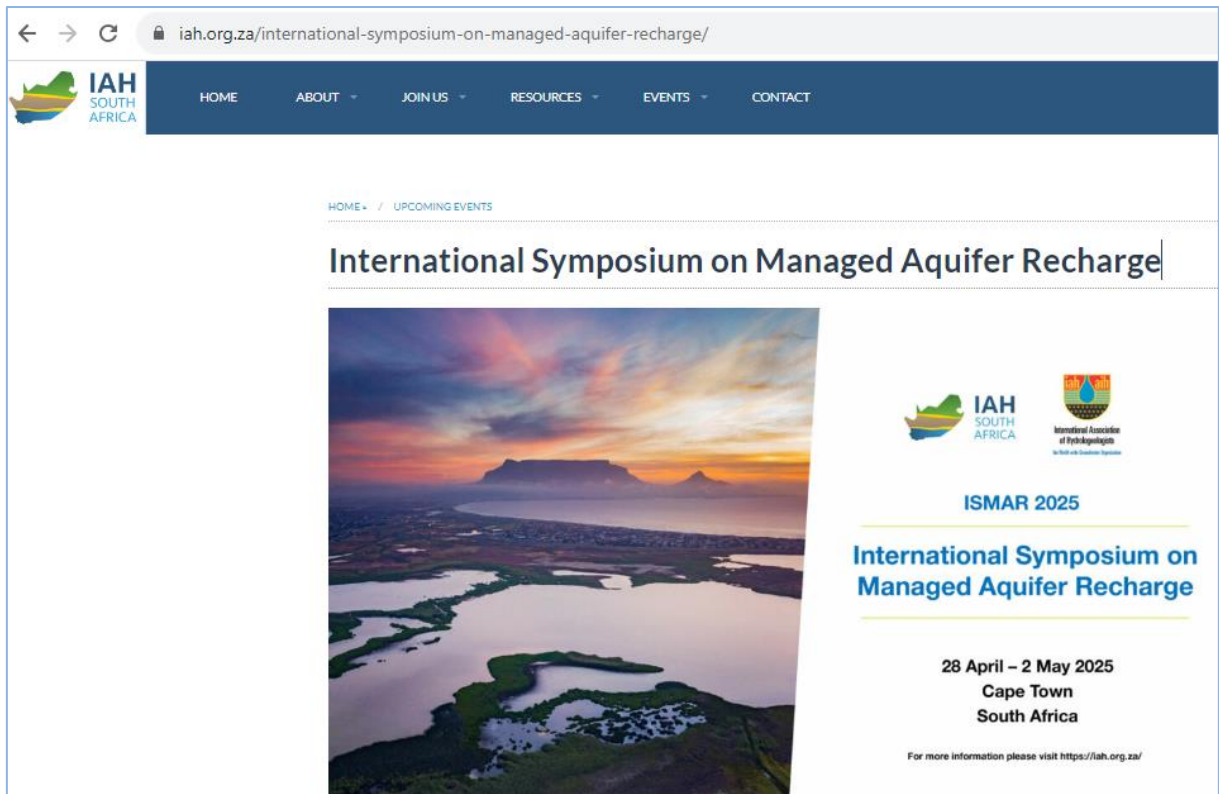


<https://iwra.us9.list-manage.com/track/click?u=4aa69bf16ae24a85c3dd8a26a&id=9098a49b47&e=24c577fb92>

## MAR AND MAR-RELATED CONFERENCES AND SEMINARS

### ISMAR 12. The IAH-MAR's main conference is approaching

There is a section of the IAH South Africa website with some information on the International Symposium on Managed Aquifer Recharge that will be held in South Africa in April-May 2025.



Take a look at it and start preparing for the largest event of the MAR community!

More info: <https://iah.org.za/international-symposium-on-managed-aquifer-recharge/>

## 50<sup>th</sup> IAH congress. Cape Town, South Africa. September 18<sup>th</sup> to 22<sup>nd</sup> specific MAR session

Under the title "Groundwater: A Matter of Scale" the next IAH Congress will take place in Cape Town, South Africa, in September, 18-22.



Daniela Benedicto and Kevin Pietersen have chaired the MAR session, with very positive results. Pg. 33 and 34 in the program: <https://iah2023.org.za/scientific-programme/>

n total 16 abstracts on MAR were received. Access to the abstracts collection: [https://recharge.iah.org/files/2023/10/50IAH-MAR-Abstracts\\_CapeTown2023.pdf](https://recharge.iah.org/files/2023/10/50IAH-MAR-Abstracts_CapeTown2023.pdf)

We still expect the summary to be published in the next IAH-MAR newsletter.

More info: <https://iah2023.org.za/>

## Western Groundwater Congress

Groundwater Resources Association (GRA) is proud to present the 2023 Western Groundwater Congress: *the Future of Groundwater is YOU*. In 2022, GRA took a look back over its 30-year history for our 30th Anniversary. We explored how GRA has been built for Change and how it has become a fundamental organization to the groundwater industry over its 30-year history...



More info: <https://www.grac.org/events/514/>

## MEWAC-FEMAR Project-Workshop on Managed Aquifer Recharge & Riverbank Filtration

WDC – JUST, Irbid, Jordan, 13 -14 November 2023.

Agenda:

Jordan University of Science and Technology



**MEWAC-FEMAR Project-Workshop on Managed Aquifer Recharge & Riverbank Filtration**

WDC – JUST, Irbid, Jordan  
13-14 November 2023

**Monday – November, 13**

DAY 1	
Location: Water Diplomacy Center (WDC) – Blue Peace Hall	
09:00 – 10:00 am	Registration
10:00 – 10:30 am	Opening, introduction and objectives of workshop – JUST, TUD & HTWD
10:30 – 11:00 am	Challenges of Water Resources in Jordan and needs for Aquifer recharge, Dr. Majed Abu Zeug
11:00 – 11:15 am	Coffee break
11:15 – 11:30 pm	Riverbank infiltration experiments in Jordan – Dr. Ziad Al Ghazzawi, JUST
11:30 – 12:30	Introduction to MAR/RBF and investigation of clogging – Dr. C. Suredha, IITW Dresden
12:30 – 1:30 pm	Continued
1:00 – 2:00 pm	Lunch Break
2:00 – 3:00 pm	Design of technical elements for MAR/RBF – Dr. C. Leibenath, UBW Vogtland
3:00 – 3:15 pm	Coffee break
3:15 – 4:00 pm	Introduction and overview of numerical modelling for MAR schemes – Dr. T. Reimann, TU Dresden

**MEWAC**  
Middle East Regional Water Research Cooperation Program

**Federal Ministry of Education and Research**

**Tuesday – November, 14**

DAY 2	
Location: Water Diplomacy Center (WDC) – Blue Peace Hall	
9:00 – 9:45 am	Water quality aspects – Dr. C. Sanding, IITW Dresden
09:45 – 10:30	Numerical modelling of MAR schemes – I (flow modeling) – Dr. T. Reimann, TU Dresden
10:30 – 10:45 am	Coffee Break
10:45 – 12:15 pm	Numerical modelling of MAR schemes – I (flow modeling, <i>cont.</i> ) – Dr. T. Reimann, TU Dresden
12:15 – 1:00 pm	Lunch Break
1:00 – 2:30 pm	Numerical modelling of MAR schemes – II (solute transport) – Dr. T. Reimann, TU Dresden
2:30 – 2:45 pm	Coffee break
2:45 – 3:30 pm	Application of groundwater flow modeling – Example of Dresden city – Dr. C. Leibenath, UBW Vogtland
3:30 – 4:00 pm	Open discussion & closing

**MEWAC**  
Middle East Regional Water Research Cooperation Program

**Federal Ministry of Education and Research**

Water Diplomacy Center  
Jordan University of Science and Technology  
P.O. Box 5030, Irbid 22110, Jordan  
Tel.: +962-2-7201000 Ext. 22372



Thank you Cornelius Shandu for reporting.

## Hybrid workshop. Nature-based solutions in the real world. Application, case studies and market perspectives.

The workshop, an outcome of the INTERREG Marittimo IT –Maritime FR Res\_EAU project, and organised within the **WAT-CHANGE Seasonal School**: <https://www.santannapisa.it/it/seasonalschool/wat-change-water-ecosystem-climate-change> aims at introducing the participants to the new growing area of **nature-based solutions** providing water-related ecosystem services.

Time	Speaker	Presentation title	Affiliation
13:50		<i>Registration</i>	
14:10	Rudy Rossetto	<i>Welcome and workshop introduction</i>	Scuola Superiore Sant'Anna
		<i>Session 1 - chairman: Luca Sebastiani</i>	
14:15	Fabio Masi	<i>Nature-based Solutions for Application of Circular Economy strategies</i>	IRIDRA srl
14:40	Aurore Malapert	<i>Wolong lake restoration project : presentation and lessons learnt (France)</i>	BIOTOPE
14:55	Iqra Sarfraz	<i>A pilot study on living green walls for grey water treatment in the public school of Ferla (Italy)</i>	Scuola Superiore Sant'Anna
15:10	Julia Yap	<i>Nature-Based Solutions as the new asset class: market and business trends</i>	ERM ITALIA
15:30	Riccardo Benifei	<i>Design of retrofitting solutions by means of Sustainable Drainage Systems (SuDS) in Venturina Terme (Italy)</i>	Consorzio Bonifica 5 Toscana Costa
15:45	Elfithri Rahmah	<i>UNESCO's Ecohydrology Approach within the IHP-IX (2022-2029)</i>	UNESCO Intergovernmental Hydrological Programme
16:05		<i>First Round of Discussion</i>	
16:20		<i>Coffe break</i>	
		<i>Session 2 - chairman: Rudy Rossetto</i>	
17:00	Alessandro Fabbrizzi	<i>The INTERREG ReS_EAU project to reduce flood risk by means of nature-based solutions and resilient and aware communities</i>	Consorzio Bonifica 5 Toscana Costa
17:15	Eleni Koutsovili	<i>Participatory approach application for planning Nature-Based Solutions in a flood vulnerable landscape in Greece</i>	Scuola Superiore Sant'Anna
17:30	Marco Masi	<i>Water scarcity and fight against climate change</i>	Regione Toscana
17:45	Nicola Del Seppia	<i>The EU project Phusicos "according to nature". Implementation of rural NBS.</i>	Autorità di Bacino Distrettuale dell'Appennino Settentrionale
18:00	Ataollah Joodavi	<i>Does old concrete grid pavers still work? A case study from San Giuliano Terme (Italy)</i>	Scuola Superiore Sant'Anna
18:15		<i>Second round of discussion</i>	
18:45		<i>Workshop conclusions</i>	

The organizers will provide a summary for the next newsletter.




**Hybrid WORKSHOP**

**Nature-based solutions in the real world.**  
Application, case studies and market perspectives.

While climate change is posing at risk traditional water resources management, there is the urgent need to devise low-energy and low-impact solutions to adapt the environment, societies and economies to this threat.

The workshop, an outcome of the INTERREG Marittimo IT – Marittimo FR Res\_EAU project, and organised within the WAT-CHANGE Seasonal School (<https://www.santannapia.it/it/seasonalschool/wat-change-water-ecosystem-climate-change>), aims at introducing the participants to the new growing area of nature-based solutions providing water-related ecosystem services.


In particular, speakers will deal with nature-based solutions for water supply, treatment of polluted water, and flood risk mitigation such as managed aquifer recharge, river restoration, constructed wetlands, sustainable drainage systems, and remediation of contaminated sites using phytoremediation techniques.



The workshop will allow showcasing technical solutions, along with the market and the regulatory perspective and discussing the state of the application of nature-based solutions in the real world.














Thank you Rudy Rossetto for reporting.

## Second International Conference on “Water Resources Management and Sustainability: Solutions for Arid Regions”, 26-28 February 2024, Dubai, United Arab Emirates

The conference includes a sub-theme entitled: Advanced Technologies in Water Resources Management (*Large Scale Water Management, ASR, MAR*)

UAEU
ABOUT PROGRAM CALL FOR ABSTRACTS REGISTER AWARDS ACCOMMODATION INFO CONTACT



**Call For Abstracts**

Authors are invited to submit their abstracts/full-length papers in the main themes or other related sub-themes of the conference. Authors are required to indicate their preference for either oral or poster presentation. The Scientific Committee, however, reserves the right to make the final decision on the type of presentation. Abstracts must be written in Times New Roman, font size will be 12, single-line spaced, left aligned. Abstracts must contain title, name, affiliation, country, mailing address, email address of all authors, and designation of contact author.

Submission deadline has expired. Contact organizers for more info at: <https://conferences.uaeu.ac.ae/warms2024/en/index.shtml>



## AGU Fall 2023 meeting. Dec. 11 – 15, 2023. San Francisco

We would like to invite you to submit an abstract to the AGU Fall 2023 meeting session H040. Climate proofing our water supply through upscaling managed aquifer recharge. The AGU Fall 2023 meeting will take place between Dec. 11 – 15, 2023 in San Francisco in person and on line anywhere. Abstract is due by Aug. 1, 2023, and the link to submit is: <https://agu.confex.com/agu/fm23/prelim.cgi/Session/185164>



Session H040 is focussed on Managed Aquifer Recharge (MAR).

Thank you Rudy Rossetto for reporting.

## The next BSMAR Symposium will take place in Arizona from April 3-6, 2024! Call for abstracts

BSMAR 18 Symposium will take place in Arizona from April 3-6, 2024! This is your chance to showcase MAR research, connect with experts, and learn about groundwater innovations. The abstract submission deadline has been extended to November 22, 2023.



Submit your abstract today and be a part of the symposium! <https://lnkd.in/etyA-C-q>

More info: <https://ahssymposium.org/bsmar/abstracts/>

Thank you Adam Hutchinson for reporting

## IWRA conference. 1<sup>st</sup> Islands Water Congress. Call for abstracts open

The **deadline to submit your proposals** for the call for abstracts for IWRA's 1st Islands Water Congress, hosted by the Faroese Geological Survey (Jarðfeingi), is **less than two weeks away**.



INTERNATIONAL WATER RESOURCES ASSOCIATION'S  
1<sup>st</sup> ISLANDS WATER CONGRESS  
FAROE ISLANDS - SEPTEMBER 4-6, 2024

Facebook Instagram @IslandsWaterCongress

# CALL FOR PAPERS

## IWRA's 1<sup>st</sup> ISLANDS WATER CONGRESS

Hosted by the Faroese Geological Survey (Jarðfeingi)

**SUBMISSION DEADLINE: 30<sup>th</sup> NOVEMBER 2023**

### CONGRESS THEME

FRESHWATER AND ISLANDS: ADMINISTRATION, COLLABORATION, AND INNOVATION

1. Administration of Freshwater on Islands	2. Collaboration in the Administration of Freshwater on Islands	3. Innovation in the Administration of Freshwater on Islands
--	---	--

QR CODE  
LEARN MORE

- Explore freshwater administration, collaboration, and innovation on islands
- Opportunity to contribute to global discussions on island-specific freshwater challenges
- Selected papers may be published in *Water International* and the *Island Studies Journal*

www.islandswatercongress.org

International Water Resources Association

JARÐFEINGI  
Faroese Geological Survey

Submissions are open until 30<sup>th</sup> November, 2023. so don't miss this opportunity to share your insights, research, and expertise with a global audience!

MAR abstracts may be accommodated in several sessions.

For any questions or concerns, please reach out to [islands.congress@iwra.org](mailto:islands.congress@iwra.org).

## Arizona WRRRC 2024 Annual Conference

The WRRRC 2024 Annual Conference, *Implementing Water Solutions Through Partnerships*, will be held March 12–13 at the University of Arizona Student Union. This year's conference program will focus on *how* solutions to Arizona's water resources concerns are being realized...

News & Events - Publications - Programs - Resources - Opportunities - About - Directory

News & Events > 2024 Conference

[CALL FOR ABSTRACTS](#) [CALL FOR STUDENT POSTERS](#) [BECOME A SPONSOR](#)



**WRRC 2024  
Annual Conference**

March 12 – 13, 2024  
University of Arizona  
Student Union Grand Ballroom



**IMPLEMENTING  
WATER  
SOLUTIONS  
THROUGH  
PARTNERSHIPS**

The WRRC 2024 Annual Conference, *Implementing Water Solutions Through Partnerships*, will be held March 12–13 at the University of Arizona Student Union. This year's conference program will focus on *how* solutions to Arizona's water resources concerns are being realized. Throughout the state and region, many in our communities are hard at work implementing solutions to a wide range of water challenges.

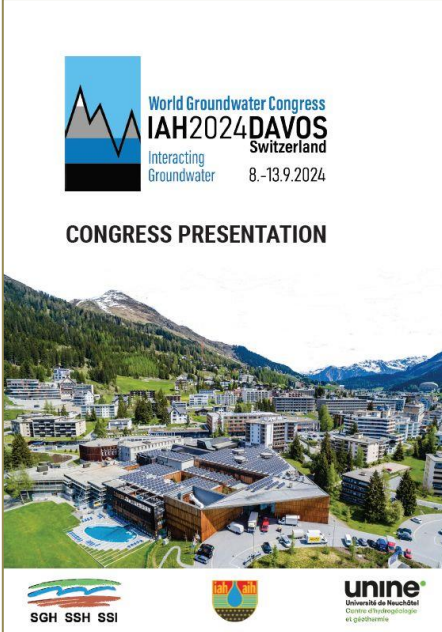
More info: <https://wrrc.arizona.edu/conference/2024>

## IAH 2024 Conference. Davos, Switzerland

The IAH 2024 conference will take place in Davos, 2024, September 8-13<sup>th</sup>.


The IAH-MAR Commission co-chairs have already proposed a specific session on MAR. We hope organizers will grant it soon, anyway, they ask over 25 abstracts to hold a session. So, please, consider submitting your abstract as a meeting point of *MARers* before ISMAR 12.


More information will come soon...



World Groundwater Congress  
**IAH2024 DAVOS**  
Switzerland  
Interacting Groundwater 8.-13.9.2024

**CONGRESS PRESENTATION**



SGH SSH SSI  unine  
Université de Neuchâtel  
Centre d'hydrogéologie  
et géochimie

More info: <https://www.iah2024davos.org/>

## Workshop: Groundwater Monitoring in the context of Climate Change

Date: 9th and 10th October 2023, Museo Geominero, Madrid.

At least 5 MAR presentations during the CIS workshop and plenary hold in Madrid Oct 9-11. We need the CIS group to promote MAR in Europe, and we have done our best to get it! Thanks to Sara, Caterina, Pilar, Enric, David Pulido, and of course, Manuel Sapiano (CIS co-chair and marer)..., for spreading the MAR message!

44 <sup>th</sup> CIS-GROUNDWATER WORKING GROUP MEETING				
hosted by Spain				
10-11 October 2023 in Madrid				
DAY 1, Tuesday 10 October 2023				
	length			
13:00 - 14:00		Registration		
14:00 - 14:00				
14:00 - 14:20	00:20	1. Official Opening Representative from Spain (host) European Commission		Teodoro Estrela Monreal. Water Director. Ministry for the Ecologic Transition and the Demographic Challenge  José Antonio Fernández Merodo. Scientific Deputy Director. IGME  DG-ENV.C1
14:20 - 14:35	00:15	2. Introduction to the Meeting Introduction, approval of agenda, approval of the minutes from the previous meeting.	Documents: <i>agenda, draft minutes of previous meeting</i>	Co-Chairs
14:35 - 15:05	00:30	3. Presentation of relevant EC activities since the last meeting of WG GW Questions/Discussion	Slides	Isaac Ojea Jimenez
15:05 - 15:25	00:20	3.1 Current state of the GWD Annexes review Questions/Discussion	Slides	Isaac Ojea Jimenez
15:25 - 16:00	00:35	Break		
		4. Working Group Activities (1 <sup>st</sup> part)		
16:00 - 16:30	00:30	4.1 Voluntary GW Watch list	Slides	Benjamin Lopez Rüdiger Wolter
16:30 - 16:45	00:15	Questions and discussion		All
16:45 - 17:00	00:15	Closure of the first day		Co-Chairs

## CIS Madrid workshop and Plenary (October 9-11)

Recently the Common Implementation Strategy (CIS) group have shared among experts the draft of the imminent Managed Aquifer Recharge (MAR) guidelines document for Europe.

The IAH MAR Commission co-chairs and other members have provided some inputs, and the CIS group are considering them.

During the Madrid workshop and Plenary (October 9-11) hold in IGME's headquarters, coordinated by @Isaac Ojea, @Johannes Graft, and @Manuel Sapiano, and Javier Sánchez, some of these topics (proceeding from @marsolut project) have been discussed:

- Improve the definition of the MAR schemes
- Upgrade the technical classification of MAR typologies

- Reference to the Monitored and Intentional Recharge (MIR) concept
- MAR and artificial recharge term aligned with the WFD's text
- Positive impact of MAR on polluted aquifers
- Include the social aspects of MAR, e.g. Co-managed aquifer recharge (Co-MAR)
- Include additional references

Some policy recommendations have been proposed, although the legislative side of the draft is really strong.

During the plenary, a IAH-MAR representative, Enrique F Escalante, author of these newsletters, had a chance to expose MAR cases, examples of climate change combat from the aquifers, indicators, and monitoring. As main conclusion, the speaker posed that MAR is an option today, but in about a 15 years horizon, it will be a necessity, and not an option any longer.



The upgraded draft will be submitted for consultancy in the next months. Your participation will be welcome...

[https://www.linkedin.com/posts/enrique-fern%C3%A1ndez-escalante-23235623\\_groundwater-activity-7118687039947964416-B3an?utm\\_source=share&utm\\_medium=member\\_desktop](https://www.linkedin.com/posts/enrique-fern%C3%A1ndez-escalante-23235623_groundwater-activity-7118687039947964416-B3an?utm_source=share&utm_medium=member_desktop)

## SEMINARS AND WEBINARS

---

### RECENT WEBINARS ON MAR.

**Integrating Surface Water Management and Managed Aquifer Recharge: Case Study from a USACE-OCWD Partnership**



ABOUT GWPC   EVENTS   RESOURCES   NEWS   TOPICS   DATA   MEMBERS

# WEBINAR – INTEGRATING SURFACE WATER MANAGEMENT AND MANAGED AQUIFER RECHARGE: CASE STUDY FROM A USACE-OCWD PARTNERSHIP

[Home](#) / [Events](#) / [Webinar – Integrating Surface Water Management and Managed Aquifer Recharge: Case Study from a USACE-OCWD Partnership](#)

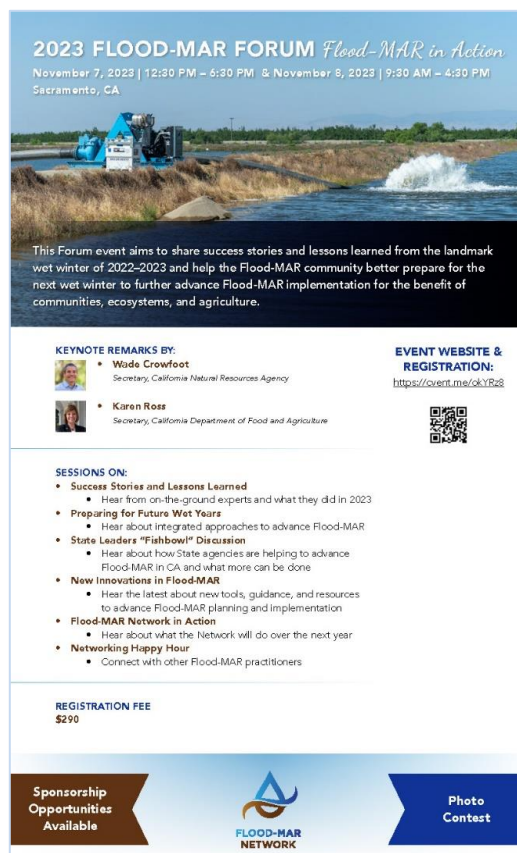
Recorded webinar access (requires inscription):

<https://www.gwpc.org/event/webinar-integrating-surface-water-management-and-managed-aquifer-recharge-case-study-from-a-usace-ocwd-partnership/>  
<https://register.gotowebinar.com/recording/3503063170952320769>

Thank you Andrew M. O’Reilly for reporting

## 2023 Flood-MAR Forum on Nov. 7-8


The California Department of Water Resources and others have organized a new flood-MAR forum.



**2023 FLOOD-MAR FORUM** *Flood-MAR in Action*  
 November 7, 2023 | 12:30 PM – 6:30 PM & November 8, 2023 | 9:30 AM – 4:30 PM  
 Sacramento, CA

This Forum event aims to share success stories and lessons learned from the landmark wet winter of 2022-2023 and help the Flood-MAR community better prepare for the next wet winter to further advance Flood-MAR implementation for the benefit of communities, ecosystems, and agriculture.

**KEYNOTE REMARKS BY:**


-  **Wade Crowfoot**  
Secretary, California Natural Resources Agency
-  **Karen Ross**  
Secretary, California Department of Food and Agriculture

**EVENT WEBSITE & REGISTRATION:**  
<https://event.me/s/kyR28>

**SESSIONS ON:**

- **Success Stories and Lessons Learned**
  - Hear from on-the-ground experts and what they did in 2023
- **Preparing for Future Wet Years**
  - Hear about integrated approaches to advance Flood-MAR
- **State Leaders "Fishbowl" Discussion**
  - Hear about how State agencies are helping to advance Flood-MAR in CA and what more can be done
- **New Innovations in Flood-MAR**
  - Hear the latest about new tools, guidance, and resources to advance Flood-MAR planning and implementation
- **Flood-MAR Network in Action**
  - Hear about what the Network will do over the next year
- **Networking Happy Hour**
  - Connect with other Flood-MAR practitioners

**REGISTRATION FEE**  
 \$290

**Sponsorship Opportunities Available**      **Photo Contest**

More info: <https://www.linkedin.com/feed/update/urn:li:activity:7119708113724731392/>

## Lessons Learned in Stormwater Capture and Groundwater Recharge in 2022-2023

Interesting webinar hosted Monday, November 13<sup>th</sup> at 12:00pm:

Southern California is not new to unusual weather patterns and this past year did not disappoint. Between getting an abundance of rainfall in the winter season and a surprising tropical storm in August, how much rain did we actually receive and capture this past year?...

Read more:

[https://www.linkedin.com/posts/adam-hutchinson-pg-chg-6891b89\\_welcome-you-are-invited-to-join-a-webinar-activity-7128213714381524992-WvhR?utm\\_source=share&utm\\_medium=member\\_ios](https://www.linkedin.com/posts/adam-hutchinson-pg-chg-6891b89_welcome-you-are-invited-to-join-a-webinar-activity-7128213714381524992-WvhR?utm_source=share&utm_medium=member_ios)

## GRA has organized the San Joaquin Valley branch meeting

The Groundwater Resources Association of California has organized a San Joaquin Valley branch meeting for Effective Stakeholder Engagement.



More info: <https://www.grac.org/events/529/>

Thank you Kait Palys for reporting.

## Webinar on transboundary groundwater in America (in Spanish)

IAH Mexican chapter organizes a webinar next December 4<sup>th</sup>.



Booking necessary at: [https://bit.ly/RegistroWebinar1\\_IAH\\_CM](https://bit.ly/RegistroWebinar1_IAH_CM)

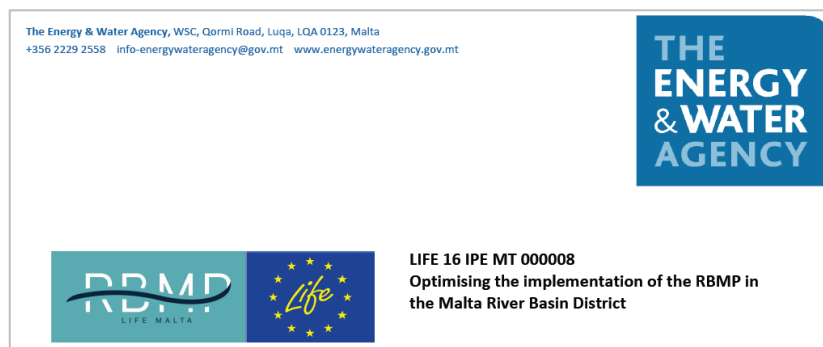
Thank you Luis Camilo S.C. for reporting.

## NEW MAR OR MAR-RELATED ACTIVITIES

### River Basin Management Plan (RBMP) project

During November 21-22 has taken place a workshop of the RBMP in Malta Island, organized by the Energy and Water Agency (EWA).

The project integrates different lines of action taking part in most of the RBM plans, including MAR, and many other IWRM actions. There is an important focus on the sea.



Sessions:

Session 1 Geothermal Installations and Managed Aquifer Recharge Scheme

Session 2 Monitoring Strategy for Contaminants of Emerging Concern

Session 3 Valley Management and Sustainable Urban Drainage Systems



- Updates on the baseline assessments on the 2 valleys that will be rehabilitated and Strategic Framework to identify opportunities for the implementation of SuDS

Industrial discharges – enforcement augmentation and sustainability

- Updates on wastewater quality characterization and specific industrial sector Discharges

Session 4. Deep Saline Aquifers, Reverse Osmosis Discharges on the Marine Environment

- Updates on the status of implementation

Session 5 Coastal Wetlands and Anchoring and Mooring Surveys

- Updates on the report outlining the outcome of the hydrological study on the coastal wetlands and the report on identified management options on anchoring and mooring surveys



Results will be posted by organizers in next newsletters. For more information, please, contact [info-energywateragency@gov.mt](mailto:info-energywateragency@gov.mt)

Thank you Manuel Sapiano and Michael Schembri (EWA) for reporting.

## **Benchmark MAR in Europe. MARWAL project has closed their survey, but welcomes future inputs**

The Group of Hydrogeology & Environmental Geology at the University of Liège coordinates the MARWAL\* project consisting of a feasibility study of managed aquifer recharge projects for the aquifers of the Walloon Region of Belgium. In this context, an online international survey has been launched to perform a benchmarking analysis of existing pilot and full-scale MAR projects in Europe and around the world.

This survey is accessible through the following web link:

English version : [https://my.uliege.be/portail/go\\_xt.do?a=o%7C11004%7Ce%7C546928](https://my.uliege.be/portail/go_xt.do?a=o%7C11004%7Ce%7C546928)

French version : [https://my.uliege.be/portail/go\\_xt.do?a=o%7C11004%7Ce%7C546927](https://my.uliege.be/portail/go_xt.do?a=o%7C11004%7Ce%7C546927)

More info: [https://www.uee.uliege.be/cms/c\\_10264166/fr/projet-marwal](https://www.uee.uliege.be/cms/c_10264166/fr/projet-marwal)

Or email: [serge.brouyere@uliege.be](mailto:serge.brouyere@uliege.be)

## **MAR2protect project**

Some Mar news from the MAR2protect project in the Spanish press:



More info: <https://www.agronewscastillayleon.com/como-protegemos-acuiferos/>

## **Exciting news from San Bernardino Valley, California**

San Bernardino Valley Municipal Water District is proud to be part of the visionary Sites Reservoir Project, recently propelled forward... read more...



<https://www.linkedin.com/feed/update/urn:li:activity:7127710836604751872/>

Excellent progress for an important project that will provide climate resilience for both water users and the environment.

## MAR JOB OPPORTUNITIES

---

### Position for MAR work at Granada University (Spain) (in Spanish)

A position on MAR for a young researcher in Granada University, Spain.

Título del Proyecto: Técnicas avanzadas de Control para la Gestión de Recarga de Acuíferos  
Responsables: Carlos Duque Calvache/María Luisa Calvache

Contacto: [cduque@ugr.es](mailto:cduque@ugr.es)

Tareas a realizar: Instrumentar dos parcelas experimentales mediante sondeos equipados con sensores para la aplicación de MAR a partir de modelación de flujo subterráneo, uso de la temperatura como trazador, análisis sedimentológico y análisis de contaminantes emergentes.

Formación: Geología/Ingeniería Geológica/ Ingeniería Civil/Ciencias Ambientales

Thanks Esther Vilanova for reporting.

## MORE ACTION

---

### MAR news from the US

Virginia Tech got a huge 2 million USD grant to research MAR for wastewater reuse.

<https://news.vt.edu/articles/2023/09/eng-cee-Virginia-Tech-awarded-EPA-grant-groundwater.html>

### Still more MAR news. Now from California

A recent paper in Nature Water describes the concept of Net Recharge Metering (RENEM), a novel and already tested system in which farmers receive benefits (i.e., a rebate in groundwater pumping fees) from MAR infiltration in their land. Seems promising!

Here is the news article with a link to the article:

<https://legal-planet.org/2023/10/18/recharge-net-metering-renem-provides-win-win-win-for-groundwater-agency-landowners-sustainable-groundwater-management/>

And here is a brief document explaining the concept:

[https://www.law.berkeley.edu/wp-content/uploads/2018/04/CLEE\\_ReNeM\\_IssueBrief.pdf](https://www.law.berkeley.edu/wp-content/uploads/2018/04/CLEE_ReNeM_IssueBrief.pdf)

### Huarpe daily newspaper. Crisis hídrica en San Juan: proponen reutilizar aguas grises para recargar los acuíferos (in Spanish)

4-11-23. Following the recent report published by DIARIO HUARPE on the contamination of aquifers, the Latin American Association of Desalination and Water Reuse (Aladyr) echoed the publication and proposed a comprehensive approach to water security. In this sense, a cornerstone of the proposals is the reuse of treated greywater to recharge aquifers... Read more...

**Huarpe** ↗

NEGOCIOS    PROVINCIALES    POLICIALES    POLÍTICA    ECONOMÍA    JUDICIALES    SOC

ECO HUARPE > **Combatió la sequía**

### Crisis hídrica en San Juan: proponen reutilizar aguas grises para recargar los acuíferos

Después que DIARIO HUARPE hiciera público que la contaminación del acuífero del Valle de Tulum se triplicó en los últimos 35 años, la Asociación Latinoamericana de Desalación y Reúso de Agua (Aladyr) propuso reutilizar aguas grises tratadas para recargar los acuíferos.


 Por Alejandro Pellegrinuzzi 10 de octubre de 2023



*La crisis hídrica se acentúa y es un tema de preocupación ambiental, social y sanitario. (Foto: archivo DIARIO HUARPE).*

Tras el reciente informe publicado por DIARIO HUARPE sobre la [contaminación de los acuíferos](#), la Asociación Latinoamericana de Desalación y Reúso de Agua (Aladyr) se hizo eco de la

<https://www.diariohuarpe.com/nota/especialistas-latinoamericanos-proponen-optimizar-la-gestion-hidrica-de-san-juan-202310922550>

## Still facing terminological concerns on MAR

Interesting post from Doug Brown in Linked-in claiming the use of the MAR term instead of Enhanced Aquifer Recharge (EAR). Another one to include in the vast list with artificial recharge, aquifer replenishment, etc, etc, etc. We think the important is to implement MAR systems, rather than sterile terminological discussions.

Read more: [https://www.linkedin.com/posts/dbrown46\\_it-is-others-who-will-not-let-us-call-it-activity-7124543417476415488-3o9o/?utm\\_source=share&utm\\_medium=member\\_desktop](https://www.linkedin.com/posts/dbrown46_it-is-others-who-will-not-let-us-call-it-activity-7124543417476415488-3o9o/?utm_source=share&utm_medium=member_desktop)

## Changes in the MAR Mexican Law

Some MAR-related news from Mexico:  
<https://www.vozenred.com/2015/notas.php?i=346133>

## Spanish Groundwater Action Plan recently published. Unfortunately MAR has been considered very scarcely

This month has been published the Spanish groundwater action plan. Despite intense suggestions from the MAR community, writers have barely heeded the contributions, and there are about eight lines more on MAR in the whole Plan: The term MAR is not even in the list of acronyms, the envisaged budget until 2027 from the General Water Board of the ministry is 0.03 M€; searching the term “recarga artificial”, it appears ten times in the whole publication,

etc. Apparently, all the expectations are posed on the CIS document on MAR, currently under review.

Anyway, our effort will persist, if not within Spain, in other countries, for the shake of future generations. Water managers will consider MAR in 10-15 years horizons if climate change persists, and probably it will be too late...

Spanish Groundwater Action Plan access:

<https://www.miteco.gob.es/es/agua/temas/planificacion-hidrologica/planificacion-hidrologica/plan-accion-aguas-subterraneas.html>

## **MAR and Water harvesting in Huaytara, Peru**

New video describing the MAR and water harvesting actions accomplished in the head of the Ica aquifer basin, where intense MAR takes place from the Andes to the Ocean.



Video link: <https://www.facebook.com/arribaelagro/videos/siembra-y-cosecha-de-agua-en-huaytar%C3%A1/530797232018293/>

Thank you Roberto Navarro for reporting

## **More information on MAR from Pakistan . Rooftop rain-harvesting for MAR**

New actions are in implementation on previous reported systems.



YouTube video:

<https://www.qwant.com/?client=opensearch&t=videos&q=MAR+from+Pakistan+.+Rooftop+rain+harvesting+for+MAR&o=0%3AJsEiqE6teak>

## **LunchMAR | FloodMAR Implementation at Terranova Ranch (Oct 2023)**

A new video has been posted n YouTube about flood-MAR experiences.



Link: <https://www.youtube.com/watch?v=Oh0Dv5qrbTA>

## **El Carracillo MAR system. Castile and Leon, Spain. 3<sup>rd</sup> stage (in Spanish)**

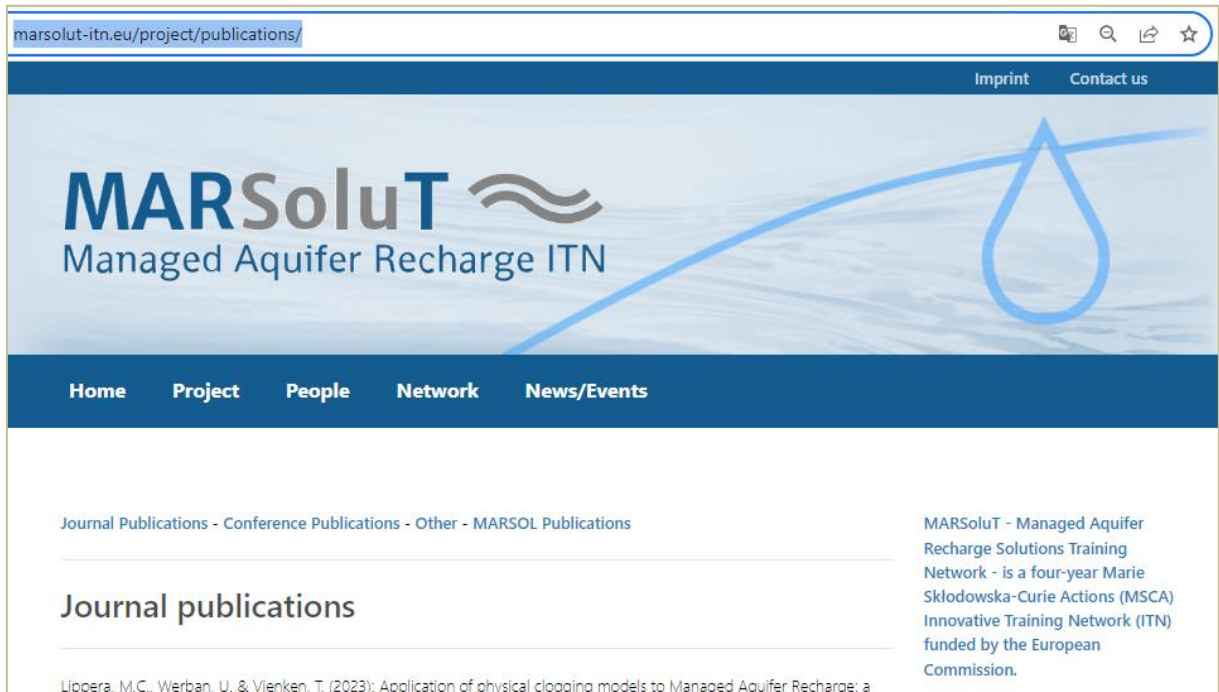
In 2023 October ITACYL-JCyL (Regional government) have entrusted Tragsa to start implementing a third stage of El Carracillo MAR system, Los Arenales aquifer. El Carracillo MAR system is one of the biggest in Europe.

<https://www.eladelantado.com/provincia-de-segovia/cuando-finalice-la-recarga-de-el-carracillo-se-habra-completado-una-de-las-obras-mas-importantes-de-regadio/>

Thank you Noelia Crespo for reporting

## MARSOL project website will close shortly

Providing news and materials about MAR since 2014, the site marsol.eu will be closed in some weeks.



Most of the materials will be available at cordis site <https://cordis.europa.eu/project/id/619120> Marsolut site marsolut-itn.eu, under 'Publications', and DINAMAR: dinammar.tragsa.es.

## Whatsapp group on Aquifer Recharge Management

This is the link to join the group, with 165 participants today:

<https://chat.whatsapp.com/J8jKMuCXrTr83d1SI9vDBe>

## Previous IAH-MAR Newsletters

Please, remember that you can access the previous newsletters in our website:

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

## IAH-MAR Commission on Twitter



**@IAHMARCom**

<https://twitter.com/IAHMARCom>

## IAH-MAR Commission's sister Web sites

<http://china-mar.ujn.edu.cn/>



<https://dinamar.traqsa.es/>



@4dina\_mar

<https://www.linkedin.com/groups/4690290/> (518 members)

## IAH MAR Commission Forum

Please, remember you can book freely in the IAH MAR Commission Forum:

<https://lists.flinders.edu.au/mailman/listinfo/iah-mar.listcgs>

That's all by now... **please, keep reporting** ([dinamar@traqsa.es](mailto:dinamar@traqsa.es)). We miss pieces of news, especially from Asia

Dr. Enrique Fernández Escalante, on behalf of the IAH MAR Commission co-chairs.

2023 November 24<sup>th</sup>

---