



**International Association of Hydrogeologists**  
*Moroccan Chapter*

**MC-IAH**

**ANNUAL REPORT**  
**2016**

**President:**  
EL MANSOURI Bouabid  
**Secretary:**  
CHERKAOUI-DEKKAKI Hinde

**June 2017**

**<http://www.cm-aih.ma>**  
**[b.elmansouri@yahoo.fr](mailto:b.elmansouri@yahoo.fr) Or [cherkaouihinde@yahoo.fr](mailto:cherkaouihinde@yahoo.fr)**  
**Phone : 0664652866**  
**Address: Faculty of Sciences - BP. 20 El Jadida - Morocco**

## **PREAMBLE**

This document compiles all the scientific and operational activities carried out by the Moroccan Committee of the International Association of Hydrogeologists (MC-IAH) as of 2016.

These activities are grouped into three main categories online :

1. Operating activities of the MC-IAH ;
2. Organization / Co-organization of scientific events;
3. Support for scientific events.

This report also presents a summary of the accounts in addition to the short -, medium - and long - term activities of the MC-IAH.

## TABLE OF CONTENTS

PREAMBLE .....	1
TABLE OF CONTENTS.....	2
I. BACKGROUND .....	3
II. MC-IAH ACTIVITIES UNDER THE YEAR 2016 .....	4
II.1. MC-IAH operational activities .....	4
II.1.1. Election of the fourth MC-IAH office .....	4
II.1.2. MC-AIH MC-IAH Action Plan .....	4
II.1.3. Membership and publicity .....	7
II.2. Organisation / Coorganisation de manifestations scientifiques .....	8
II.2.1. Organization of a Side Event in the margin of COP 22.....	8
"Groundwater : Challenges and Solutions for Adaptation to Climate Change" .....	8
II.2.2. Organization of the 3 <sup>rd</sup> International Congress GIRE3D .....	9
II.3. Support for scientific events .....	10
II.3.1. International Meeting : Climate, Sustainability and Development "Pathways to cooperation under science, technology and innovation" .....	10
II.3.2. The V <sup>th</sup> international Colloquia of " Water & Climate" network Global Changes and Water Resources: current status, adaptations and perspective .....	12
II.3.3. Les Journées scientifiques CCREM-CEA .....	13
II.3.4. Financial support for MC - IAH members during their participation in the congress.....	13
III. STATE OF ACCOUNTS .....	14
IV. PERSPECTIVES .....	15
APPENDICES .....	16

## I. BACKGROUND

The Moroccan Committee of the International Association of Hydrogeologists (MC-IAH) is one of the 3 African chapters of the International Association of Hydrogeologists Mother. It was founded in 2003 as a non-profit association.

The MC-IAH is a professional association of people practicing disciplines related to groundwater. Its objectives include federating actors, promoting and coordinating scientific activities and science education groundwater. Which goals perfectly adhere to the overall vision of the IAH mother who militates to make the network of IAH hydrogeologists as :

- Main international society for the science and practice of hydrogeology ;
- The world's leading source of hydrogeological information ;
- Main facilitator for knowledge transfer of groundwater.

The MC-IAH is founded at a constituent assembly held in El Jadida on April 19, 2003. Since then, three other offices have been appointed at three successive General Assemblies (GA) :

- 2<sup>nd</sup> GA held in Marrakech in 2006 (Second Bureau) ;
- 3<sup>rd</sup> GA held in Agadir on 26 March 2010 (Third Bureau) ;
- 4<sup>th</sup> GA held in El Jadida on 7 May 2016 (Current Bureau).

The MC-IAH also includes among its members the current vice-president in charge of the MENA region : Mr. A. FEKRI. The same position was occupied by a member of the MC-IAH, Mr. M. ABOUFIRAS elected under the two terms spanning the period 2008 - 2016.

## II. MC-IAH ACTIVITIES UNDER THE YEAR 2016

Since his election in May 2016, the current office of the MC-IAH has proposed an action plan to improve the functioning of the MM-IAH, the increase in membership and deploy all his skills to promote and Coordinate science activities and groundwater science education at the national and international levels. To achieve these objectives, the CM-IAI has undertaken the actions listed below :

- MC-IAH operational activities ;
- Organization / Co-organization of scientific events ;
- Support for scientific events.

### II.1. MC-IAH operational activities

#### II.1.1. Election of the fourth MC-IAH office

Current 2016, the CM-IAI has renewed his office at the General Meeting held on 05/07/2016 in El Jadida.

The office elected in May 2016 is composed of the following members :

- **Pr. EL MANSOURI Bouabid**, Faculty of Science of Kénitra, **President** ;
- **Pr. AMRAOUI Fouad**, Faculty of Science of Casablanca, **Vice President** ;
- **Pr. BENAABIDATE Lahcen**, Faculty of Science and Technology of Fès, **Vice President** ;
- **Pr. CHERKAOUI DEKKAKI Hinde**, Faculty of Science and Technology of Al Hoceima, **General secretary** ;
- **Pr. AMRANI PAAZA Namira**, Faculty of Science and Technology of Settat, **Vice secretary general** ;
- **Pr. EL ACHHEB Abderrahim**, Faculty of Science El Jadida, **Treasurer** ;
- **Pr. HILALI Mohamed**, Faculty of Science and Technology of Errachidia, **Vice treasurer** ;
- **Pr. BOUCHAOU Lhoussaine**, Faculty of Science of Agadir, **Consultant** ;
- **Pr. EL MANDOUR Abdennabi**, Faculty of Science - Semlalia, Marrakech, **Consultant** ;
- **Pr. STITOU EL MESSARI Jamal**, Faculty of Science of Tétouan, **Consultant** ;
- **Ig. BENMOUSSA Asmaâ**, Hydrogeologist engineer at the national office for water and electricity - water branch, Rabat, **Consultant**.

During this GA, the annual report was presented.

#### II.1.2. MC-AIH MC-IAH Action Plan

Since his election, the current office held two meetings in 2016 (27/05/2016, 12/13/2016) during which the main axes of the action plan were arrested.

The table below presents all the axes and status of the selected action plan.

## MC-AIH action Plan under 2016 - 2017

Project	Action	Progress
<b>Promotion of hydrogeology</b>		
Update of Moroccan Water Resources Tomes	<ul style="list-style-type: none"> <li>- Study format (update, Atlas, monograph, etc.) under reflection</li> <li>- Mode of organization under reflection</li> <li>- Search for partners: ABH / DRPE / ONEE</li> </ul>	<ul style="list-style-type: none"> <li>- Project content under consideration</li> <li>- Project supervisors appointed (MM. Bouchaou et Amraoui)</li> </ul>
<b>Supporting scientific events</b>  <b>Organization of Annual National Meetings by Area: Open proposal for all MC-IAH colleagues</b>	Financial support for the International Meeting : Climate, Sustainability and Development "Pathways to cooperation under science, technology and innovation". Agadir - Mai 2016	Event held and supported in mai 2016
	Financial support for the 5 <sup>th</sup> edition of the international colloquium of the Water and Climats Network. Fes - October 2016 (Event labeled Cop 22)	Event held and supported in october 2016
	Organization of side event on theme: "Groundwater : Challenges and Solutions for adaptation to climate change" on the sidelines of the Cop 22. Marrakech - November 2016 (Event labeled Cop 22)	Event held and supported in november 2016
	Financial support for the Scientific Days "Climate Change and Water Resources in Morocco: Characterization, Evaluation and Adaptation" CCREM-CEA. Marrakech - November 2016 (Event labeled Cop 22)	Event held and supported in november 2016
	Organization of the third edition of GIRE 3D. Case of arid zones. Dakhla - December 2017	Organization in progress (2017)
<b>Organizing scientific tours by region</b>	First proposed scientific tour : Limestone dorsal in northern Morocco	Under reflection (2017)
<b>Creation of a CM-IAH scientific journal</b>	-	Under reflection

Project	Action	Progress
<b>Strengthening the IAH network</b>		
<b>Strengthening partnerships / cooperation between national chapters</b>	Financial support of MC-IAH members during their participation in the IAH 2016 congress held in Montpellier	Support was provided for all participating members of the MC-IAH
	Coorganization of the Congress on groundwater and global change in the western Mediterranean - GWMEDCHANGE	Organization in progress (2017)
<b>National and international hydrogeology training</b>	-	Program under reflection
<b>Membership and publicity</b>		
<b>Membership Encouragement</b>	Invitation by MC-IAH members	Cf. List of new members
<b>Creation of the Website + FB page of the MC-IAH</b>	-	MC-IAH Website is online <a href="http://www.cm-aih.ma">http://www.cm-aih.ma</a>
<b>Preparation of IAH and CM-AIH presentation tools, brochure, etc.</b>	Flyers and Poster	Elaborated
	Preparation of a MC-IAH platform, to be presented to the ministries in charge of water and ONEE, etc., to communicate the actions of the MC-IAH	In progress

### II.1.3. Membership and publicity

The day after his election, the MC-IAH has set up a website (<http://www.cm-aih.ma>) diffusing the main information concerning it and providing a platform for communication and information in the field of hydrogeology. Which platform is still in progress improvement.

Brochures and posters are also produced and presented at scientific events organized and / or supported by the MC-IAH.

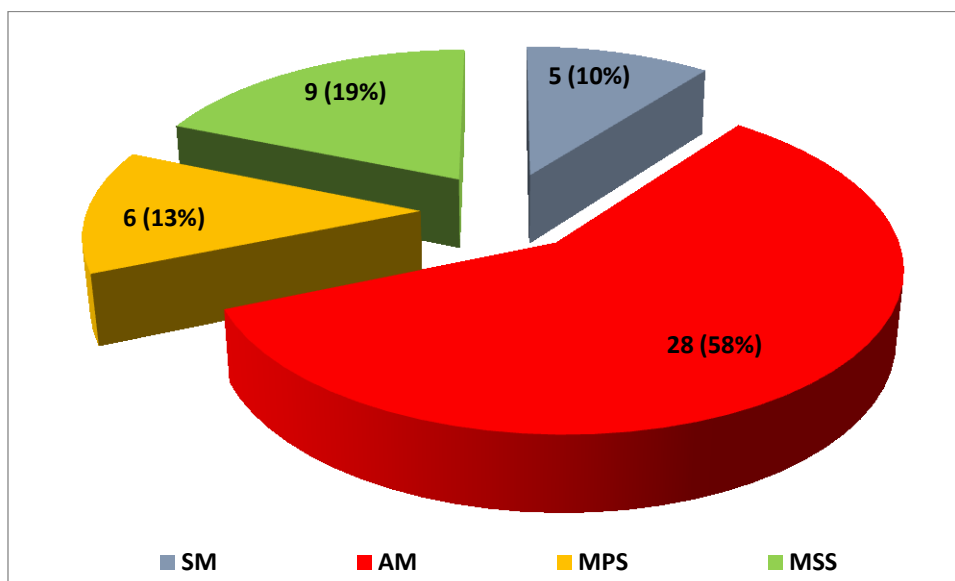
Through all these communication tools and in addition to the efforts of all CM-IAH members, it has been able to attract new members. A particular focus was on youth hydrogeologists.

**At the end of 2016, CM AIH registered 33 members.**

To date, the updated list of MC-IAH includes 48 members with 15 registered in 2016/2017 including 5 students.

The status of current members of the MC-IAH varies between academics (AM), members active in the private sector (MPS), members active in the state sector (MSS) and doctoral students in hydrogeology (SM).

Below, the distribution of MM-IAH members in number and % according to 4 statutes in the hydrogeological field.



**Figure 1 : Distribution of CM-IAH members by number and (%)**

**Applications for new memberships for 2017 are being processed by the MC-IAH office.**



## II.2. Organisation / Coorganisation de manifestations scientifiques

### II.2.1. Organization of a Side Event in the margin of COP 22

#### "Groundwater : Challenges and Solutions for Adaptation to Climate Change"

##### SYNOPSIS

<b>Context</b>	In the margins of the COP 22, a global event held in Marrakech dedicated to the implementation of the rules for implementing the climate agreement, concluded in 2016 in Paris, the CM-Moroccan as a civil society organization, organized a side event around the groundwater issue. This event was moderated by two speakers who addressed the issue of groundwater in a climate of arid climates. The speakers proposed solutions for mitigation and adaptation to climate change.
<b>Thematic</b>	Groundwater : Challenges and Solutions for Adaptation to Climate Change
<b>Date and place</b>	08/10/2016 Green space reserved for side events in the village of COP 22- Marrakech
<b>Organizer</b>	MC-IAH
<b>Partners / Lecturers</b>	Président : Mr El Mansouri, MC-IAH Speaker 1 : Mr. Slimani de l'Agence du Bassin Hydraulique de Chaouia - Bouregreg Speaker 2 : Mr A. Mandour, MC-IAH
<b>Financial Cost</b>	4400.00 Dh (400 €)

Cf. Circular in Annex 1



## II.2.2. Organization of the 3<sup>rd</sup> International Congress GIRE3D

### « Integrated Water Resources Management and Sustainable Development Challenges, case of Arid regions »

#### SYNOPSIS

<b>Context</b>	<p>The arid regions are known by their limited water potential, which minimizes the occurrence of aquifer recharge and watercourse supply. The sustainable management of water resources in these regions is a permanent challenge, due to the increasing demand, linked to population growth combined to the negative impacts of climate change.</p> <p>The 2017 edition of GIRE3D Congress is dedicated to arid regions and will provide an opportunity to water actors and scientists for exchanging adapted methodologies to water management in such contexts. It will also promote scientific research in consultation with water sector professionals in the three regions of the Southern Morocco.</p>
<b>Thematic</b>	<b><i>Integrated Water Resources Management and Sustainable Development Challenges, case of Arid Regions</i></b>
<b>Date and place</b>	06 - 08 december 2017 Palais de Congrès - Dakhla – Morocco
<b>Organizer</b>	MC-IAH
<b>Partners</b>	In progress
<b>Financial Cost</b>	In progress
<b>Cf. First circular in Annex 2</b>	

## II.3. Support for scientific events

### II.3.1. International Meeting : Climate, Sustainability and Development “Pathways to cooperation under science, technology and innovation”

<b>Context</b>	<p>Discussion on climate change (present, past and future) and their impacts on environments, water natural resources and human societies have been constantly advertised in the media and has become issue of public policies interest. It becomes increasingly evident that the way of life of each individual affects the climate, and that climate affects the lives of everyone. The perception and interest of global/regional climate change/variability are growing also in different scientific communities improving transformative approaches, tools and funding. It becomes urgent to move forward their understanding on common modus operandi and importance of shared experiences.</p> <p>One of the shared experience that becomes successful is the tripartite project (TTS) focused on Drylands projected by IRD-France, CGEE – Brazil will be opened to climate and environmental changes and natural resources in Maghreb and Sahel with strait and strong cooperation with Latino America America and Maghreb .</p> <p>The successful experience of the shared projects within the TTS edict released in June 2012, during the Rio+20 Conference, explored support and financing to scientific projects driven to the Sahelian region, encouraged the Latino American Partners, Morocco and IRD to reinforce this initiative by the foundations for a scientific community between Brazil, Mexico, France and countries of the Maghreb and Sahelian region. The central idea is support better understanding of development opportunities and challenges via information brought from science cooperation projects, contributing directly to the generation and dissemination of knowledge and increasing technological capacity of the African and Maghreb countries involved. Support to scientific research projects considered issues related to the process of climate and environmental changes, desertification of arid and semi-arid areas and mountainous areas, with priority given to the following issues as agriculture and food; management of natural resources (water, soil, biodiversity); adaptation to climate change; sustainable and human development; etc.</p> <p>Given the significance of the initiative, recognized by ONU/UNESCO, partners of TTS decided to organize an open meeting addressed mainly to observers and stakeholders from South and Central America, Maghreb and Sub-Saharan Africa. The objective is to present new templates of science cooperation, focused in the understanding that transformative solutions and positive results of science cooperation can better support public decision processes.</p> <p>The idea is to create an International platform of Climate and Environmental Changes and Natural Resources hosted in Ibn Zohr University and supported by cooperative tools of IRD, CGEE (Brazil), CONACYT (Mexico) and its Latino American and Maghreb partners to explore transformative solutions to climate change from a cross-sectorial perspective in order to reach integrated solutions especially through collaboration. This center includes solutions across a range of disciplines, sectors and stakeholders that encompass technological, institutional, economic and behavioral changes that will lead to transformative</p>
----------------	--

	<p>pathways to climate change challenges, from the near to long term, and at multiple scales.</p> <p>13 countries about 100 delegate's attendees from Morocco, Mali, Ivory Coastal, Niger, Senegal, Tunisia, Brazil, Argentina, Peru, Mexico, France, Spain, and Portugal.</p>
<b>Date and place</b>	<p>11-13 May</p> <p>Ibn Zohr University - Agadir – Morocco</p>
<b>Organizer</b>	<p>Ibn Zohr University (Morocco)</p> <p>CGEE (Brazil)</p> <p>IRD (France)</p> <p>CM-AIH</p>
<b>MC-IAH support form</b>	<p>Support for participants : 15000,00 Dh (1400 €)</p>

### II.3.2. The V<sup>th</sup> international Colloquia of " Water & Climate" network Global Changes and Water Resources: current status, adaptations and perspective

<b>Context</b>	<p>This conference was a scientific event on the side lines of the scientific mobilization leading up to COP 22 held in Marrakech, on 7-18 November 2016. It was organized by the network "Water and Climate in the Maghreb" which includes 12 Universities and 15 Laboratories from Morocco, Algeria, Tunisia and France. This consortium includes a large number of researchers working on various themes and works since 2010 for a better understanding of climate variability (trend and evolution) and the consequences of climate change on the natural and the anthropogenic environment. This conference was in part sponsored by the Moroccan Chapter of the IAH.</p> <p>This international symposium has brought together the scientific community around the theme of global changes and their impacts, in particular, on water resources and this, to draw up an inventory of mitigation and adaptability measures from the global to local scale for the entire region. Participants were from different countries; Morocco, Tunisia, Algeria, Burkina Faso, Cameroun, Canada, France, Greece, Ivory Coast, Kosovo, Niger, Sweden and, Turkey.</p> <p>This conference was an opportunity to give voice to experts whose researches focus on the knowledge of processes of these changes and their impacts on water resources. The conference topics has provided a comprehensive and diverse view of issues affecting, among others, the entire Mediterranean basin and that are proved today as a major challenge for the next century. This knowledge should answer the questions of decision-makers, enabling them to develop resilience and management tools adapted to new crises.</p> <p><b>Événement labélisé COP 22</b></p>
<b>Date and place</b>	12 - 13 October 2016 Fez - Morocco
<b>Organizer</b>	Faculty of Science and Technology - Fez
<b>MC-IAH support form</b>	Support for participants : 15000,00 MAD (1400 €)

### II.3.3. Les Journées scientifiques CCREM-CEA

<b>Context</b>	<p>En marge de la cop 22, l'Université Cadi Ayyad et en collaboration avec le Bureau de Recherche Géologiques et Minières France BRGM, l'Agence du Bassin Hydraulique de Tensift ABHT, le Comité Marocain de l'Association Internationale des Hydrogéologues CM-AIH et le Laboratoire Mixte International TREMA à organisée du 10 au 12 Novembre 2016 des journées scientifiques sous le thème :</p> <p style="text-align: center;"><b>« Changements climatiques et ressources en eau au Maroc : Caractérisation, Evaluation et Adaptation » CCREM-CEA</b></p> <p>Au cours des dernières décennies, le Maroc montre une augmentation significative de la fréquence des événements extrêmes (sécheresses et inondations). Dans de nombreux bassins, la baisse de la recharge et l'augmentation des prélèvements sont les principaux facteurs de dégradation des ressources en eau. En outre, l'irrégularité des précipitations à travers le Maroc est à l'origine d'un stress hydrique matérialisé par des niveaux critiques d'eau dans les barrages et de mauvaises années agricoles. Ces aspects peuvent devenir encore plus sévères dans les prochaines décennies à cause des changements climatiques prévus.</p> <p>Cette rencontre, à travers la présentation des travaux de recherche et des travaux d'aménagement et de gestion des ressources en eau dans un contexte de changement climatique, vise à partager les connaissances sur l'état actuel des lieux et l'évolution prévisionnelle des ressources en eaux de surface et souterraines. Les intervenants dans cette manifestation scientifique (Universitaires, Gestionnaires et Association) mettront le point sur les stratégies pour l'adaptation aux changements Climatiques.</p> <p>Événement labélisé COP 22</p>
<b>Date and place</b>	<p>10 au 12 November 2016 Cadi Ayad University - Marrakech – Morocco</p>
<b>Organizer</b>	<p>The University Cadi Ayad (Marrakech - Morocco) in collaboration with:</p> <ul style="list-style-type: none"> <li>- The BRGM ;</li> <li>- The Tensift Hydraulic Basin Agency ABHT ;</li> <li>- The MC-IAH ;</li> <li>- International Joint Laboratory TREMA.</li> </ul>
<b>MC-IAH support form</b>	<p>Support for participants : 15000,00 MAD (1400 €)</p>

### II.3.4. Financial support for MC - IAH members during their participation in the congress

The MC-IAH has financially supported 11 members including 3 students during their participation in the 2016 IAH Congress held in Montpellier.

### III.STATE OF ACCOUNTS

Below the inputs and outputs of the balance sheet of the MC-IAH for the year 2016.

		Amount (MAD)	Amount (€)	TOTAL (€)
Inputs	<b>CM-AIH membership fees ( 33*39€)</b>	14 157,00	1287,00	1287,00
Outputs	<b>Financial support of scientific events</b>	45 000,00	4 200,00	13788,30
	<b>Support for members and PhD students in congresses</b>	88 320,00	8 030,00	
	<b>Event Organisation (Side Event COP 22)</b>	44 00,00	400,00	
	<b>CM-AIH membership fees to IAH (33*39€ Less 10%)</b>	12 741,00	1158,30	

## IV. PERSPECTIVES

### Short term

- Organization of the GIRE 3D Congress 2017 ;
- Co-organization of the Congress on groundwater and global change in the western mediterranean - GWMedChange : The Event will be held in Spain in November 2017 (see First circular in Annex 3). The MC-IAH members are directly or indirectly involved in the organization of the GWMedChange event. Other members are part of the scientific committee of the conference. About 10 members will participate through oral communications and poster ;
- Preparation of a MC-AIH platform, to be submitted to the Ministries in charge of water in Morocco, to ONEE, etc., to communicate different actions of the CM-IAH ;
- Development of a national and international training program in hydrogeology and related sciences.

### Medium term

- Program of scientific circuits by region of Morocco in collaboration with the different national chapters of the IAH mother ;
- Creation of a scientific journal of the CM-IAH.

### Long term

Update of Moroccan Water Resources Tomes.



## **APPENDICES**

## ANNEX 1- CIRCULAR OF CM-AIH SIDE EVENT ORGANIZED IN THE MARGIN OF COP 22



**Comité Marocain de l'Association  
Internationale des  
Hydrogéologues (CM-AIH)**

اللجنة المغربية  
للجمعية الدولية للهيدروجيولوجيين

**8 Nov.2016, 19h-20h30, salle n°5**



**MARRAKECH**  
COP22|2016|CMP12  
UN CLIMATE CHANGE CONFERENCE

### Invitation

#### Side Event-COP22, Zone verte.

سيدتي / سيدي  
تشرف اللجنة المغربية للجمعية  
الدولية للهيدروجيولوجيين  
بدعوتكم لحضور نشاطها  
الموازي لتظاهرة الكوب 22،  
تحت عنوان: تحديات المياه  
الجوفية، أمام التقلبات المناخية.  
حلول التكيف والتخفيف وذلك  
يومه 8 نونبر 2016. بالمنطقة  
الخضراء، بالقاعة رقم 5

Dears Mrs/Sir:  
The CM-AIH is pleased to inform  
you the it organising a side Event  
activity in framework of COP22,  
intituled: "Groundwater resources  
facing to climate change and  
solutions of adaptation and  
mitigation".  
The activity is scheduled at  
Nov. 8<sup>th</sup> 2016, from 19-20h30 at  
the green zone, Room n°5.

Madame/Monsieur:  
Le CM-AIH vous invite à assister à  
son activité Side Event de la  
COP22 intitulée:  
« Eaux souterraines: Défis et  
Solutions d'adaptation aux  
changements climatiques » .  
L'événement aura lieu le 08  
Nov.2016 de 19h à 20h30, en  
zone verte, Salle n°5.

Ⓢ Les eaux souterraines sont naturellement stockées dans les sous sol. Il faut dès lors creuser de plus en plus profondément afin d'y accéder. Parfois, maints et maints kilomètres sont parcourus régulièrement pour s'approvisionner en quelques bidons d'eau afin de satisfaire les besoins vitaux.

Ⓢ Des milliers d'activités agricoles sont abandonnées par manque d'eau, ce qui enclenche indubitablement l'immigration de la population. Plusieurs régions affichaient leur vulnérabilité, souffraient de stress hydrique, voire étaient déjà en situation de pénurie. De plus, à mesure que la consommation d'eau augmente et que les facteurs de pollution se multiplient, les risques de pénurie et de conflits s'accroissent.

🔊 Une situation hydrique qui peut devenir critique. Dans quelle mesure pourrions-nous intervenir et agir ensemble et rapidement?.



**Signé:  
Président du CM-AIH  
Pr El Mansouri B.**



**Comité Marocain de l'Association  
Internationale des  
Hydrogéologues (CM-AIH)**

اللجنة المغربية  
للجمعية الدولية للهيدروجيولوجيين


**8 Nov.2016, 19h-20h30, salle n°5**

### Invitation

**Side Event-COP22, Zone verte.**



**MARRAKECH**  
COP22|2016|CMP12  
UN CLIMATE CHANGE CONFERENCE

- Les eaux souterraines sont naturellement stockées dans les sous sol. Il faut dès lors creuser de plus en plus profondément afin d'y accéder. Parfois, maints et maints kilomètres sont parcourus régulièrement pour s'approvisionner en quelques bidons d'eau afin de satisfaire les besoins vitaux.
  - Des milliers d'activités agricoles sont abandonnées par manque d'eau, ce qui enclenche indubitablement l'immigration de la population. Plusieurs régions affichaient leur vulnérabilité, souffraient de stress hydrique, voire étaient déjà en situation de pénurie. De plus, à mesure que la consommation d'eau augmente et que les facteurs de pollution se multiplient, les risques de pénurie et de conflits s'accroissent.
-  Une situation hydrique qui peut devenir critique. Dans quelle mesure pourrions-nous intervenir et agir ensemble et rapidement?.



Signé:  
Président du CM-AIH  
Pr El Mansouri B.



**Comité Marocain de l'Association  
Internationale des  
Hydrogéologues (CM-AIH)**

اللجنة المغربية

للجمعية الدولية للهيدروولوجيين

**8 Nov.2016, 19h-20h30, salle n°5**

**Invitation**

**Side Event-COP22, Zone verte.**



**MARRAKECH**  
COP22|2016|CMP12  
UN CLIMATE CHANGE CONFERENCE

## ANNEX 2 - CIRCULAR OF GIRE 3D 2017

### 3<sup>rd</sup> International Congress GIRE3D

« Integrated Water Resources Management and Sustainable Development Challenges, case of Arid Regions »

6 - 8 december 2017. Palais de Congrès - Dakhla – Morocco



#### First circular

##### General presentation of the Congress

The arid regions are known by their limited water potential, which minimizes the occurrence of aquifer recharge and watercourse supply. The sustainable management of water resources in these regions is a permanent challenge, due to the increasing demand, linked to population growth combined to the negative impacts of climate change.

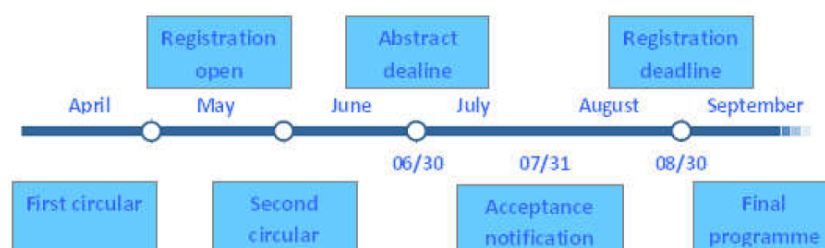
The 2017 edition of GIRE3D Congress is dedicated to arid regions and will provide an opportunity to water actors and scientists for exchanging adapted methodologies to water management in such contexts. It will also promote scientific research in consultation with water sector professionals in the three regions of the Southern Morocco.



#### Organization

The International GIRE3D Congress is organized by the Moroccan Chapter of the International Association of Hydrogeologists CM-IAH, in partnership with The Agency for the Promotion and Economic and Social Development of the Southern.

#### Deadlines



#### Communication languages

The official languages of the Congress are English, French and Spanish



Contact : [gire3d2017@gmail.com](mailto:gire3d2017@gmail.com)

[www.cm-aih.ma](http://www.cm-aih.ma)



## Venue

Dakhla city, the pearl of South Morocco is built on a narrow peninsula of the Atlantic coast; it is a paradise of surfers. The climate is desert but tempered by the cold ocean currents of the Canary Islands with average temperatures varying from 22 to 27 ° C.

Dakhla is serviced daily from / to Casablanca by Royal Air Maroc and weekly by Transavia from Paris.



## Topics

- ✚ Water resources and Climatic Changes ;
- ✚ Coastal aquifers in Arid zones, quality, diagnostic and monitoring ;
- ✚ Water technology in arid and coastal areas: desalination, artificial recharge ...
- ✚ Exploration, exploitation and the use of water resources ;
- ✚ Advanced technologies of water resources management: Isotopes, numerical modeling, Geo-informatics, Decision support tools,...
- ✚ Accessibility and management of transboundary resources

## Congress activities

- ✚ Thematic sessions ;
- ✚ Poster sessions ;
- ✚ Excursions and visits: Imlili Sebkhha, Withe dune, Artesian well, Desalination plant.



## Registration fees

Categories	Before August 30 <sup>th</sup>	After August 30 <sup>th</sup>
IAH members	100 Euro	150 Euro
Non IAH members	150 Euro	200 Euro
Students	50 Euro	75 Euro
Excursion	50 Euro	60 Euro

## Organizing committee

**Coordination:** EL MANSOURI B. President of CM-AIH ; AMRAOUI F. ; SAAD A.

**Secretary :** BENAABIDATE L. ; CHERKAOUI DEKKAKI H.

**Members:** BOUCHAOU L. ; EL ACHHEB A. ; EL AMRANI PAAZA, N. ; EL KANTI E. ; EL MANDOUR A. ; HILALI M. ; STITOU EL MESSARI J.E

## ANNEX 3 : CIRCULAR OF GWMEDCHANGE

**CONGRESS ON GROUNDWATER  
AND GLOBAL CHANGE  
IN THE WESTERN MEDITERRANEAN**



FIRST CIRCULAR

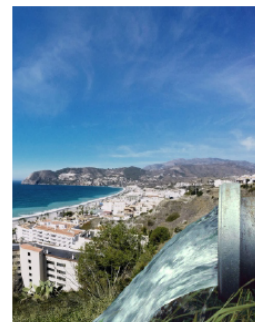
6<sup>th</sup>-9<sup>th</sup>  
november 2017  
Granada SPAIN

### CONGRESS PURPOSE

Major drivers of global change include population growth and migration, climate change, urbanization and expansion of infrastructures, and changes in land use and pollution. Western Mediterranean countries of both southern Europe and North Africa are expected to experience impacts on the sustainability, quantity, quality, and management of water resources.

Future scenarios in this region forecast the decline in streamflow reducing reservoir storage for population supply. In this context, groundwater becomes an increasingly strategic resource to meet water demand from irrigated and urban areas. Particularly, coastal areas are threatened by the increasing stress during summer and drought periods causing groundwater depletion and saline water intrusion.

Dealing with this situation makes necessary to address regional needs through global coordination, so the IHP-UNESCO recommends facilitating the country/regional groundwater assessment and exchange of information via seminars, workshops and conferences, like the one that is presented here.



### KEY DATES



[www.webdelcongreso.es](http://www.webdelcongreso.es)

More information: [www.aih-ge.org](http://www.aih-ge.org)  
[calvache@ugr.es](mailto:calvache@ugr.es)



## REGISTRATION FEES

	Early <i>(before 1st May)</i>	Standard <i>(after 1st May)</i>
IAH members and others*	200	300
Non IAH members	400	500
Students, IAH members	100	150
Students, non IAH members	150	250

\* Associations that have agreement with IAH.



## CONGRESS ACTIVITIES

- ✓ Plenary sessions with keynote lectures
- ✓ Technical sessions
- ✓ Poster sessions
- ✓ Technical field trip
- ✓ Special session in honor to Professor Antonio Pulido-Bosh
- ✓ Social events



## ORGANIZING COMMITTEE

- María Luisa Calvache  
*Congress Chair*
- Bartolomé Andreo  
*President of Spanish IAH Chapter*
- Ammar Maoui  
*Head of the Algerian Group*
- Michel Bakalowicz  
*President of French IAH Chapter*
- Bouabid El Mansouri  
*President of Moroccan IAH Chapter*
- Raquel Sousa  
*President of Portuguese IAH Chapter*
- Fatenlarraya Horriche  
*President of Tunisian IAH Chapter*



## MANAGEMENT COMMITTEE

- José Benavente
- María Luisa Calvache
- Fernando Delgado
- Carlos Duque
- Juan José Durán
- Antonio González-Ramón
- Manuel López-Chicano
- Sergio Martos
- Delegate Junta de Andalucía
- Delegate Diputación de Granada
- Delegate Confederación Hidrográfica Guadalquivir



## PROCEEDINGS

All accepted abstracts will be published as an electronic book of proceedings with ISBN. In addition, a special issue with a selection of the manuscripts will be published in one of the journals managed by Springer.



## OFFICIAL LANGUAGES

The official languages of the Congress are English, Spanish and French. No simultaneous translation will be provided by the organization.

Only the manuscripts written in English will be considered for publication in the special issue.



## SCIENTIFIC TOPICS

- ✓ Impact of growing population and land use change on groundwater resources and wetlands.
- ✓ Monitoring and modelling approaches for evaluating changes in groundwater quality, storage and fluxes.
- ✓ Groundwater and climate change.
- ✓ Protection and sustainable use of groundwater quantity and quality.
- ✓ Water management challenges and case studies in Mediterranean coastal aquifers.



## SOCIAL EVENTS

Several social events are planned: a nocturnal visit to the Alhambra, a conference dinner, poster sessions with refreshments and a technical field trip. Details will be specified in the next circulars.



## TECHNICAL FIELD TRIP

The last day of the congress, a visit to understand the water supply systems of the old Moorish quarter of Granada ("El Albayzin") and the Alhambra is planned..

***To contact us :***

***<http://www.cm-aih.ma>***

***[b\\_elmansouri@yahoo.fr](mailto:b_elmansouri@yahoo.fr) Or [cherkaouihinde@yahoo.fr](mailto:cherkaouihinde@yahoo.fr)***

***Tél : 0664652866***

***Address : Faculty of Sciences - BP. 20 El Jadida - Morocco***