# Format for Biennial Reports by UNESCO’s Water-related Centres on activities related to the IHP in the period (June 2012 - May 2014)

## 1. Basic information on the centre

<table>
<thead>
<tr>
<th>Name of the Centre</th>
<th>IGRAC, International Groundwater Resources Assessment Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Director</td>
<td>Neno Kukurić</td>
</tr>
<tr>
<td>Name and title of contact person (for cooperation)</td>
<td>Neno Kukurić</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:info@un-igrac.org">info@un-igrac.org</a></td>
</tr>
<tr>
<td>Address</td>
<td>Westvest 7 2611AX Delft, The Netherlands</td>
</tr>
<tr>
<td>Website</td>
<td><a href="http://www.un-igrac.org">www.un-igrac.org</a></td>
</tr>
<tr>
<td>Location of centre</td>
<td>city/town Delft country The Netherlands</td>
</tr>
<tr>
<td>Geographic orientation</td>
<td>X global regional</td>
</tr>
<tr>
<td>Region(s) (for regional centres)</td>
<td></td>
</tr>
<tr>
<td>Year of establishment</td>
<td>2011 as a UNESCO centre (IGRAC exists since 2003)</td>
</tr>
<tr>
<td>Year of renewal assessment</td>
<td>15 November 2011</td>
</tr>
</tbody>
</table>

### Focal Areas *

- x groundwater (GW)
- □ urban water management
- □ rural water management
- □ arid / semi-arid zones
- □ humid tropics
- □ cryosphere (snow, ice, glaciers)
- □ water related disasters (drought/floods)
- □ Erosion/sedimentation, and landslides
- □ ecohydrology/ecosystems
- X water law and policy
- x social/cultural/gender dimension of water
- X transboundary river basins/ aquifers
- □ mathematical modelling
- □ hydroinformatics
- □ remote sensing/GIS
- □ IWRM
- □ Watershed processes/management
- X global and change and impact assessment
- □ mathematical modelling
- □ water education
- □ water quality
- □ nano-technology
- □ waste water management/re-use
- □ water/energy/food nexus
- □ water systems and infrastructure
- □ other: GW monitoring and assessment

### Themes of activities during reporting period

- □ vocational training
- □ postgraduate education
- □ continuing education
- X public outreach
- □ research
- X institutional capacity-building
- X advising/ consulting
- □ software development
- □ data-sets/data-bases development
- □ other: GW monitoring and assessment

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* check on appropriate box

* check all that apply
2. **Activities undertaken in the framework of IHP in the period June 2012 – May 2014**

IGRAC was established as a UNESCO Category 2 centre in October 2011 during the 7th UNESCO-IHP phase (IHP VII) running from 2008 to 2013. Although a latecomer to the programme, IGRAC activities could easily match some of the IHP VII focal areas, especially within the themes:

- Adapting to the impacts of global changes on river basins and aquifer systems: for example through the GRAPHIC\(^5\) programme, and
- Strengthening water governance for sustainability: for example through the GEF Groundwater Governance project.

The main contribution of IGRAC was through the programme on Internationally Shared Aquifer Resources Management (ISARM). The ISARM programme ([www.isarm.org](http://www.isarm.org)) is about transboundary aquifers (TBA) which at present is the main topic of IGRAC activities. The vast majority of IGRAC TBA activities is conducted under the umbrella of the ISARM programme (e.g. development of the Transboundary Aquifers of the World map) or is related to the ISARM (e.g. GEF projects like the Dinaric Karst Aquifer System Project (DIKTAS) for 4 countries in the Balkan or the Transboundary Waters Assessment Programme (TWAP) which comprises a world-wide assessment of transboundary aquifers). Total IGRAC contribution to the projects conducted through the UNESCO-IHP in 2013 was about 500,000$.

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1. please specify bodies that cover the operational costs of the centre, and other essential costs such as salaries and utility bills, and that provide institutional support to ensure centre’s sustainability
2. if different from support bodies
3. please specify sources of main budgetary and extrabudgetary funds to implement projects
4. please write international networks, consortiums or projects that the centre is part of, or any other close links that the centre has with international organizations or programmes, which are not already mentioned above
5. GRAPHIC: Groundwater Resources Assessment under the Pressures of Humanity and Climate Change
IGRAC also contributed to another Associated Programme called WHYMAP (World-wide Hydrogeological Mapping and Assessment Programme); last year, WHYMAP produced the map 'River and Groundwater Basins of the World'.

There is a strong relationship between availability of groundwater data & information and effectiveness of many IHP-VII activities. In accordance to its mission, IGRAC took the initiative to strengthen the cooperation with National IHP committees on the topic of data & information availability. Supported by the Delegation of the Netherlands and the IHP Secretariat, this initiative resulted in Resolution XX-2 of the Intergovernmental Council of IHP (June 2012). The Resolution calls for support of Global Groundwater Information System (GGIS) which is developed and maintained by IGRAC. The GGIS is continuously under development (for more info: IGRAC report 2013 and IGRAC Work Plan 2014.) in the last two years, especially implementation of the Global Groundwater Monitoring Network (GGMN) programme progressed rapidly.

IGRAC regularly provides contributions to World Water Assessment Programme (WWAP). The focus of the 5th edition of the World Water Development Report was water and energy and IGRAC made several contributions to the report including sections on hydraulic fracturing (fracking), energy used for purification of groundwater, and energy used for extraction and transport of groundwater. IGRAC also developed an in-depth case study of hydropower in karst in collaboration with leading regional experts.

In 2012, IGRAC took an active role in the preparation of the 8th phase of the IHP (2014-2021) called 'Water security: Responses to local and global challenges'. This was done in good cooperation with the National UNESCO IHP Secretariat of the Netherlands and the IHP Secretariat in Paris. In 2013, IGRAC was involved in several preparation-related activities, including the final one, a UNESCO Joint Strategic and High-level Meeting on Water Security and Cooperation, held in Nairobi in September 2013. In this important meeting, a session on 'Theme 2 of IHP-VIII: Groundwater in a changing environment' was moderated by IGRAC. Theme 2 consists of five focal areas, namely:

- Enhancing sustainable groundwater resources management,
- Addressing strategies for management of aquifers recharge,
- Adapting to the impacts of climate change on aquifer systems,
- Promoting groundwater quality protection, and
- Promoting management of transboundary aquifers.

Due to early and continued involvement in the IHP-VIII preparation process, IGRAC was able to encourage incorporation of all IGRAC’s main activities into the programme. Hence, groundwater governance, internationally shared aquifers, groundwater monitoring and managing aquifer recharge are some of the core activities of the five focal areas in theme 2 on groundwater. Also, a topic of Groundwater in River Basin management, advocated by IGRAC and broadly supported by national IHP representatives, is now fully addressed in the programme. All the activities mentioned above are already on-going but their scope (i.e. contribution to the UNESCO IHP) will certainly increase in the coming eight years (duration of this phase is eight years).

In 2013, IGRAC started an initiative to increase cooperation with other UNESCO water centres, particularly in the field of water cooperation, water governance and water diplomacy. A joint meeting of the IGRAC Governing Board and the representatives of several UNESCO water centres was organised in December 2013 in Delft.

3. Annexes
3.1 IGRAC Report 2013
3.2 IGRAC Work Plan 2014
3.3 IGRAC Evaluation Report (Biannual)