**Geography**
- Total area TBA (km$^2$): 1200
- No. countries sharing: 2
  - Countries sharing: Haiti, Dominican Republic
- Population: 380 000
- Climate zone: Tropical Dry
- Rainfall (mm/yr): 1 400

**Hydrogeology**
- Aquifer type: Multiple layers hydraulically connected
- Degree of confinement: Confined
- Main Lithology: Alluvial sediments, fractured carbonates and karstic dissolution

---

**Legend**
- Transboundary aquifer
  - Confirmed aquifer boundary
  - Other aquifer(s)

**Others Symbols**
- Rivers
- Lakes
- Political Borders
- TBA Location

**Regional location of aquifer**

---

No cross-section available

Map and cross-section are only provided for illustrative purposes. Dimensions are only approximate.
### TWAP Groundwater Indicators from Global Inventory

<table>
<thead>
<tr>
<th></th>
<th>Dominican Republic</th>
<th>Haiti</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recharge (mm/y)</strong></td>
<td>95</td>
<td>400</td>
</tr>
<tr>
<td><strong>Renewable groundwater per capita (m³/y/capita)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Natural background groundwater quality (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Human dependency on groundwater (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Groundwater depletion (mm/y)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Groundwater pollution (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Population density (Persons/km²)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Groundwater development stress (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transboundary legal framework (Scores)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transboundary institutional framework (Scores)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. **Recharge**: This is the long term average recharge (in m³/yr) divided by the surface area (m²) of the complete country segment of the aquifer (i.e. not only the recharge area).
2. **Natural background groundwater quality**: Estimate of percentage of surface area of aquifer where the natural groundwater quality satisfies local drinking water standards.
3. **Groundwater pollution**: A. No pollution has been identified; B. Some pollution has been identified; Positive number: Significant pollution has been identified (% of surface area of aquifer).
4. **Groundwater development stress**: Annual groundwater abstraction divided by recharge.
5. **Legal framework**: A. Agreement with full scope for TBA management signed by all parties; B. Agreement with limited scope for TBA management signed by all parties; C. Agreement under preparation or available as an unsigned draft; D. No agreement exists, nor under preparation; E. Legal Framework differs between Aquifer States (see data at National level).
6. **Institutional Framework**: A. Dedicated transboundary institution fully operational; B. Dedicated transboundary institution in place, but not fully operational; C. National/Domestic institution fully operational; D. National/Domestic institution in place, but not fully operational; E. No institution exists for TBA management; F. Institutional Framework differs between Aquifer States (see data at National level).

X A value was provided in the questionnaire, but it was considered un-realistic and therefore removed from the table.

### Key parameters table from Global Inventory

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Dominican Republic</th>
<th>Haiti</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance from ground surface to groundwater table (m)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth to top of aquifer formation (m)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full vertical thickness of the aquifer (system)* (m)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of confinement</td>
<td>Whole aquifer confined</td>
<td>Sedimentary rocks - Limestone</td>
</tr>
<tr>
<td>Predominant aquifer lithology</td>
<td>Low primary porosity</td>
<td>Intergranular porosity</td>
</tr>
<tr>
<td>Primary Porosity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Porosity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmissivity (m³/d)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Including aquitards/aquicludes

X A value was provided in the questionnaire, but it was considered un-realistic and therefore removed from the table.
Aquifer description

Aquifer geometry
It is a complex multi layered, hydraulically connected, aquifer system. The whole aquifer system is confined though some parts are unconfined.

Hydrogeological aspects
The predominant lithologies are alluvial sediments, fractured carbonates and karstic dissolution. Intergranular porosity is low and the main porosity is through secondary porosity: fractures. It furthermore has a low horizontal and vertical connectivity.

Linkages with other water systems
Recharge is from precipitation on the aquifer and discharge occurs as river base flow.

Environmental aspects
Water availability in quantity and especially in quality is extremely variable through the space. One of the main issues observed is high salinity level. Point source contamination with pathogens, and increased salinity levels has been observed in the Dominican Republic.

Socio-economic aspects
The main uses of the groundwater are for irrigation and for domestic purposes.

Legal and Institutional aspects
There are no bi-lateral agreements regarding the TBA in place at this stage. The Dominican Republic reports a National Institution for groundwater but with limited capacity and little management impact.

Emerging issues
Pollution of the TBA appears to be an emerging issue and will have be systematically monitored by both countries.

Contributors to Global Inventory

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
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<th>Role</th>
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<td>Contributing national expert</td>
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<td>Contributing national expert</td>
</tr>
</tbody>
</table>

Considerations and recommendations

Most data in the tables and text above have been provided by national and regional experts (listed above) or have been derived from the global WaterGAP model. See colophon for more information, including references to data from other sources.

No numerical information was provided by either country, allowing for only a very superficial description of the TBA system.

Data gaps and also differences between data from national experts (Global Inventory) and data derived from WaterGAP highlight the need for further research on transboundary aquifers.
Transboundary Aquifer Information Sheet

1CB - Masacre

Colophon

This Transboundary Aquifers information sheet has been produced as part of the Groundwater Component of the GEF Transboundary Water Assessment Programme (GEF TWAP). GEF TWAP is the first truly global comparative assessment of transboundary groundwater, lakes, rivers, large marine ecosystems and the open ocean. More information on TWAP can be found on: www.geftwap.org. The Groundwater component of TWAP carried out a global comparison of 199 transboundary aquifers and the groundwater systems of 41 Small Island Developing States. The data used to compile this transboundary aquifer information sheet has been made available by national and regional experts from countries involved in the TWAP Groundwater project. For aquifers larger than 20,000 km2 and which are not overlapping, additional data are available from modelling done by the Goethe University Frankfurt (Germany) as part of TWAP Groundwater. All data were compiled by UNESCO-IHP and the International Groundwater Resources Assessment Centre (IGRAC – UNESCO Category II Institute). Values given in the fact-sheet represent an approximate guide only and should not replace data obtained from recent local assessments. The editors of this information sheet are not responsible for the quality of the data.

For more information on TWAP Groundwater and for more data, please have a look at the TWAP Groundwater Information Management System which is accessible via www.twap.isarm.org or www.un-igrac.org.

Request:
If you have additional data or information about this transboundary aquifer that can improve the quality of this information sheet and the underlying database, please contact us via email at info@un-igrac.org. If appropriate, the information will be uploaded to the database of transboundary aquifers and will also be used in new versions of this information sheet.

References:
- Climate: Climate indicates the major climate zone which occurs in the aquifer area. If more than 1 climate zone is present the zone with the largest surface area was selected. Source climate data: ArcGIS Online (2015), Simplified World Climate zones. Owner: Mapping Our World GIS Education. Original map: National Geographic World Atlas for Young Explorers (1998).
- All other data: TWAP Groundwater (2015).

Version: October 2015