

IAH network on “Coastal aquifer dynamics and coastal zone management” QUESTIONNAIRE

IAH national committees, IAH members and non members from all around the world involved in SWI and SGD research and management are kindly asked to fill in the questionnaire in this page with as many details as possible.

A world database will be set up and made available, with basic coastal aquifer main characteristics.

We expect to gather standard and comparable information on the knowledge level and hopefully the state of the art of the research on SWI and SGD, and coastal aquifer management methods adopted around the world

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| 1) | Location of aquifer (country, more specific location): | Almería, SE Spain |
| 2) | Reported by: | Fernando Sola |
| 3) | Type of medium (karst, porous, fracture) | Porous Medium |
| 4) | Type of aquifer (phreatic or confined) | Phreatic |
| 5) | Main lithology - (e.g. gravel, sand and clay) | Gravel and sandstones |
| 6) | Hydrochemistry: fresh or saline | Saline |
| 7) | Saltwater intrusion: lateral from sea or lakes - upconing | Upconing |
| 8) | Aquifer geometry: hydraulic characteristics | |
| 9) | Aquifer parameters: storage - annual water pumping - (in MCMA - millions cubic meters, annually) | |
| 10) | Depth of aquifer (water level and bottom) - water level 5-30 m - aquifer depth - 50-200 m | Aquifer depth: 80 m (depth of Pliocene silts) Water level: 3 m |
| 11) | Major chemistry (anions - ?; Cations - ?): | HCO3: 73; Ca: 263; Mg:383; Na: 2816; K:84; Cl: 5215; SO4: 1398 |
| 12) | Major salinity sources: | Old seawater intrusion |
| 13) | Population: | About 100 people |
| 14) | Aquifer status: special features - e.g. thermal springs, major faults,... | The aquifer is located in a Natural Park |
| 15) | Investigation methods - e.g. water level measurements, EC (electrical conductivity profiles), TDEM (geophysical), | Water level measurements, EC, mayor and minor ions, isotopes |
| 16) | Numerical hydrological modeling, chemical and isotopic methods, age determination, IR survey, seepage meters (for Submarine Groundwater Discharge, SGD) | 3D hydrogeochemical modelling,pumping test,ionic delta values Age determination |
| 17) | Monitoring methods applied and duration - water level measurements, EC (electrical conductivity profiles - seasonal) | Water measurements, EC profiles |
| 18) | Management methods: | No more pumping wells are allowed |
| 19) | Aquifer management actions: | |
| 20) | Identification of existing or potential problems: | Overexplotation |
| 21) | Annexes: | Sola, F., Vallejos, A., Daniele, L., Pulido-Bosch, A. (2014). Identification of a Holocene aquifer–lagoon system using hydrogeochemical data. Quaternary Research, 82: 121-131 |
| 22) | Observations: | In this aquifer exists a desalination plant wich takes salt water from the aquifer, but now it doesn't work |