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

1)	Location of aquifer (country, more specific location):	Mar del Plata, Argentina
2)	Reported by:	E.M. Bocanegra, H.E. Massone, J.L. Cionchi and D.E. Martínez
3)	Type of medium (karst, porous, fracture)	Porous
4)	Type of aquifer (phreatic or confined)	Multilayered phreatic aquifer and its thickness ranging from 70 to 100 m
5)	Main lithology - (e.g. gravel, sand and clay)	Silts and silty-sandy sediments
6)	Hydrochemistry: fresh or saline	Fresh
7)	Saltwater intrusion: lateral from sea or lakes - upconing	Lateral Intrusion from ocean
8)	Aquifer geometry: hydraulic characteristics	Hydraulic conductivity is 10-15 m/day. Its transmissivity is about 600-800 m2/day in the urban area and between 1,000-1,400 m2/day in the rural area.The storage coefficient is 0,001 and the porosity is 0,15
9)	Aquifer parameters: storage - annual water pumping - (in MCMA - millions cubic meters, annually)	The average rainfall in 1930-2005 was of 895 mm/year in this city annual water pumping 120 Hm3/year
10)	Depth of aquifer (water level and bottom) - water level 5-30 m - aquifer depth - 50-200 m	Phreatic level ranging between 10-30 mbs. Hydrogeologic basement is quartzitic rocks in the upper area of the basin (depth 30-80mbs) or clay/ siltyclay levels in the lower area of the basin (depth aprox. 130/150 mbs)
11)	Major chemistry (anions - ?; Cations - ?):	Mainly HCO3Ca; depeest levels of the aquifer Cl-Na (or descharge area) other ions Mn,Fe,NO3,SO4 and NH4
12)	Major salinity sources:	Saline intrusion from the sea,Nitrate and bacteriological pollution in groundwater
13)	Population:	Population of 600,000 inhabitants increasing threefold during the summer. Water for urban, agricultural and industrial uses are exclusively supplied by groundwater resources
14)	Aquifer status: special features - e.g. thermal springs, major faults,…	Porous media aquifer; very homogeneus
15)	Investigation methods - e.g. water level measurements, EC (electrical conductivity profiles), TDEM (geophysical),	Physicochemical parameters (temperature, pH, and conductivity); phreatic level monitoring,Hydrological investigations
16)	Numerical hydrological modeling, chemical and isotopic methods, age determination, IR survey, seepage meters (for Submarine Groundwater Discharge, SGD)	Pumping tests,X-ray diffraction,Chemical methods,Piper diagrams 1-Dtransport modeling,hydrogeochemical modeling
17)	Monitoring methods applied and duration - water level measurements, EC (electrical conductivity profiles - seasonal)	The Chemical analysis began in 1950 and in particular 399 analyses of samples collected from 1995 to 2005 have been considered to describe groundawater quality
18)	Management methods:	Responsability of the Local goverment (municipality) ; pumping area increasses inland according water demand; pumpion on urban area stopped
19)	Aquifer management actions:	To achive the stability of a fresh water dome between sea shore and pumping area, to avoid sea water intrusion
20)	Identification of existing or potential problems:	Problems related to hydric resources are: intense urban expansion, risk of saline intrusion, pollution of groundwater (agrochemicals, areas without sanitation services), and recurrent floods in the downtonwn buiding´s basement (due to phreatic level rise) Lack of integrated coastal management
21)	Annexes:	
22)	Observations:	Today there are about 230 wells operating