

Water allocation in transboundary basins: a global workshop on
the status and good practices
Geneva 16-17 October 2017

Water allocation provisions in the Genevese Aquifer agreement

Dr. Gabriel de los Cobos

GESDEC - Geological survey of the Canton of Geneva

GENEVOIS AQUIFER

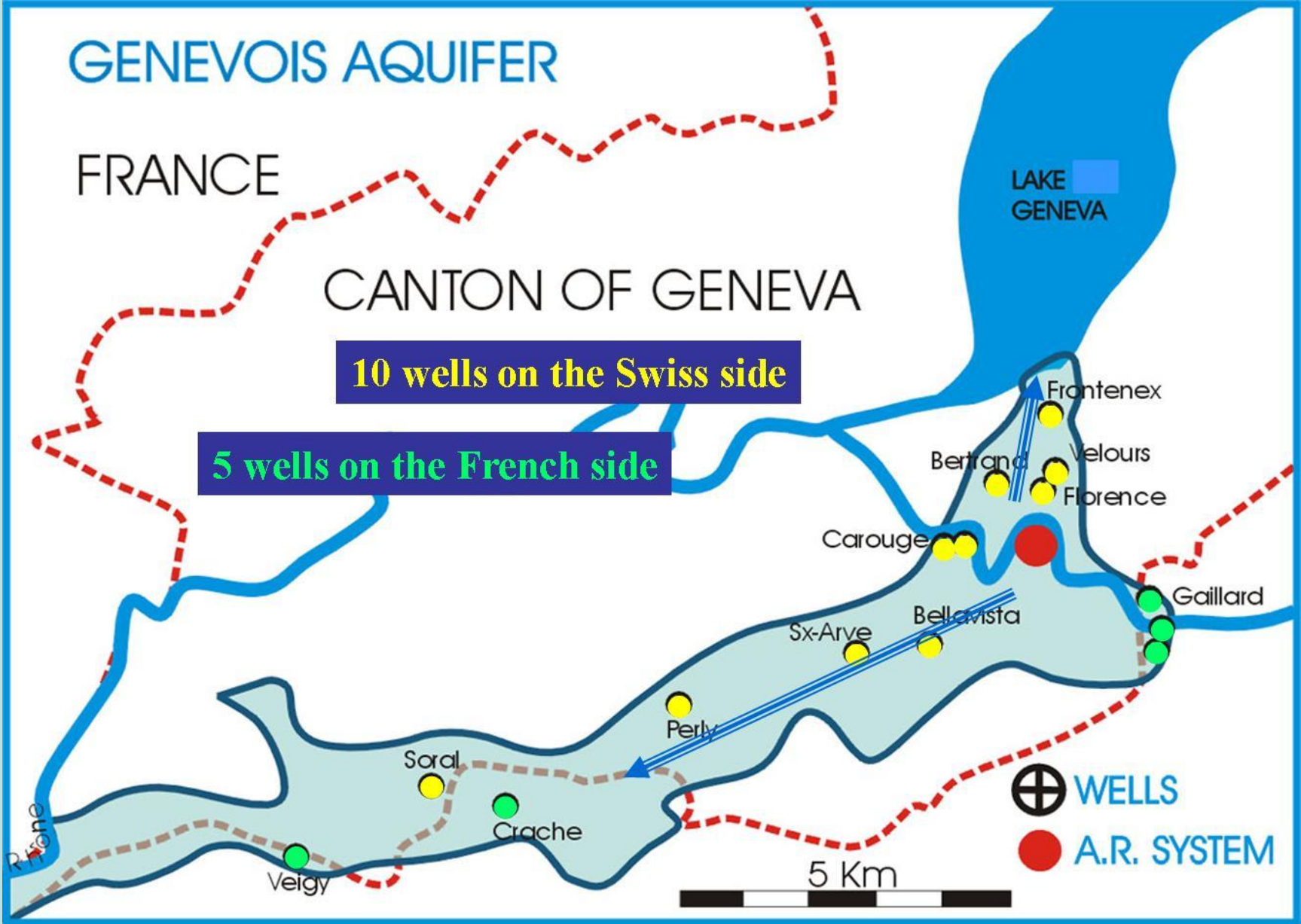
FRANCE

CANTON OF GENEVA

LAKE
GENEVA

10 wells on the Swiss side

5 wells on the French side





REPUBLIQUE
ET CANTON
DE GENEVE

POST TENEBRAS LUX

Stakeholders



SEA

7 wells

~ 7 Mm3/y

SIG

6 wells

~ 6 Mm3/y



Annemasse

3 wells

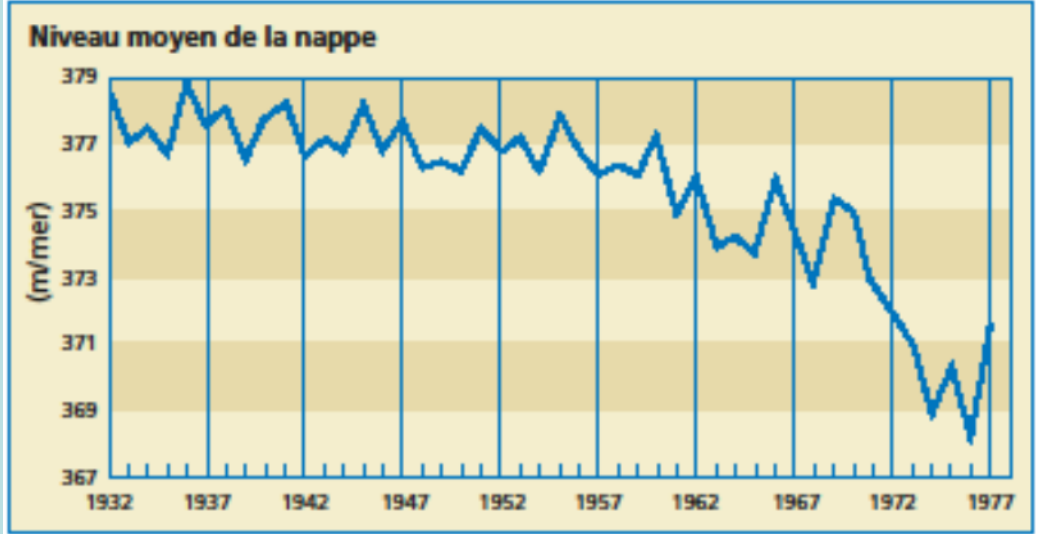
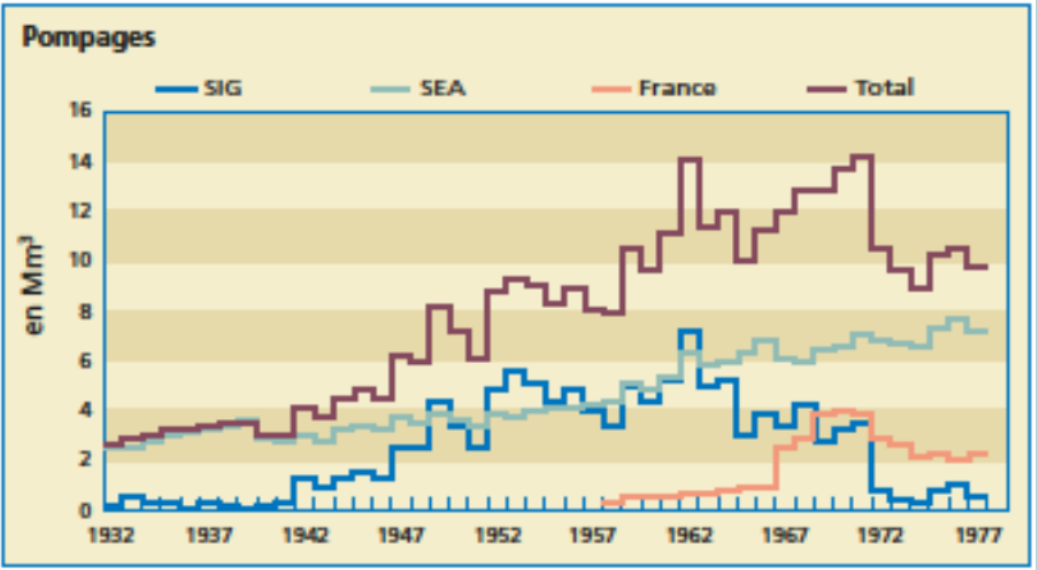
CCG

1 well


Viry

1 well

~ 2 Mm3/year



Urgent hydraulic management:



To consider a decrease in withdrawal rate by using another water resource (the construction of a new water filtration and treatment plant in the lake)



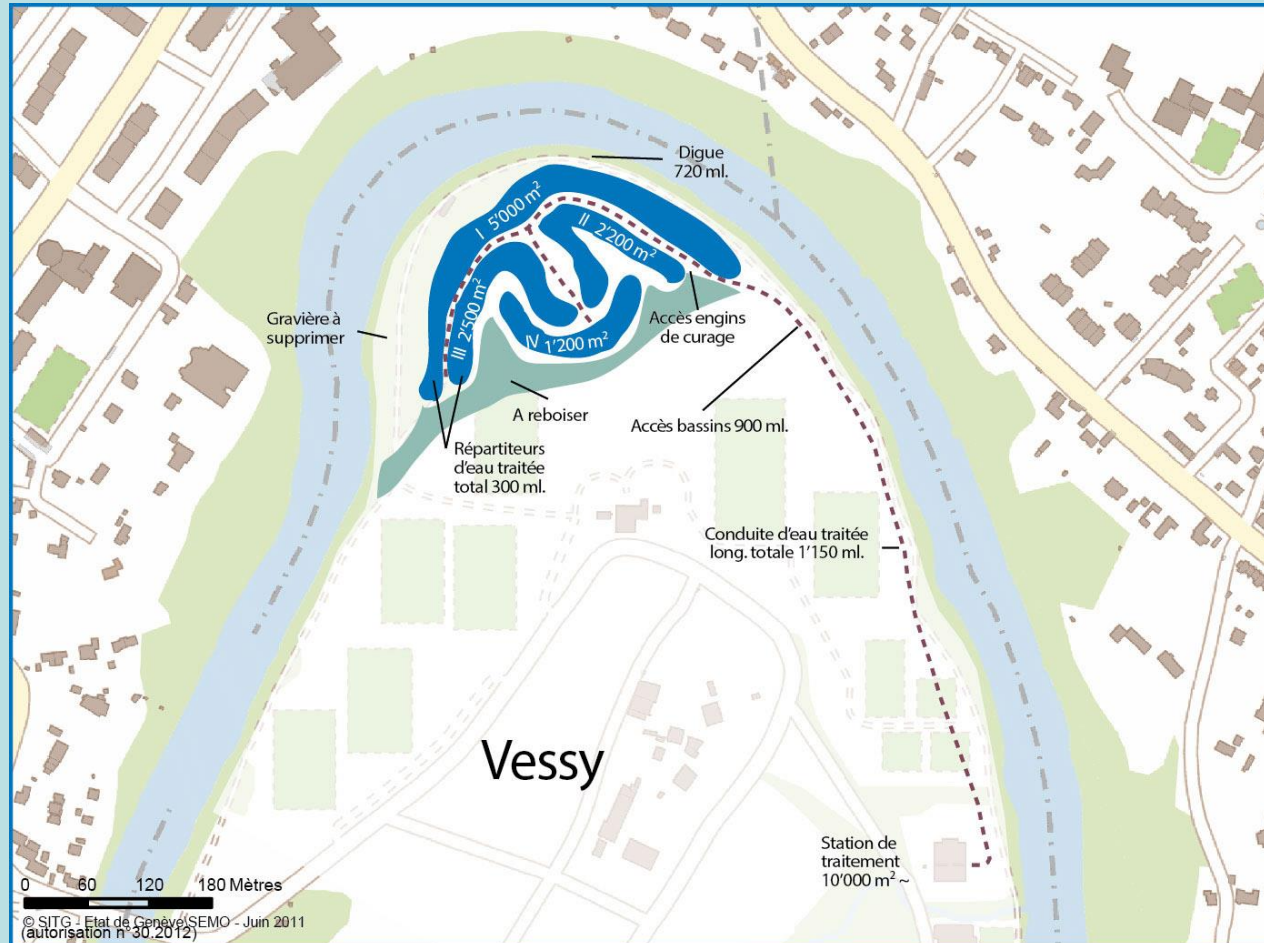
To carry out a reinforcement of the natural capacity of groundwater by artificial recharge

2 criteria:

- 1 - water supply security (diversification of water resources)**
- 2 - economical criteria (the cost of a groundwater A.R. is not the same as a new water treatment plant in the lake)**

Technical issue:

Studies and tests carried out on the experimental plant

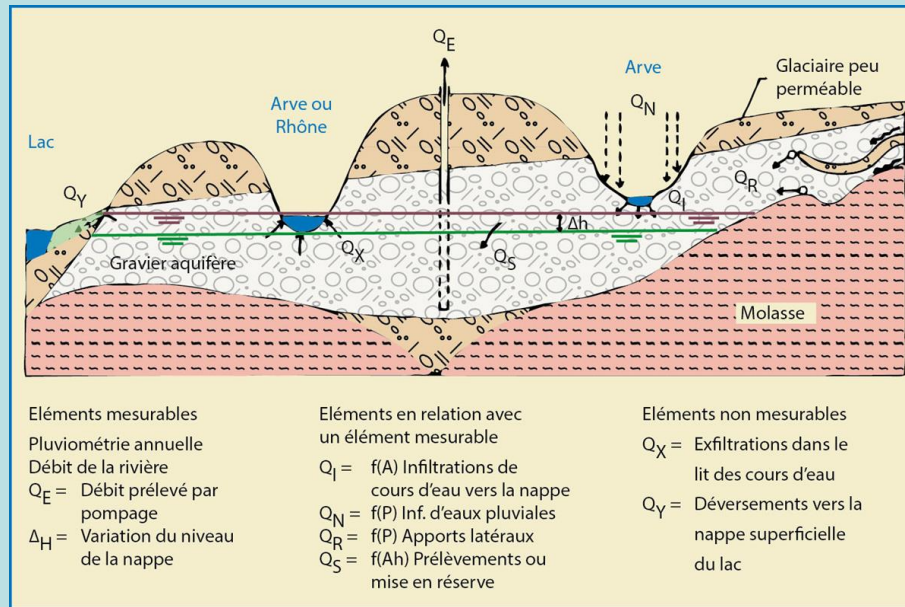


Administrative and political issues:

Several meetings and discussions (CH-F) in order to

- 1 - impose restrictions on use until an A.R. plant completed
- 2 – Establish equitable cost sharing

1972 to 1977 work on drinking water resources and hydrogeological issues (losses, natural recharge, futur pumping and fees) in order to laying the bases of a futur Franco-Swiss agreement.





REPUBLIQUE
ET CANTON
DE GENEVE

POST TENEBRAS LUX

Localisation des piézomètres de la nappe du Genevois



Piezomètres

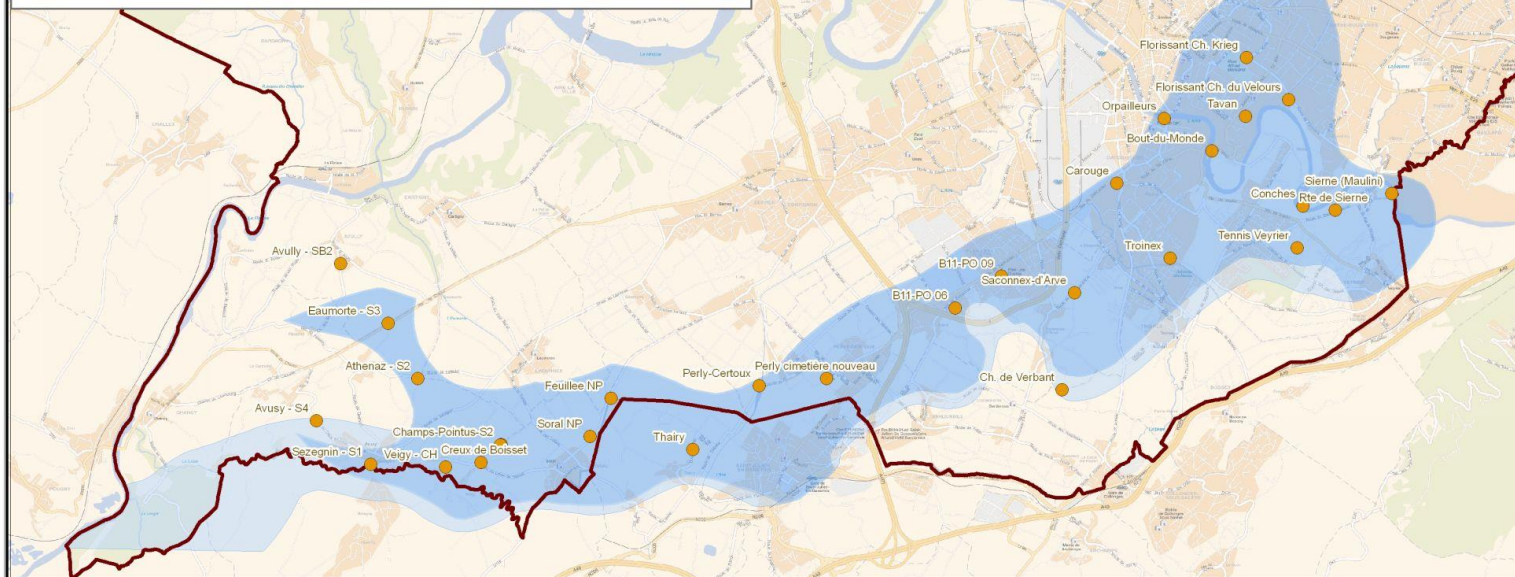


Nappe du Genevois



Limite cantonale

0 0.5 1 2 3 4
Kilomètres



REPUBLIQUE
ET CANTON
DE GENEVE

POST TENEBRAS LUX

1977: artificial recharge benefits underlined:

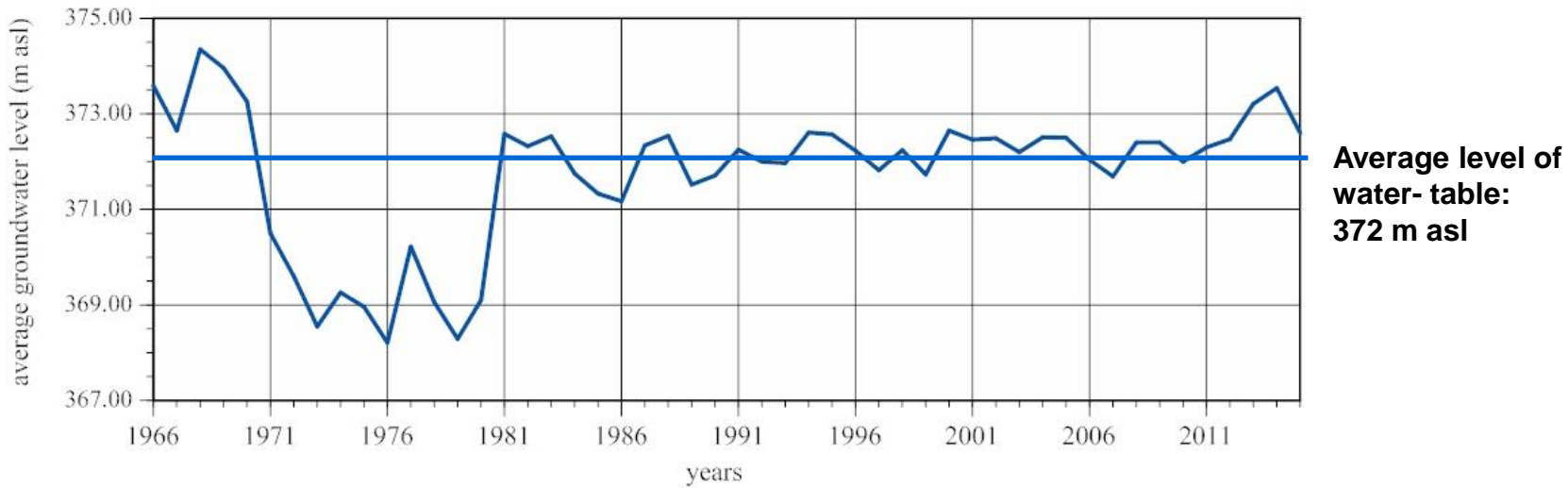
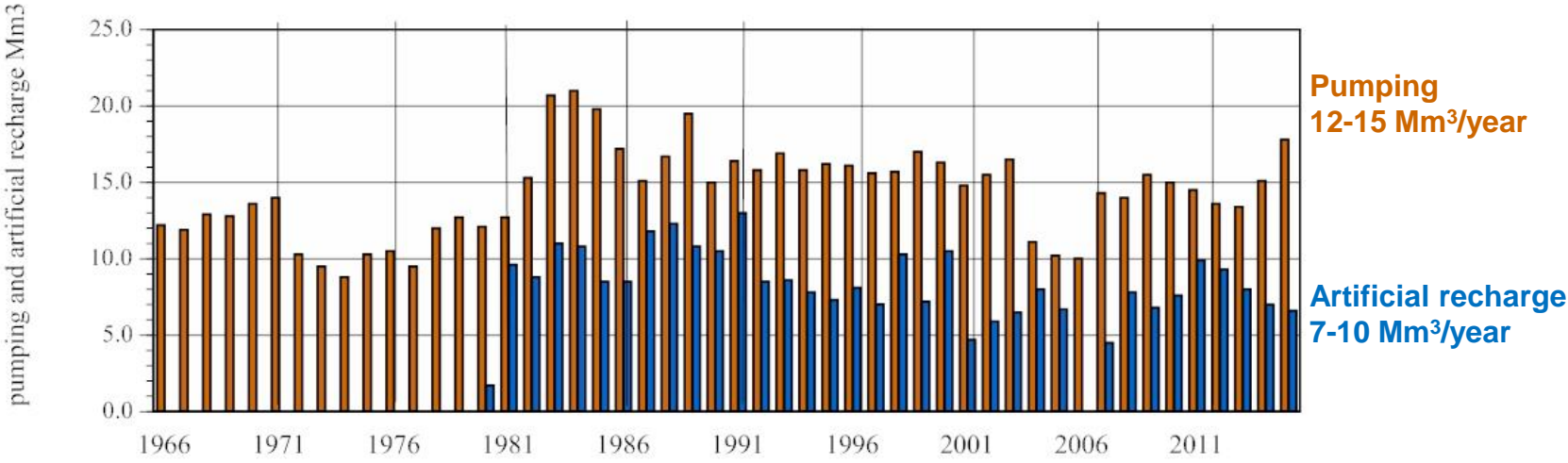
- ◆ **All users:** availability of 15 Mm³ of drinking water stored in the underground.
- ◆ **Swiss water companies (SEA & SIG):**
ability to exploiting all the existing pumping wells without the construction of a water plant for treating lake water.
- ◆ **French communities:**
Extraction of supplementary amounts of water paying their part of the costs beyond the annual minimum allowance of 2 Mm³/year.
- ◆ The cost of A.R. (depreciation, interest, usage and renovation costs) spread among all groundwater users, whatever the origin of the water (natural or artificial recharge)

1978: Arrangement between the canton of Geneva & the prefecture of Haute-Savoie

- The Arrangement covers the following matters:
 - The Commission
 - The annual aquifer management programme
 - The groundwater recharge installation
 - Water rights
 - Water pricing
 - Miscellaneous provisions

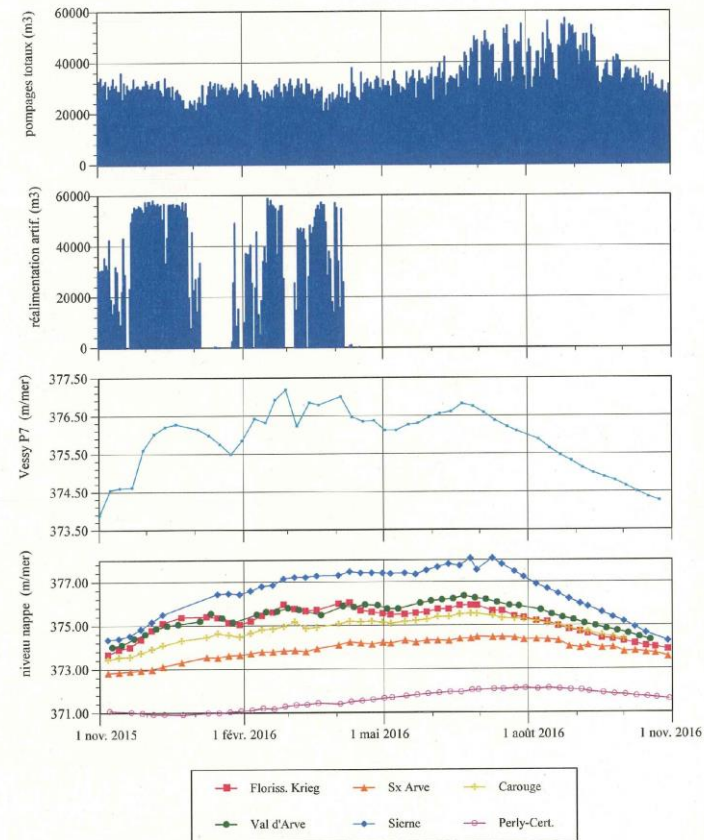
- The arrangement entered into force on June 1978 and was agreed for 30 years

Impact of MAR after 35 years (1980-2015)



Nappe du Genevois

Evolution des niveaux piézométriques 2015-2016



Service de géologie, sols et déchets - Département de l'environnement, des transports et de l'agriculture



REPUBLIQUE
ET CANTON
DE GENEVE

POST TENEBRAS LUX

2007-2008: extension of the 1978 arrangement

- **Franco-Swiss working group of the committee created in order to produce a basic document outlining the management of Genevese aquifer for the next 30 years, with legal support**
- **Technical specificities agreed on by the parties placed within a global context recognised at administrative and political levels**
- **Setting up the cross border legal bases for the new agreement.**

Agreement relating to the use, recharge and monitoring of Franco-Swiss Genevese aquifer signed on 18 December 2007 and entered into force on January 1, 2008 for 30 years

Key success factors

- The Arrangement ignores territorial sovereignty and territorial integrity concepts.
- To adopt a strategy for common use of the transboundary resource.
- To tackle a problem relating to international water resources at local level, rather than at the level of sovereign states (Canton of Geneva & Department of Haute-Savoie).
- The technical aspects (hydrogeological studies, management of pumping stations, local hydraulic assessments) well known and dealt with by local actors who would then relay the information to decision-makers at the local level.
- The Committee: as main stakeholder, being at the center of all discussions and meetings, this commission has been crucial to this success.

Thank you !!!

Any questions ?



Gabriel de los Cobos

Service de géologie, sols et déchets (GESDEC)

DGE - DETA – Canton de Genève

gabriel.deloscobos@etat.ge.ch



REPUBLIQUE
ET CANTON
DE GENEVE