

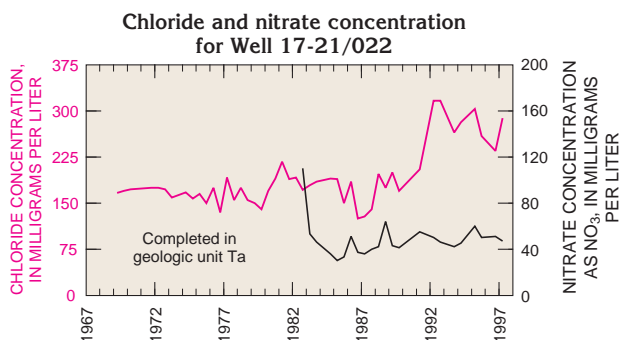
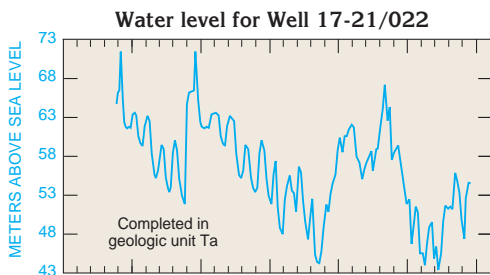
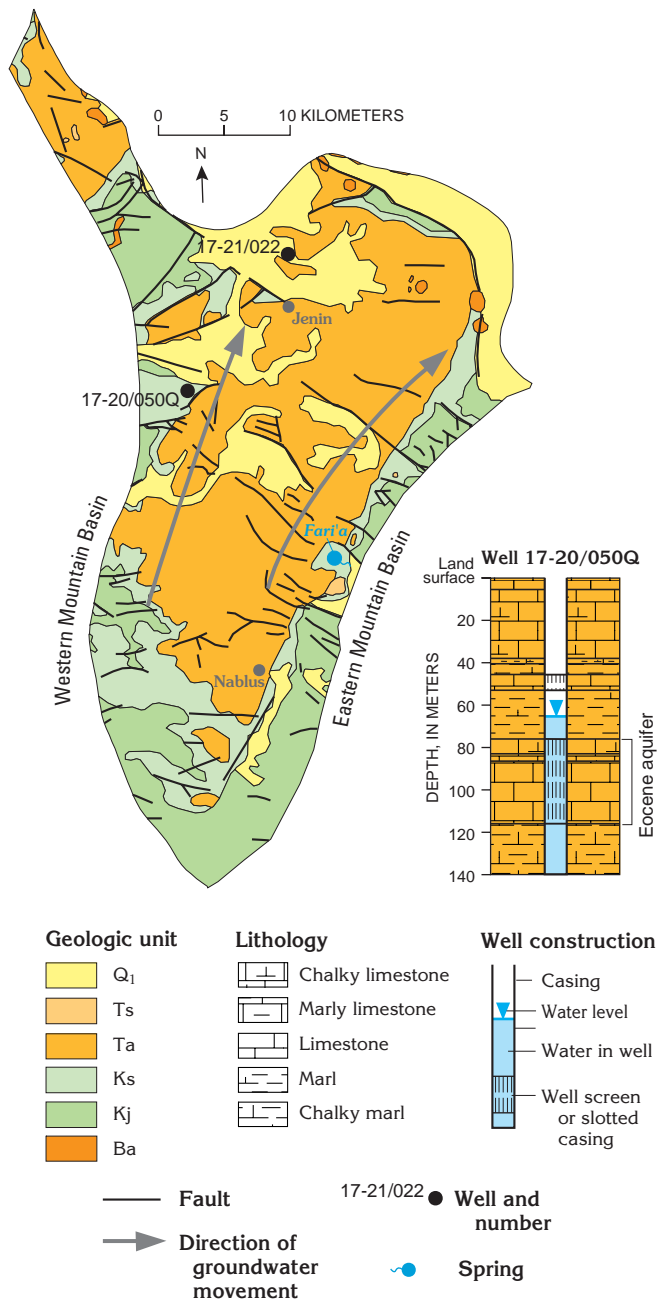
# Northeastern Basin



The Northeastern Basin is a generally flat area with low rolling hills in the northernmost part of the Mountain Belt with no obvious topographic features that delineate its boundaries. The basin covers an area of about 1,044 km<sup>2</sup>, and is underlain by a thick sequence of layered limestone, dolomite, chert, chalk and marl of the Advat, Judea, and Mount Scopus Groups (geologic units Ta, Kj, and Ks).

Groundwater is recharged by precipitation at an average volume of 145 MCM/yr, and flows generally in a northeast direction. Groundwater is supplied to wells and springs by two principal aquifers:

- The Eocene aquifer, consisting of limestone and chalk with chert bands of geologic unit Ta; and
- Turronian–Cenomanian aquifer, consisting of limestone and dolomitic limestone of geologic unit Kj.



The hydrograph for well 17-21/022, completed in the Eocene aquifer, shows the response of water levels to pumpage. Sharp rises on the hydrograph reflect increased precipitation. During 1971-97 water levels in the well declined about 10 m in response to pumpage.

Chloride concentrations in the well remained steady during 1969-87, but increased during 1987-92, possibly in response to a water-level rise in the well. Nitrate concentrations showed a sharp decrease in 1982, then remained steady through 1997.

Typical well construction in the Northeastern Basin is illustrated by well 17-20/050Q, in the Jenin area. The 140-m deep well withdraws water from limestone of the Eocene aquifer between depths of 76 and 118 m, with a water level of about 65 m, and an average yield of about 27 L/s.

Groundwater levels in the Northeastern Basin are influenced by both precipitation and pumpage. Groundwater quality has shown some deterioration over time, primarily due to surface contamination from agricultural practices and from wastewater. Groundwater pumpage has resulted in increased salinity of water due to vertical movement of saline water from deep zones.