

Chapter 14 Saline Water Intrusion in Aquifers

14.1 Occurrence

Sources : encroachment of seawater in coastal areas

Seawater that entered aquifer during past geologic
Time

Salt in salt domes, thin beds or disseminated in
geologic formations etc.

mechanism : reduction or reversal of gw gradients,

destruction of natural barriers

subsurface disposal of waste saline water

14.2 Ghyben-Herzberg Relation

Fig. 14.2.1

Equation 14.2.2

14.3 Shape of interface

Fig 14.3.1

Table 14.3.1

14.4 Structure of the fresh-salt water interface

Fig 14.4.1

Fig 14.4.2

Fig 14.4.3

14.5 Effect of wells on seawater intrusion

Fig 14.5.1

Equation 14.5.3

14.6 Upconing of saline water

Fig 14.6.1

Equation 14.6.1

Equation 14.6.2

14.7 Fresh-saline relations on oceanic islands

Fig 14.7.1

Equation 14.7.3

14.8 Seawater Intrusion in Karst Terrains

Karstic limestone (special problems of seawater intrusion)

14.9 Control of Saline Water Intrusion

Table 14.9.1

Fig 14.9.1-3

14.10 Examples of seawater intrusion

Long island

Southern California

BKK