A ring map between commutative rings induces adjoint maps between their derived categories. We investigate how thick and localizing subcategories, and the Bousfield lattice, behave with respect to these maps. This gives new information about the derived categories of several non-Noetherian rings. The work connects to classifications given by Neeman, Thomason, and Balmer, and complements the stratification construction of Benson, Iyengar, and Krause. (Received September 14, 2011)