

Figure 1.12. The flow directions of the major deep and intermediate waters of the oceans, indicated by the black and dark gray lines, respectively. Shallower return flow is indicated by the light gray line. Locations of deep water formation are indicated by circled Xs. The North Atlantic Deep Water (NADW) occupies 1000–4000 m in the Atlantic and flows from the Norwegian and Greenland Seas south to the Antarctic, where it joins the Circumpolar Deep Water (CDW). Antarctic Bottom Water (AABW) is formed under Antarctic ice shelves, flows north in the Atlantic Ocean and becomes entrained in the CDW, where it joins NADW in the path around Antarctica and into the Indian Ocean, where it becomes Indian Ocean Deep Water, (IODW), and ultimately to the Pacific Ocean, where it eventually becomes North Pacific Deep Water (NPDW). The ocean above about 1000 m is ventilated by Intermediate and Mode Waters. The paths of the Antarctic Intermediate (AAIW) and Subantarctic Mode Waters (SAMW) are shown in the figure. (Modified from Gnanadesikan and Halberg (2002).)

