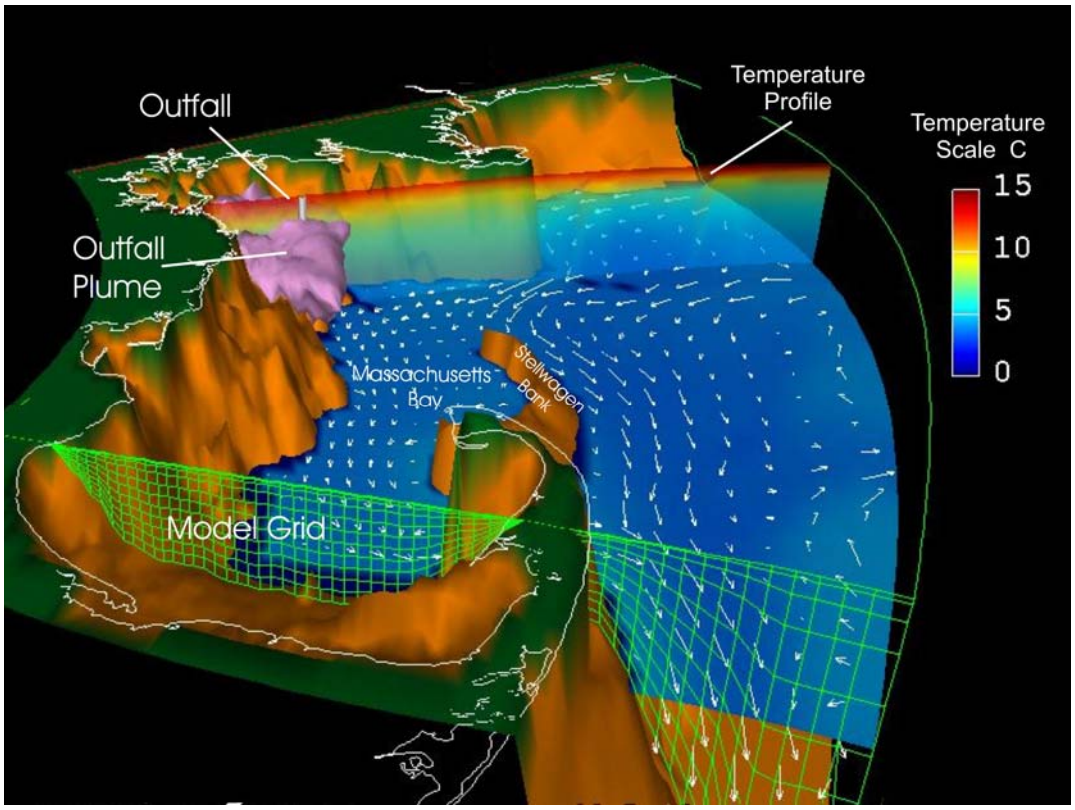

Figure 1.9. This simulation of Massachusetts coastal waters highlights some of the features and capabilities of a version of the Estuarine and Coastal Ocean Model (Blumberg and Mellor, 1987) modified by the USGS. A cross section showing the steep temperature gradient in mid-summer extends east from Boston (red-blue spectral band). This was during a year (1990) of intense oceanographic observation in Massachusetts Bay that provided an opportunity to assess the model performance. Southeast of Boston Harbor is a pink cloud, which depicts the limit of 200-fold diluted effluent from the future Massachusetts Bay outfall (shown as a vertical white bar). The effluent is released through a 2 km diffuser at the sea floor. White arrows show mean current direction and relative speed at 50-m depth. The changing size of the model's grid cells (green latticework through Cape Cod Bay) indicates greater spatial and depth resolution in shallow water than in deeper water. Specific model results are discussed in Chapters 5 and 6.