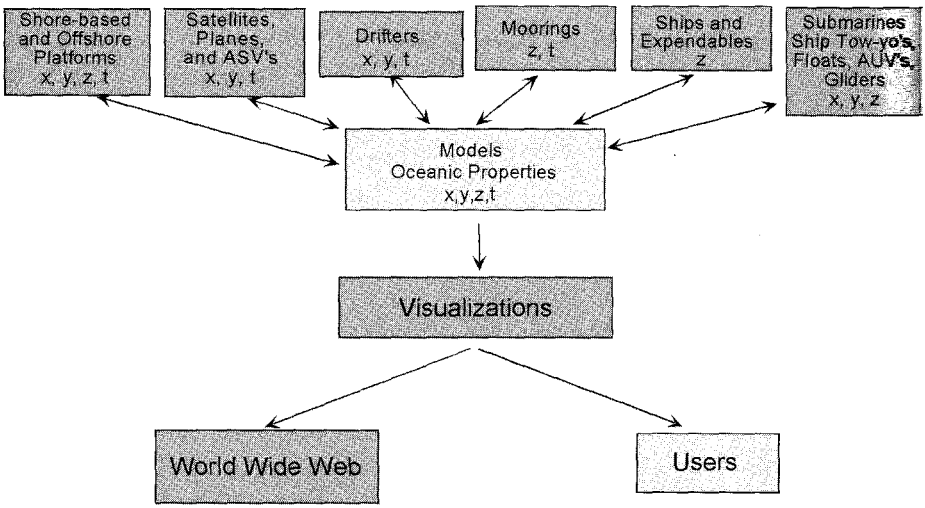

Figure 9.6. Schematic illustrating synthesis of various data types using ocean models. Visualizations and transmittal of data to the Web and specific users such as managers are also depicted. The double arrows at the top connote feedbacks of model predictions to enable adaptive sampling by the various platforms. AUV, autonomous underwater vehicle. ASV, autonomous surface vehicle.

This will probably require the formation of cooperative partnerships involving governmental agencies at various levels (e.g., local, regional, national, and international), private industry, private foundations, and academia.

One of the longstanding problems is sustainability of ocean sampling. An important factor in sustaining ocean observing networks is public interest and demonstration of their use. Again, a good example is the use of the TOGA-TAO array (e.g., McPhaden et al. 2001) and complementary satellite observations along with model predictions, which are contributing greatly to the public's knowledge of ENSO and its societal and economic impacts. Clearly, the synthesis and visualization of these data sets and model simulations are critical elements. The oceanographic community can build on experiences of the atmospheric community and the growing field of information communication (e.g., volume visualization using geographic information systems). It is possible to use television and the Internet to provide the public with easily understood oceanographic information (e.g., beach reports concerning red tide or HAB outbreaks, bacterial and viral counts, and surf and current conditions; public safety notices about tsunamis, storm surges, and rogue waves). Examples of data visualization applications are discussed in box 9.3.