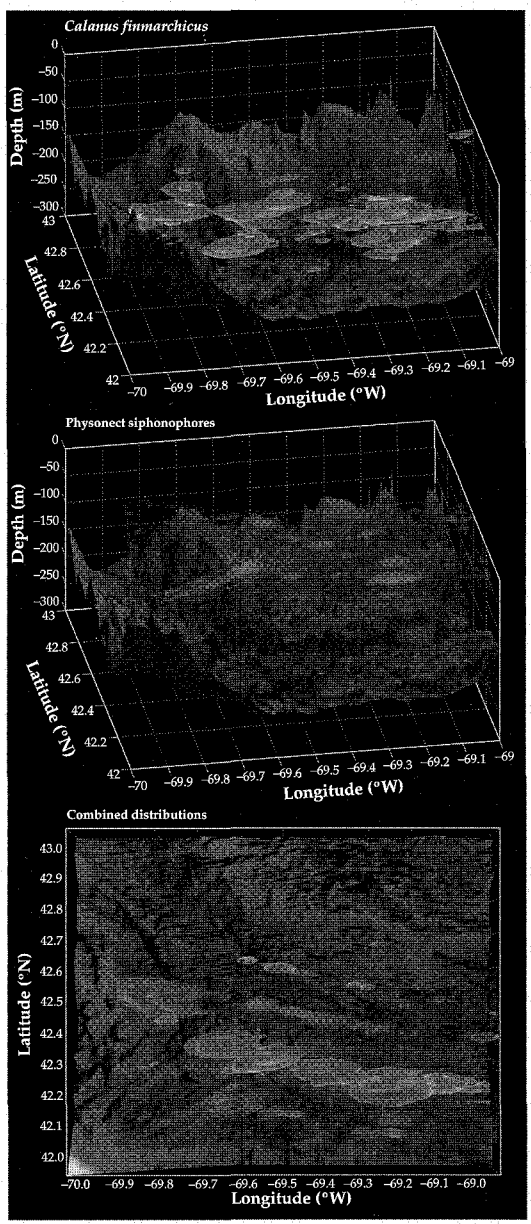
Box 6.2 *continued*



classified objects are then allocated to appropriate categories. In this manner, a training set can be rapidly assembled for construction of a classifier.

There is clearly a need for flexible software classification tools that bring automated image classification capabilities to the broad constituency of users who employ a diverse suite of imaging systems. Many current research imaging systems do not have associated image classification software. Research on Automated Plankton IDentification (RAPID) is a global initiative designed to bring zooplankton ecologists, engineers, software and hardware developers together to develop new tools that seamlessly work with imaging systems to locate, extract, learn, classify, and count zooplankton in near-real-time. Associated with the work of Scientific Committee on Oceanic Research (SCOR) Working Group WG130 (http://www.scor-wg130.net/index.cfm), RAPID is committed to developing practical and flexible software tools for the oceanographic and plankton ecology communities.

Box 6.2, Figure 1 Spatial distributions of diapausing *Calanus finmarchicus* (top panel) and physonect siphonophores (middle panel) in Wilkinson Basin during December1999 as measured with a towed Video Plankton Recorder (VPR). Observations of each taxon were converted to abundances and interpolated in three-dimension using GLOBEC EasyKrig 3.0 software. Isosurfaces in this visualization correspond to the highest densities. For *C. finmarchicus* these densities were 100–300 individuals per m^3 and for siphonophores (1–4 colonies m^{-3}). Combined distributions in plan view are illustrated in the bottom panel, which demonstrates that the patches of *C. finmarchicus* are generally absent from regions of high siphonophore densities (Christian Briseno). (See Plate 20).

Mark Benfield