Figure F1. Index map of the offshore eastern New Zealand region with major bodies of sediment accumulation and likely pathways of sediment dispersal. Ocean Drilling Program (ODP) sites were drilled during Leg 181. International Ocean Discovery Program (IODP) sites were drilled during Expeditions 372 and 375. CB = Canterbury Basin, CS = Cook Strait, RDA = Ruatoria debris avalanche.

Figure F2. Representative X-ray diffractograms for random bulk-powder specimens. Diagnostic peaks for computation of weight percent are indicated for total clay minerals (Cl), quartz (Q), feldspar (F), and calcite (Cc).

Figure F3. Representative X-ray diffractograms for oriented clay-size specimens. Diagnostic peaks for computation of weight percent are indicated for smectite (001), illite (001), undifferentiated chlorite (002) + kaolinite (001), and quartz (100). Subsidiary peaks for individual clay minerals, quartz, and illite/smectite mixed-layer clays are also shown. The saddle:peak intensity ratio for smectite (001) was used to determine percent expandability.

Figure F4. South Island sector of the reconnaissance study area with positions of sample sites and normalized proportions of dominant minerals in random bulk-powder specimens (computed using regression equations). Deep Sea Drilling Project (DSDP) Site 594 was cored during Leg 90. Ocean Drilling Program (ODP) Site 1119 was cored during Leg 181 (Shipboard Scientific Party, 1999b). The transect across Canterbury Basin was cored during Integrated Ocean Drilling Program Expedition 317. Geographic information for the piston and gravity cores is listed in Table T1. X-ray diffraction results are tabulated in Table T3.

Figure F5. Chatham Rise sector of the reconnaissance study area with positions of sample sites and normalized proportions of dominant minerals in random bulk-powder specimens (computed using regression equations). Geographic information for Ocean Drilling Program (ODP) Sites 1123 and 1125 and the piston-gravity cores is listed in Table T1. X-ray diffraction results are tabulated in Table T3.

Figure F6. Generalized stratigraphic column for Ocean Drilling Program Site 1123 (modified from Shipboard Scientific Party, 1999c) with normalized values of major minerals in random bulk-powder specimens computed using regression equations and singular value decomposition (SVD) normalization factors (Table T2). X-ray diffraction results are tabulated in Table T3.

Figure F7. Generalized stratigraphic column for Ocean Drilling Program Site 1125 (modified from Shipboard Scientific Party, 1999e) with normalized values of major minerals in random bulk-powder specimens computed using regression equations and singular value decomposition (SVD) normalization factors (Table T2). X-ray diffraction results are tabulated in Table T3.

Figure F8. Proximal Hikurangi Channel sector of the reconnaissance study area with positions of sample sites and normalized proportions of dominant minerals in random bulk-powder specimens (computed using regression equations; Table T2). Geographic information for the piston-gravity cores is listed in Table T1. X-ray diffraction results are tabulated in Table T3.

Figure F9. Hawkes Bay sector of the reconnaissance study area with positions of sample sites and normalized proportions of dominant minerals in random bulk-powder specimens (computed using regression equations; Table T2). Geographic information for the piston-gravity cores is listed in Table T1. X-ray diffraction results are tabulated in Table T3.

Figure F10. International Ocean Discovery Program (IODP) transect sector of the reconnaissance study area with positions of sample sites and normalized proportions of dominant minerals in random bulk-powder specimens (computed using regression equations; Table T2). Geographic information for the piston-gravity cores is listed in Table T1. X-ray diffraction results are tabulated in Table T3.

Figure F11. Hikurangi Plateau sector of the reconnaissance study area with positions of sample sites and normalized proportions of dominant minerals in random bulk-powder specimens (computed using regression equations; Table T2). Geographic information for Ocean Drilling Program (ODP) Site 1124 and the piston-gravity cores is listed in Table T1. X-ray diffraction results are tabulated in Table T3.

Figure F12. Generalized stratigraphic column for Ocean Drilling Program Site 1124 (modified from Shipboard Scientific Party, 1999d) with normalized values of major minerals in random bulk-powder specimens computed using regression equations and singular value decomposition (SVD) normalization factors (Table T2). X-ray diffraction results are tabulated in Table T3.

Figure F13. Core locations and normalized clay mineral proportions. Normalized proportions (where smectite + illite + undifferentiated chlorite + kaolinite = 100%) are based on computations using regression equations (Table T2). X-ray diffraction results are tabulated in Table T4.