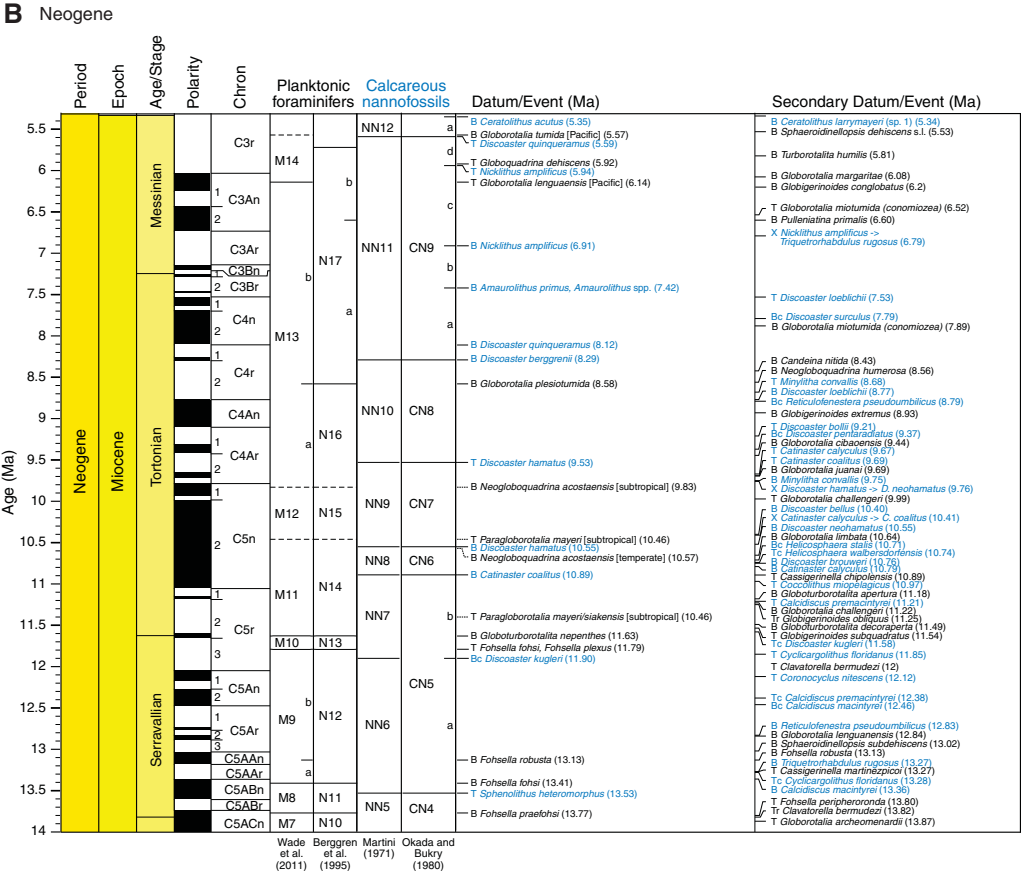
B Neogene
Period
Epoch
Age/Stage
Polarity
Chron
Planktonic foraminifers
Calcareous nannofossils
Datum/Event (Ma)
Secondary Datum/Event (Ma)
Age (Ma)
Neogene
Miocene
Messinian
Tortonian
Serravallian
C3r
C3An
C3Ar
C3Bn
C3Br
C4n
C4r
C4An
C4Ar
C5n
C5r
C5An
C5Ar
C5AAn
C5AAr
C5ABn
C5ABr
C5ACn
M14
M13
M12
M11
M10
M9
M8
M7
N17
N16
N15
N14
N13
N12
N11
N10
N9
N8
N7
N6
N5
CN9
CN8
CN7
CN6
CN5
CN4
B Ceratolithus acutus (5.35)
B Globorotalia tumida [Pacific] (5.57)
T Discoaster quinqueramus (5.59)
T Globoquadrina dehiscens (5.92)
T Nicklithus amplificus (5.94)
T Globorotalia lenguaensis [Pacific] (6.14)
B Nicklithus amplificus (6.91)
B Amaurolithus primus, Amaurolithus spp. (7.42)
B Discoaster quinqueramus (8.12)
B Discoaster berggrenii (8.29)
B Globorotalia plesiotumida (8.58)
T Discoaster hamatus (9.53)
B Neogloboquadrina acostaensis [subtropical] (9.83)
T Paragloborotalia mayeri [subtropical] (10.46)
B Discoaster hamatus (10.55)
B Neogloboquadrina acostaensis [temperate] (10.57)
B Catinaster coalitus (10.89)
T Paragloborotalia mayeri/siakensis [subtropical] (10.46)
B Globoturborotalita nepenthes (11.63)
T Fohsella fohsi, Fohsella plexus (11.79)
Bc Discoaster kugleri (11.90)
B Fohsella robusta (13.13)
B Fohsella fohsi (13.41)
T Sphenolithus heteromorphus (13.53)
B Fohsella praefohsi (13.77)
B Ceratolithus larrymayeri (sp. 1) (5.34)
B Sphaeroidinellopsis dehiscens s.l. (5.53)
B Turborotalita humilis (5.81)
B Globorotalia margaritae (6.08)
B Globigerinoides conglobatus (6.2)
T Globorotalia miotumida (conomiozea) (6.52)
B Pulleniatina primalis (6.60)
X Nicklithus amplificus -> Triquetrorhabdulus rugosus (6.79)
T Discoaster loeblichii (7.53)
Bc Discoaster surculus (7.79)
B Globorotalia miotumida (conomiozea) (7.89)
B Candeina nitida (8.43)
B Neogloboquadrina humerosa (8.56)
T Minylitha convallis (8.68)
B Discoaster loeblichii (8.77)
Bc Reticulofenestera pseudoumbilicus (8.79)
B Globigerinoides extremus (8.93)
T Discoaster bollii (9.21)
Bc Discoaster pentaradiatus (9.37)
B Globorotalia cibaoensis (9.44)
T Catinaster calyculus (9.67)
T Catinaster coalitus (9.69)
B Globorotalia juanai (9.69)
B Minylitha convallis (9.75)
X Discoaster hamatus -> D. neohamatus (9.76)
T Globorotalia challengeri (9.99)
B Discoaster bellus (10.40)
X Catinaster calyculus -> C. coalitus (10.41)
B Discoaster neohamatus (10.55)
B Globorotalia limbata (10.64)
Bc Helicosphaera stalis (10.71)
Tc Helicosphaera walbersdorfensis (10.74)
B Discoaster brouweri (10.76)
B Catinaster calyculus (10.79)
T Cassigerinella chipolensis (10.89)
T Coccolithus miopelagicus (10.97)
B Globoturborotalita apertura (11.18)
T Calcidiscus premacintyrei (11.21)
B Globorotalia challengeri (11.22)
Tr Globigerinoides obliquus (11.25)
B Globoturborotalita decoraperta (11.49)
T Globigerinoides subquadratus (11.54)
Tc Discoaster kugleri (11.58)
T Cyclicargolithus floridanus (11.85)
T Clavatorella bermudezi (12)
T Coronocyclus nitescens (12.12)
Tc Calcidiscus premacintyrei (12.38)
Bc Calcidiscus macintyrei (12.46)
B Reticulofenestra pseudoumbilicus (12.83)
B Globorotalia lenguanensis (12.84)
B Sphaeroidinellopsis subdehiscens (13.02)
B Fohsella robusta (13.13)
B Triquetrorhabdulus rugosus (13.27)
T Cassigerinella martinezpicoi (13.27)
Tc Cyclicargolithus floridanus (13.29)
B Calcidiscus macintyrei (13.36)
T Fohsella peripheroronda (13.80)
Tr Clavatorella bermudezi (13.82)
T Globorotalia archeomenardii (13.87)
Wade et al. (2011)
Berggren et al. (1995)
Martini (1971)
Okada and Bukry (1980)