

**NORTH AMERICAN TECTONIC HISTORY
TABLE OF CONTENTS**

| Feature | Location | Structure Age (Ma) | Page |
|--|---|---|------|
| 1. Formation of: | | Pre-Archean: (15,000 - 4,500) | 1 |
| A) Universe | Outer space | 14,000 ± 500 | 1 |
| B) Milky Way Galaxy | Edge of Virgo Supercluster | 12,700 ± 700 | 1 |
| C) Meteorites | Asteroid belt between Mars & Jupiter | 4,650 - 4,460 | 1 |
| D) The Sun & Solar System | Orion Arm of Milky Way Galaxy | 4,500 ± 100 | 1 |
| E) Earth | Third Planet from the Sun | 4,500 + | 1 |
| F) Moon | Earth satellite | 4,500 + | 1 |
| 2. Archean Microcontinents: | | Archean: 4,500 - 2,500 | 2 |
| A) Slave | Northwest Territory | 4,030 - 3,000 (?) | 2 |
| B) Nain | Southwest Greenland, northwest Labrador | 4,020 - 3,570 | 2 |
| C) Wyoming | Northern Utah, Wyoming, southwest Montana, western South Dakota | 3,600 - 3,000 | 2 |
| D) Hearne | Alberta & Saskatchewan to Hudson Bay | 3,480 - 2,700 | 3 |
| E) Rae | Eastern Northwest Territory & Nunavut Province | 3,330 - 2,600 | 3 |
| F) Superior | Eastern Dakotas to northeast Quebec between Hudson Bay & Great Lakes | 3,200 - 2,700 | 4 |
| 3. Wopmay Orogen | Northern British Columbia, Yukon, & Northwest Territory | Proterozoic: 2,500 - 540 1,950 - 1,840 | 4 |
| 4. Trans-Hudson Belt (Penokean/Hudsonian Orogeny) | Hudson Bay southwest to Central United States | ~1,900 - 1,710 | 5 |
| 5. Great Falls Tectonic Zone | West central Montana | ~1,860 - 1,710 | 5 |
| 6. Yavapai/Mazatzal Accretion | Southwest United States to Great Lakes | 1,790 - 1,620 | 5 |
| 7. Transcontinental anorogenic granites | Southeast California to northern Labrador and Baltica | ~1,480 - 1,340 | 6 |
| 8. Belt Super Group | Northeast Washington, northern Idaho, & northwest Montana | 1,470 - 1,390 | 6 |
| 9. Grenville Orogeny | Eastern central United States northeast to Newfoundland | ~1,200 - 900 | 7 |
| 10. Pahrump/Grand Canyon/Apache-Troy/McKenzie Mtn. Groups | Death Valley/northern Arizona/central Arizona & western Northwest Territory | 1,200 - 700 | 7 |
| 11. Uintah Mountain Group | Northeast Utah | 1,100 - 900 (?) (~800 - 750 ?) | 7 |
| 12. Mid-continent rift | Northeast Kansas to Lake Superior & southeast to southern Michigan | ~1,100 - 1,000 | 7 |
| 13. Rodinia formed | First super continent | ~1,000 | 7 |
| 14. Rodinia breakup (McKenzie Mtn.-Grand Canyon Disturbance) | Northwest Territory - northern Arizona | ~800 - 780 | 7 |
| 15. Passive Margin inception | Southeast British Columbia to southeast California | ~700 (?) - 570 | 8 |
| 16. Passive Margin development | Same as 15 | ~600 - 360 | 8 |

**NORTH AMERICAN TECTONIC HISTORY
TABLE OF CONTENTS**

| Feature | Location | Structure Age (Ma) | Page |
|--|---|----------------------|------|
| | | Paleozoic: 540 - 245 | |
| 17. Offshelf Basins | Eastern British Columbia to western Nevada | ~520 - 360 | 8 |
| 18. Offshore Arcs | Southwest British Columbia to north central California | ~475 - 375 | 8 |
| 19. Taconic Orogeny | Eastern margin of North America | ~460 - 440 | 9 |
| 20. Caledonian/Acadian Orogeny | Same as 19 | ~415 - 370 | 9 |
| 21. Ellesmerian Orogeny | Northwest Greenland & Arctic islands to west | ~375 - 320 | 9 |
| 22. Antler Orogeny | Southeast British Columbia to west central Nevada | ~370 - 320 | 9 |
| 23. Appalachian/Ouachita Orogeny | Labrador to Alabama & southwest to Arkansas, S.E. Oklahoma & S.W. Texas | ~340 - 245 | 10 |
| 24. Ancestral Rockies | W. Texas north to Wyoming & southeast to W. Arkansas | ~320 - 280 | 10 |
| 25. Truncation of S.W. Margin of Paleozoic Miogeocline | East and southeast California to northwest Mexico | ~300 - 245 | 10 |
| 26. Sonoma Orogeny | Northern California/southern Oregon to central Nevada | ~260 - 235 | 10 |
| | | Mesozoic: 245 - 66 | |
| 27. Star Peak - Luning Basin closure | Northwest Nevada | ~220 - 185 | 11 |
| 28. Rifted Arc, west margin of Cordillera | East central California to northwest Mexico | ~220 - 180 | 11 |
| 29. Pangea Breakup | East & southeast margins of North America | ~210 - 180 | 11 |
| 30. W. Klamath - N. Sierra Mtns., Post-docking convergence | Southwest Oregon and northern California | ~220 - 140 | 12 |
| 31. Central Nevada thrust belt | East-central Nevada | ~220 - 120 | 12 |
| 32. Accreted Terranes: | | | |
| A) Omineca Belt | Southeast British Columbia | ~220 - 50 | 12 |
| B) Kootenay Arc | South central British Columbia, northeast Washington, northern Idaho | ~190 - 94 | 12 |
| C) Intermontane Superterrane | South central British Columbia to Yukon | | 13 |
| 1) Slide Mountain/Cassiar Terrane | North of Kootenay Arc | ~180 | 13 |
| 2) Quesnellia Terrane | W. of Kootenay, Cassiar/Slide Mtn. Terr., N.W. Washington to Alaska | ~175 - 2 | 13 |
| 3) Cache Creek Terrane | W. of Quesnellia, north central Washington to Alaska | ~210 - 152 | 13 |
| 4) Stikina Terrane | W. of Cache Creek & Quesnellia, west central British Columbia to Alaska | ~180 - 175 | 13 |
| D) Bridge River Terrane | Southwest British Columbia | ~180 - 40 | 14 |
| E) Insular Superterrane | Western British Columbia to Yukon & S. Alaska (coast ranges & islands) | | |
| 1) Alexander | | ~225 - 85 | 14 |
| 2) Wrangellia | | ~225 - 85 | 14 |
| 3) Peninsular | | ~225 - 85 | 14 |
| 4) Coast Plutonic Belt | Coast range of western British Columbia & southeast Alaska | ~160 - 50 | 14 |
| 5) Chugach Terrane | Coastal islands of southeast Alaska | ~160 - 50 | 15 |
| 33. Sierra Nevada Magmatic Arc | East central to southeast California | ~180 - 77 | 15 |

**NORTH AMERICAN TECTONIC HISTORY
TABLE OF CONTENTS**

| Feature | Location | Structure Age (Ma) | Page |
|---|---|-------------------------------|----------|
| | | Mesozoic (Continued): | |
| 34. Elko Highlands/Utah-Idaho Trough | Eastern Nevada & western Utah | ~160 - 45 | 15 |
| 35. Foreland Basin System | Eastern Nevada to western Dakotas & south to west Texas | ~155 - 55 | 16 |
| 36. Cordilleran fold & thrust belt (Sevier Orogeny) | Southeast California to Brooks Range, Alaska | ~140 - 52 | 17 |
| 37. Blue Mountain Terranes: | Northeast Oregon, southeast Washington & western Idaho | ~120 - 90 (accretion to N.A.) | 17 |
| A) Olds Ferry | | 230 -175 (terrane rocks) | |
| B) Izee | | 245 - 210 (terrane rocks) | |
| C) Grindstone | | 400 - 270 (terrane rocks) | |
| D) Baker | | 280 - 180 (terrane rocks) | |
| E) Wallowa | | 280 - 180 (terrane rocks) | |
| F) Intrusives | | 160 - 120 (terrane rocks) | |
| 38. Idaho Batholith | West and central Idaho | 95 - 65 | 18 |
| 39. Northern Cascades | Northwest Washington | ~80 - 70 | 18 |
| 40. Laramide Orogeny | Southern Montana to northwest New Mexico & northeast Arizona | ~70 - 45 | 19 |
| | | Cenozoic: 66 - 0 | |
| 41. Coast Range | Western Washington & western Oregon | ~64 - 25 | 20 |
| 42. Kamloops/Clarno/Challis/Absaroka Volcanics | Central Oregon, central Idaho, northwest Wyoming, southwest Montana and southern British Columbia. | ~56 - 48 | 20 |
| 43. Cenozoic Cordilleran magmatism & core complex formation | Southern British Columbia to northern Mexico and south-central Colorado to eastern California. | ~56 - 25 | 21 |
| 44. Western Cascades | Western Washington & Oregon east of Puget-Willamette Trough | ~40 - 9 | 22 |
| 45. San Andreas Transform Fault System | Northern California (west of Cape Mendocino) southeast to mouth of Gulf of California (west of Mazatlan, Mexico). | ~27 - 0 | 22 |
| 46. Basin & Range extensional province | Central Utah west to Sierra Nevada & northern Mexico to southwest Montana, southern Idaho and southeastern Oregon | ~25 - 0 | 23 |
| 47. Columbia Plateau Basalts, Western Snake River Plain, Northern Nevada Rift | Eastern Washington, northeast Oregon, southwest Idaho, east central Nevada | ~17 - 14 | 24 |
| 48. Yellowstone Hot Spot Track | Southern Idaho to southwest Montana & northwest Wyoming | ~16 Ma - 2 Ka | 25 |
| 49. Newberry Rhyolite Belt | Central to southeast Oregon | ~10 - 0 | 25 |
| 50. Eastern (High) Cascades | South central Washington, central Oregon & northern California | 9 - 0 | 25 |
| List of key illustrations | | | iv - vii |
| References (listed in order of features) | | | 26-37 |