



Four stages of the assembly of northern North America. The colours represent tectonic age, defined as the time since the most recent significant episode of tectonic deformation or modification. The first three panels of the sequence depict the crustal components over a topographic map of present North America for reference; this does not represent their true geographic position. **a)** The microcontinents that later amalgamated to form the Laurentian cratonic core were generally assembled by the end of the NeoArchean (2.5 Ga). Depicted positions are unconstrained. **b)** A relatively rapid phase of convergence, accretion and collision culminated in the formation of Laurentia by the late Paleoproterozoic (1.8 Ga). The Archean cratonic blocks were sutured together by major orogens including the Trans-Hudson, Wopmay, Alberta, Thelon, New Quebec, Torngat, Makkovik, Narsajuaq, and Foxe. The position of the Sask craton, nearly completely obscured beneath the Trans-Hudson orogen, is indicated by the dashed line. The western margin of Laurentia is approximated, but is based on the interpreted extent of Laurentian basement beneath the Canadian Cordillera. **c)** Laurentia grew to the southeast through the Mesoproterozoic, culminating in the Grenville orogeny (GF) and formation of the Rodinian supercontinent. Only the Laurentian component of Rodinia is shown. Intracratonic extension, coeval with the Grenville orogeny occurred; the location of the late Mesoproterozoic Midcontinent rift is indicated. **d)** The present North American plate configuration records the results of early Phanerozoic collision and subsequent rifting that added the Appalachian component to eastern North America and formed the Atlantic passive margin. The Cordillera developed during the late Phanerozoic. The present active margin was established with transform and subduction ongoing with the Pacific and Juan de Fuca/Gorda plates. The division between autochthonous (deformed pericratonic crust) and allochthonous (accreted) crust is noted by the dashed line. Note that a substantial amount of accreted Canadian Cordilleran crust is thrust over Laurentian basement (compare with Fig. 3c).