Glacial refugia and modern genetic diversity of 22 western North American tree species

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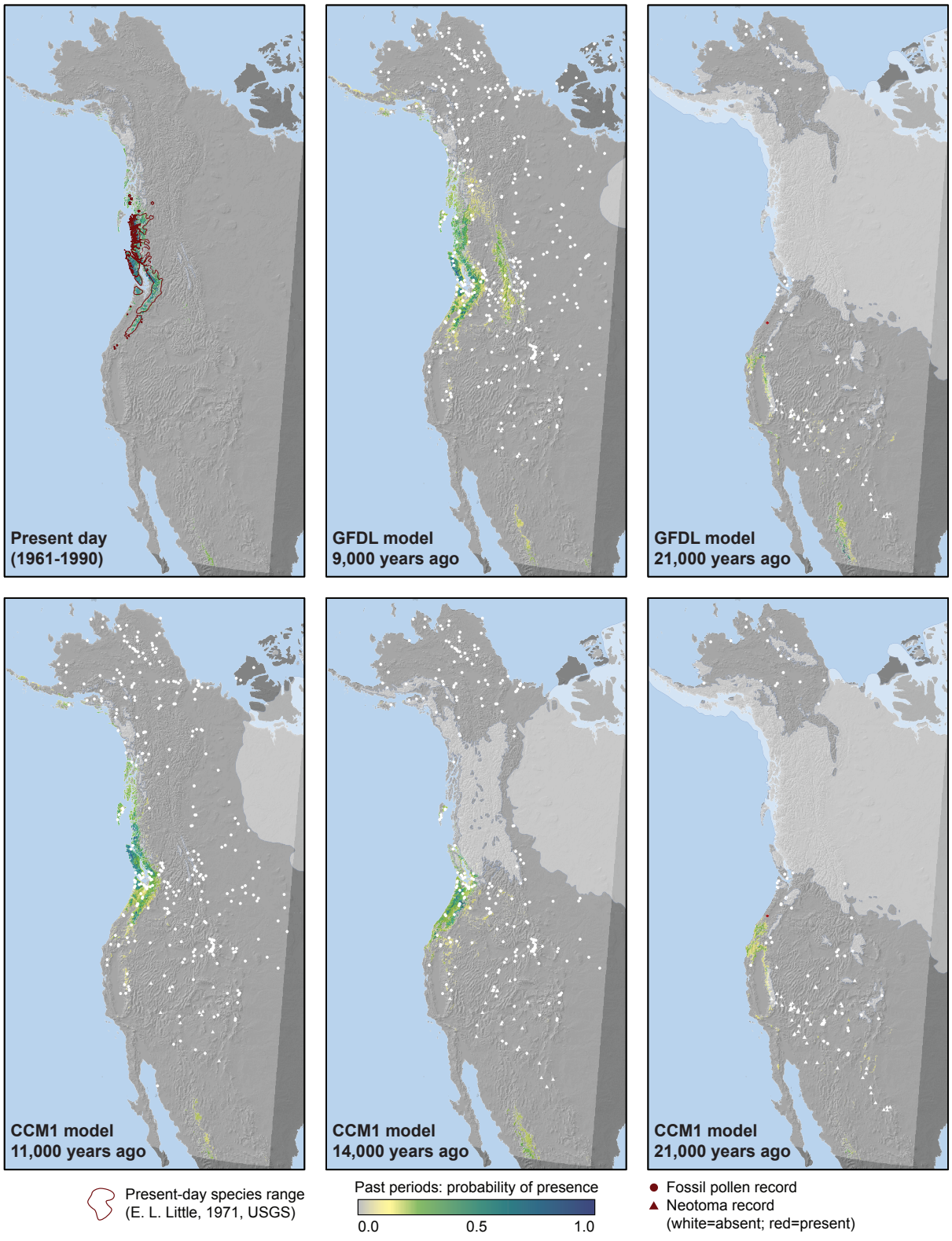

Fig. S1A: *Abies amabilis* (Pacific silver fir) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

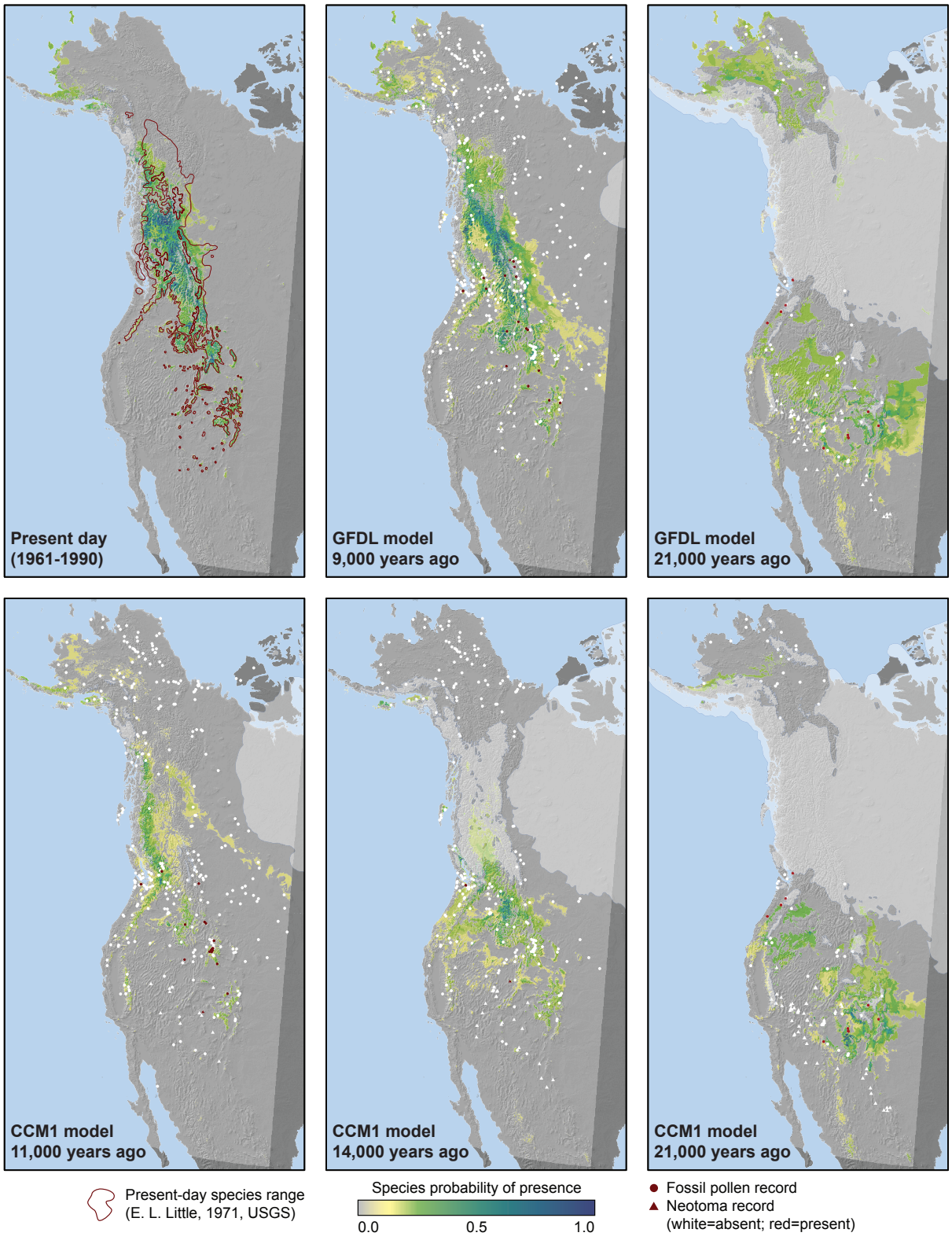

Fig. S1B: *Abies lasiocarpa* (subalpine fir) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

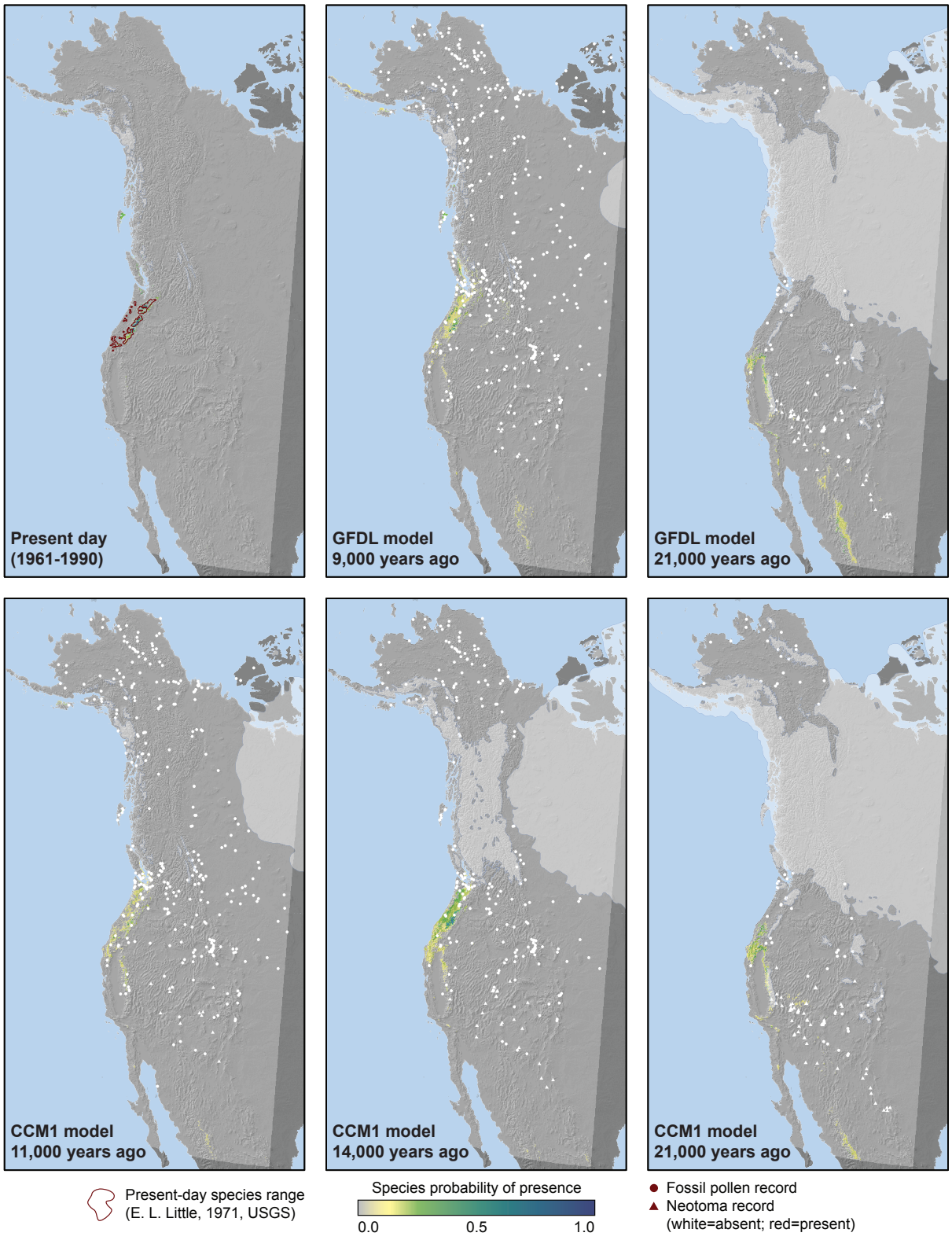

Fig. S1C: *Abies procera* (noble fir) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

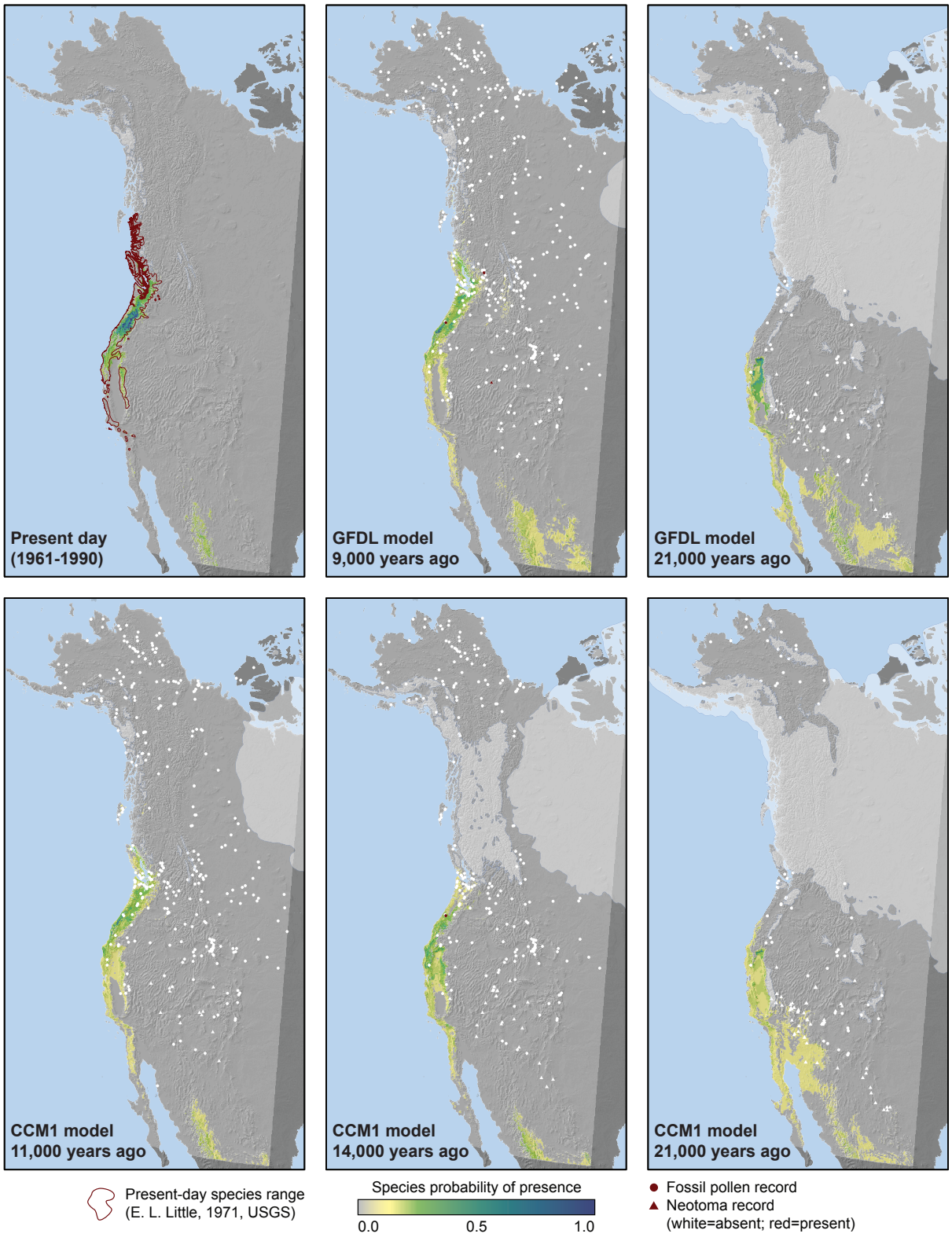

Fig. S1D: *Acer macrophyllum* (bigleaf maple) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

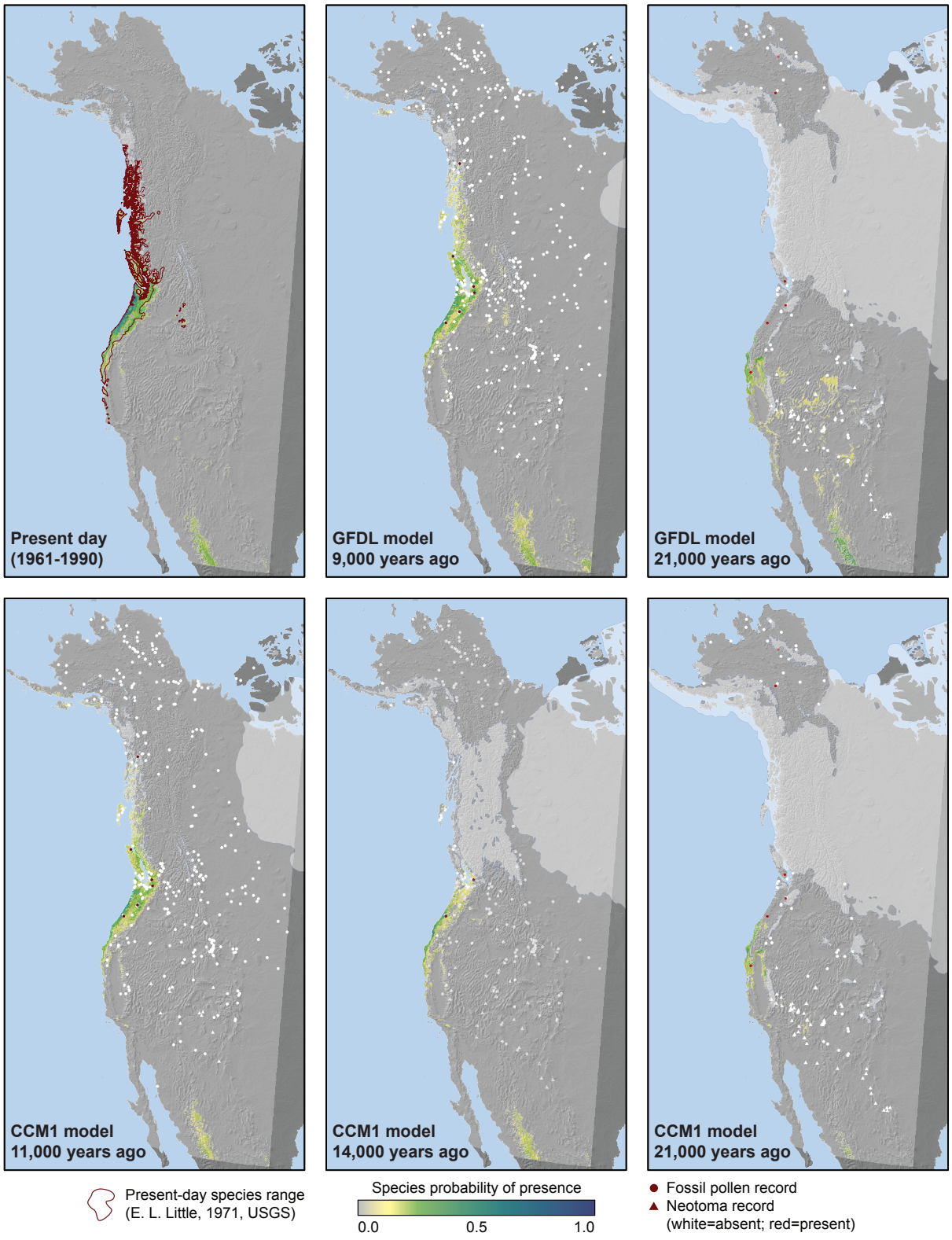

Fig. S1E: *Alnus rubra* (red alder) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

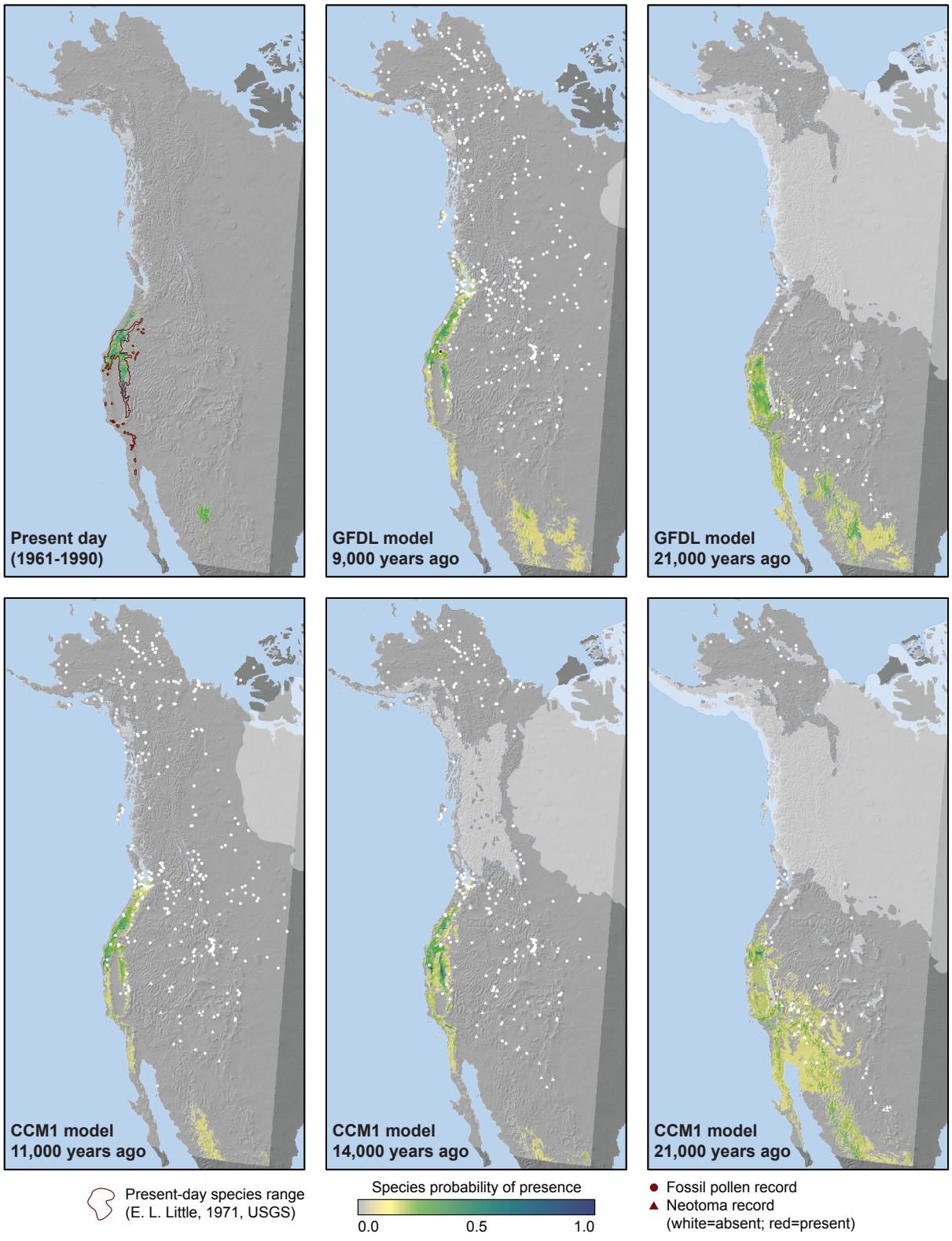

Fig. S1F: *Calocedrus decurrens* (incense cedar) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

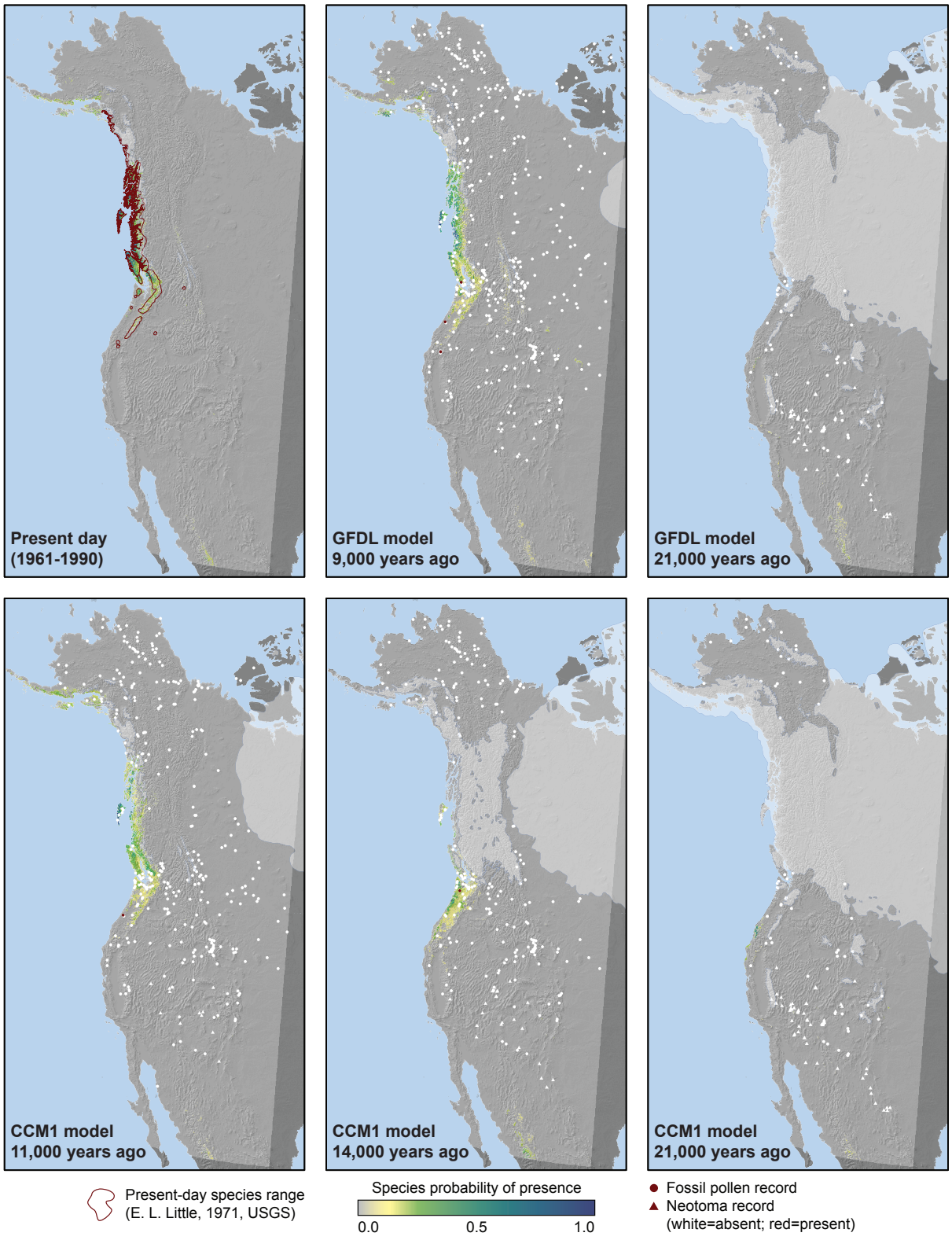

Fig. S1G: *Cupressus nootkatensis* (Alaska-cedar) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

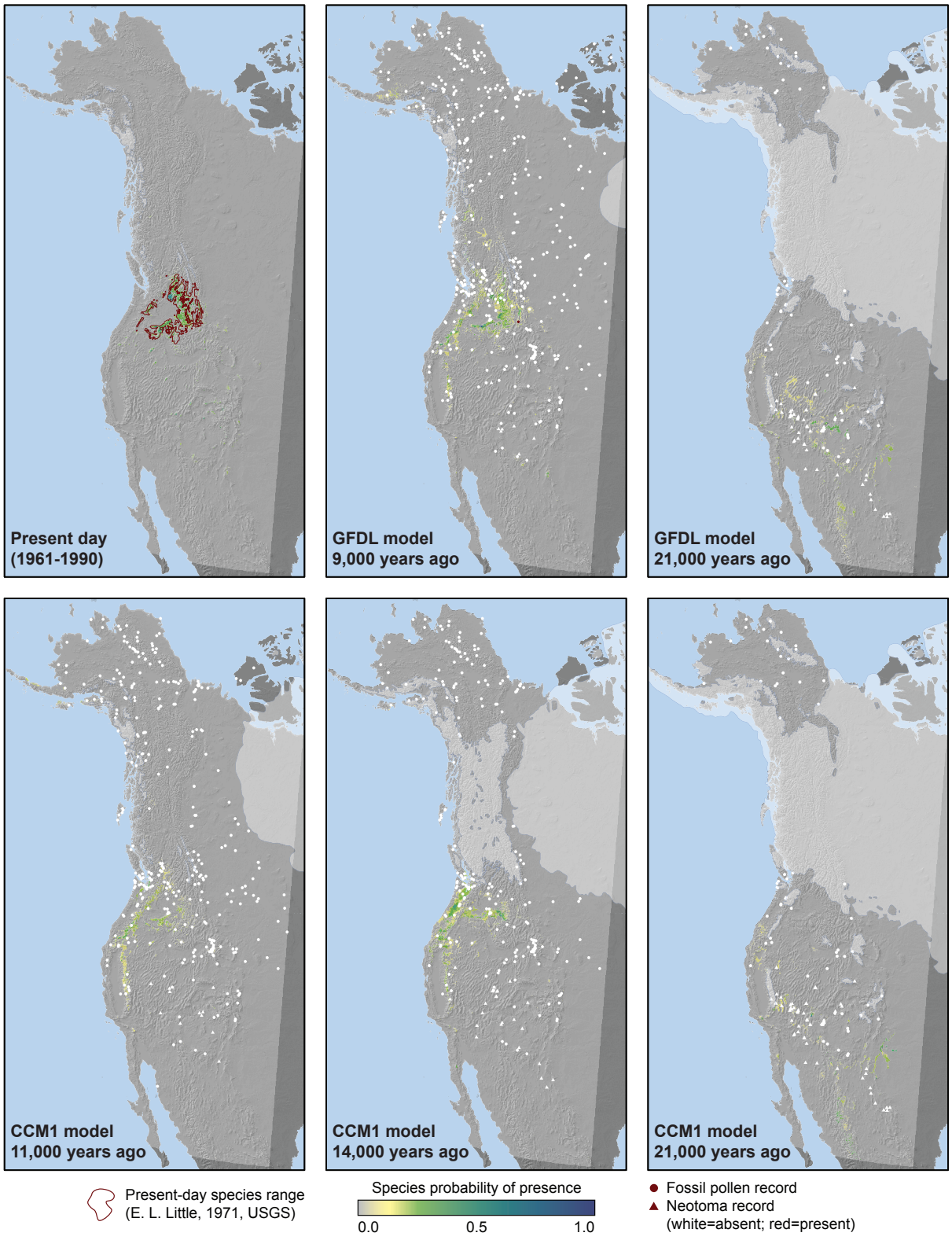

Fig. S1H: *Larix occidentalis* (western larch) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

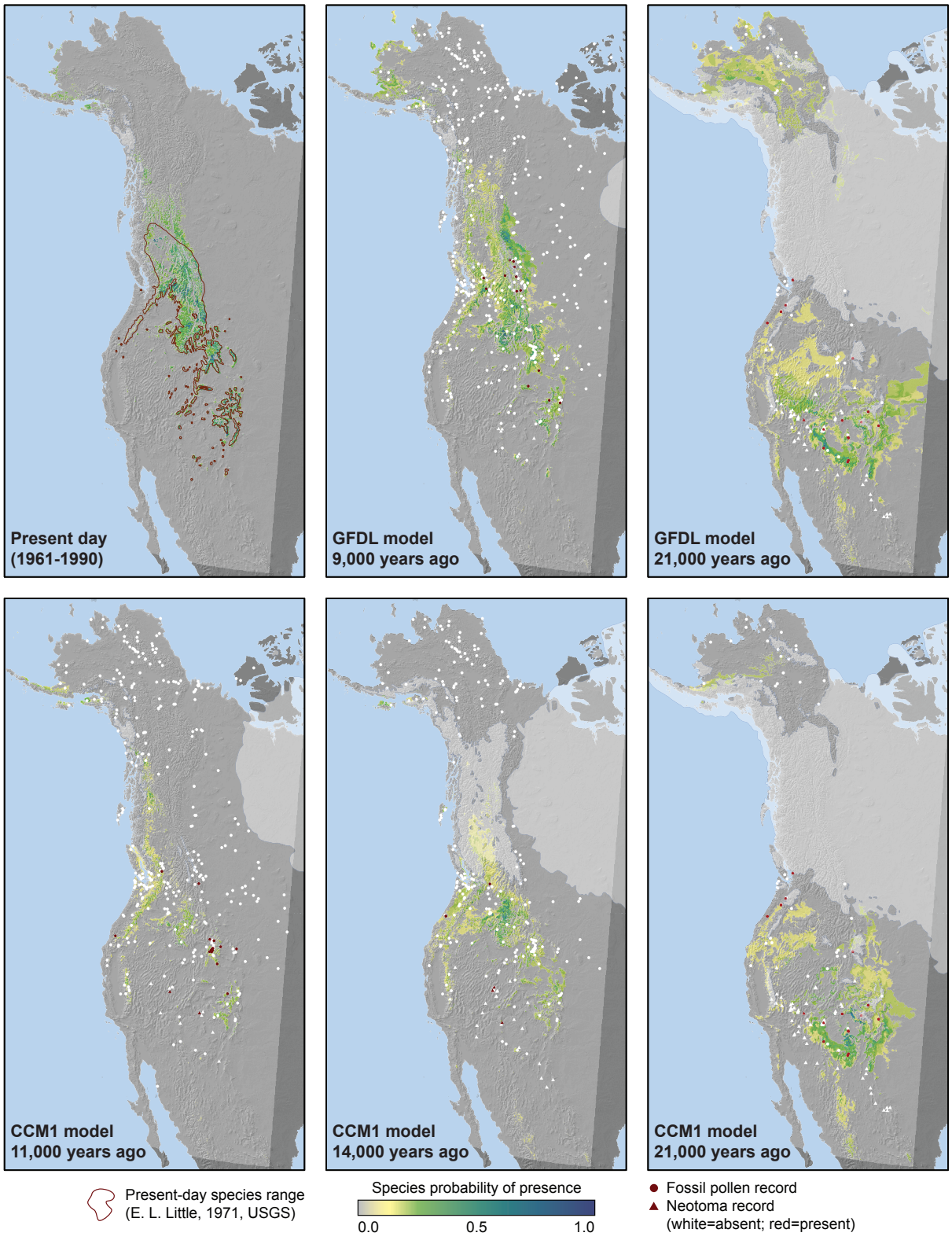

Fig. S1I: *Picea engelmannii* (Engelmann spruce) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

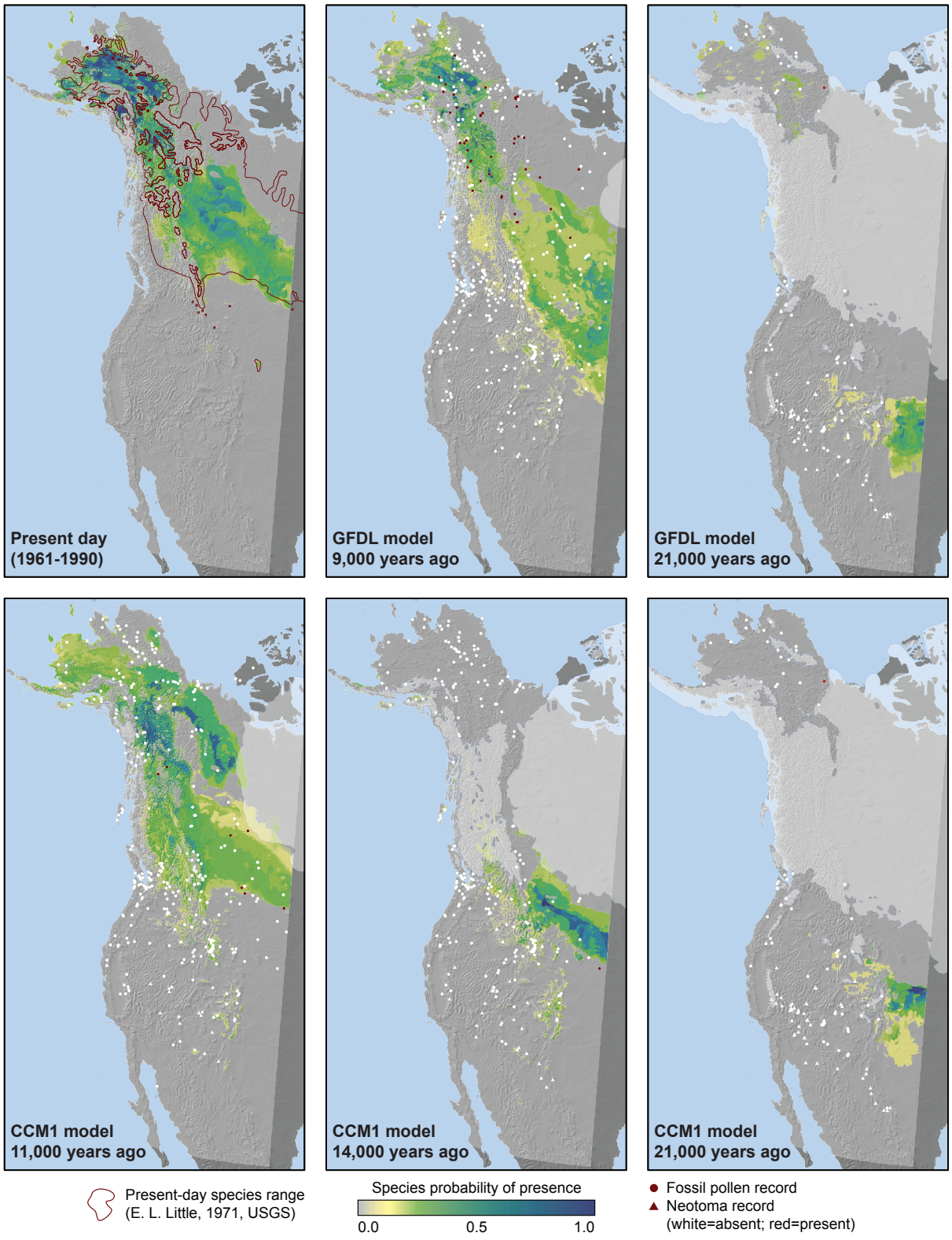

Fig. S1J: *Picea glauca* (white spruce) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

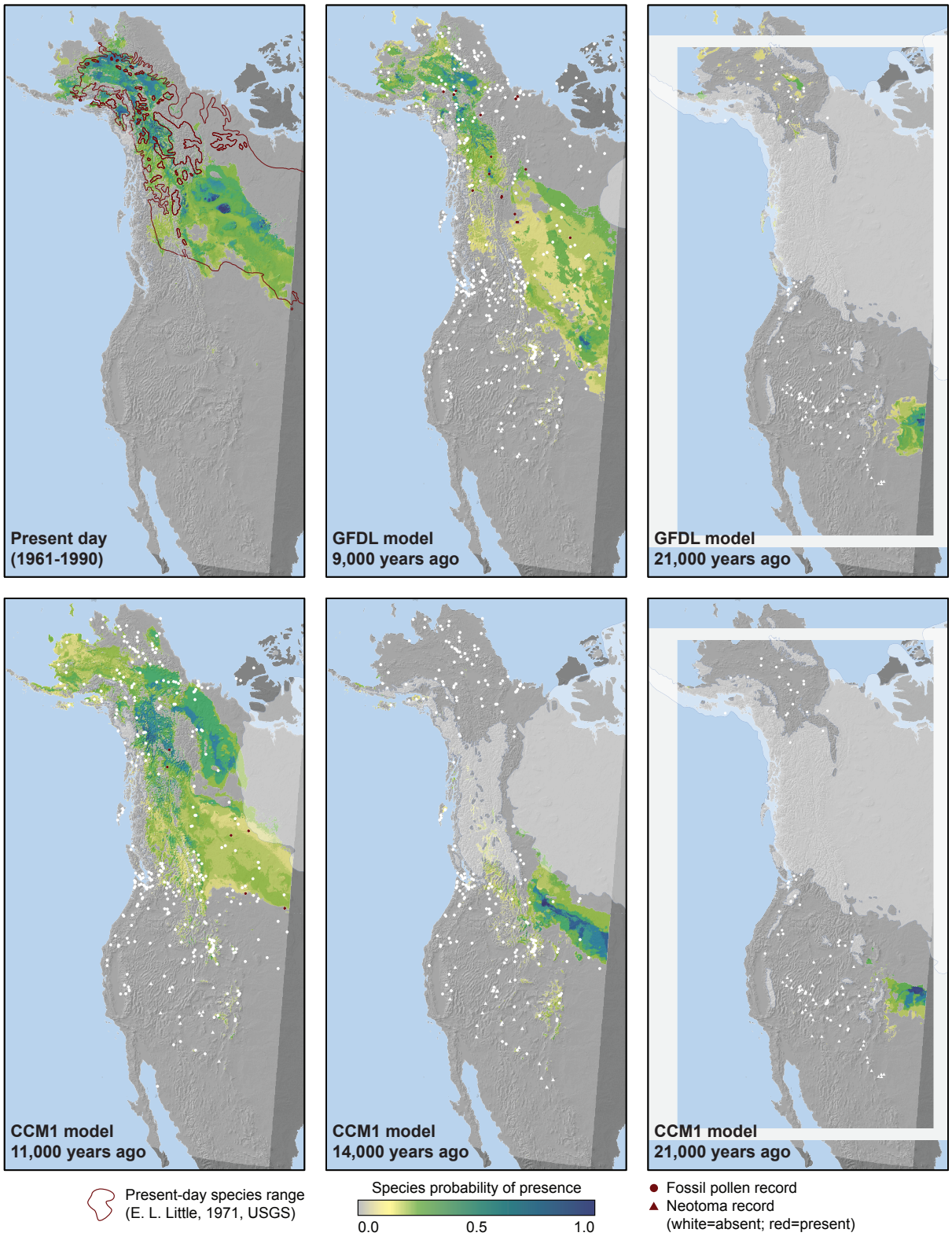

Fig. S1K: *Picea mariana* (black spruce) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

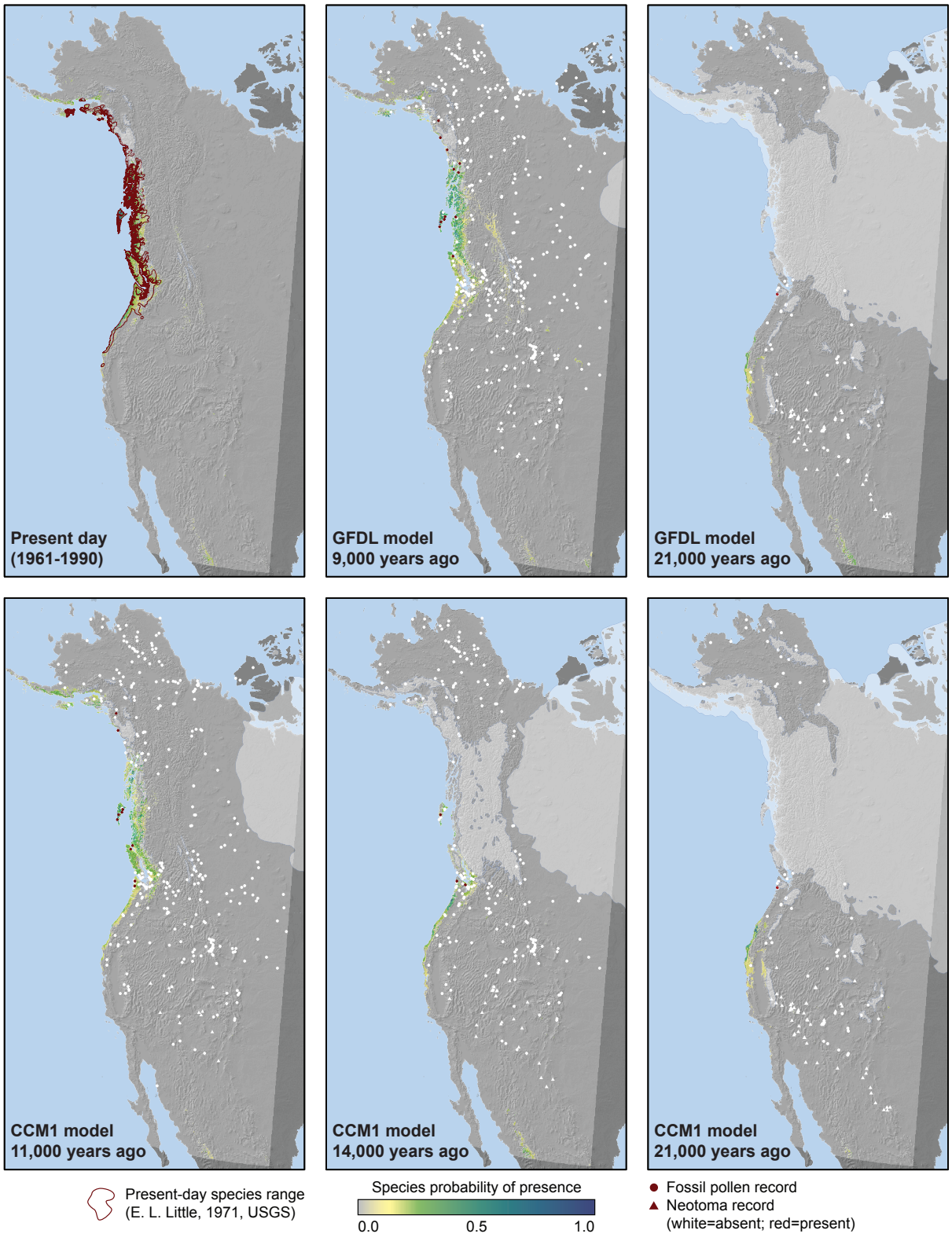

Fig. S1L: *Picea sitchensis* (Sitka spruce) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

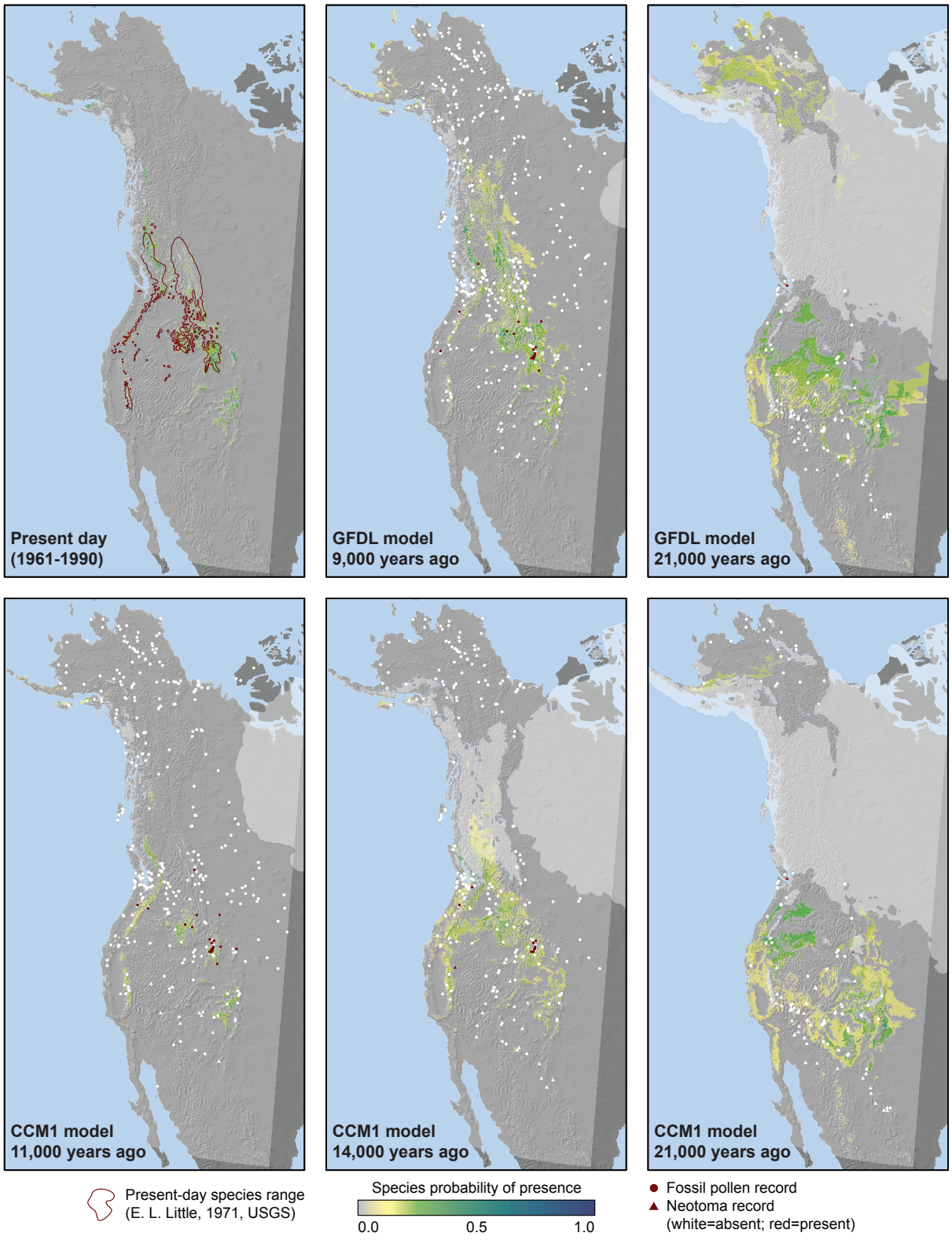

Fig. S1M: *Pinus albicaulis* (whitebark pine) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

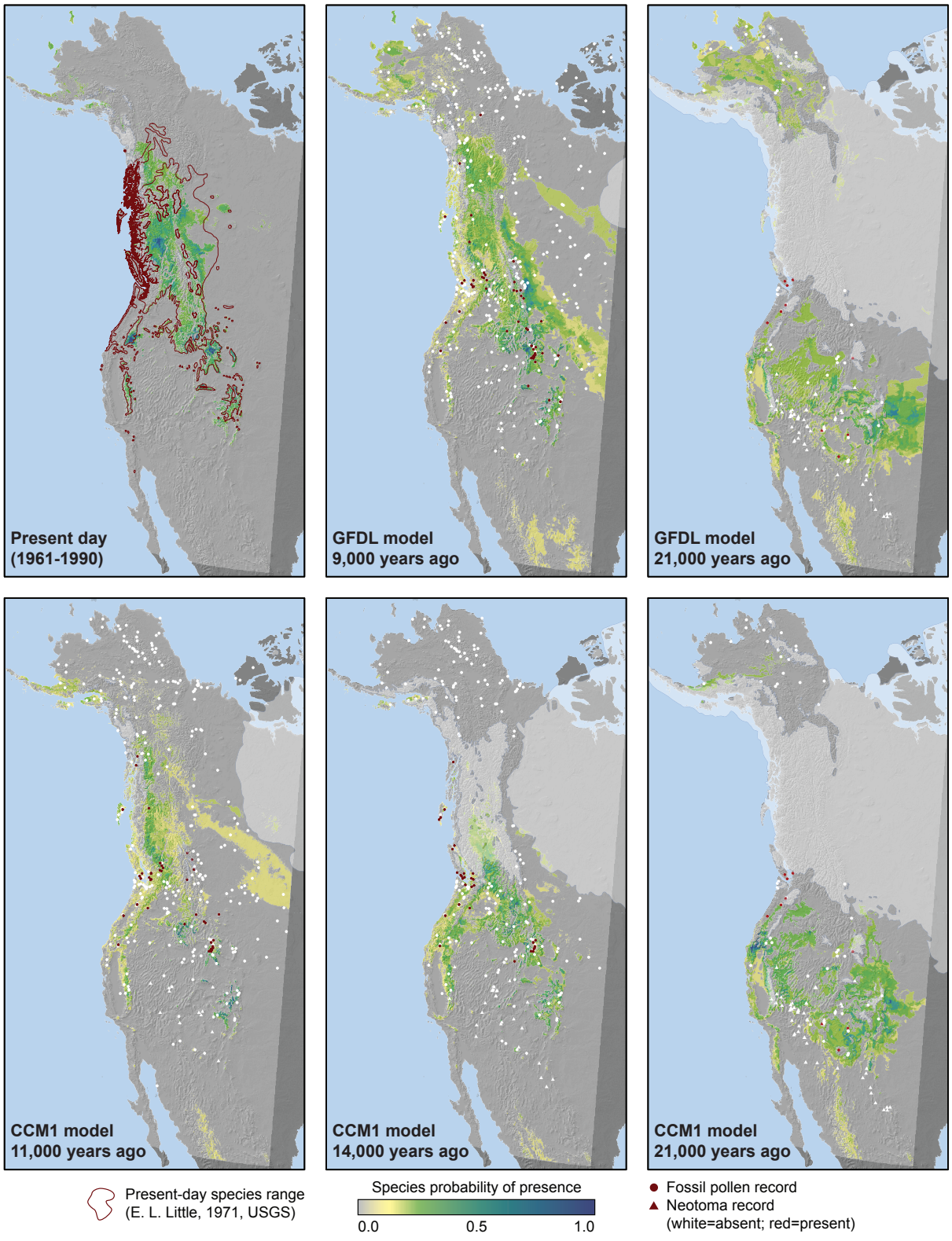

Fig. S1N: *Pinus contorta* (lodgepole pine) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

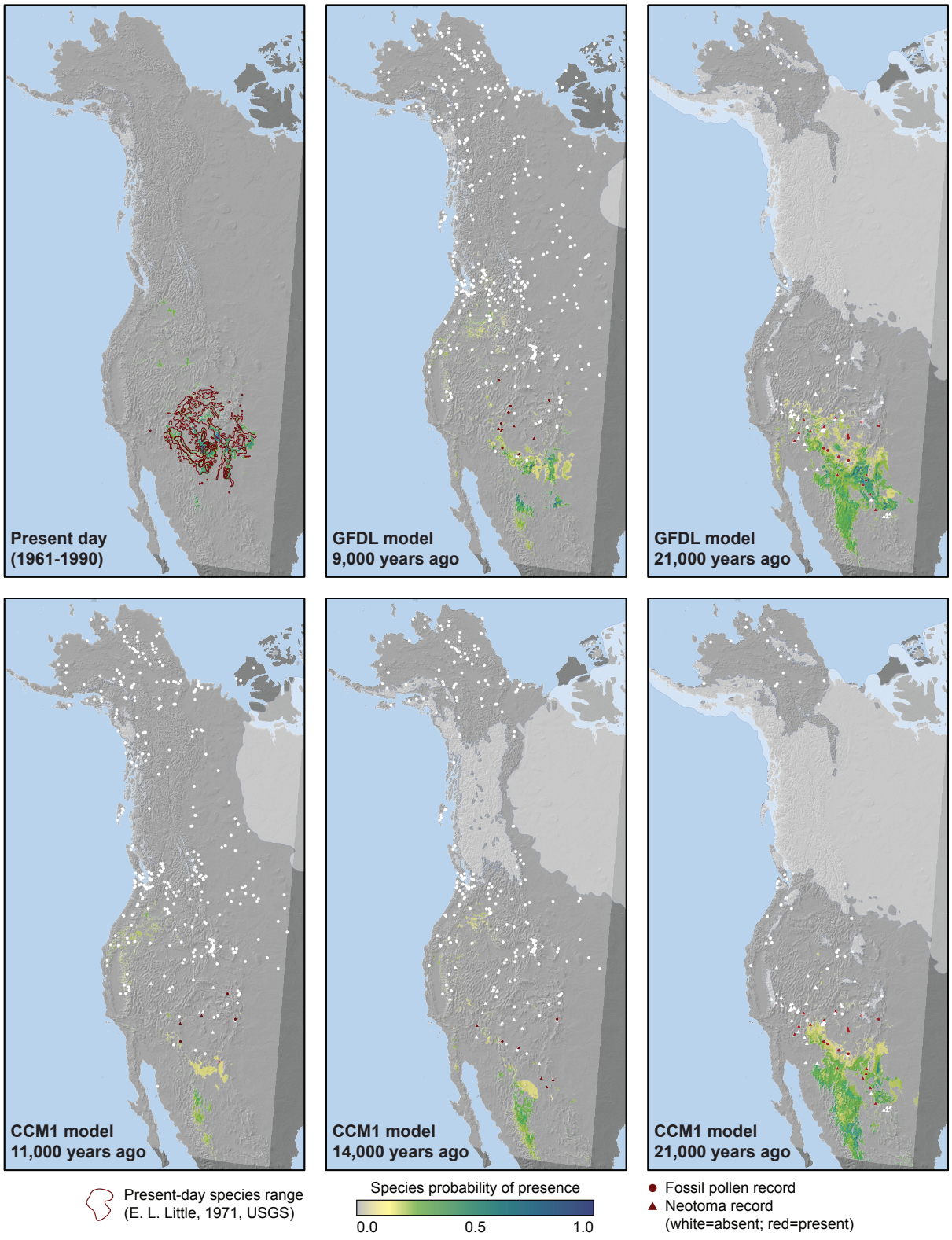

Fig. S1O: *Pinus edulis* (pinyon pine) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

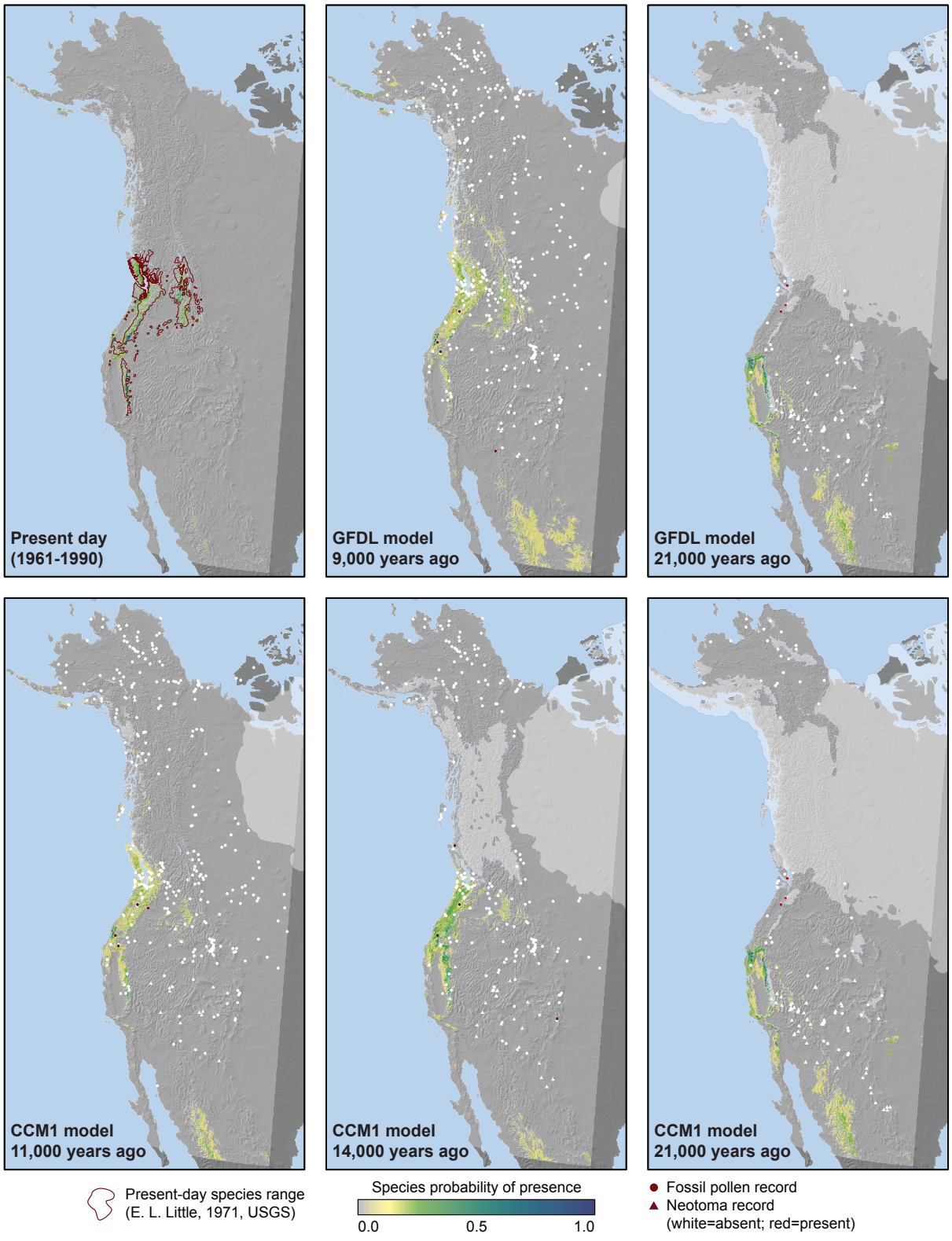

Fig. S1P: *Pinus monticola* (western white pine) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

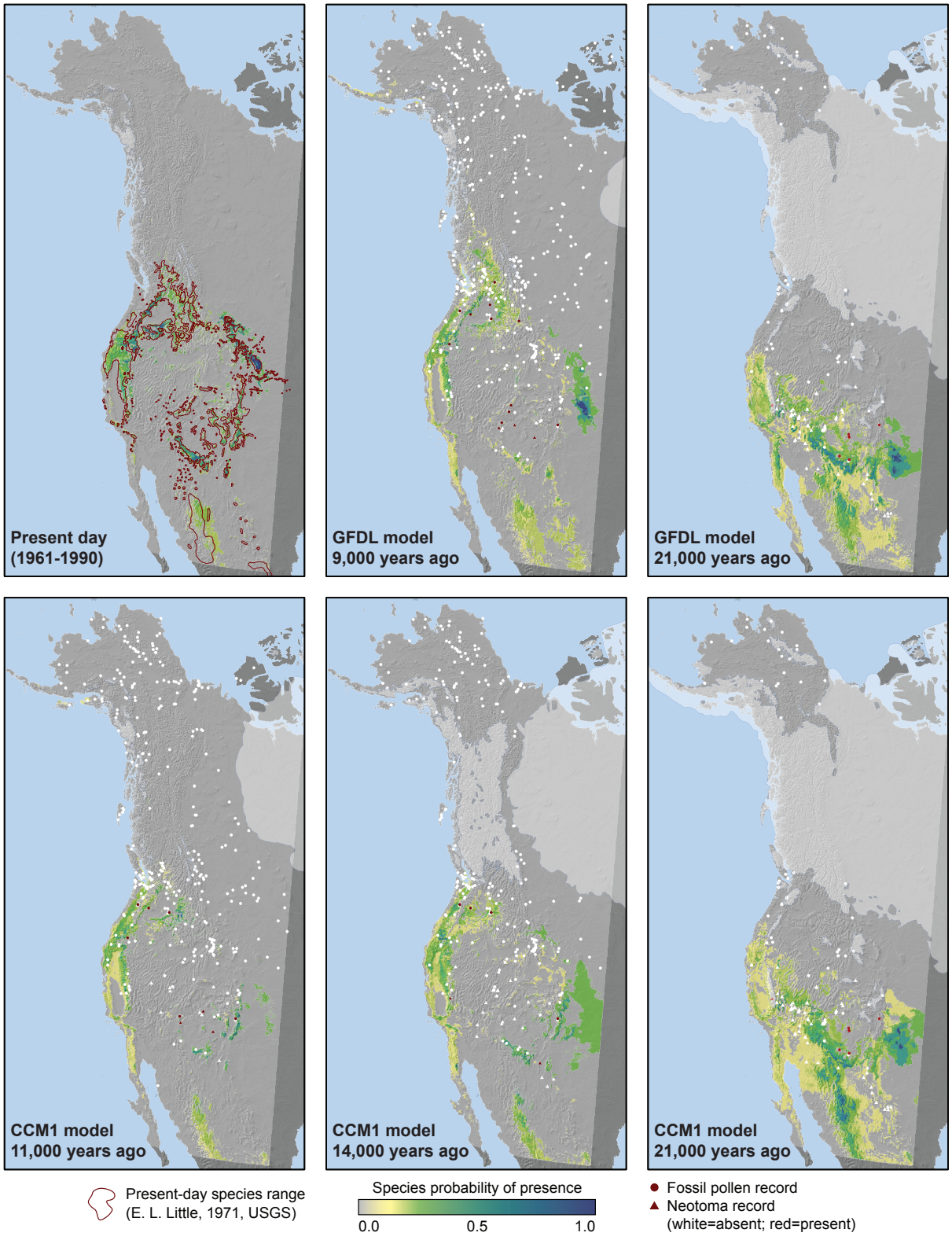

Fig. S1Q: *Pinus ponderosa* (ponderosa pine) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

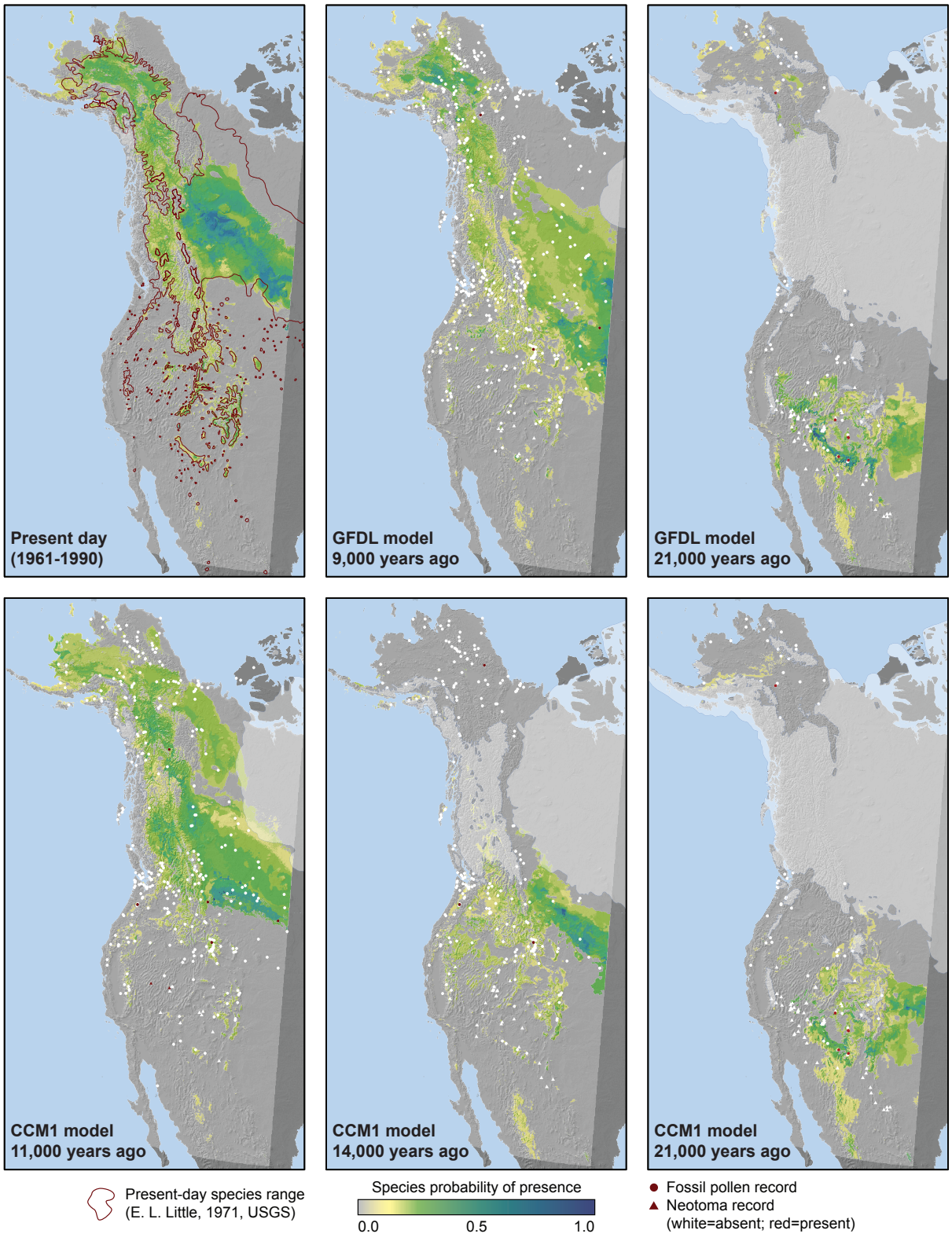

Fig. S1R: *Populus tremuloides* (trembling aspen) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

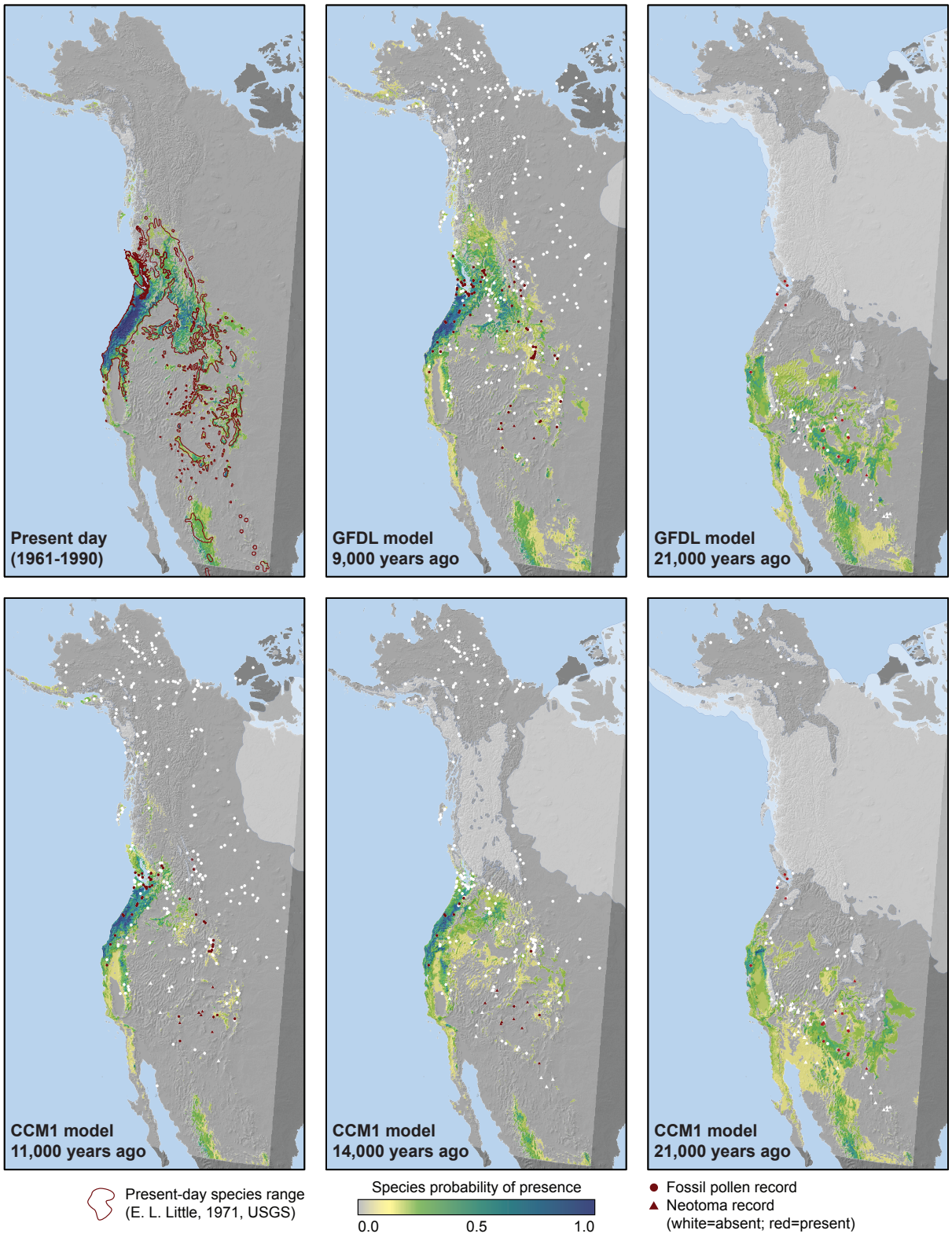

Fig. S1S: *Pseudotsuga menziesii* (Douglas-fir) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

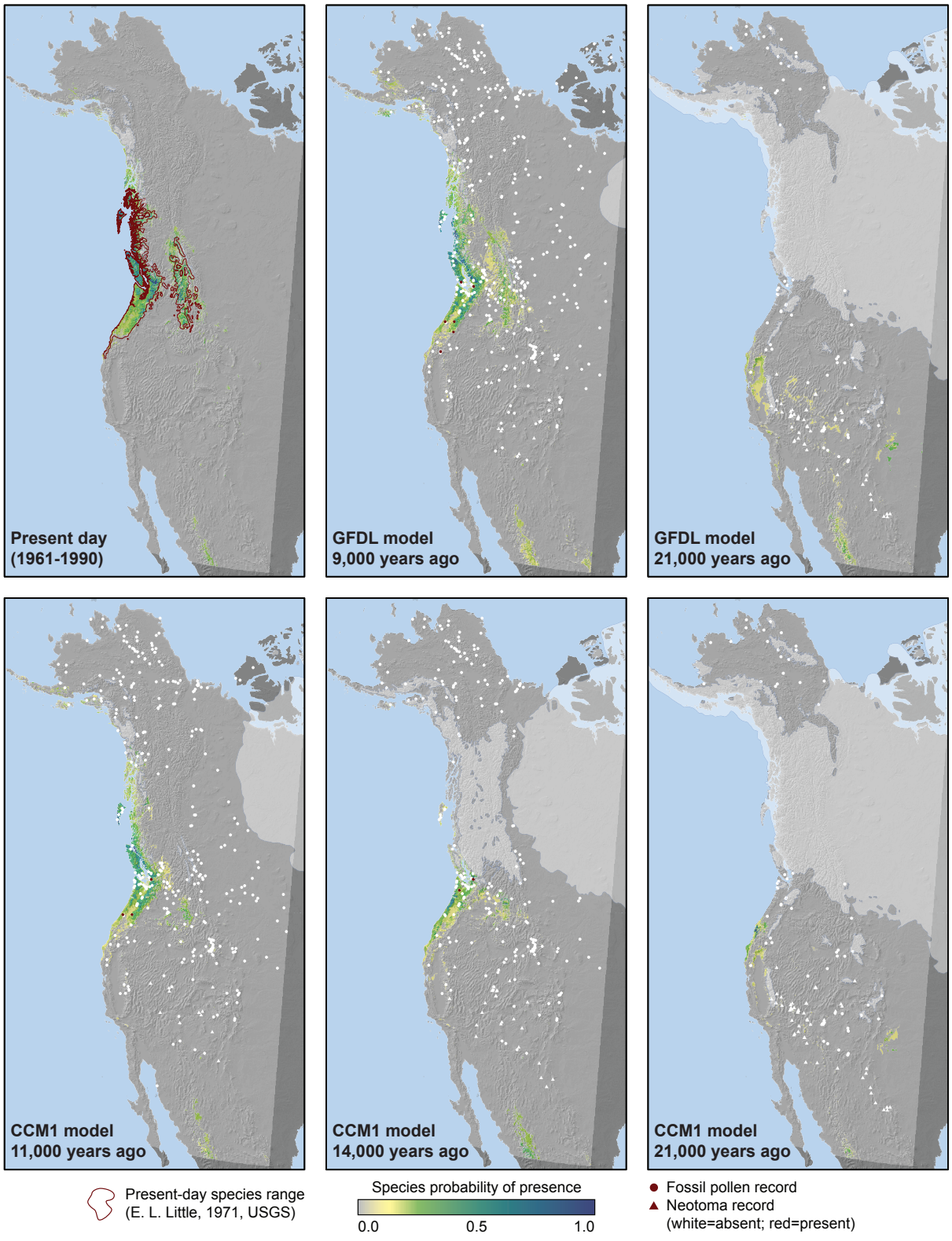

Fig. S1T: *Thuja plicata* (western redcedar) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

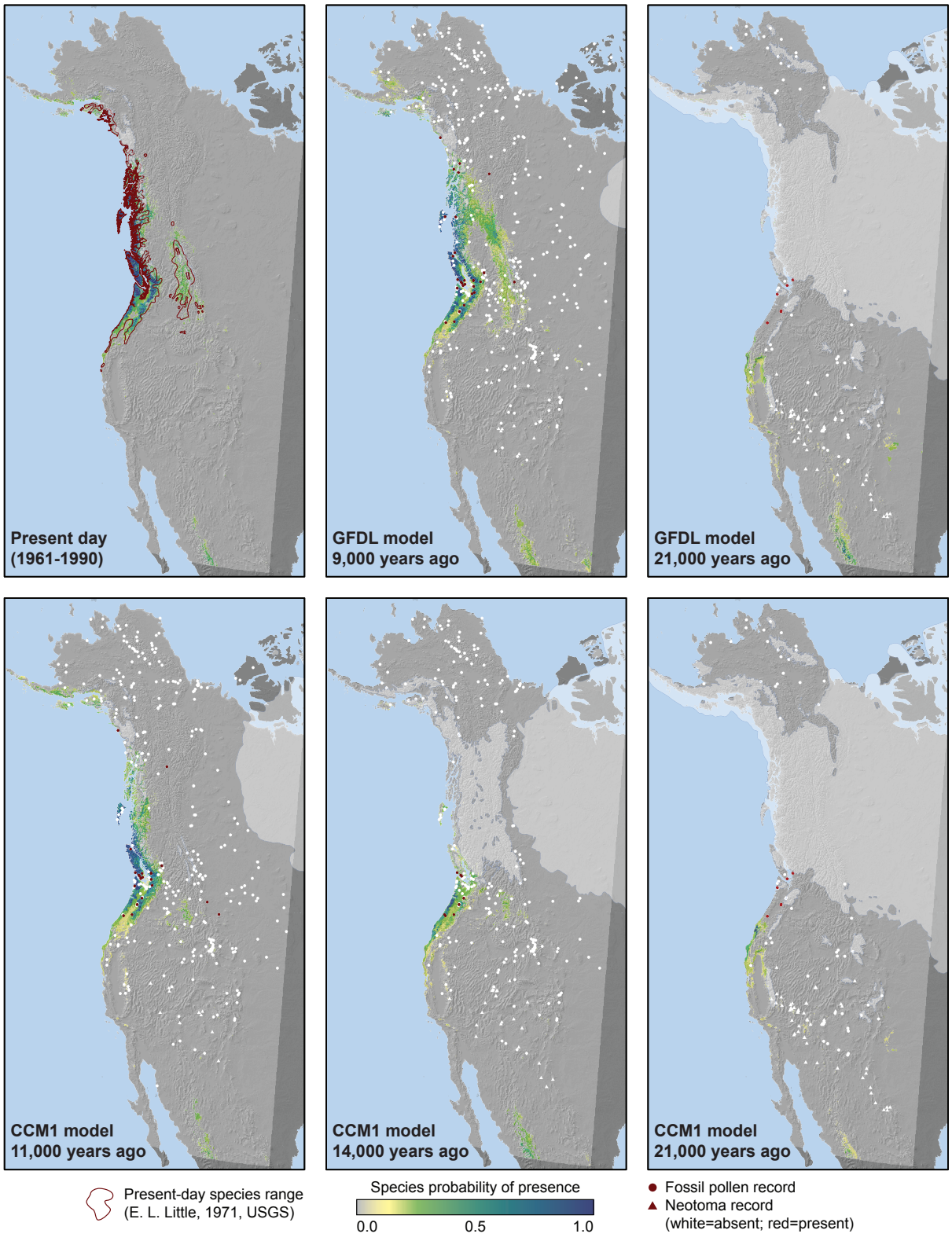

Fig. S1U: *Tsuga heterophylla* (western hemlock) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.

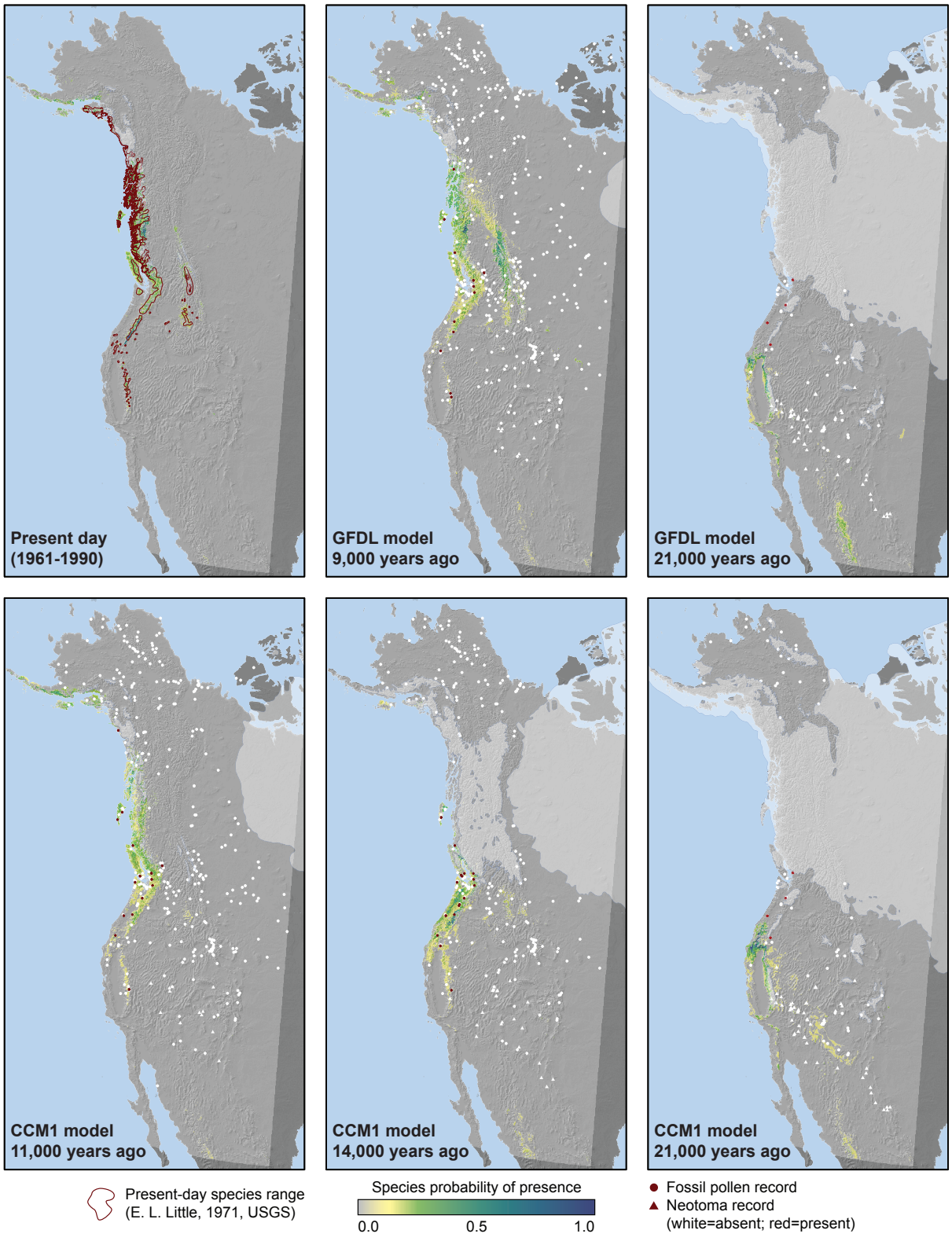

Fig. S1V: *Tsuga mertensiana* (mountain hemlock) probability of presence as projected by the ensemble species distribution model for the observed 1961-1990 climate of the present day, for the CCM1 palaeoclimate reconstruction for 9,000 and 21,000 years ago, and for the GFDL palaeoclimate reconstructions for 11,000, 14,000, and 21,000 years ago. Continental ice is shown in transparent white.