The chemical preparation and crystal structure are given for a (carbonato)bis(1,10-phenanthroline)cobalt(III) nitrate trihydrate, [Co(phen)2CO3]NO3·3H2O, in the solid state. This complex crystallized in the triclinic space group *P*1 with the following unit-cell parameters: *a* = 8.022(2)Å, *b* = 10.329(2)Å, *c* = 15.998(3)Å, *α* = 106.09(1)°, *β* = 102.74(1)°, *γ* = 90.88(2)°, *Z* = 2 and *V* = 1238.2(4)Å3. The final *R* value is 0.0581 for 4885 measured reflections. The ligands are bidentate, and each of the phen ligands is linked to the Co(III) via two N atoms. Thus, the metal ion is six-coordinated, the bonding being provided by two N atoms per phen ligand and two O atoms from the bidentate chelating carbonate anion. The Co(III) possesses a distorted octahedral environment where, e.g ., O(2), N(4), N(2) and N(1) form the base of the octahedron and the apical positions are occupied by the O(1) and N(3) atoms. The carbonato ligand is greatly strained in its coordination about the Co(III) (O(1)–Co–O(2) =69.30(10) ̊). In the five-membered chelate ring, the N –Co–N angle is smaller than the N–Co–N angle, defined by two ligands,(N(1)–Co–N(2) = 83.8(1) ̊ and N(3)–Co–N(4) = 83.9(1) ̊. The pyridyl rings of the each phen ligand are nearly coplanar. The Co–O bond lengths are slightly shorter than the Co–O bond length in [Co(en)2(H2O)2]3+. These geometries can be ascribed to the electrostatic interaction between Co(III) and the π-system of the CO32– ligand. A number of O–HO hydrogen bonds are observed in the structure.