Homogeneous and isotropic statistical solutions of the Navier-Stokes equations are produced. These are shown to be approximated by Galerkin statistical solutions on finite dimensional subspaces. Homogeneous and isotropic measures are approximated in the 2nd Wasserstein metric by measures supported on finite dimensional subspaces. The homogeneous measures are then shown to be a subspace of positive curvature of the 2nd Wasserstein space.