Two icy bodies of the Solar System, a moon of Saturn Titan and a dwarf planet Pluto, are studied in this thesis. Titan's polar radius is smaller than expected, which can be explained by soaking of the ethane rain followed by methane-ethane substitution in the crust. We treat the crust as continuum with viscoelastic (Maxwell) rheology and solve its loading by spectral method. We obtain results in agreement with those published. On Pluto, the position of Sputnik Planitia crater close to the tidal axis might be a sign of subsurface ocean. This unlikely location can be explained by reorientation of the body, if the gravity anomaly of the crater is positive. This requires isostatic compensation, which would mean a material denser than ice, e.g. water, filling the lower crater. Solving by spectral method we obtain results consistent with the hypothesis. However, solving viscous deformation in domain with free surface by finite element method indicates that the lower crater relaxes too fast to explain reorientation.