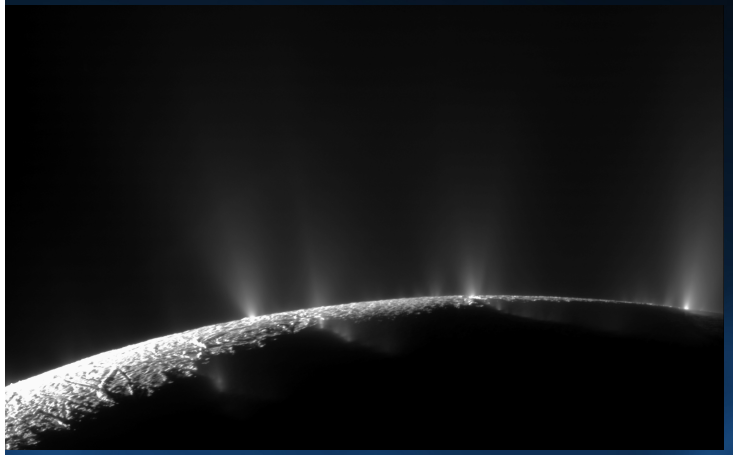
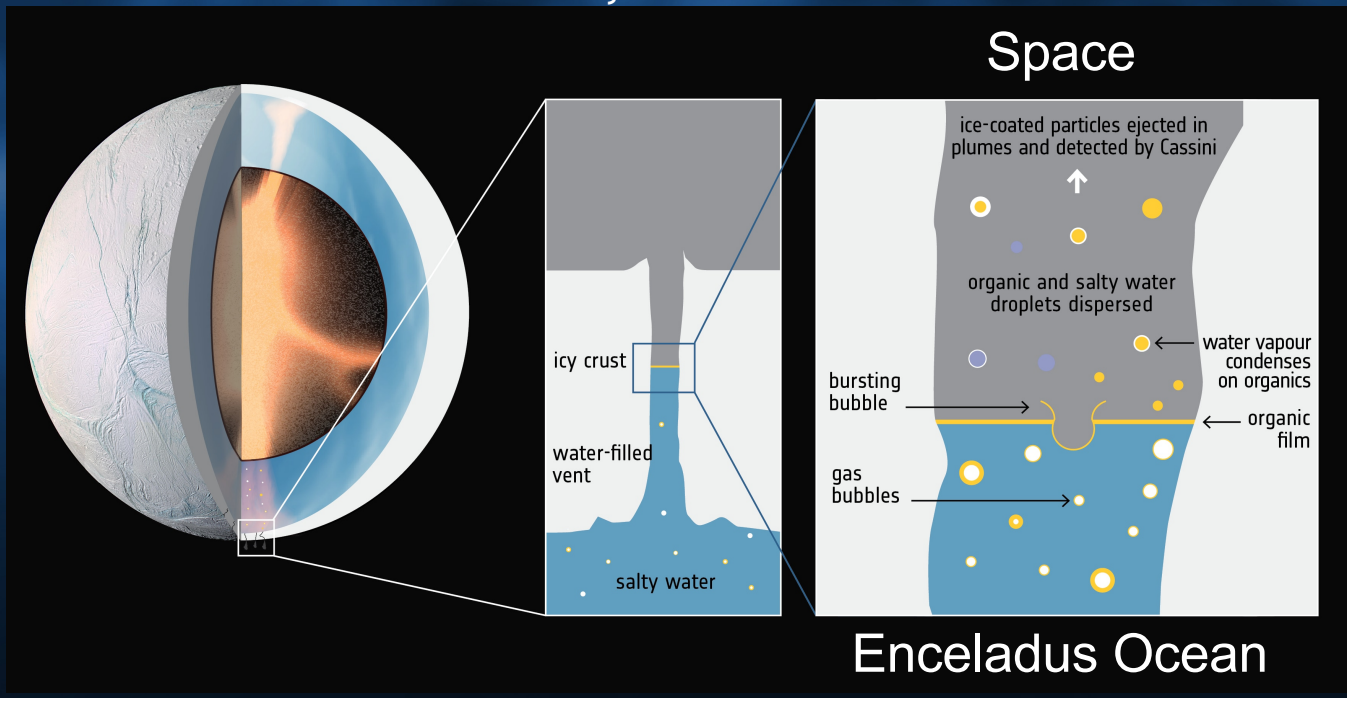
Enceladus' Complex Organics



Data from NASA's Cassini spacecraft has revealed that fragments of complex organic molecules, comprised of hundreds of atoms, originated from Saturn's icy moon Enceladus. Previous results from Cassini indicated the presence of smaller, relatively common organic molecules at Enceladus. The larger molecules detected here can originate from geothermal processes, primordial material in meteorites with the proper chemical makeup, or biological processes. The presence of these large complex molecules, in addition to other observations indicating liquid water and hydrothermal activity, provides further support for the hypothesis that Enceladus' ocean may be a habitable environment for life.

Jets of water ice, complex organics, and other contaminants are jettisoned into the space environment surrounding Enceladus (above). The illustration to the *right* shows how complex organics formed inside of Enceladus bubbles up, becomes coated in water ice, and is expelled into space to be sampled by Cassini.



Postberg, *et al.*, (2018) Nature