While general agreements exist for phase diagrams of BCP self-assembly in bulk or thin films, a fundamental understanding of BCP structures at the air/water interface still remain elusive. The current version of phase diagram of BCPs at the air/water interface explains morphology transition of BCPs with relative fraction of each block: block fraction is the only parameter to control the morphology. In this talk, we show morphology transitions from spherical to cylindrical and planar structures with neat polystyrene-b-poly(2-vinylpyridine) (PS-b-P2VP) via reducing the spreading area of BCP solution at the air/water interface. For example, PS-b-P2VP with a fixed block fraction known to form only spheres can experience sphere to cylinder or lamellar transitions depending on the spreading area at the air/water interface. Suggesting a new parameter to control the interfacial assembly of BCPs, a complete phase diagram is drawn with two parameters: relative block fraction and spreading area.