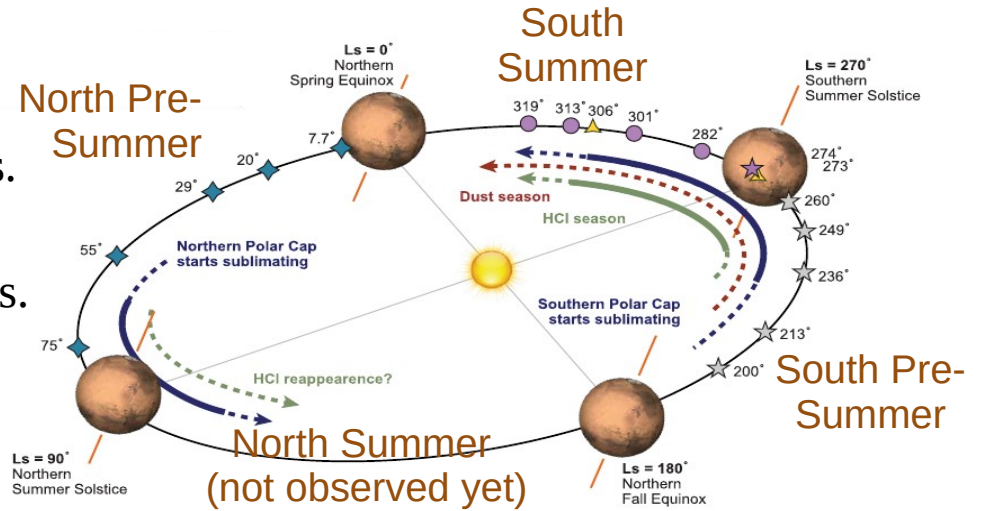


# HCl Cycle Over 3 Martian Seasons

- Martian Hydrogen Chloride (HCl gas, observed with IRTF/iSHELL), traces atmospheric processes.
- Maps of H<sub>2</sub>O and HCl derived in 3 different seasons in Mars Year 36, compared with dust maps.
- HCl absent northern pre-summer; seasonal enhancement starts in southern pre-summer.



- Strong HCl southern summer due to H<sub>2</sub>O and Cl released from dust near pole.
- H<sub>2</sub>O correlates with HCl, but role of dust more complex due to presence of 2 competing processes.
- HCl at higher latitudes due to meridional transport in ice particles.

