

The 2014 Upgrade to the Lightning Warning Circles Used by 45th Weather Squadron

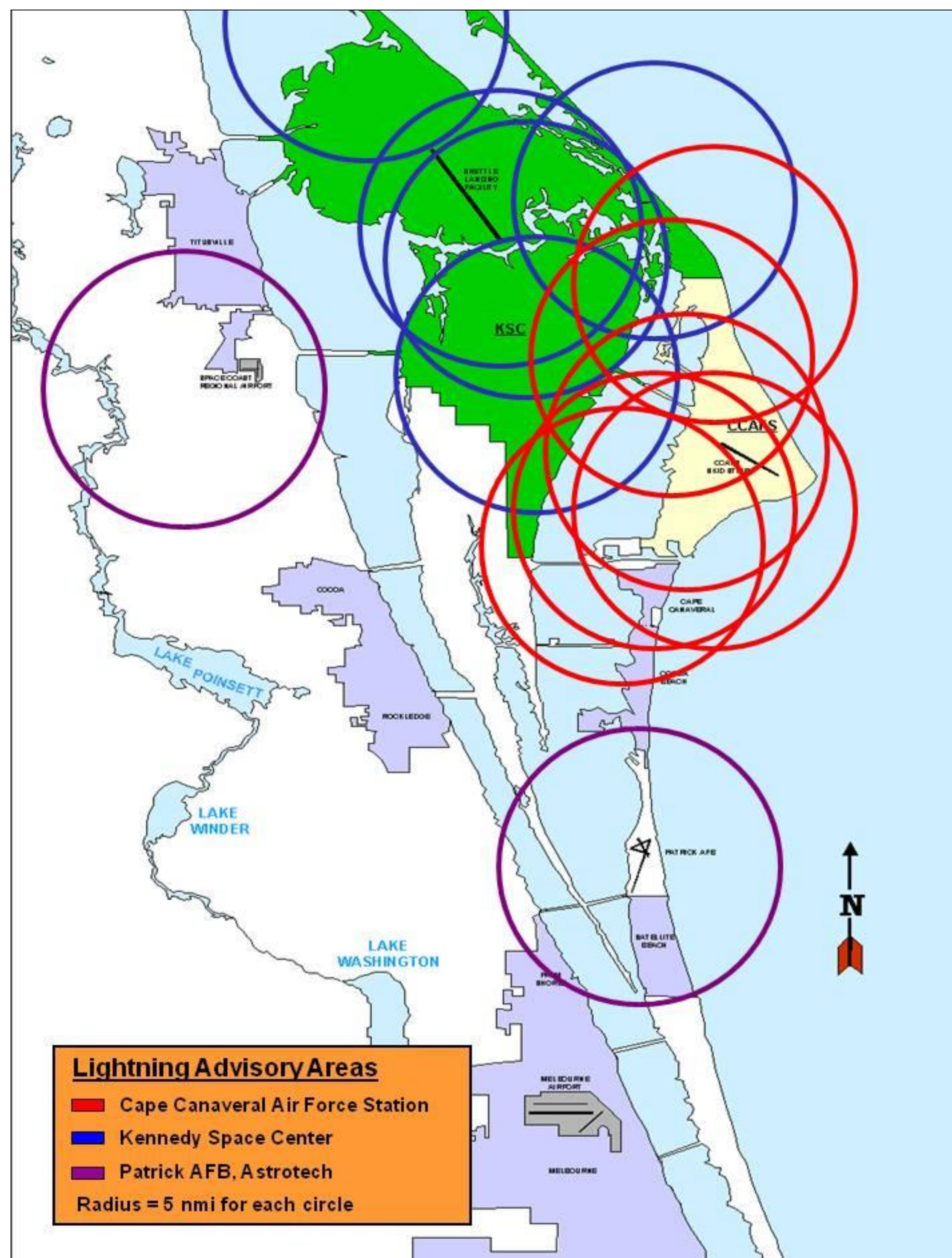


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PREVIOUS LIGHTNING WARNING CIRCLES



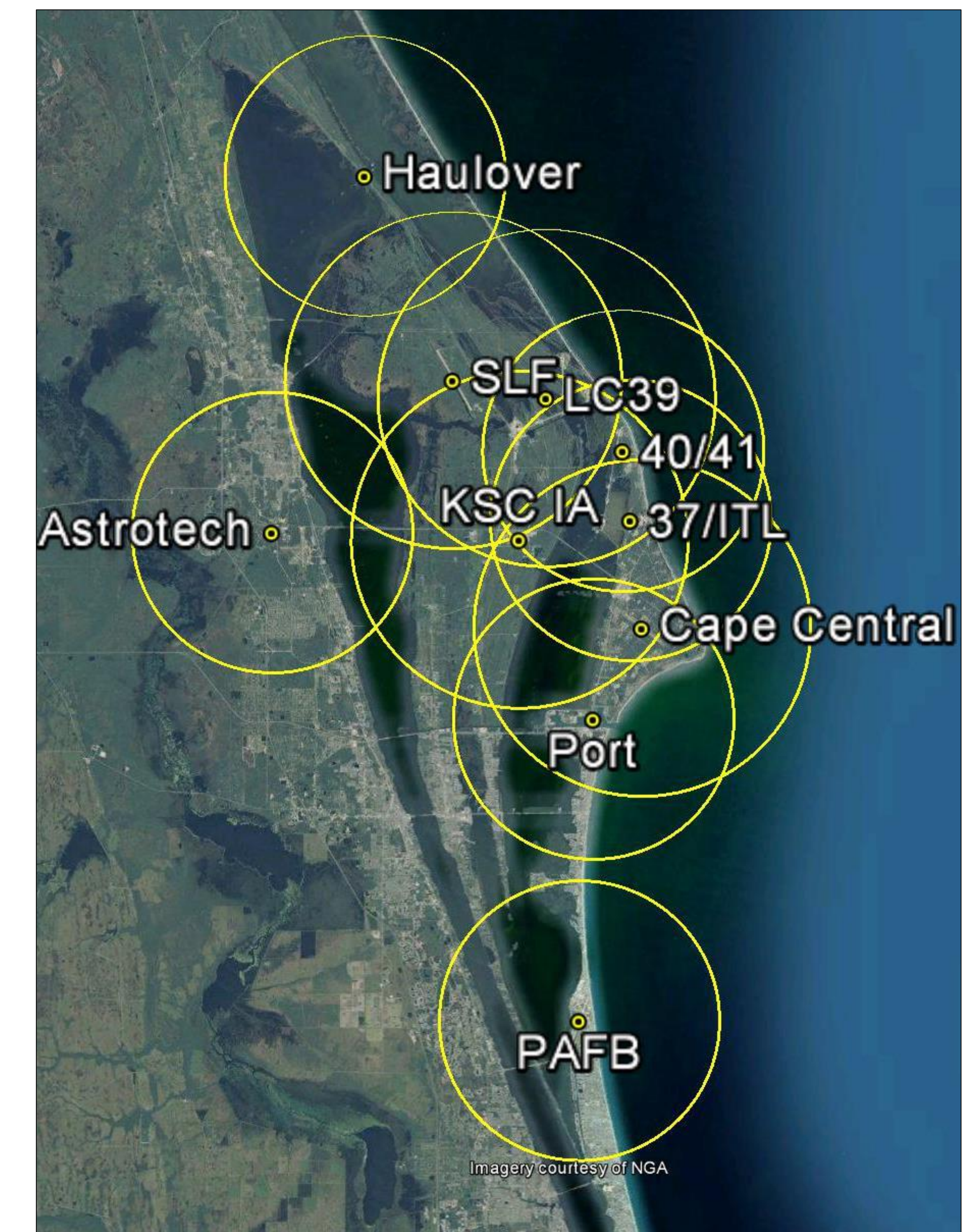
GOALS:

- Streamline warning process
- Reduce areal overlap of some circles
- Reduce temporal overlap of issued warnings
- Increase, or at least maintain, safety
- Minimize increased over-warning

RESULTS:

- 13 circles of 5 nmi radius changed to 10 circles of 5 or 6 nmi circles
 - 23% improvement
 - 5 nmi radius for small single facilities
 - 6 nmi radius for multiple close facilities or single large facility
- 10 highly overlapping circles on CCAFS/KSC changed to 7 less overlapping circles
 - 30% improvement

NEW LIGHTNING WARNING CIRCLES



FUTURE WORK:

- Refine Lightning Warning Circles Further
 - Combine Pads 40/42/37 and ITL into one circle
 - Use one standard safety distance rather than two radii for lightning warning circles
- Develop new safety distance based on edge of lightning field
- Automate lightning warnings for locations on CCAFS/KSC not covered by warning circles
 - Integrate smart phones with GPS, Total lightning detectors, and Wait-Time since no lightning within a standoff distance