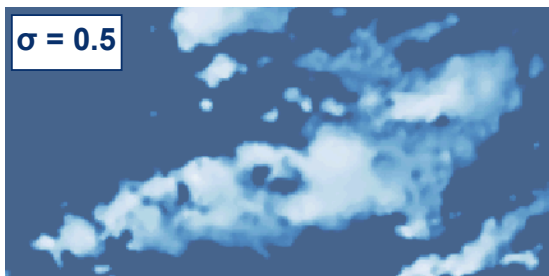


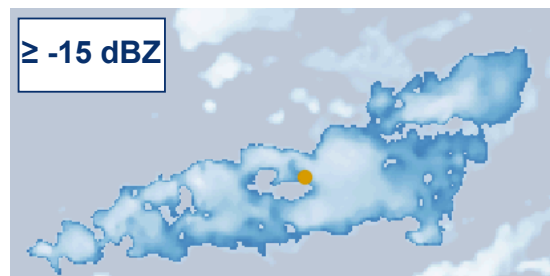
(a)

Identify cloud objects

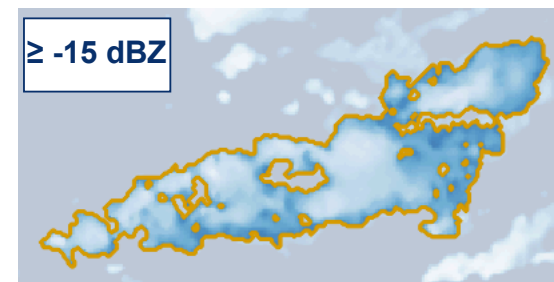
Smooth radar reflectivity by **Gaussian filter**



3D centroids based on reflectivity threshold



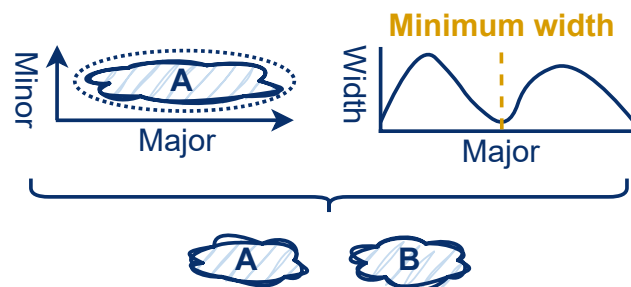
Watershed **segmentation**



(b)

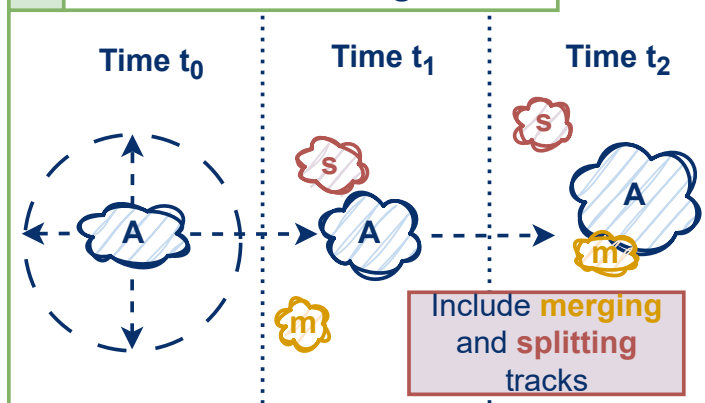
Split clouds

Major & minor **axis difference** > 75 %



(c)

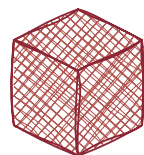
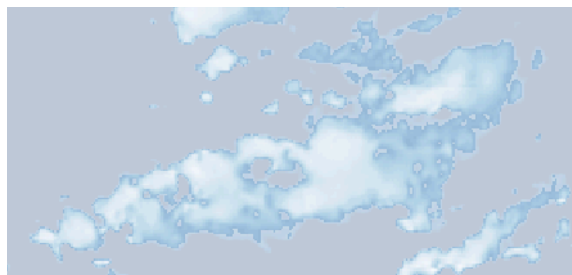
Link clouds through time



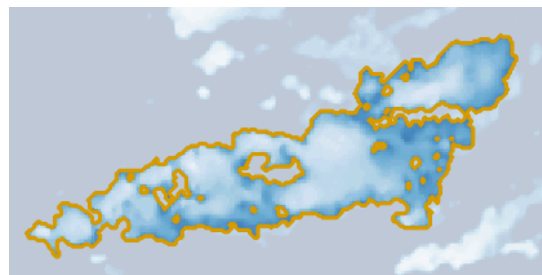
(d)

Smooth 3D cloud field

Radar reflectivity ≥ -15 dBZ



Apply filter to each cloud

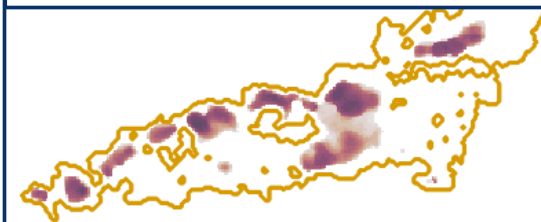


3x3x3 Median filter

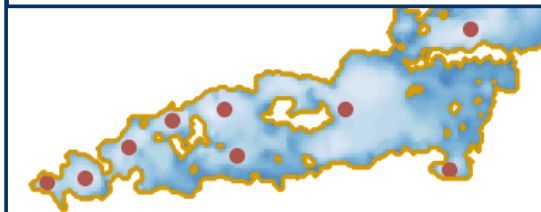
(e)

Detect core regions

Vertical depth + radar reflectivity



Identify convective core centroids



Segmentation of convective cores

