

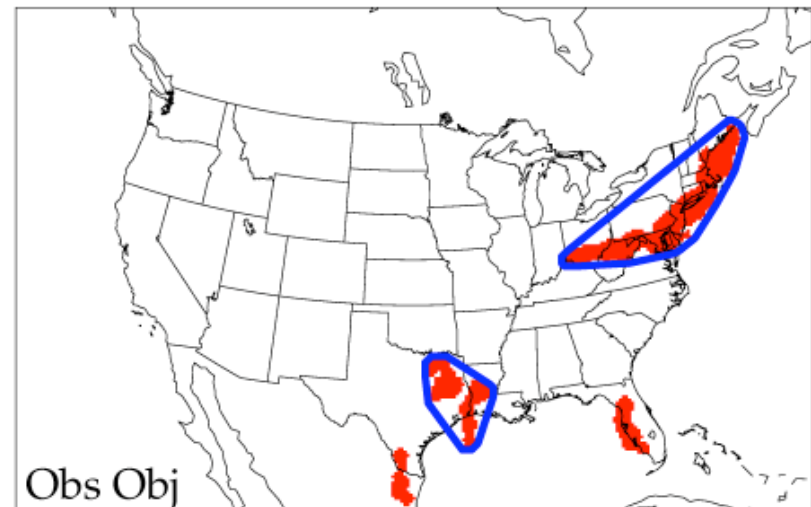
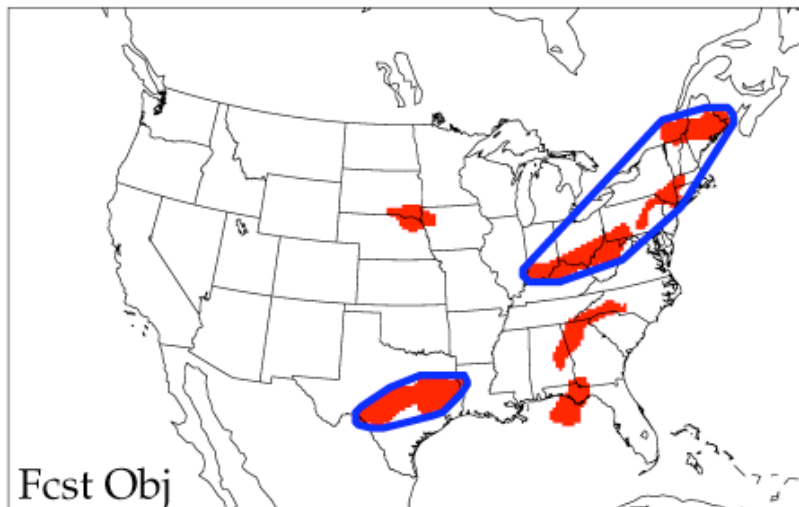
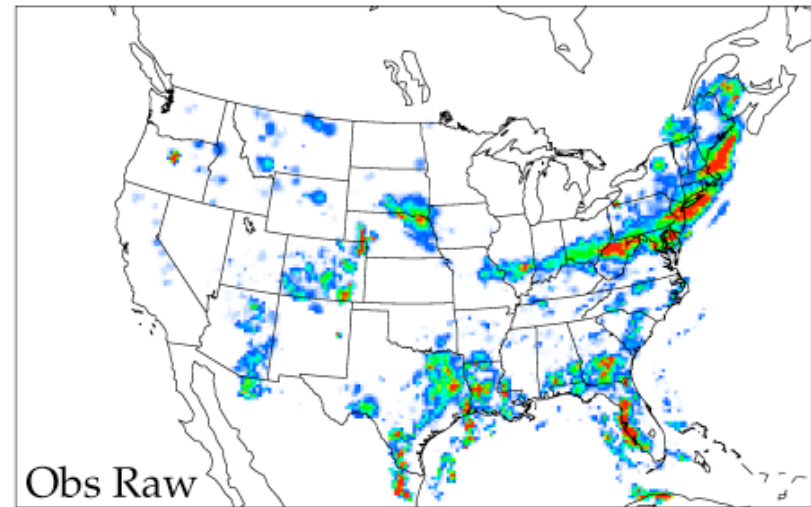
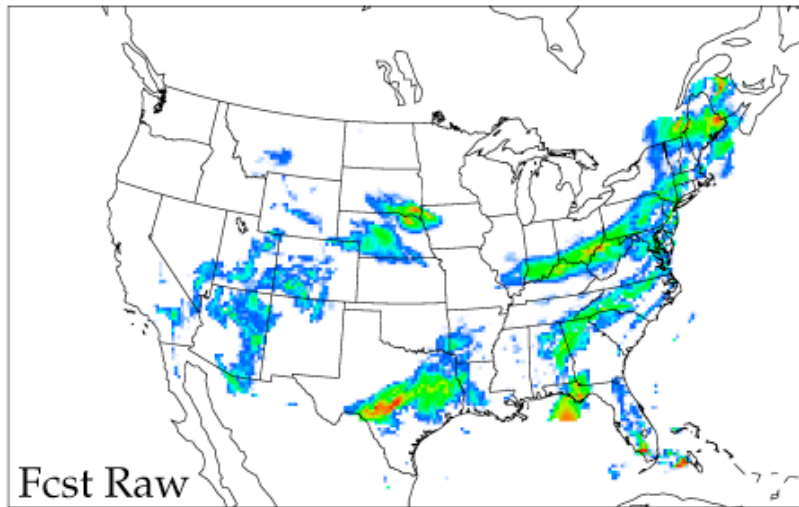
# Matching & Merging

**Merging:** Associating objects in the same field.

**Matching:** Associating objects in different fields.

MODE does this using a Fuzzy-Logic engine.

# Example of Matching & Merging



# Object Attributes

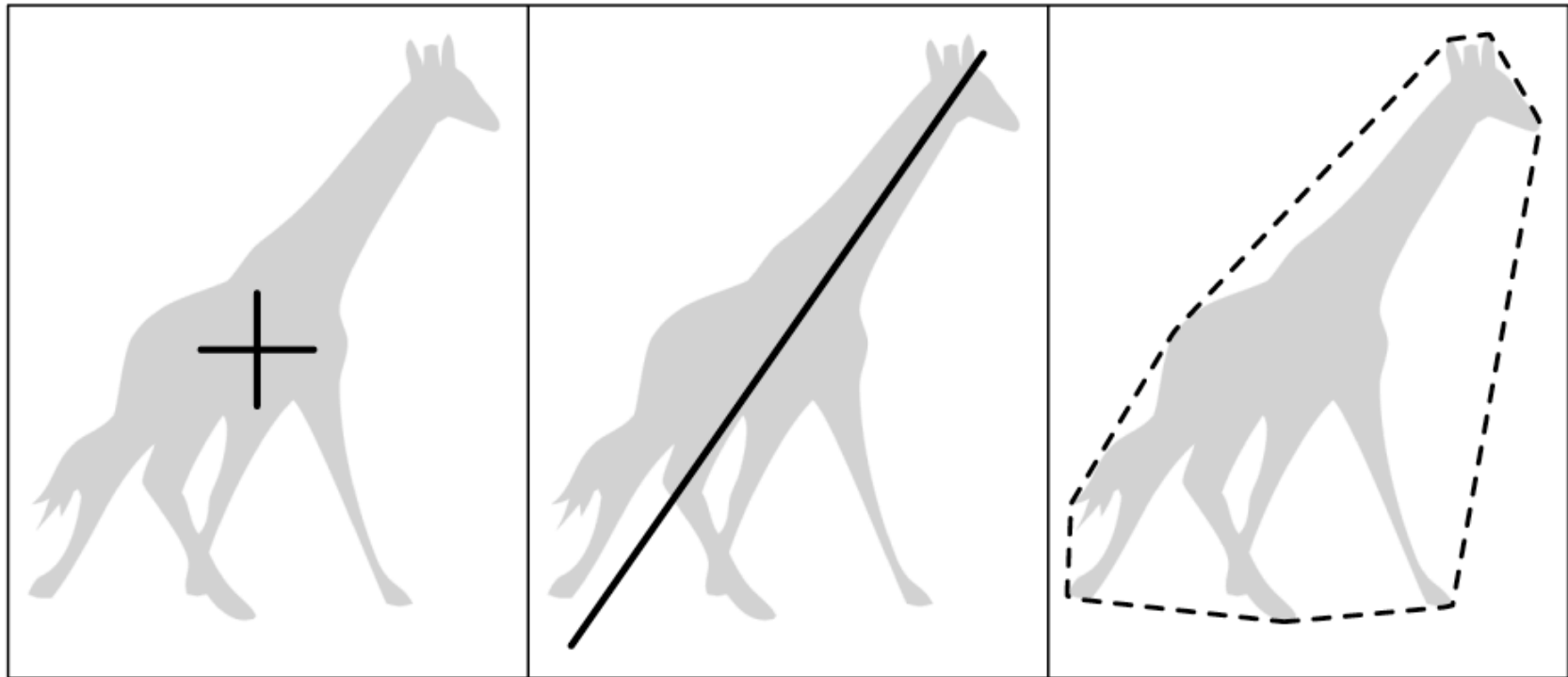
## Single:

- Area
- Centroid
- Axis Angle
- Median Intensity
- Complexity
- Aspect Ratio
- Curvature

## Pair:

- Centroid Distance
- Angle Difference
- Median Intensity Ratio
- Intersection Area
- Convex Hull Distance
- Boundary Distance
- Area Ratio

# Example Single Attributes



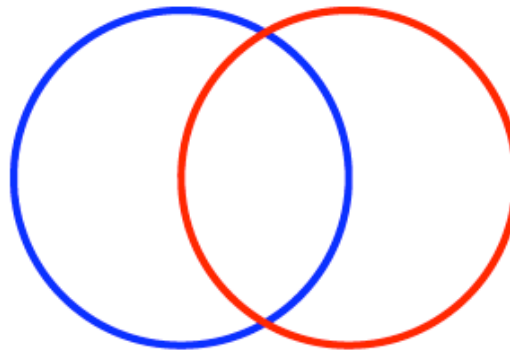
Centroid

Axis

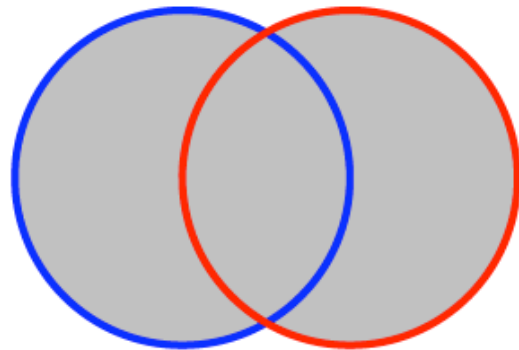
Convex Hull

# Example Pair Attributes

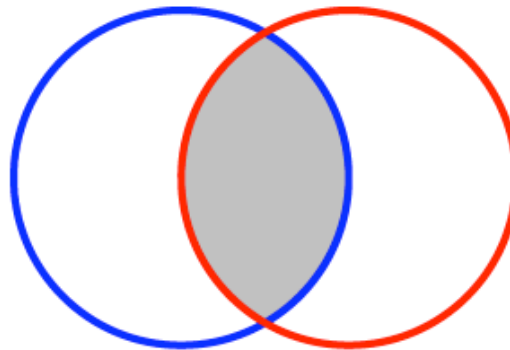
Forecast  
Object



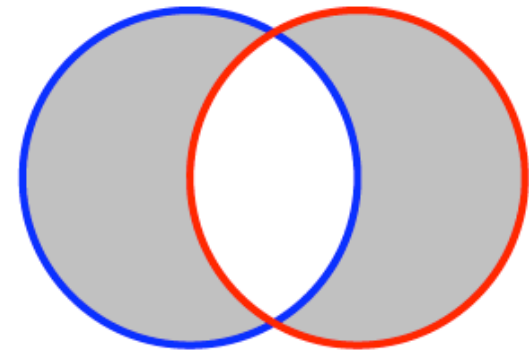
Observed  
Object



Union



Intersection

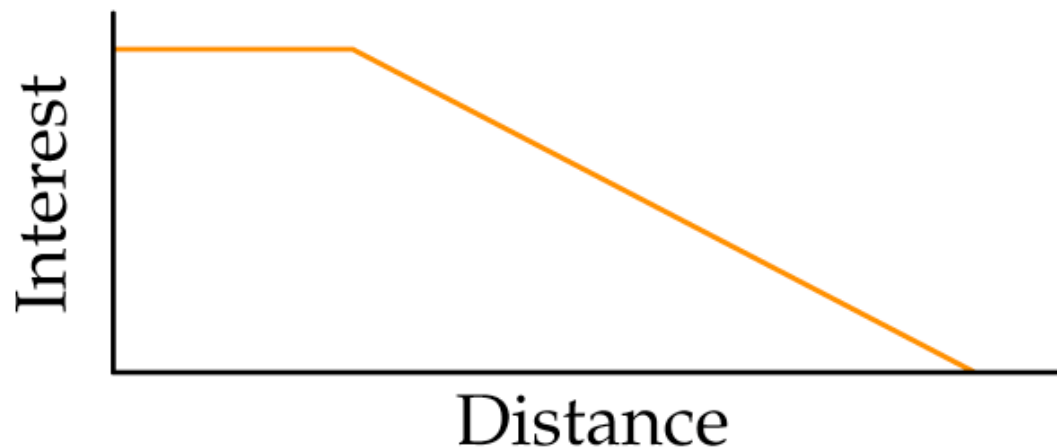


Symmetric  
Difference

# Interest Maps

Map attributes to interest values.

Example: Centroid Distance



All interest maps can be changed in the config file.

# Weights

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Express relative importance  
of different attributes in  
matching and merging.

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All weights can be changed  
in the config file.

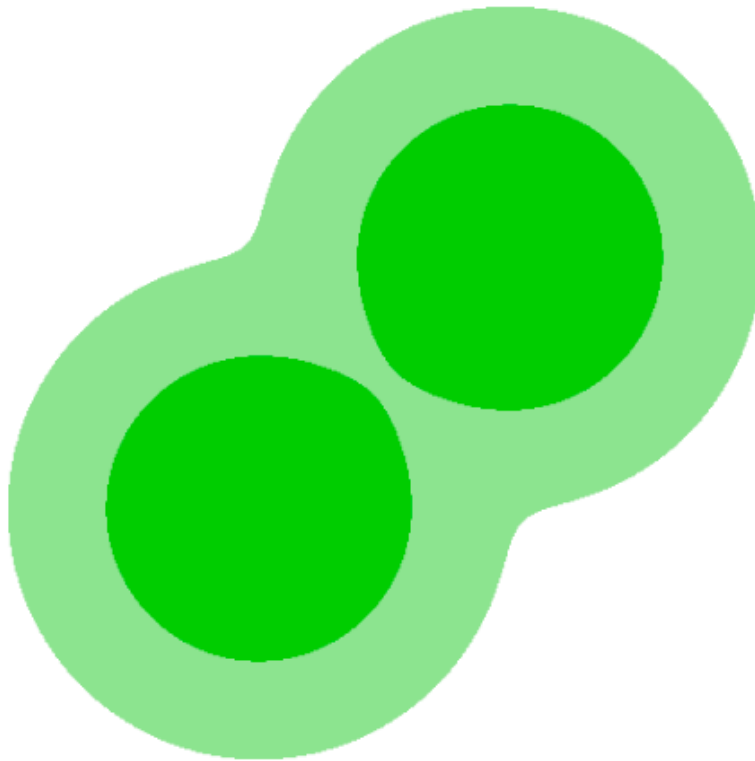
# Total Interest

Calculated from weights, attributes,  
and interest maps.

$$T(\alpha) = \frac{\sum_i w_i C_i(\alpha) I_i(\alpha)}{\sum_i w_i C_i(\alpha)}$$



# Alternative Merging Method



Double  
Thresholding