Use measurements : “downgrade” to capture the signal/ climatology

Independent component analysis: cocktail party.

How to do it?

Take away the level of detail to obtain something comparable to climate model output.

Take n station: What is the “common” signal.

Tend to measure moisture flux not precipitation.

Would be great to have a convenient way to do it globally.

How to do it?

How to correct out the local weather features to obtain the regional climate features?

Another view:

GCM sees things above a cutoff

RCM sees things above a lower cutoff

Regional features are things above an even lower cutoff

Below these are microclimate features

Most interpolation schemes smooth out the extremes

Ok. If purpose is to validate models, ok to smooth out extremes.

Because it is not reasonable to have a GCM “explain” the extremes at a station.

Start out with prairies. Hopefully GCM’s can resolve 3 – 4 day low pressure systems.

Purpose of upscaling is also to “fairly” evaluate GCM’s in terms of their ability to

Reproduce “reality” at their scale.

Can apply lapse/rate , DEM’s incl. aspect, slope as tools to “subtract” out microclimate.

Possibly can only do this if enough stations within gridcell.

But (important) can also use stations near but outside a grid cell.

Downscaling poster: First author: Perkins.