3. Modeling Decisions

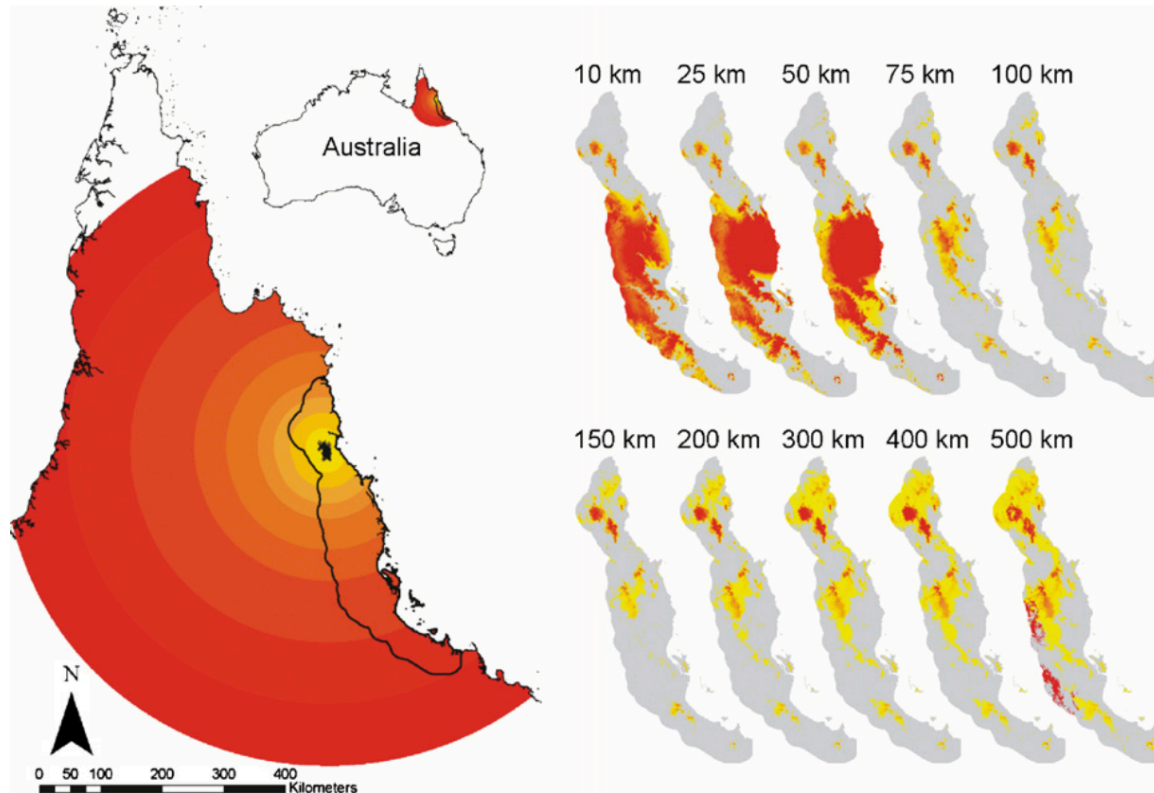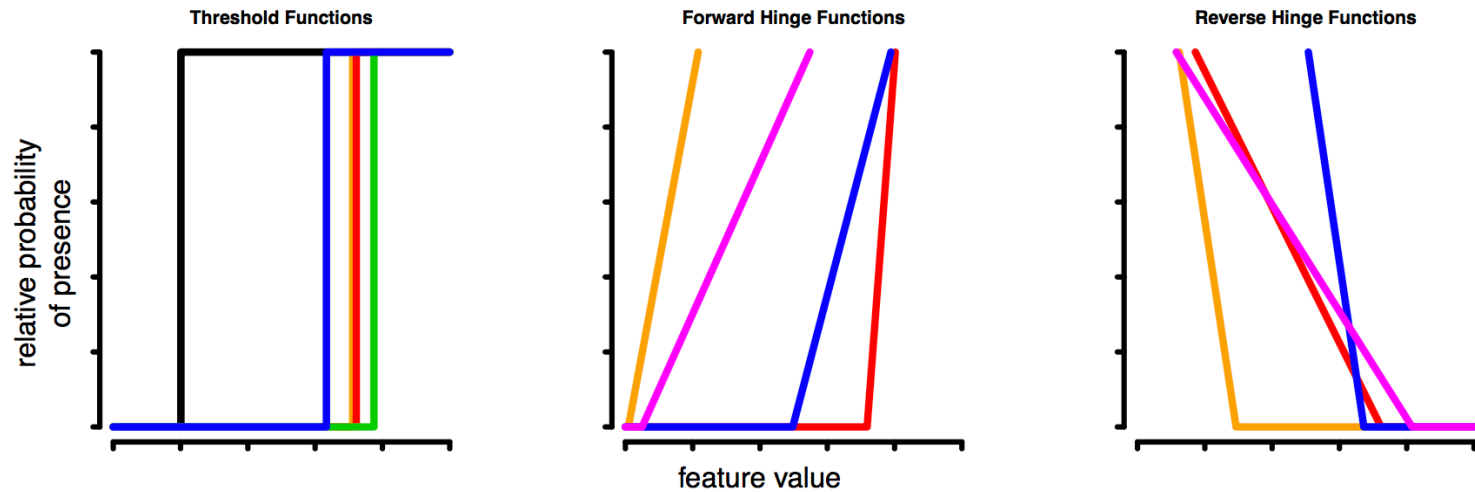# MANY MODELING DECISIONS ARE SUBJECTIVE

Domain/extent

Fig. 1 – Backgrounds from which pseudo-absences were drawn for C. *hosmeri* and predicted distributions in the Australia Wet Tropics region (outlined in black) given the different background sizes. Increasing background size corresponds to darkening of buffering bands surrounding the occurrence points of the species (represented as x symbols here) in the left image; these regions represent increasing distances from 10 to 500 km from the occurrence points. Warmer colors on the right images infer greater predicted suitability for the C. *hosmeri*. Grey areas fall below the threshold of suitability and are assumed to not be part of the distribution.

Vanderwal et al. 2009 Ecol. Mod.

Features

Feature class	Constrains the…	Bioclim Feature counting	# Potential Bioclim Features	# Features retained in default *P.* punctata model
Linear	Mean	19 * 1	19	3
Quadratic	Variance	19 * 1	19	8
Product	Covariance	19!/17!2!	171	43
Threshold	Quantiles	19*99	1881	25
Hinge	Piecewise Mean	19*99*2	3762	19

Merow et al. 2013 Ecography

Regularization / complexity penalties

Merow et al. 2013 Ecography