Tool profile: Red List EOO Calculator

Author/Creator	IUCN – Red List Team
Programming language	ArcGIS Toolbox containing Python tool
URL to access app/tool	https://www.iucnredlist.org/resources/spatialtoolsanddata EOO Calculator
Access rights (Open/license etc.)	Free download from RL website. No need to login/register. Need ArcGIS Desktop (ArcMap) Advanced license.
Brief summary: What is it and what is it trying to do?	ArcGIS toolbox containing a Python script tool Creates a minimum convex polygon to calculate extent of occurrence (EOO). The script calculates EOO by creating a convex hull minimum bounding geometry for each species range. The data is then projected to the cylindrical equal area projected coordinate system and the area of the EOO is calculated in kilometres squared. The Species Range input can be a single species or a file containing multiple species. The Species Field is an input parameter chosen from the list of fields in the Species Range file. The output is a geodatabase feature class for each species consisting of the EOO polygon, projected back into WGS 1984 (EPSG 4326). If the option to 'Use IUCN spatial attributes' is selected, only Presence 1-3, Origin 1-2 and 6, and Seasonal 1-2 will be used. If the species has a non-breeding range (Seasonal = 3), a separate non-breeding EOO will also be calculated. If the option to 'Create summary table' is selected, a table is produced listing the Binomial, EOO and Non-breeding EOO if any.
Associated research publication(s) / examples of where it has been used	Used regularly by the IUCN Red List Team and by Red List assessors.
Help/vignette file	https://www.iucnredlist.org/resources/spatialtoolsanddata EOO Calculator Instructions
Support network? Who can we ask for help	IUCN Red List GIS Unit mailto:redlistgis@iucn.org
Relevant Red List Parameters	EOO.
Input data formats	Shapefile or geodatabase feature class. • The features can be polygons or points. • The shapefile or feature class can contain a single species or multiple species.

Can it do batch processing?	Yes. • Multiple species in a single feature class/ shapefile or • Multiple feature classes or shapefiles.
Is internet access needed or can it be used offline?	Can be used offline if ArcMap will run offline.
Technical knowledge required?	Basic knowledge of ArcMap.
Computing requirements (e.g. will it run on low spec laptop in the field)	Standard. ArcMap version 10.1 or above. ArcMap Advanced license. Tool can sometimes crash ArcMap if large complex geometries are used.
Stability - long term support - maintenance?	Tool created in 2015 and continues to be supported by the Red List Team.