

Calculadora Garimpo API Documentation

Overview

The Calculadora Garimpo API provides environmental impact calculations for illegal gold mining activities in the Amazon region. This API calculates the economic cost of environmental damage caused by mining operations across multiple South American countries.

Base URL

`https://miningcalculator.conservation-strategy.org/api/calculate`

Authentication

All API requests require authentication using an API key provided in the request header:

`x-api-key: your_api_key_here`

Rate Limiting

- **Rate Limit:** 100 requests per minute per API key (may vary by partner)
- **Rate Limit Headers:** Response includes rate limit information:
 - `X-RateLimit-Limit`: Maximum requests allowed per minute
 - `X-RateLimit-Remaining`: Remaining requests in current window
 - `X-RateLimit-Reset`: Time when rate limit resets

Request Format

HTTP Method

POST

Content Type

`application/json`

Request Body

```
{
  "locations": [
    {
      "city": "string",
      "country": "string",
      "affectedArea": number
    }
  ]
}
```

```
    ]
}
```

Parameters

Parameter	Type	Required	Description
<code>locations</code>	array	Yes	Array of location objects to calculate impacts for
<code>locations[].city</code>	string	Yes	Name of the city/municipality where mining occurs
<code>locations[].country</code>	string	Yes	Country code (see supported countries below)
<code>locations[].affected_area</code>	number	Yes	Affected area in hectares (must be > 0)

Supported Countries

Country	Code	Description
Brazil	BR	Brazil
Peru	PE	Peru
Ecuador	EC	Ecuador
Colombia	CO	Colombia
Guyana	GU	Guyana
Suriname	SU	Suriname
Bolivia	BO	Bolivia

Supported Cities by Country

Brazil (BR)

Cities are based on Brazilian municipalities. Examples include: - Alta Floresta D'Oeste - Itaituba - Novo Progresso - Rio Branco - (Full list available upon request)

Peru (PE)

Provinces in Amazon departments: - Chachapoyas - Bagua - Bongará - Luya - (Full list available upon request)

Colombia (CO)

Departments: - Caquetá, Putumayo, Amazonas, Guainía, Guaviare, Vaupés

Ecuador (EC)

Cantons: - Gualaquiza - Sucumbíos - Tena - Zamora - (Full list available upon request)

Bolivia (BO)

Municipalities: - Independencia - Palca - Trinidad - Warnes - (Full list available upon request)

Guyana (GU) & Suriname (SU)

Administrative regions/districts available upon request.

Response Format

Success Response (200 OK)

```
{
  "totalImpact": 123456.78
}
```

Field	Type	Description
totalImpact	number	Total environmental impact cost in USD

Error Responses

400 Bad Request

```
{
  "error": "Invalid country",
  "details": "Location at index 0 has invalid country code. Valid codes are: BR, PE, EC, CO"
}
```

401 Unauthorized

```
{
  "error": "Invalid or missing API key"
}
```

413 Request Too Large

```
{
  "error": "Request too large",
  "details": "Request body exceeds 50KB limit"
}
```

429 Too Many Requests

```
{
  "error": "Rate limit exceeded",
  "details": "Maximum 100 requests per minute allowed"
}
```

500 Internal Server Error

```
{
  "error": "Internal server error",
  "details": "An unexpected error occurred while processing the calculation"
}
```

Example Usage

Single Location Request

```
curl -X POST https://your-domain.com/api/calculate \
-H "Content-Type: application/json" \
-H "x-api-key: your_api_key_here" \
-d '{
  "locations": [
    {
      "city": "Alta Floresta D'\''Oeste",
      "country": "BR",
      "affectedArea": 2.5
    }
  ]
}'
```

Multiple Locations Request

```
curl -X POST https://your-domain.com/api/calculate \
-H "Content-Type: application/json" \
-H "x-api-key: your_api_key_here" \
-d '{
  "locations": [
    {
      "city": "Alta Floresta D'\''Oeste",
      "country": "BR",
      "affectedArea": 2.5
    },
    {
      "city": "Caquetá",
      "country": "CO",
      "affectedArea": 1.8
    }
  ]
}'
```

```
    }
  ]
}'
```

JavaScript Example

```
const response = await fetch('https://your-domain.com/api/calculate', {
  method: 'POST',
  headers: {
    'Content-Type': 'application/json',
    'x-api-key': 'your_api_key_here'
  },
  body: JSON.stringify({
    locations: [
      {
        city: "Alta Floresta D'Oeste",
        country: "BR",
        affectedArea: 2.5
      }
    ]
  })
});

const data = await response.json();
console.log('Total Impact:', data.totalImpact);
```

Notes

- All monetary values are returned in USD
- Calculations include inflation adjustments to current values
- The API uses conservative environmental impact models
- Response times may vary based on the number of locations and complexity of calculations