

prbo

PRBO Conservation Science



Photos by Peter LaTourrette and PRBO

# California Avian Data Center

Matthew Reiter

Grupo Aves Del Noroeste (GANO) Meeting

Ensenada, Mexico - October 10, 2012

-

PRBO Conservation Science

## ¿Qué es el California Avian Data Center-CADC?

[www.prbo.org/cadc](http://www.prbo.org/cadc)

CALIFORNIA AVIAN DATA CENTER

a partner of Avian  
Knowledge  
Network



CADC es un nodo regional de la Avian Knowledge Network (AKN) alojada en Point Blue Conservation Science.

CADC integra datos sobre las aves y los ecosistemas para mejorar los resultados de conservación de hoy y en el futuro.

El objetivo de CADC es hacer que los datos científicos y sus análisis sean de fácil acceso para los manejadores de hábitat, profesionales de la conservación, los científicos y el público en general.

# El California Avian Data Center hoy

CALIFORNIA AVIAN DATA CENTER  
a partner of Avian Knowledge Network

Home Research Tools Habitat Management Citizen Science Maps Data My CADC About

The California Avian Data Center (CADC), a regional node of the Avian Knowledge Network (AKN) hosted by PRBO Conservation Science, integrates data on birds and ecosystems to improve conservation outcomes today and in the future. [Learn more>>](#)

**Featured Application**

**The Environmental Change Network**  
Includes maps predicting species distributions and predicting the magnitude of future climate change [View Now](#)

**CA&LCC**

**Habitat Management**  
For people involved in habitat restoration, protection, and conservation.

**Research Tools**  
For scientists and researchers who are conducting avian research and performing original investigations.

**Citizen Science**  
For the public to explore and find out about how collecting avian data can help conserve birds and their habitats.

**My CADC**  
Manage & Query Your California Avian Data [Go](#)

If you are interested in becoming a CADC Partner, please contact us.

**CADC Stats**

Number of observations: 268,918,142

**News**

Page 1 of 2 >>>

**11/23/20**  
**PRBO researcher is named eBirder of the month**  
PRBO researcher, **Renée Cormier**, supervises the internship program at the Palomarin Field Station at Point Reyes, California. As part of the training program, Renée helps the interns generate daily bird lists for every location they visit.

**08/12/20**  
**Sierra Nevada Avian Monitoring Information Network**  
The Sierra Nevada Avian Monitoring Information Network website will allow users to quickly and easily generate location and summary data from tens of thousands of species occurrence records over many hundreds of point counts across the Sierra Nevada region.

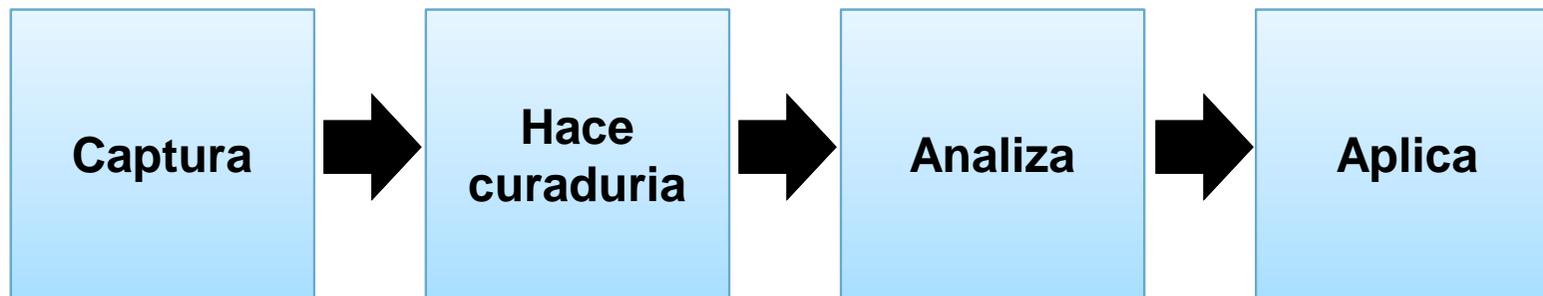
- > 100 proyectos de PB y socios
- > 250 millones de aves observadas
- Puntos de conteo, características de las áreas, datos de anillamiento...
- Incluye todos los taxones de aves, varios taxones no aviarios
- Herramientas para el trabajo de campo, gestión y el análisis de los resultados
- Planes de conservación

***Crecemos a traves las necesidades de nuestros socios***

## El ciclo de vida de los datos en CADDC

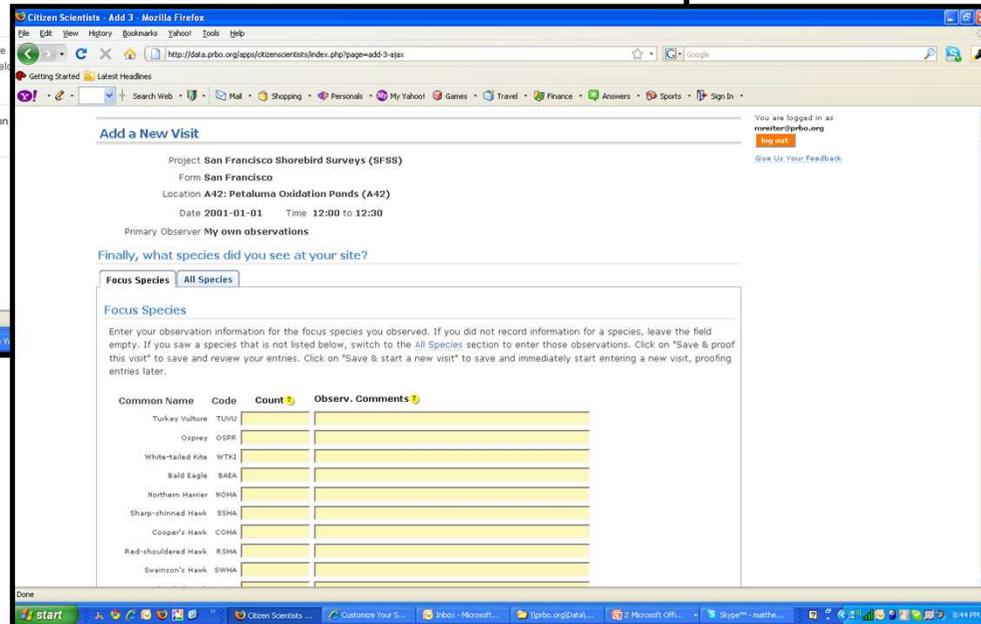
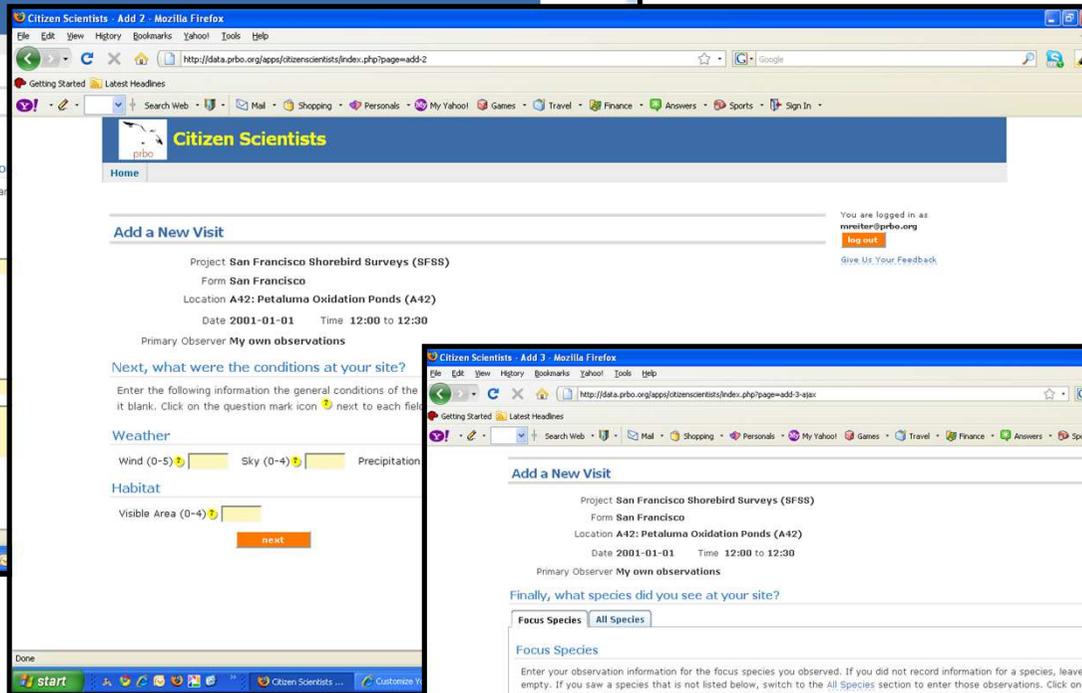
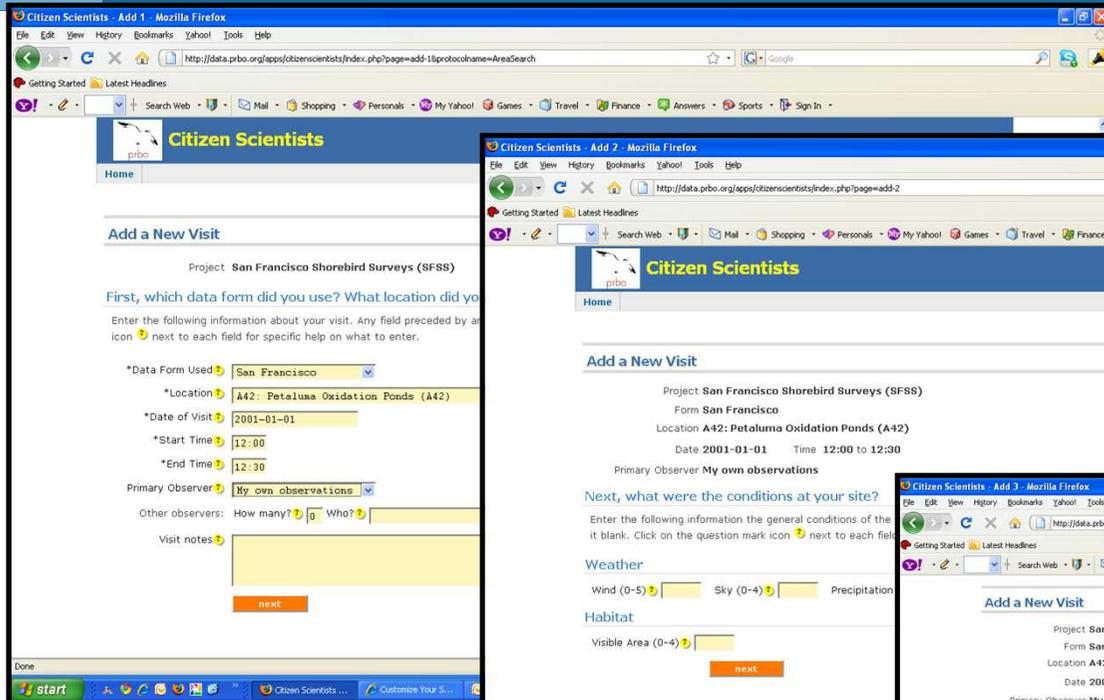
Facilitando la ciencia al profundizar en los datos

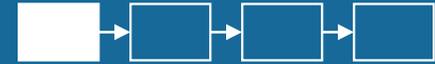
CADC es un Sistema de Soporte de Decisión: captura, maneja, analiza, y visualiza observaciones de aves





# Captura: Ingreso de datos





# Captura: Datos espaciales

The screenshot shows two browser windows. The left window, titled 'Project Leader - Edit Sampling Unit Manual 2 - Mozilla Firefox', displays a web form for editing a sampling unit. The form includes fields for 'Type(s) of sampling unit' (set to 'Study Area (Area)'), 'Name' (set to 'CORK'), and 'Short name' (set to 'CORK'). The description is 'Near Steinberger Slough'. The geometry is a MULTIPOLYGON with coordinates. Buttons for 'Add to CalPif (optional)', 'update', and 'cancel' are visible.

The right window, titled 'DEJU Mapping - Mozilla Firefox', shows a satellite map of a coastal area. A red polygon highlights a specific area labeled 'Corkscrew Slough'. A 'zoom box' tooltip is active, with instructions: 'Click around the area of your location.' and buttons for 'keep it', 'close', 'undo', 'start over', and 'help'. The map shows features like Belmont Channel, Steinberger Slough, Redwood Creek, and San Carlos Airport.

# Curatoria: Consultas de datos para usos específicos en un proyecto



Project Leader - Project Report Choice - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Sampling units, the entire set of Sampling units will be checked or unchecked. Click on everything in the tree.

1. Select sampling units from the tree below.

select all clear all

- ★ DUMM - Dummy data in Plumas/Lassen
- Battle Creek Parking [studyarea] (BACR)
- Baylands (BYLD)
- Deer Creek [studyarea] (DECR)
- Dye Creek [studyarea] (DYCR)
- Hickman Gulf (HIGU)
- IDEAL (IDEAL)
- KNAPP (KNAPP)
- LARIVIER (LARIVIER)
- LAUM (LAUM)
- LEWGALGC (LEWGALGC)
- Mill Creek [studyarea] (MICR)
- My Study Area (MYSA)
- our new area (NEWAREA)
- Pelton Ranch [studyarea] (PELT)

2a. Either Export or into:

Filter by From 2000

Date (or leave blank for all records):

- Point Count Transect summary:
- Point Count observations:
- Area Search observations:
- Banding observations:
- Weather observations:
- Rail Count observations:
- Species list:

CSV (Excel) file	HTML file
CSV (Excel) file	HTML file
DBF file (legacy)	
CSV (Excel) file	HTML file

Microsoft Excel - SamplingUnitProject\_090821120549.csv [Read-Only]

File Edit View Insert Format Tools Data Window Help

Type a question for help

75%

Arial 10 B

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
	Project	Sampling Protocol	Visit	Date	Start Time	End Time	Other Obs	Other Obs	Event	Rei	Spp	Common Count	Detectio	Forage	Flock	Copulate	Display	Pair	
1	DUMM	AP52	AREASEARCH	1	5/31/2009	6:00:00	8:30:00	1	none	test test	VREN	4	C	X					
2	DUMM	AP52	AREASEARCH	1	7/31/2009	100:00	3:00:00	0			BAND	2	C						
3	DUMM	AP52	AREASEARCH	1	7/31/2009	100:00	3:00:00	0			GBHE	2	C						
4	DUMM	AP52	AREASEARCH	1	7/31/2009	100:00	3:00:00	0			GBHE	2	C						
5	DUMM	AP52	AREASEARCH	1	7/31/2009	100:00	3:00:00	0			GBHE	2	C						
6	DUMM	AP52	AREASEARCH	1	7/31/2009	100:00	3:00:00	0			GBHE	2	C						
7	DUMM	HIGU01	AREASEARCH	1	2/14/2009	100:00	2:00:00	0			BFCR	20	C	X	X				
8	DUMM	HIGU01	AREASEARCH	12	2/12/2009	12:24:00	15:00:00	1	joe		BAVW	3	C						
9	DUMM	HIGU01	AREASEARCH	12	2/12/2009	12:24:00	15:00:00	1	joe		XXXX	4	C						
10	DUMM	HIGU01	AREASEARCH	0	2/13/2009	8:00:00	8:20:00	1	Dennis J		AMFO	12	C					X	
11	DUMM	HIGU01	AREASEARCH	0	2/13/2009	8:00:00	8:20:00	1	Dennis J		NOMO	3	D						
12	DUMM	HIGU01	AREASEARCH	0	2/13/2009	8:00:00	8:20:00	1	Dennis J		CAGO	85	C	X					
13	DUMM	HIGU01	AREASEARCH	0	2/13/2009	8:00:00	8:20:00	1	Dennis J		SACR	10	V						
14	DUMM	HIGU01	AREASEARCH		2/22/2009	8:00:00	9:00:00	0			BAVW	3	C						
15	DUMM	HIGU01	AREASEARCH		2/22/2009	8:00:00	9:00:00	0			XXXX	33	V						
16	DUMM	HIGU01	AREASEARCH		2/22/2009	8:00:00	9:00:00	0			XXXX	4	V						
17	DUMM	HIGU01	AREASEARCH		2/22/2009	8:00:00	9:00:00	0			XXXX	3	C						
18	DUMM	HIGU01	AREASEARCH		2/22/2009	8:00:00	9:00:00	0			XXXX	33	C						
19	DUMM	HIGU01	AREASEARCH		2/22/2009	8:00:00	9:00:00	0			XXXX	4	V						
20	DUMM	HIGU01	SHOREI	3	4/5/2009	100:00	2:00:00	1	gfgf		PSHA	1	V						
21	DUMM	AS1	AREASEARCH	1	4/7/2009	6:00:00	9:00:00	0			DUNL	2	C		X				
22	DUMM	AS1	AREASEARCH	1	4/7/2009	6:00:00	9:00:00	0			DUNL	4	V		X				
23	DUMM	AS1	AREASEARCH	1	4/7/2009	6:00:00	9:00:00	0			SOSP	4	C						
24	DUMM	AS1	AREASEARCH	1	4/7/2009	6:00:00	9:00:00	0			LBCU	4	V		X				
25	DUMM	AS1	AREASEARCH	1	4/7/2009	6:00:00	9:00:00	0			VREN	4	V						
26	DUMM	AS1	AREASEARCH	2	4/29/2009	6:00:00	8:00:00	0			RTHA	1	V					X	
27	DUMM	AS1	AREASEARCH	2	4/29/2009	6:00:00	8:00:00	0			LEGO	3	C						
28	DUMM	AS1	AREASEARCH	2	4/29/2009	6:00:00	8:00:00	0			LEGO	1	V						

# Analiza: Busca tendencias en observaciones de aves



Summary of Avian Data (BETA) - Mozilla Firefox

## Avian Summary Data for WISL

These data are contributed by California Avian Data Center and PRBO Conservation Science

Years surveyed: 1995 - 2005  
Total Number of Surveys Performed: 415

### Species Richness Estimation (All Months)

Statistic	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Number of visits	45	42	45	43	45	45	30	30	30	30	30
Unique Species	54	59	66	64	65	55	62	59	55	51	51

Total Bird Count by Month:

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1995				337	390	335						
1996					304	611						
1997					931	533						
1998					694	335						
1999					715	420						
2000					836	364						
2001					435	330						
2002					319	229						
2003				343		299						
2004					295	251						
2005				301	219							

Species Richness for ALL

For each year, the number of unique species seen during each visit are averaged to provide a point level estimate of species richness. These point level estimates are averaged to provide a transect level estimate.



# Visualizaciones de los datos de aves en mapas

[www.prbo.org/multimap](http://www.prbo.org/multimap)

“¿dónde esta el Playero común en California?”

**Map-Based Access to Avian Data Summaries**

**About These Maps**

**Choose a Data Collection**

- PRBO - Point Count
- PRBO - Banding
- PRBO - Area Survey
- PRBO At Sea
- Breeding Bird Survey
- eBird
- Ventana Wildlife Society - Banding
- MAPS Stations - Banding
- Klamath Bird Monitoring Network - Point Count
- Klamath Bird Monitoring Network - Checklist
- Klamath Bird Monitoring Network - Area Survey
- Klamath Bird Monitoring Network - Banding
- North Pacific LCC - Point Count

**Choose a Map Overlay**

- States
- Counties
- Audubon Important Bird Areas
- Watersheds
- Bird Conservation Regions
- Department of Fish and Game Regions
- Jepson Ecoregions
- Public Lands
- Map Labels

**Choose a date range (default is year-round)**

Jan  Dec

**Choose a subset of bird species (default is all)**

All Avian Taxa (alpha order)

**Choose a species from the above subset**

Dunlin

1989 | 1990 | 1991 | 1993 | All Years |

**SM**  
in All Years  
5 visits from 1989—1993

[Avian Data Summary](#)

- [American Avocet](#) (8)
- [Baird's Sandpiper](#) (5)
- [Black-bellied Plover](#) (83)
- [Black Turnstone](#) (1)
- [Dunlin](#) (12)
- [Greater Yellowlegs](#) (5)
- [Killdeer](#) (7)
- [Least Sandpiper](#) (122)
- [Long-billed Curlew](#) (241)
- [Marbled Godwit](#) (58)
- [Red-necked Phalarope](#) (42)
- [Ruddy Turnstone](#) (2)
- [Sanderling](#) (461)
- [Semipalmated Plover](#) (12)
- [Snowy Plover](#) (161)
- [Unid. Long-billed/Short-billed Dowitcher](#) (21)
- [Western Sandpiper](#) (288)
- [Whimbrel](#) (186)
- [Willet](#) (49)
- [Wilson's Phalarope](#) (2)

# Usando los datos: Aplicaciones

The screenshot shows a web browser window with the URL `data.prbo.org/cadc2/index.php?page=applications`. The page header includes the text "CALIFORNIA AVIAN DATA CENTER" and "a partner of the Avian Knowledge Network". A navigation menu contains links for Home, Research Tools, Habitat Management, Citizen Science, Maps, Data, My CADC, Applications, and About. The main content area is titled "Applications Hosted by CADC" and features four application cards:

- San Francisco Bay Sea Level Rise**: Decision support tool for adaptation planning, restoration potential, and land acquisition related to San Francisco Bay tidal marsh ecosystems. Displays modeling results for various sea-level rise and sedimentation scenarios, allowing users to explore how tidal marsh habitat and bird species distribution may change over the next 100 years.
- The Environmental Change Network**: A collaborative effort of the California Landscape Conservation Cooperative and PRBO Conservation Science to establish an integrated long-term environmental monitoring program for a range of common variables of major environmental importance on which to base climate change predictions and prioritize conservation activities.
- Pacific Flyway Shorebird Survey**: A broad-scale, international program to detect trends and quantify habitat associations for Pacific Flyway shorebird populations.
- The Sierra Nevada Avian Information Network**: This site serves as a nexus to explore the results of 5 avian monitoring projects within the Sierra Nevada Biological Research Area.

On the right side of the page, there is a "My CADC" section with the text "Manage & Query Your California Avian Data" and a "Go" button. Below this, it says "If you are interested in becoming a CADC Partner, please contact us." and includes social media sharing buttons for Facebook (15 likes), Twitter (0 tweets), and Google+ (0 +1s).

# Combinar con otros datos para obtener resúmenes en múltiples escalas y por hábitat: Aplicación de PFSS

The screenshot displays the Pacific Flyway Shorebird Survey (PFSS) web application interface. The top navigation bar includes 'Home' and 'Explore Data'. The main content area is titled 'Pacific Flyway Shorebird Survey' and shows a URL: `ata.prbo.org/apps/pfss/index.php?page=explore-project-results-abundance&protocolname=DataAnalysis`. The page title is 'Estimates of Abundance (Shorebirds per Sampling Unit) Summarized by Species and Habitat - Graph for Species = Sanderling/Dunlin/Least/Western Sandpiper.' The graph shows 'Abundance (Shorebirds per Sampling Unit)' on the y-axis (ranging from 0 to 300) and 'Year' on the x-axis (2010 and 2011). The data points are approximately 175 for 2010 and 75 for 2011, with error bars representing +/- 1 Standard Deviation. The interface also includes a sidebar with filters for 'Area Type' (Region, Geopolitical, Habitat, Site, Sub-Site) and 'Group Output?'. The 'Habitat(s) selected' is 'Rice'. The 'What information would you like to see?' section has 'Density Information' selected. A 'next' button is visible at the bottom of the sidebar.

Home Explore Data Reports V

Home Explore D

How would you like to see the data?

Years ?

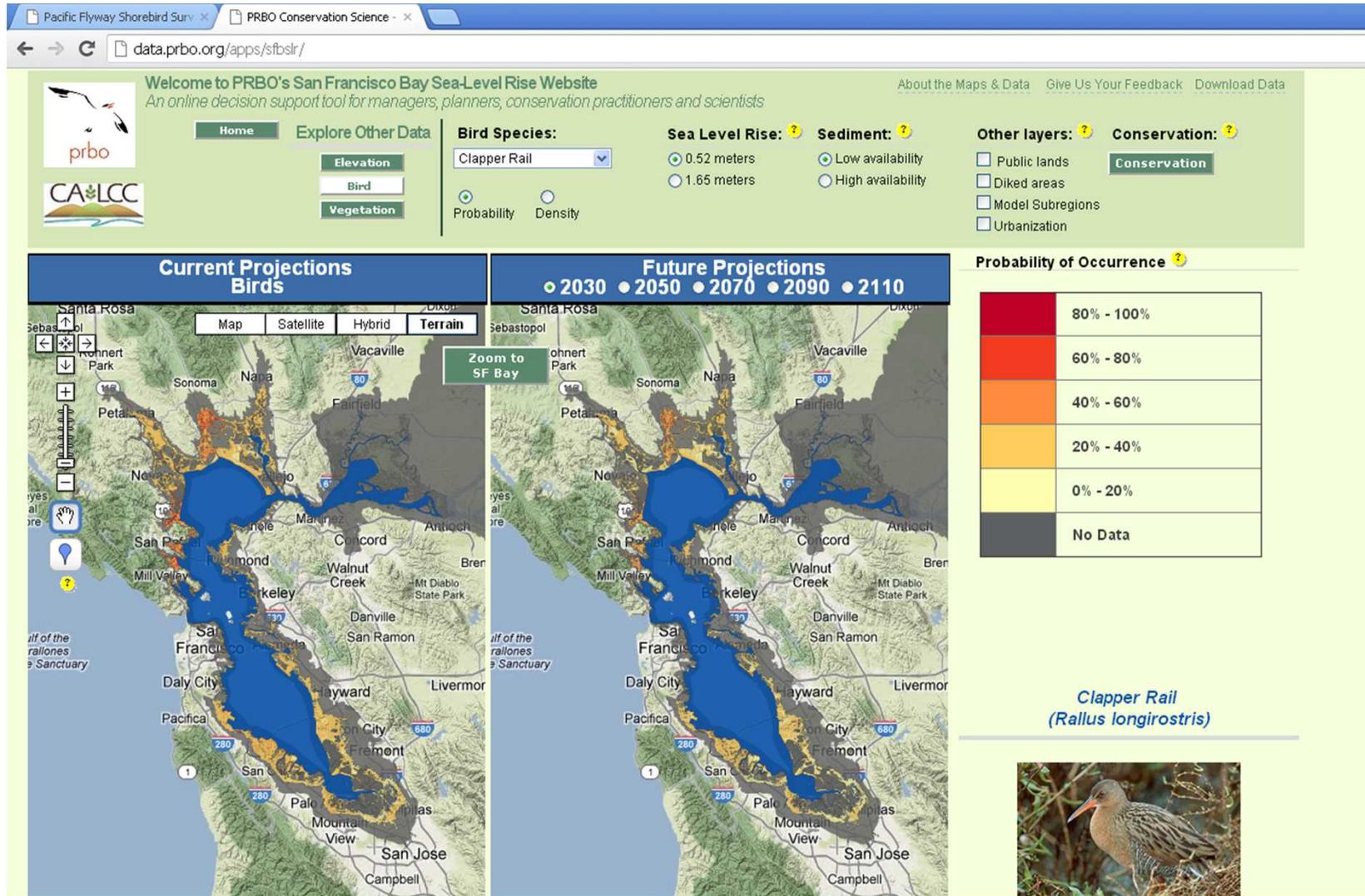
Species ?

Get Res

Notes:

Bars around estimates are +/- 1 Standard Deviation. Total sampling events: 55. Number of sampling events with 0 observations: 35 Some or all species selected may have also been detected as part of mixed flocks in the selected survey events selected. Therefore, the taxa have been rarefied to the most encompassing mixed flock definition.

# Manejo / Conservación: ¿cómo deberíamos conservar tierras frente a un aumento del nivel del mar?



# Manejo / Conservación: ¿cómo debería conservarse las tierras frente al cambio climático?



## Environmental Change Network

Monitoring to guide and prioritize conservation

Home Climate Change Maps Download Model Results About ECN



### Modeling Bird Distribution Responses to Climate Change: *A mapping tool to assist land managers and scientists in California*

[About the Maps & Data](#) [Download Model Data](#)

#### Species Distributions

[Start Over](#)

Select a habitat type:

All Habitat Types ?

Select a species:

American Robin ?

Select other data:

Current range maps ? [\(more info\)](#)

Show locations for this species ?

Results from GFDL CM2.1 ? climate model  
using the MAXENT algorithm

Probability of occurrence 0-20% 20-40% 40-60% 60-80% 80-100%

#### Projected Current Distribution

#### Projected Future Distribution



#### American Robin



Photo (c) Peter LaTourrette

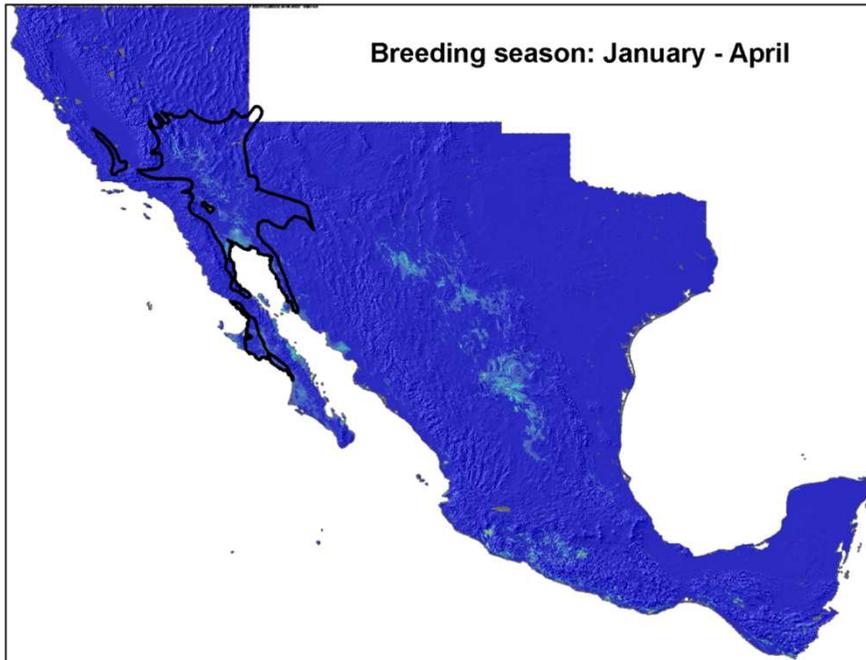
Learn more about the **American Robin** at [All About Birds](#) species account

#### Variables in order of Importance ?

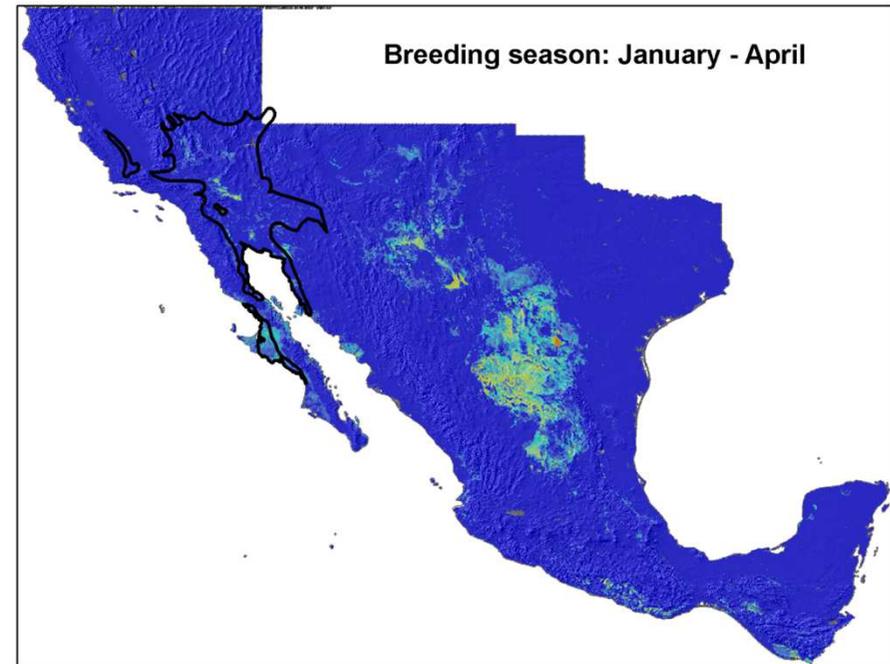
1 Annual precipitation

# Ejemplo de México: Oportunidades de adaptación?

## Proyección actual



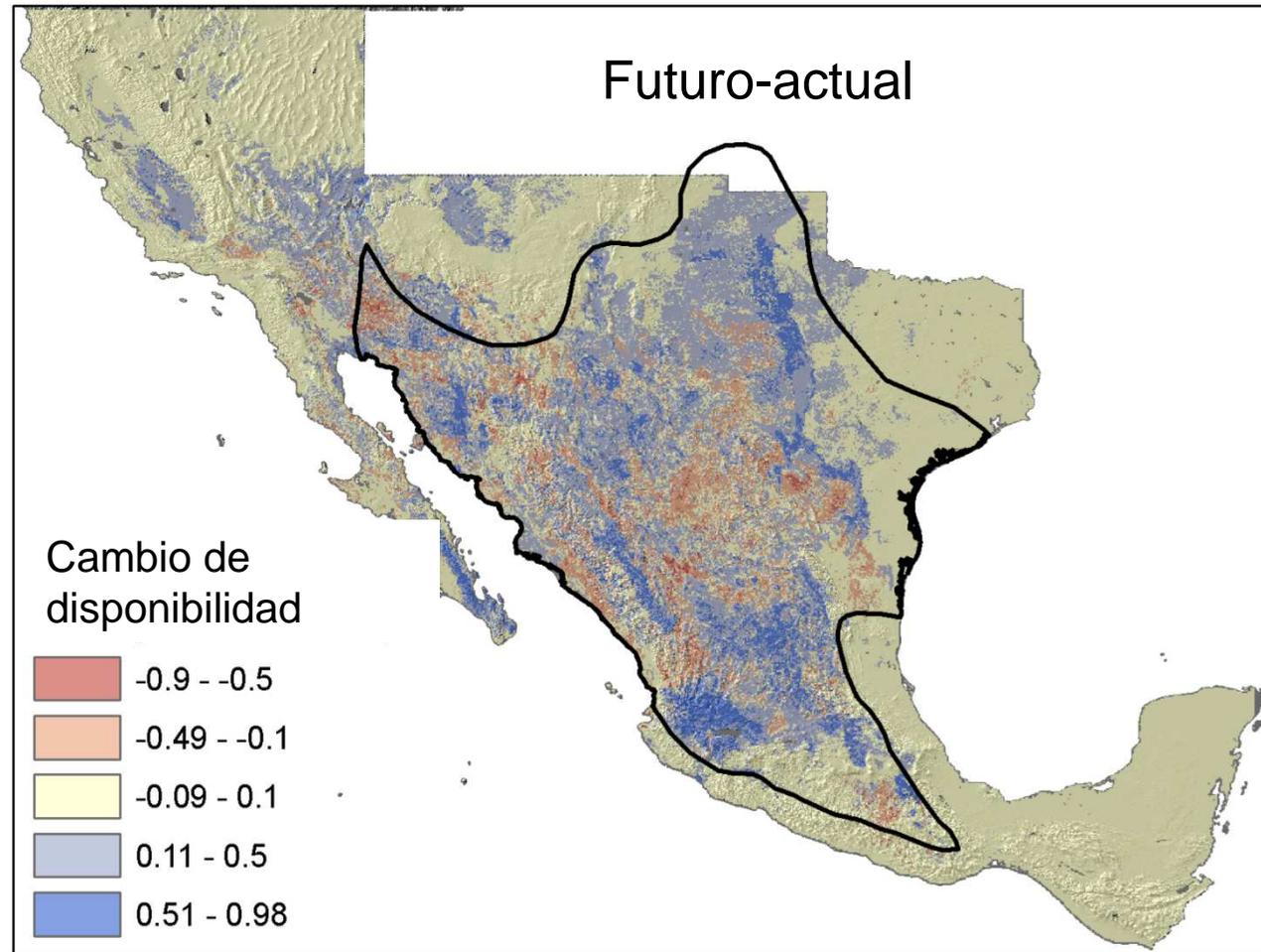
## Proyección futura (2041-2060)



Época de reproducción: enero a abril

## Para al especies el futuro parece mejor

Curve-billed  
Thrasher-  
*Toxostoma*  
*curvirostre*



## Disponibilidad de los datos – ¡Compartir o no! es decisión de cada uno

- Nivel 1** Almacenado en el repositorio de datos principal del AKN, con la opción de que sus datos **no están expuestos al público en absoluto.**
- Nivel 2** Los datos pueden ser usados en **ciertas visualizaciones** predefinidas disponibles al público (es decir, mapas y gráficos), **pero el acceso directo a los datos está restringido.**
- Nivel 3** Los datos pueden ser utilizados en visualizaciones predefinidas disponibles al público (es decir, mapas y gráficos). Además, **los datos están disponibles para los esfuerzos existentes bioinformáticas.**
- Nivel 4** Los datos se utilizan en visualizaciones predefinidas disponibles al público (es decir, mapas y gráficos), y están disponibles para los esfuerzos existentes bioinformáticas. Además, **el conjunto completo de datos está disponible a petición del proveedor de datos original.**
- Nivel 5** Los datos se utilizan en, visualizaciones predefinidas disponibles al público (es decir, mapas y gráficos), y están disponibles para los esfuerzos existentes bioinformáticas. Además, **el conjunto de datos completo se puede descargar directamente a través de Internet.**

## Resumen

- CADC es una plataforma segura y bien probada para el almacenamiento, manejo y análisis de datos.
- Los datos son propiedad de los líderes del proyecto y cualquier intercambio es decisión del líder del proyecto.
- Combinar los datos de monitoreo para su uso junto con otras observaciones de otros proyectos u otras regiones geográficas.
- Algunas aplicaciones proporcionan una base para medir la respuesta biológica al cambio.
- La visualización y el análisis de diferentes observaciones en conjunto, ayudar a determinar las estrategias óptimas de conservación y gestión frente al cambio climático.