

2017 CaGIS Map Design Competition

Judges: Tom Patterson, Tanya Allison, Jacqueline Nolan, Dan McDermott, Dan Cole

Student

Arthur Robinson Print Map Award

Winner

Europe on Fire: Viking Raids of the 9th Century (802-891 CE)

Emily Pettit, University of Wisconsin-Madison

Honorable Mentions

This Land is Our Land: The Reduction of Your Public Lands

Anna Ormiston, University of Wisconsin-Madison

December 7, 1941, a Date Which Will Live In Infamy

Carol Burbage, Montgomery College

Major Watersheds of Africa

David Huwe, University of Wisconsin-Madison

Proximity of NHL Teams to AHL Affiliates

Jon Freel, Montgomery College

Land-Use Attributes within 1000m of NO₂ Monitoring Sites: Ile-de-France, France

Karl Chastko, University of Toronto

Internet Access in 2017

Nattapon Jaroenchai, University of Illinois at Urbana-Champaign

Mass Extinction: The Rapid Decline of Species Worldwide

Rebecca Schmidt, University of Wisconsin-Madison

Transportation in New York City, Private vs. Public

Nick Exley, University of Wisconsin-Madison

From Preps to Pros: UW Football Players' Career Paths

Nick Exley, University of Wisconsin-Madison

Between Bushes and Bathrooms: Sanitation in Archaic Greek Households

Yusi Liu, University of Wisconsin-Madison

World Statistical Mapping featuring Multiple Sclerosis Data

Jillian Ejdrygiewicz, Center of Geographic Sciences, NSCC

David Woodward Digital Map Award

Winner

Concrete Jungle: Urban Expansion and the Rise of the Megacity,

A Digital Web Mapping Application

<https://mcmaster.maps.arcgis.com/apps/MapJournal/index.html?appid=850a80117ad546f39959aa21d1fcca95>

Spencer Elford, McMaster University and University of Toronto – Mississauga

Honorable Mentions

A Short History of Multiple Sclerosis

<https://bit.ly/2EZXXVgi>

Jillian Ejdrygiewicz, Center of Geographic Sciences, NSCC

Human Trafficking at Home

<https://rossthorn.github.io/human-trafficking-viz/>

Ross Thorn, University of Wisconsin- Madison

Road to Russia 2018 World Cup

Nurlan Khamzin, University of Illinois at Urbana-Champaign

<https://khamzin91.wixsite.com/2018fifarussia> and

<https://khamzin91.wixsite.com/2018fifarussia/map>

A Journey Through Mary Shelley's *Frankenstein*, Part One

Johnny Eaton, Center of Geographic Sciences, NSCC

Professional

Recreation and Travel

Winner

Continental Divide Trail

Rachael Carpenter and Christopher Knoll, National Geographic Maps

Honorable Mentions

A Paddler's Guide to the Schuylkill River Water Trail

Brian Swisher, The Swisher Studio

Ouachita Trail, Central

Kristian R. Underwood, Underwood Geographics

Athens Ohio Bicycle Maps

John Lefelhocz, Cycle Path Bicycles of Athens, Ohio

Reference

Winner

None

Honorable Mentions

Shifting Sands

Damien Saunder, Daisy Chung, Irene Berman-Vaporis, Ed Merritt

National Geographic Magazine

Managing the Moors

Lauren E. James, National Geographic Magazine

Protecting Baja Seas

Matthew W. Chwastyk, National Geographic Magazine

The Night Sky

Heather Smith, ESRI

Vice President's World Map

Nicholas P. Rosenbach, National Geospatial-Intelligence Agency

Thematic

Winner (tie)

Coming Home to Indigenous Place Names in Canada

Margaret Wickens Pearce, Canadian-American Center, University of Maine

The Melting of Antarctica

Lauren C. Tierney, Jason Treat, Stephen Tyson, National Geographic Magazine

Honorable Mentions

Lifeline to a Desert Delta

Lauren E. James, Matthew W. Chwastyk, Ryan Williams, National Geographic Magazine

Lights On Lights Out

John Nelson, ESRI

Book/Atlas

Winner (tie)

Visual Atlas of the World, 2nd ed.

Debbie Gibbons et al, National Geographic

Atlas of Beer: A Globe-Trotting Journey Through the World of Beer

Mike McNey, Scott A. Zillmer, National Geographic

Honorable Mentions

Ecological Atlas of the Bering, Chukchi, and Beaufort Seas

Daniel P. Huffman et al, somethingaboutmaps; Audubon Alaska, Oceana

Climatological Atlas of Tropical Cyclones over the Western North Pacific (1981-2010)

Xiaotu Lei et al, Shanghai Typhoon Institute, China Meteorological Administration Institute of Cartography, East China Normal University

Other

Winner (posthumous)

A New Companion to Mercator

Waldo Tobler, UC Santa Barbara

Honorable Mention

Noteworthy Islands of the Great Lakes System

Daniel P. Huffman, somethingaboutmaps

Interactive/Digital

Winner

Justice Deferred

Allen Carroll et al, ESRI Story Maps Team

<https://storymaps.esri.com/stories/2017/japanese-internment/>

Honorable Mentions

Enclaves & Exclaves: A Tour of the World's Geographically Engulfed and Orphaned Places

John Nelson, Allen Carroll, ESRI Story Maps Team

<https://storymaps.esri.com/stories/2017/enclaves-exclaves/index.html>

On the Front Lines of Famine

Allen Carroll et al, ESRI Story Maps Team

<https://storymaps.esri.com/stories/2017/hunger-crisis/>

Best of Show

Visual Atlas of the World, 2nd ed.

Debbie Gibbons et al, National Geographic

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Best of Show

45th Annual CaGIS Map Design Competition



Visual Atlas of the World, 2nd ed.

Debbie Gibbons, Michael Tribble, Jerome Cookson, Theodore Sickley, Irene Berman-Vaporis, Matthew Chwastyk, Mike McNey, Charles Preppernau, Damien Saunder, Lauren Tierney, Rosemary Wardley, Ryan Williams, Greg Ugiansky, Scott Zillmer

National Geographic



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David Woodward
Digital Map Award
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***Concrete Jungle: Urban Expansion
and the Rise of the Megacity,
A Digital Web Mapping Application***

Spencer Elford
University of Toronto - Mississauga



<https://mcmaster.maps.arcgis.com/apps/MapJournal/index.html?appid=850a80117ad546f39959aa21d1fcca95>

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A Short History of Multiple Sclerosis

Jillian Ejdrygiewicz
Center of Geographic Sciences, NSCC



<https://cogsnscc.maps.arcgis.com/apps/MapJournal/index.html?appid=455d2f3d6e78458791ac56bc28a9a556>

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Honorable Mention

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Human Trafficking at Home

Alicia Iverson, Leanne Abraham, Ross Thorn
University of Wisconsin - Madison



<https://rossthorn.github.io/human-trafficking-viz/>

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David Woodward Award
Honorable Mention

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Road to Russia: 2018 World Cup

Nurlan Khamzin

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<https://khamzin91.wixsite.com/2018fifarussia> and
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Honorable Mention

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*A Journey Through
Mary Shelley's Frankenstein, Part One*

Johnny Eaton

Center of Geographic Sciences, NSCC





FrankensteinAS.html



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Best Print Map

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***Europe on Fire:
Viking Raids of the 9th Century (802-891 CE)***

Emily Pettit

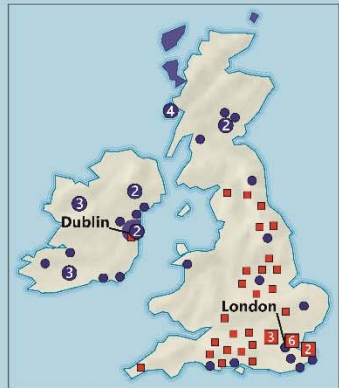
University of Wisconsin - Madison



Europe on Fire

Viking Raids of the 9th Century (802-891 CE)

During the first one hundred years of the Viking Age, Scandinavian Vikings from modern-day Norway, Sweden, and Denmark raided throughout Europe, northern Africa, and western Asia. The Vikings took advantage of their seafaring skills and battle prowess to establish trade connections and create settlements that became foundations for many modern cities.



The relentlessly successful Danish Viking attacks in England provoked the construction of a fortress network throughout the southern provinces, with many fortifications still standing today.

1 cm = 250 km

9th Century Raids

- ▲ Swedes
- Danes
- Norwegians

Ⓜ Ⓟ Ⓠ Location raided multiple times

Areas of Viking Settlement

- Swedes
- Danes
- Norwegians

Raid Patterns

- Swedes
- Danes
- Norwegians

- Mixed cultural and political groups
- Empire boundaries



The Norwegians conquered Kiev c. 860, taking control of the Slavic city that grew to become the capital of the Kievan Rus' people and a regional focus of power.

Scandinavian sagas call Constantinople "Miklagard" (The Great City). Some Vikings chose to serve the Byzantine Emperor as mercenaries, earning honors for their skill in battle.

Trail: Photo: Getty Images; Vector: 102 | Project: European Council Council; Wiki: Central Mountain; S.C. Travel: Pexels; 435; 620 | Inspiration: not; iStockphoto.com; gromov
 Viking raid information from: Viking Voyages by Angelo Forte, Richard Grant, and Frisak Pacesetter (Cambridge: Cambridge University Press, 2005); The Viking Road to Byzantium by H. H. Ellis Carleton (London: George Allen & Unwin Ltd, 1976);
 Kings and Vikings: Scandinavia and Europe, 800-1050 by P. H. Sawyer (London: Methuen & Co., 1982); A History of the Vikings by Green (Oxford: Oxford University Press, 1986); and History of the Norwegian People by Knut Gjovik (New York: The Macmillan Company, 1915).

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Honorable Mention

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***This Land is Our Land:
The Reduction of Your Public Lands***

Anna Ormiston

University of Wisconsin - Madison



This Land Is Our Land: The Reduction Of Your Public Lands



President Trump has reduced **2 NATIONAL MONUMENTS** in Utah.

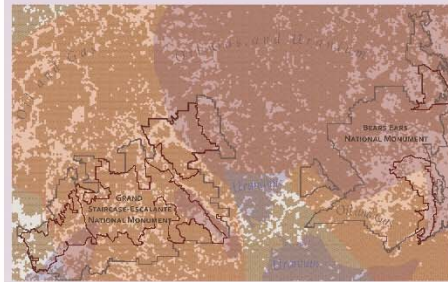
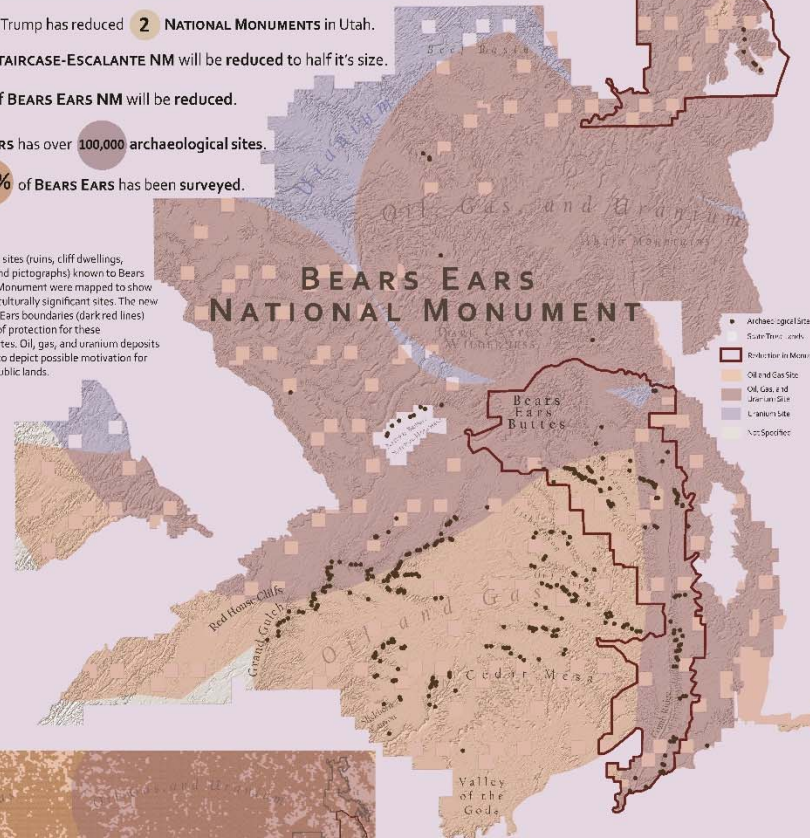
GRAND STAIRCASE-ESCALANTE NM will be reduced to half its size.

85% of **BEARS EARS NM** will be reduced.

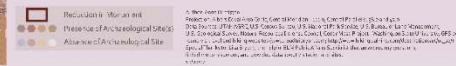
BEARS EARS has over **100,000** archaeological sites.

Only **10%** of **BEARS EARS** has been surveyed.

Archaeological sites (ruins, cliff dwellings, petroglyphs, and pictographs) known to Bears Ears National Monument were mapped to show the density of culturally significant sites. The new reduced Bears Ears boundaries (dark red lines) show the lack of protection for these irreplaceable sites. Oil, gas, and uranium deposits were mapped to depict possible motivation for reducing our public lands.



Archaeological site presence and absence data for Grand Staircase-Escalante National Monument, Bears Ears National Monument, and the greater area are depicted by 1/25 kilometer hexagons. Dark red outlines demarcate the new boundaries of the reduced Bears Ears National Monument and Grand Staircase-Escalante National Monument. Darker areas in the base map represent presence of archaeological sites (in a list of sites not described). Oil, gas, and uranium sources are overlaid on the archaeological site base map to illustrate how natural resource extraction is threatening these culturally significant areas, especially, with the reduction of the two national monuments.



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Honorable Mention

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***December 7, 1941,
A Date Which Will Live In Infamy***

Carol Burbage

Montgomery College



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Major Watersheds of Africa

David Huwe

University of Wisconsin - Madison



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Proximity of NHL Teams to AHL Affiliates

Jon Freel

Montgomery College



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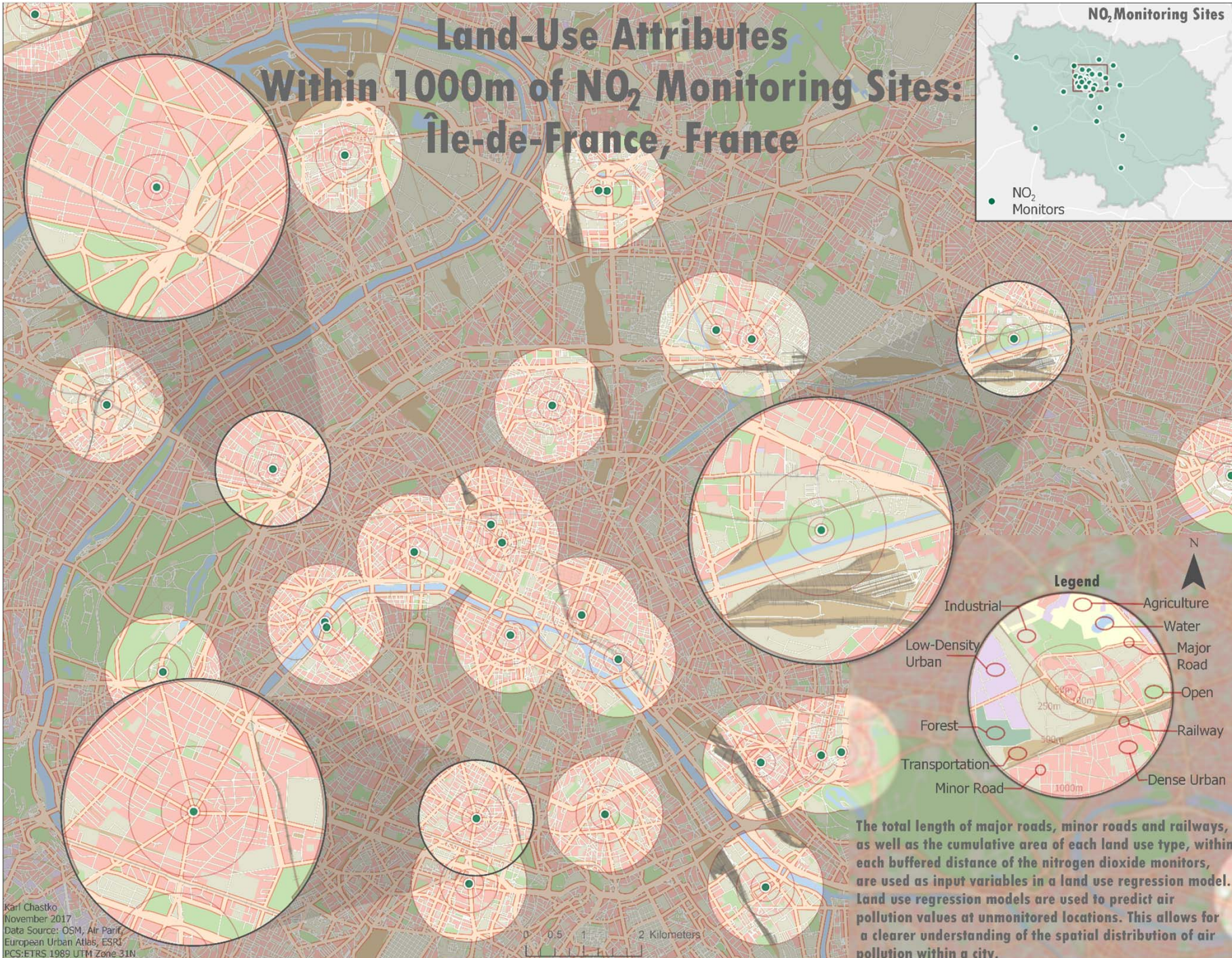
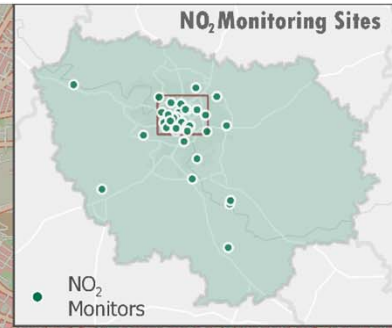
***Land-Use Attributes
within 1000m of NO₂ Monitoring Sites:
Ile-de-France, France***

Karl Chastko

University of Toronto



Land-Use Attributes Within 1000m of NO₂ Monitoring Sites: Île-de-France, France



Karl Chastko
November 2017
Data Source: OSM, Air Paris,
European Urban Atlas, ESRI
PCS:ETRS 1989 UTM Zone 31N

The total length of major roads, minor roads and railways, as well as the cumulative area of each land use type, within each buffered distance of the nitrogen dioxide monitors, are used as input variables in a land use regression model. Land use regression models are used to predict air pollution values at unmonitored locations. This allows for a clearer understanding of the spatial distribution of air pollution within a city.

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Internet Access in 2017

Nattapon Jaroenchai
University of Illinois at Urbana-Champaign

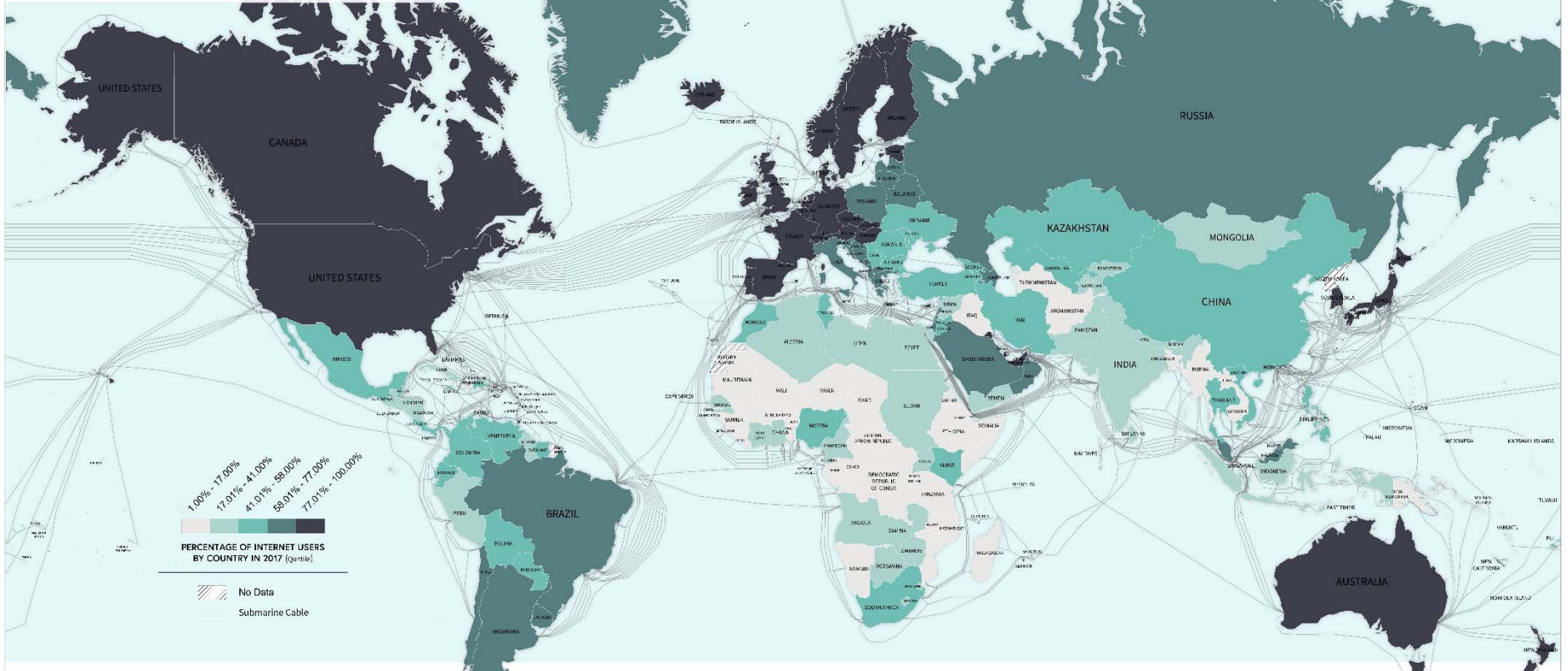


INTERNET ACCESS IN 2017

The internet has drastically changed the way we work, spend our leisure time and communicate with one another. Despite its tremendous growth, Internet access is not distributed equally between countries.

Cartographer: **Nattapon Jaroenchai**
Map Projection: **Mercator Projection**

Data Source: **www.internetlivestats.com**
Data: **28 October 2017**



INTERNET USERS BY REGION 2017



Internet User is an individual who can access the Internet, via computer or mobile device, within the home where the individual lives. (Source: www.internetworldstats.com)

INTERNET CONTRIBUTES TO GDP

The Internet increases productivity by allowing market players to connect quickly and easily, this also increases information flows. Increasing information efficiency between markets is difficult to measure and is not included as in the Internet's contribution to GDP although it is an important factor.

In all developed countries today, computers are an integral part of education at all levels and even very young children are using computers. It is estimated today that the internet contributes to GDP more than traditional sectors like agriculture, utilities, mining and education!

SOURCE: "The World's Largest Internet Companies" report by research firm, and presented by McKinsey & Company. Retrieved from: www.mckinsey.com/industries/technology-and-digital-media/our-insights

IMPACTS of INTERNET

INTERNET TRANSFORMS EDUCATION & HEALTHCARE

In many ways the internet has transformed education and healthcare at all levels.

For education, students and researchers gain ability to share their knowledge and acquire more knowledge at the same time. The knowledge which used to be taught only in universities or schools, it can now access by million of people from anywhere in the world.

For healthcare, people can receive advice and access on the diagnostic from doctor via internet. Powerful and inexpensive apps for illness diagnosis are being developed due to the availability of the internet.

SOURCE: "How the Internet is Reshaping Global Education" by Courtney Goodfellow, from "Technology in the Learning Health Care System" (2016), Elsevier's Technology and eHealthcare.

INTERNET HELPS TO ACCELERATE POLITICAL CHANGE

Internet has been used as a medium to exchange information among activists and protesters around the world. By the power of internet, only a small group of people can spread awareness and bring down the ruling party. Many countries such as China, Thailand and Iran, have to cut off access to news and social media sites during the time of political unrest.

Citizens of countries where the internet is not free or partially free risk arrest for many types of online expression as their governments fear and oppose the open nature of the Internet.

SOURCE: "How Social Media Escalated the Arab Spring" by Michael S. Shuman.

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***Mass Extinction:
The Rapid Decline of Species Worldwide***

Rebecca Schmidt

University of Wisconsin - Madison



MASS EXTINCTION:

THE RAPID DECLINE OF SPECIES WORLDWIDE

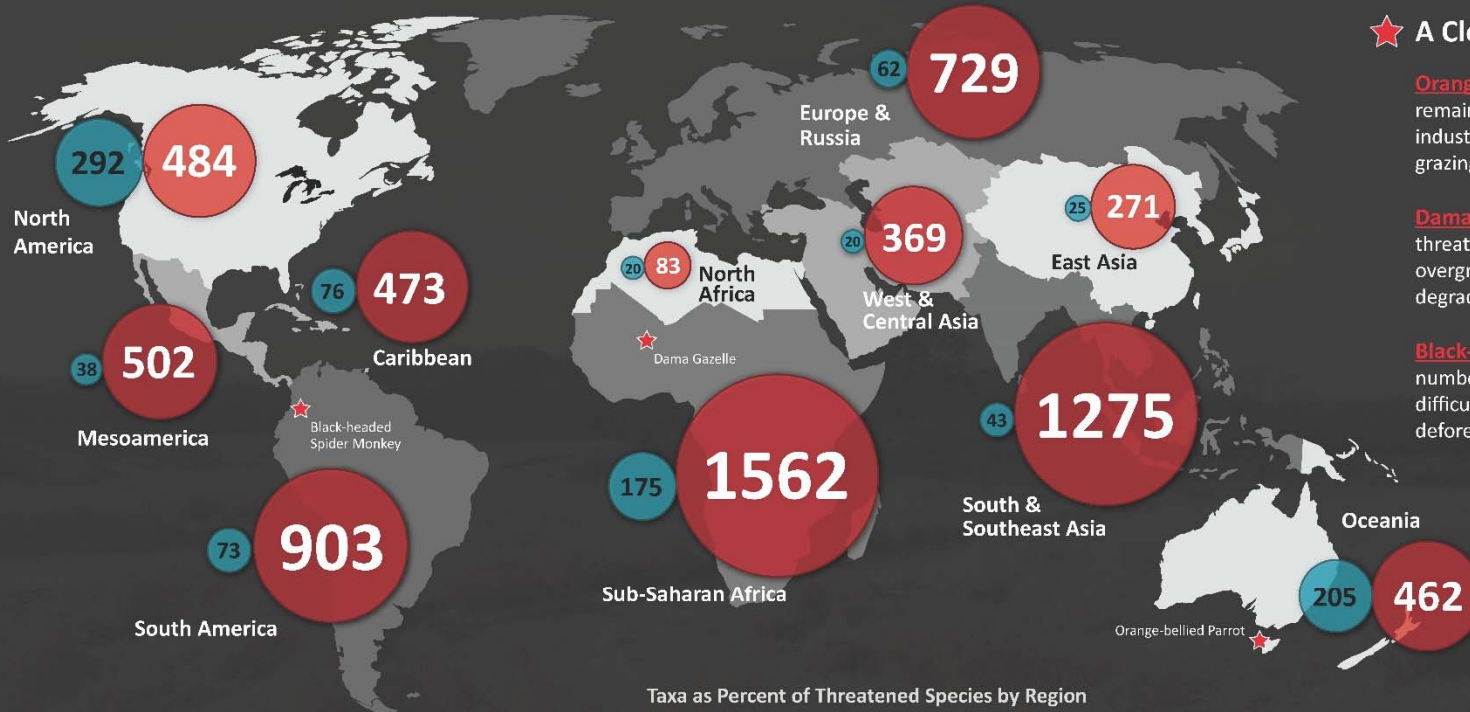
Earth is currently experiencing its **sixth mass extinction** of plants and animals. While extinction is a natural phenomenon, it occurs at a natural "background" rate of approximately 1 to 5 species per year. However, species are now being lost at 1,000 to 10,000 times the background rate. As many as **30% to 50% of all species** could be **extinct by 2050**. Unlike past mass extinctions caused by events like asteroid strikes, volcanic eruptions, and natural climate shifts, the current crisis is almost entirely **caused by humans**. In fact, 99% of currently threatened species are at risk from human activities, primarily those driving habitat loss, degradation, and fragmentation, the introduction of non-native species, and anthropogenic climate change (IUCN).

★ A Closer Look...

Orange-bellied Parrot: only 20-25 remain; threatened due to urban and industrial development, agriculture, and grazing

Dama Gazelle: only 100-200 remain; threatened due to overhunting by humans, overgrazing by livestock, and grassland degradation from droughts

Black-headed Spider Monkey: unknown number remain because it is rare and difficult to see; threatened due to deforestation and strong hunting pressure



* Adapted from the International Union for Conservation of Nature (IUCN) Red List, 2017.

Extinct means no known individuals of a species remain.

Critically endangered means a species is at extremely high risk of extinction in the wild.

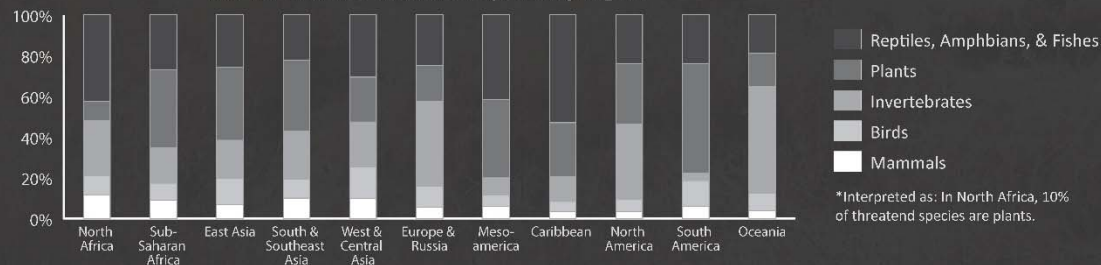
Threatened is a term used to describe three categories: critically endangered, endangered, and vulnerable species.

Robinson Sphere Projection
Species Info from IUCN Red List;
Continents from Natural Earth
Rebecca Schmidt, Dec. 2017

100 Number of Extinct Species

100 Number of Critically Endangered Species

Taxa as Percent of Threatened Species by Region



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Honorable Mention

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***Transportation in New York City,
Private vs. Public***

Nick Exley

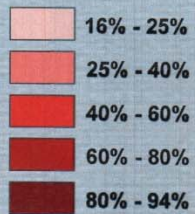
University of Wisconsin - Madison



Transportation in New York City

Private vs. Public

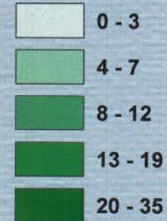
% of Households with a Car



The community districts here that make up the tip of the Manhattan burrough have a low percentage of car ownership which could imply a heavy reliance on public transportation

According to Redfin, a next - generation real estate brokerage company, New York City was voted top in the U.S. for public transit. It received the highest Transit Score Rating out of 350 U.S. cities scored.

of Stations



The implied relationship between car ownership and use of public transportation in the lower Manhattan community districts is supported by the increased number of public transit stations found here

In a Global Traffic Scorecard produced earlier this year by INRIX, a global leader in transportation analytics, New York came in 2nd among major U.S. cities in overall traffic congestion, based on hours spent in congestion and percentage of drive spent in traffic congestion

Nick Exley, Section 304
Lambert Equal Area Conic
Central Meridian: -74
Standard Parallels: 40N, 41N

Sources:
New York City Department of City Planning
U.S. Department of Homeland Security
New York City Economic Development Corporation
<https://www.redfin.com/>
<http://inrix.com/press-releases>

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Honorable Mention

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***From Preps to Pros:
UW Football Players' Career Paths***

Nick Exley

University of Wisconsin - Madison



FROM PREPS TO PROS: UW FOOTBALL PLAYERS' CAREER PATHS



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***Between Bushes and Bathrooms:
Sanitation in Ancient Greek Households***

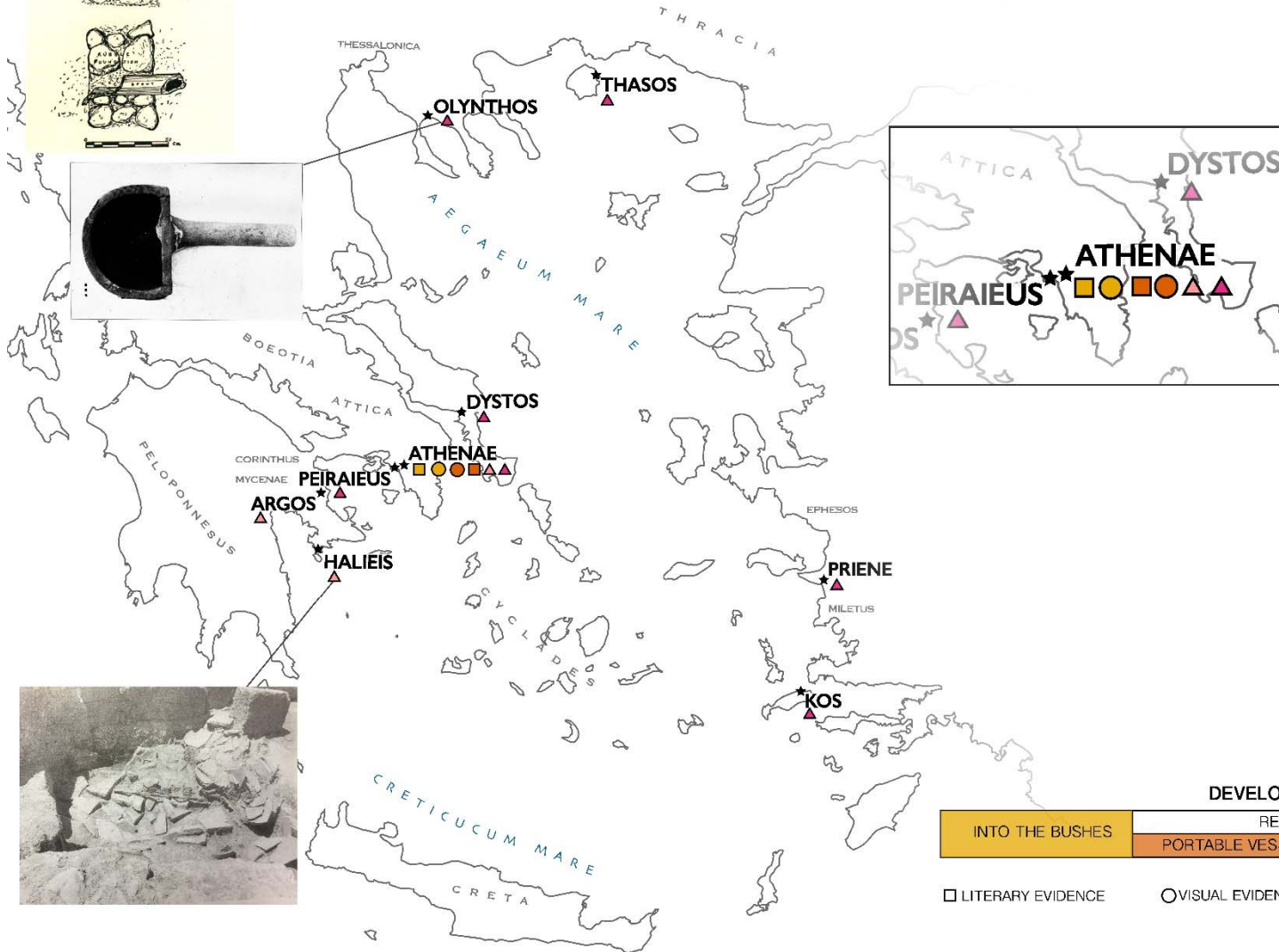
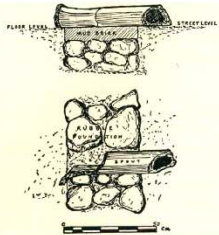
Yusi Liu

University of Wisconsin - Madison



BETWEEN BUSHES AND BATHROOMS

SANITATION IN ARCHAIC GREEK HOUSEHOLDS



ARISTOPHANES, *PEACE*, 1265-9

ΤΡΥΤΑΙΟΣ
 νῆ τόν Δί, ὡς τὰ παιδί' ἤδη 'έρχεται
 οὐρησόμενα τὰ τῶν ἐπικλήτων δευρ', ἵνα
 ἄττ' ἄσεται προαναβάλῃται μοι δοκεῖ.
 Ἄλλ' ὅ τι περ ἄδειν ἐπινοεῖς ὦ παιδίον,
 αὐτοῦ παρ' ἐμὲ σπᾶν πρότερον ἀναβαλοῦ 'νθαδί.

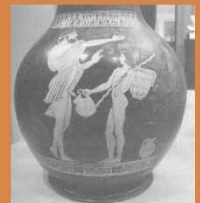
TRYGAEUS
 Ah! here come the guests,
 young folks from the table to
 take a pee; I fancy they also
 want to hum over what they
 will be singing presently. Pll!
 child! what do you reckon to
 sing? Stand there and give me



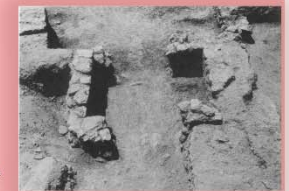
ARISTOPHANES, *WASPS*, 805-9

ΒΔΕΥΚΑΕΩΝ
 ἰδοῦ. τί ἐτ' ἔρεις; ὡς ἅπαντ' ἐγὼ φέρω,
 ὄσατέρ γ' ἔφασκον κατὶ πολλῶ πλείονα.
 αἰμὶς μὲν, ἦν οὐρηγιάσης, αὐτῇ
 παρὰ σοὶ κρεμῆσεν' ἐγγυρὸς ἐπὶ τοῦ πατάλου.

BDELYCLEON
 There, what do you think of
 that? I have brought you
 everything needful and much
 more into the bargain. See,
 here is a thunder-mug in case
 you have to pee; I shall hang
 it up beside you.



'STONE-LINED PIT'
 IN COURTYARD
 ATTICIAN AGORA



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Arthur Robinson Award
Honorable Mention

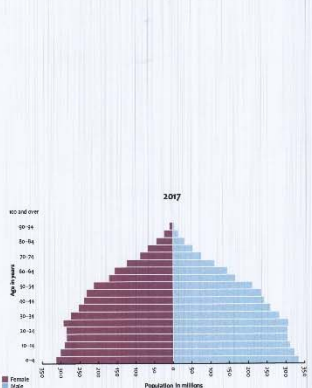
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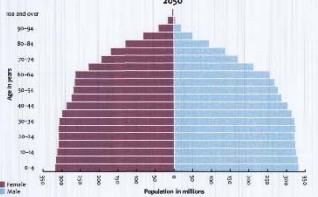
***World Statistical Mapping
Featuring Multiple Sclerosis Data***

**Jillian Ejdrygiewicz
Center of Geographic Sciences, NSCC**





2017 Global Population Pyramid
 This pyramid represents the global population by age group, sex, and gender. The pyramid is split by gender: Female (left) and Male (right). The x-axis represents population in millions. The y-axis represents age groups in 5-year intervals. The pyramid is color-coded by gender: Female (dark purple) and Male (light blue).



2050 Global Population Pyramid
 This pyramid represents the projected global population by age group, sex, and gender. The pyramid is split by gender: Female (left) and Male (right). The x-axis represents population in millions. The y-axis represents age groups in 5-year intervals. The pyramid is color-coded by gender: Female (dark purple) and Male (light blue).

Country Name Abbreviations: ISO Alpha-2 Code Standards

AD	United Arab Emirates	CJ	Central African Republic	FK	Falkland Islands	JA	Jamaica	MC	Macao	QA	Qatar	TM	Turkmenistan
AE	Afghanistan	CG	Congo (Brazzaville)	GA	Gabon	JO	Jordan	MD	Republic of Moldova	RO	Romania	TN	Tunisia
AL	Albania	CM	Cameroon	GB	United Kingdom	KE	Kenya	MM	Myanmar	RS	Serbia	TR	Turkey
AM	Armenia	CI	Cote d'Ivoire	GF	Guinea	KG	Kyrgyzstan	MN	Mongolia	RU	Russia	TW	Taiwan
AZ	Azerbaijan	CL	Chile	GF	French Guiana	MP	Marshall Islands	MY	Malaysia	SA	Saudi Arabia	UG	Uganda
BA	Bosnia and Herzegovina	CM	Comoros	GH	Ghana	KR	South Korea	MZ	Mozambique	SI	Slovenia	UY	Uruguay
BD	Bangladesh	CR	Costa Rica	GM	Guinea-Bissau	LA	Laos	NC	New Caledonia	SK	Slovakia	UZ	Uzbekistan
BE	Belgium	CU	Cuba	HN	Honduras	LV	Latvia	NE	Niger	SL	Sierra Leone	VN	Viet Nam
BF	Burkina Faso	CV	Cape Verde	IQ	Iraq	LT	Lithuania	NI	Nicaragua	SR	Suriname	WS	Samoa
BG	Bulgaria	DJ	Djibouti	IS	Israel	LU	Luxembourg	NL	Netherlands	SV	El Salvador	ZW	Zimbabwe
BH	Bahrain	DK	Denmark	IT	Italy	MC	Monaco	NO	Norway	TH	Thailand		
BI	Burundi	EE	Estonia	JP	Japan	ML	Mali	PK	Pakistan				
BJ	Benin	FI	Finland	KE	Kenya								
BM	Bermuda	FR	France	KG	Kyrgyzstan								
BN	Brunei Darussalam	GE	Georgia	LA	Laos								
BO	Bolivia	GG	Guernsey	LV	Latvia								
BR	Brazil	GI	Guinea	LI	Liechtenstein								
BS	Bahamas	HM	Hong Kong	LU	Luxembourg								
BT	Bhutan	HN	Honduras	LV	Latvia								
BW	Botswana	IE	Ireland	MC	Monaco								
BY	Belarus	IL	Israel	MO	Moldova								
BZ	Belize	IN	India	MP	Marshall Islands								

CA	Canada	OM	Oman	PK	Pakistan	RU	Russia
CC	Cocos (Keeling) Islands	PE	Peru	RU	Russia	SA	Saudi Arabia
CD	Congo (Kinshasa)	PH	Philippines	RU	Russia	SD	Sudan
CF	Cote d'Ivoire	PL	Poland	RU	Russia	SS	South Sudan
CG	Congo (Brazzaville)	PT	Portugal	RU	Russia	SY	Sierra Leone
CH	Switzerland	QA	Qatar	RU	Russia	TD	Chad
CI	Cote d'Ivoire	RE	Reunion	RU	Russia	TF	French Southern Territories
CK	Cook Islands	RO	Romania	RU	Russia	TM	Turkmenistan
CL	Chile	RS	Serbia	RU	Russia	TR	Turkey
CM	Cameroon	SE	Sweden	RU	Russia	TV	Tuvalu
CN	China	SG	Singapore	RU	Russia	TZ	Tanzania
CO	Colombia	SI	Slovenia	RU	Russia	UA	Ukraine
CR	Costa Rica	SK	Slovakia	RU	Russia	UG	Uganda
CU	Cuba	SL	Sierra Leone	RU	Russia	US	United States
CV	Cape Verde	SN	Senegal	RU	Russia	UY	Uruguay
CX	Christmas Island	SO	Somalia	RU	Russia	UZ	Uzbekistan
CY	Cyprus	SR	Suriname	RU	Russia	VC	Virgin Islands
CZ	Czech Republic	SV	El Salvador	RU	Russia	VE	Venezuela
DE	Germany	SW	Switzerland	RU	Russia	VN	Viet Nam
DK	Denmark	SY	Sierra Leone	RU	Russia	WS	Samoa
DM	Dominican Republic	TD	Chad	RU	Russia	XK	Kosovo
DO	Dominican Republic	TF	French Southern Territories	RU	Russia	YE	Yemen
DZ	Algeria	TT	Trinidad and Tobago	RU	Russia	ZA	South Africa
EC	Ecuador	TV	Tuvalu	RU	Russia	ZM	Zambia
EE	Estonia	UA	Ukraine	RU	Russia	ZW	Zimbabwe
EG	Egypt	UG	Uganda	RU	Russia		
EH	Western Sahara	US	United States	RU	Russia		
ER	Eritrea	UY	Uruguay	RU	Russia		
ES	Spain	UZ	Uzbekistan	RU	Russia		
ET	Ethiopia	VC	Virgin Islands	RU	Russia		
FJ	Fiji	VE	Venezuela	RU	Russia		
FM	Federated States of Micronesia	VN	Viet Nam	RU	Russia		
FO	Faroe Islands	WS	Samoa	RU	Russia		
FR	France	XK	Kosovo	RU	Russia		
GA	Gabon	YE	Yemen	RU	Russia		
GB	United Kingdom	ZA	South Africa	RU	Russia		
GD	Grenada	ZM	Zambia	RU	Russia		
GE	Georgia	ZW	Zimbabwe	RU	Russia		
GF	French Guiana			RU	Russia		
GG	Guernsey			RU	Russia		
GH	Ghana			RU	Russia		
GI	Guinea			RU	Russia		
GL	Greenland			RU	Russia		
GM	Guinea-Bissau			RU	Russia		
GN	Guinea			RU	Russia		
GP	Guadeloupe			RU	Russia		
GQ	Equatorial Guinea			RU	Russia		
GR	Greece			RU	Russia		
GS	South Georgia and the South Sandwich Islands			RU	Russia		
GT	Guatemala			RU	Russia		
GU	Guam			RU	Russia		
GW	Guinea-Bissau			RU	Russia		
GY	Guyana			RU	Russia		
HA	Haiti			RU	Russia		
HC	Heard Island and McDonald Islands			RU	Russia		
HD	Honduras			RU	Russia		
HE	Holande des Indes			RU	Russia		
HF	Hong Kong			RU	Russia		
HG	Hong Kong			RU	Russia		
HH	Hong Kong			RU	Russia		
HI	Hong Kong			RU	Russia		
HJ	Hong Kong			RU	Russia		
HK	Hong Kong			RU	Russia		
HL	Hong Kong			RU	Russia		
HM	Hong Kong			RU	Russia		
HN	Honduras			RU	Russia		
HO	Hong Kong			RU	Russia		
HP	Hong Kong			RU	Russia		
HQ	Hong Kong			RU	Russia		
HR	Croatia			RU	Russia		
HS	Hong Kong			RU	Russia		
HT	Haiti			RU	Russia		
HU	Hungary			RU	Russia		
HV	Hong Kong			RU	Russia		
HW	Hong Kong			RU	Russia		
HX	Hong Kong			RU	Russia		
HY	Hong Kong			RU	Russia		
HZ	Hong Kong			RU	Russia		

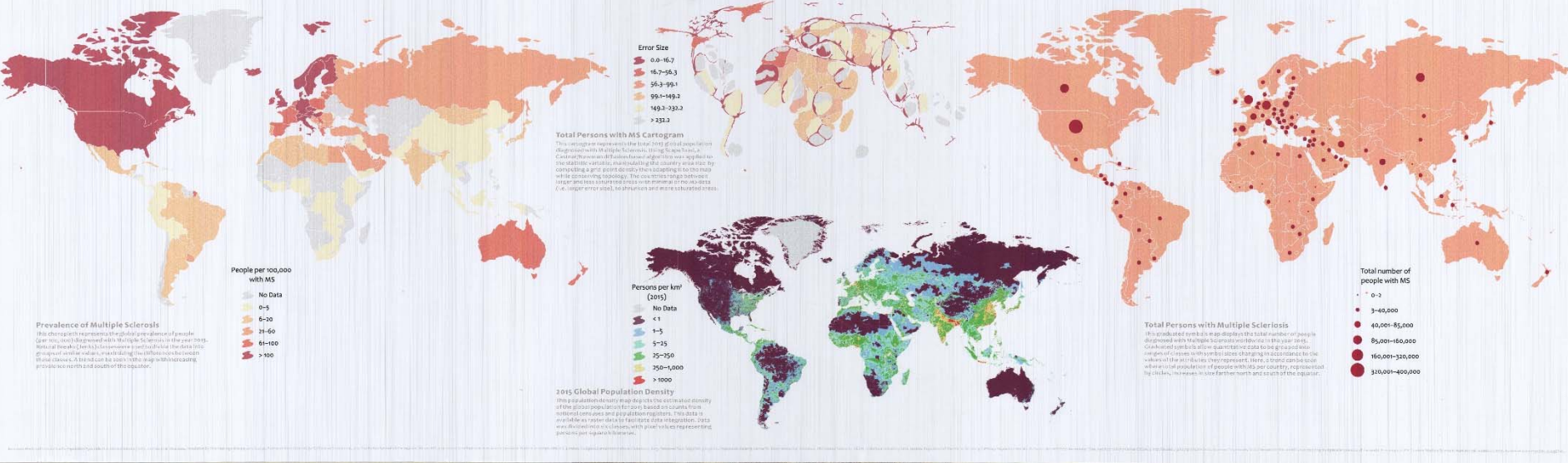
Basemap Projection: World Miller Cylindrical
Basemap Reference Scale: 1:25,000,000
MS Statistical Map Reference Scale: 1:125,000,000
Population Density Map Reference Scale: 1:175,000,000

World Statistical Mapping

featuring Multiple Sclerosis Data

Poster Design and Cartography by Jillian Edryglwitz
 Thematic Cartography, 6 November 2017

COGS | NSCC



Prevalence of Multiple Sclerosis
 This choropleth represents the global prevalence of Multiple Sclerosis (MS) per 100,000 people. The data is color-coded by prevalence per 100,000 people. The map shows a clear trend of higher prevalence in the Northern Hemisphere, particularly in Europe and North America.

People per 100,000 with MS

- No Data
- 0-5
- 5-20
- 21-60
- 61-100
- > 100

Total Persons with MS Cartogram
 This cartogram represents the total global population of people diagnosed with Multiple Sclerosis. The size of each circle represents the total number of people with MS in that country. The map shows a high concentration of people with MS in Europe and North America.

Persons per km² (2015)

- No Data
- < 1
- 1-5
- 5-25
- 25-50
- 50-100
- > 100

2015 Global Population Density
 This population density map depicts the global population density in 2015. The map shows a high concentration of population in the Northern Hemisphere, particularly in Europe and North America.

Total Persons with Multiple Sclerosis
 This cartogram represents the total global population of people diagnosed with Multiple Sclerosis. The size of each circle represents the total number of people with MS in that country. The map shows a high concentration of people with MS in Europe and North America.

Total number of people with MS

- 0-2
- 3-40,000
- 40,001-85,000
- 85,001-160,000
- 160,001-320,000
- 320,001-600,000

The Cartography and Geographic Information Society



Best Map
Other Category

45th Annual CaGIS Map Design Competition



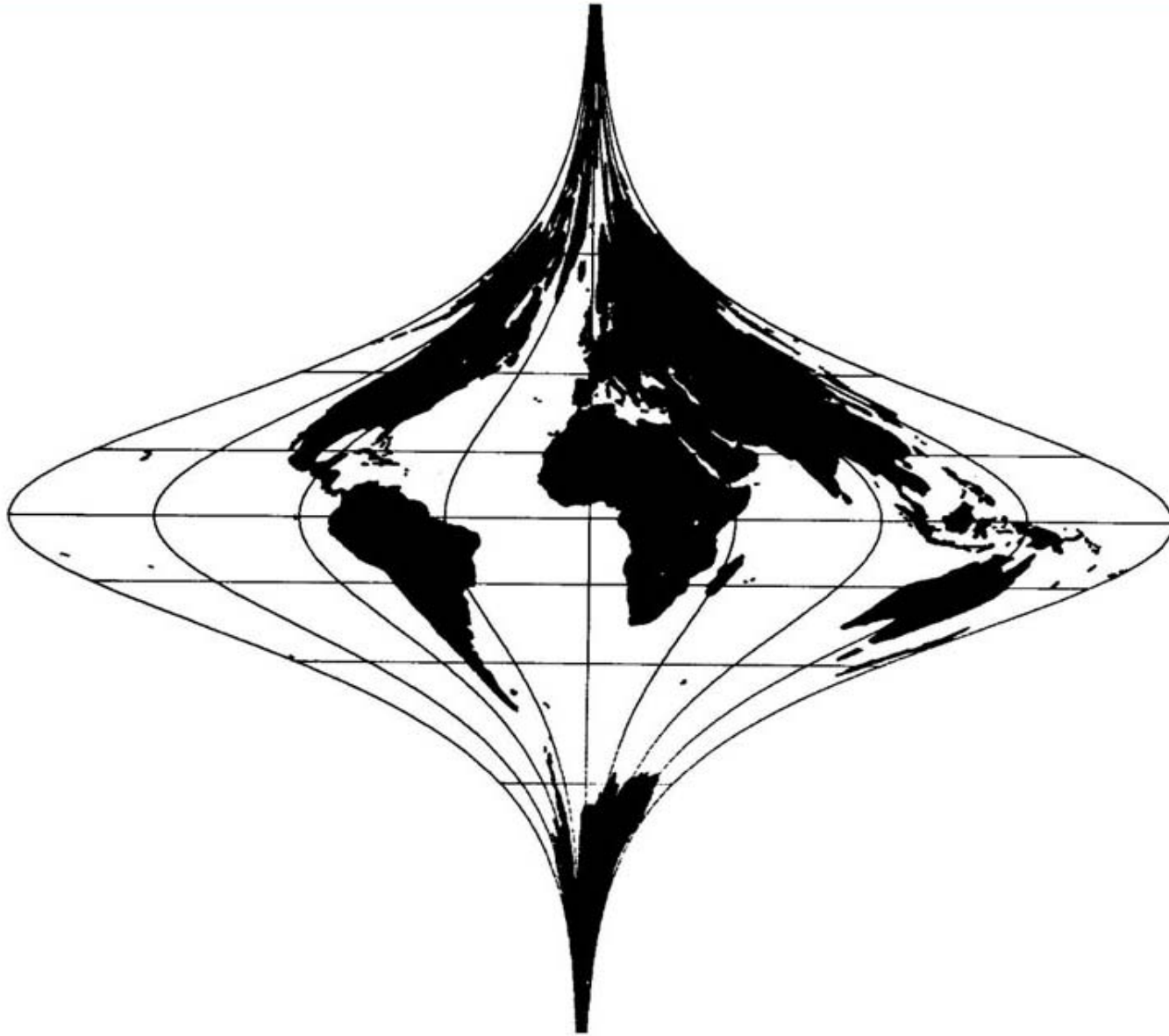
A New Companion to Mercator

Waldo Tobler

University of California – Santa Barbara



The new projection centered on Greenwich



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Other Category
Honorable Mention

45th Annual CaGIS Map Design Competition



Noteworthy Islands of the Great Lakes System

Daniel P. Huffman
Somethingaboutmaps.com



NOTEWORTHY ISLANDS of the GREAT LAKES SYSTEM



GRAND
MI - Lake Superior



NORTH MANITOU
MI - Lake Michigan



STOCKTON
WI - Lake Superior



WASHINGTON
WI - Lake Michigan



PIE
ON - Lake Superior



NEEBISH
MI - Saint Marys River



FITZWILLIAM
ON - Lake Huron



PARRY
ON - Lake Huron



AMHERST
ON - Lake Ontario



SIMPSON
ON - Lake Superior



BARRIE
ON - Lake Huron



MADELINE
WI - Lake Superior



GRAND
NY - Niagara River



WOLFE
ON - Lake Ontario



WALPOLE
ON - Lake Saint Clair



SUGAR
MI - Saint Marys River



GREAT LA CLOCHE
ON - Lake Huron



BOIS BLANC
MI - Lake Huron



COCKBURN
ON - Lake Huron



SAINT IGNACE
ON - Lake Superior



MICHIPICOTEN
ON - Lake Superior



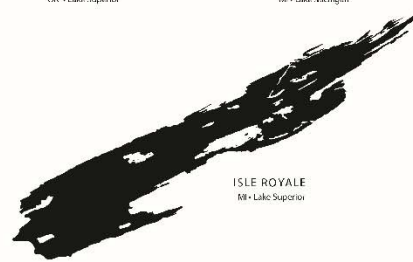
BEAVER
MI - Lake Michigan



SAINT JOSEPH
ON - Lake Huron



DRUMMOND
MI - Lake Huron



ISLE ROYALE
MI - Lake Superior



MANITOULIN
ON - Lake Huron

The Cartography and Geographic Information Society



**Best Thematic Map
(Tie)**

45th Annual CaGIS Map Design Competition



**Coming Home to
Indigenous Places Names in Canada**

Margaret Wickens Pearce
Canadian-American Center, University of Maine



WESTERN PERMISSIONS

Alaska: Alaska Native Claims Settlement Act, 1971; Alaska National Monument and Preserve Act, 1980; Alaska National Preserve Act, 1980; Alaska National Monument and Preserve Act, 1980; Alaska National Monument and Preserve Act, 1980...

British Columbia: British Columbia Land Act, 1996; British Columbia Land Act, 1996; British Columbia Land Act, 1996; British Columbia Land Act, 1996; British Columbia Land Act, 1996...

Manitoba: Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870...

Ontario: Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793...

Quebec: Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774...

Saskatchewan: Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905...

Alberta: Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905...

Yukon: Yukon Act, 1904; Yukon Act, 1904; Yukon Act, 1904; Yukon Act, 1904; Yukon Act, 1904; Yukon Act, 1904; Yukon Act, 1904; Yukon Act, 1904...

Northwest Territories: Northwest Territories Act, 1900; Northwest Territories Act, 1900; Northwest Territories Act, 1900; Northwest Territories Act, 1900; Northwest Territories Act, 1900; Northwest Territories Act, 1900; Northwest Territories Act, 1900; Northwest Territories Act, 1900...

Nunavut: Nunavut Act, 1999; Nunavut Act, 1999; Nunavut Act, 1999; Nunavut Act, 1999; Nunavut Act, 1999; Nunavut Act, 1999; Nunavut Act, 1999; Nunavut Act, 1999...

NORTHERN PERMISSIONS

Inuit: Inuit Land Claims Act, 1999; Inuit Land Claims Act, 1999; Inuit Land Claims Act, 1999; Inuit Land Claims Act, 1999; Inuit Land Claims Act, 1999; Inuit Land Claims Act, 1999; Inuit Land Claims Act, 1999; Inuit Land Claims Act, 1999...

Coming Home TO INDIGENOUS PLACE NAMES IN CANADA

Tom Merton, author of the forthcoming book 'Coming Home: A Journey of Rediscovery', discusses the importance of returning to Indigenous place names in Canada.

LEGEND



PERMISSIONS

This map is based on a series of historical and contemporary maps, providing a comprehensive view of Indigenous place names across Canada.



EASTERN PERMISSIONS

Atlantic Provinces: Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909...

Quebec (continued): Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774...

SOUTHERN PERMISSIONS

Atlantic Provinces (continued): Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909; Atlantic Provinces Act, 1909...

Ontario (continued): Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793; Ontario Act, 1793...

Quebec (continued): Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774; Quebec Act, 1774...

Manitoba (continued): Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870; Manitoba Act, 1870...

Saskatchewan (continued): Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905; Saskatchewan Act, 1905...

Alberta (continued): Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905; Alberta Act, 1905...



Maine logo with text 'MAINE' and 'The State of Maine'.

The Cartography and Geographic Information Society



**Best Thematic Map
(Tie)**

45th Annual CaGIS Map Design Competition



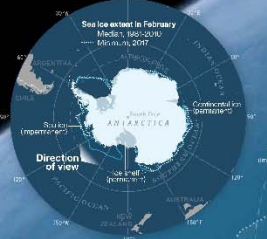
The Melting of Antarctica

Lauren C. Tierney, Jason Treat, Stephen Tyson
National Geographic Magazine



THE MELTING OF ANTARCTICA

Snow falling on Antarctica through the ages has piled up in domes of ice more than two miles thick. Most of that is likely safe for many centuries. But as the climate warms, the edges of the frozen continent are crumbling. The narrow flow of ice down through coastal glaciers and floating ice shelves to the sea, as speeding up, by 2050 the ice loss may contribute several feet to global sea-level rise.



Fast-Melting West

West Antarctica, separated from the east by the Transantarctic Mountains, is losing 30 cubic miles of ice a year. That could speed up sharply. Most of the ice sits on the floor of a marine basin, vulnerable to a warming ocean.

Early warning

The Antarctic Peninsula is a hot spot. The Larsen A and B ice shelves have broken up. Larsen C is a ticking time bomb.

Erratic sea ice

The ice shelf has been unusually thin in 2014—and a record low this year.

HOW WARMING SPEEDS GLACIERS

Warming causes ice to melt faster at the edges and the ice shelf to thin. When the ice shelf breaks up, the ice flow speeds up to the sea.



Already doomed

Glaciers that flow inland from West Antarctica into the Amundsen Sea are thinning and retreating rapidly.

Under the ice
 With subglacial lakes, the ice is sliding to the back toward the sea. The ice shelf is breaking up, and the ice flow is speeding up to the sea.

ENDING FROM THE BOTTOM

Where currents rise, the ice shelves are eating away at the Amundsen glaciers and thinning the ice shelf. As the glaciers retreat, the ice shelves become thinner, and the ice flow speeds up to the sea.



Retreating glaciers

Where currents rise, the ice shelves are eating away at the Amundsen glaciers and thinning the ice shelf. As the glaciers retreat, the ice shelves become thinner, and the ice flow speeds up to the sea.



If it all melted

Sea level would rise 66 feet. But it would take 100 years. Under current conditions, Antarctica could add 2.5 feet to sea level by 2100. Most scientists believe it is not enough to flood coastal cities.



Newly Vulnerable East

East Antarctica holds the bulk of the continent's ice. It was long thought to be stable, even thickening under heavier snows, but warming waters are now undermining its ice shelves too.

13-foot threat

Large thinning of the Thwaites Glacier could lead to a 13-foot rise in sea level. The glacier is flowing to the sea.



Under the ice

With subglacial lakes, the ice is sliding to the back toward the sea. The ice shelf is breaking up, and the ice flow is speeding up to the sea.



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Thematic Map
Honorable Mention

45th Annual CaGIS Map Design Competition



Lifeline to a Desert Delta

Lauren E. James, Matthew W. Chwastyk, Ryan Williams
National Geographic Magazine



The Cartography and Geographic Information Society



**Thematic Map
Honorable Mention**

45th Annual CaGIS Map Design Competition



Lights On Lights Out

John Nelson

ESRI





The Cartography and Geographic Information Society



**Best Atlas
(Tie)**

45th Annual CaGIS Map Design Competition

Visual Atlas of the World, 2nd ed.

Debbie Gibbons, Michael Tribble, Jerome Cookson, Theodore Sickley, Irene Berman-Vaporis, Matthew Chwastyk, Mike McNey, Charles Preppernau, Damien Saunder, Lauren Tierney, Rosemary Wardley, Ryan Williams, Greg Ugiansky, Scott Zillmer

National Geographic





NATIONAL
GEOGRAPHIC

VISUAL ATLAS OF THE WORLD

SECOND EDITION

The Cartography and Geographic Information Society



**Best Atlas
(Tie)**

45th Annual CaGIS Map Design Competition



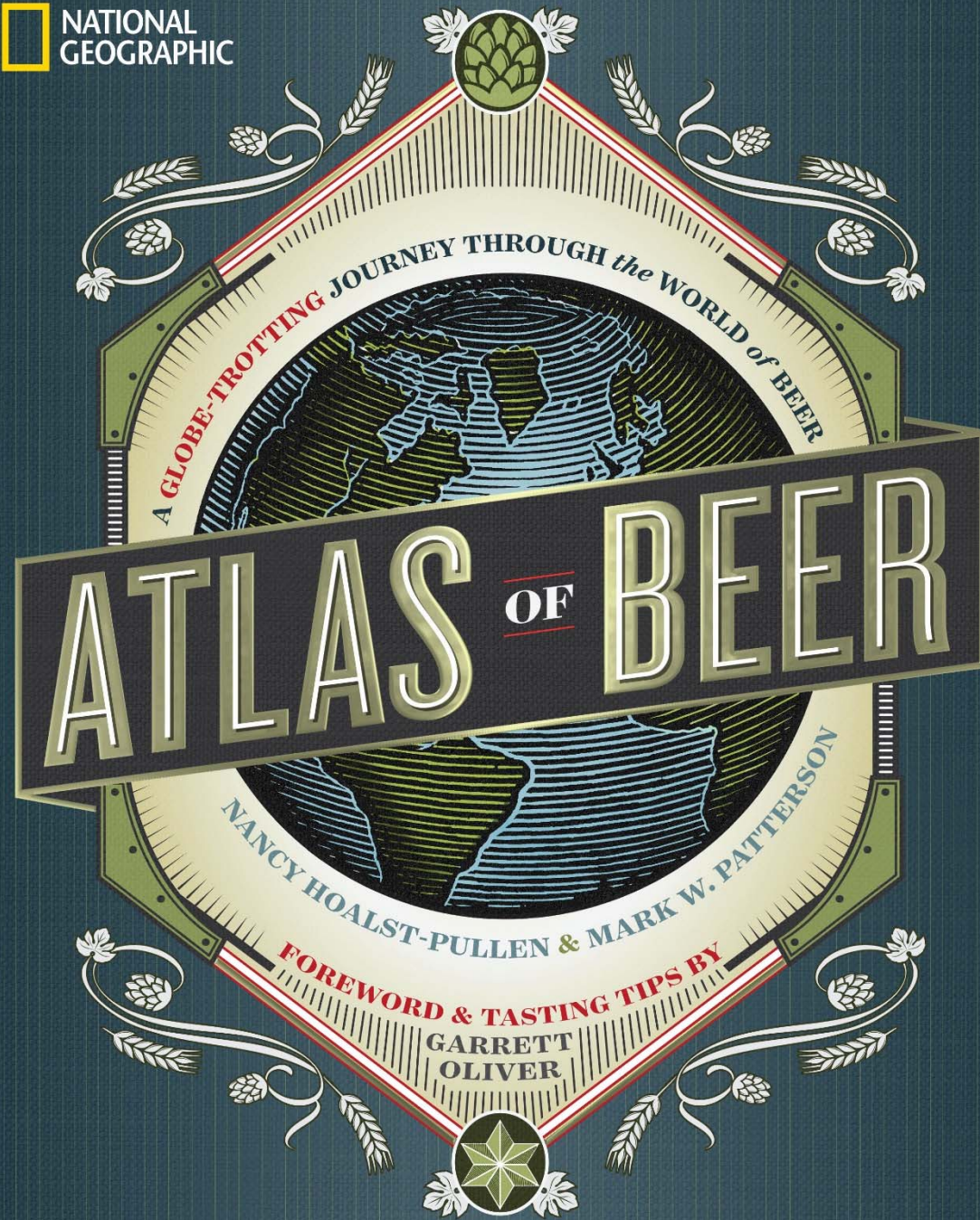
***Atlas of Beer:
A Globe Trotting Journey through the World of
Beer***

Mike McNey and Scott A. Zillmer

National Geographic



NATIONAL
GEOGRAPHIC



ATLAS OF BEER

A GLOBE-TROTTING JOURNEY THROUGH *the* WORLD of BEER

NANCY HOALST-PULLEN & MARK W. PATTERSON

FOREWORD & TASTING TIPS BY
GARRETT OLIVER

The Cartography and Geographic Information Society



Atlas
Honorable Mention

45th Annual CaGIS Map Design Competition



Ecological Atlas of the Bering, Chukchi, and Beaufort Seas

**Daniel P. Huffman, Melanie Smith, Max Goldman,
Erika Knight, and Jon Warrenchuk
*Audubon Alaska, Oceana, somethingaboutmaps.com***



ECOLOGICAL ATLAS OF THE BERING, CHUKCHI, AND BEAUFORT SEAS



The Cartography and Geographic Information Society



Atlas
Honorable Mention

45th Annual CaGIS Map Design Competition

***Climatological Atlas of Tropical Cyclones over
the Western North Pacific (1981-2010)***

**Xiaotu Lei, Ming Ying, Hui Yu, Xiaoqin Lu,
Xi Tang, Bingke Zhao, and Jianfeng Gu
*Shanghai Typhoon Institute,
China Meteorological Administration***

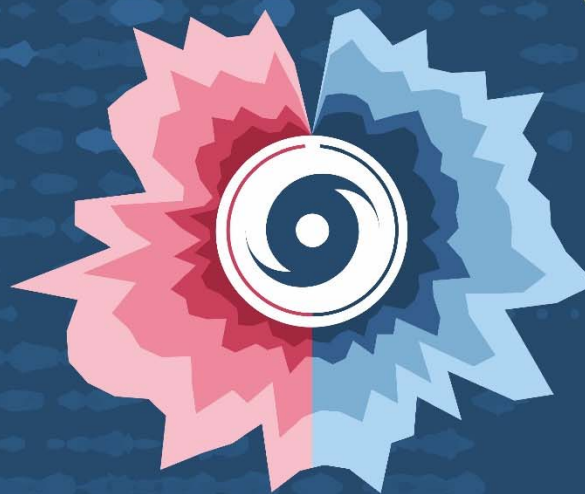


2010 2009 2008 2007 2006 2005 2004 2003 2002 2001 2000 1999 1998 1997 1996 1995 1994 1993 1992 1991 1990 1989 1988 1987 1986 1985 1984 1983 1982 1981

(P-3346.01)
责任编辑：彭胜湖



西北太平洋热带气旋气候图集
1981-2010



西北太平洋热带气旋气候图集

Climatological Atlas of Tropical Cyclones over the Western North Pacific

1981 ~ 2010

中国气象局上海台风研究所

Shanghai Typhoon Institute, China Meteorological Administration



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**Best Recreation or
Travel Map**

45th Annual CaGIS Map Design Competition

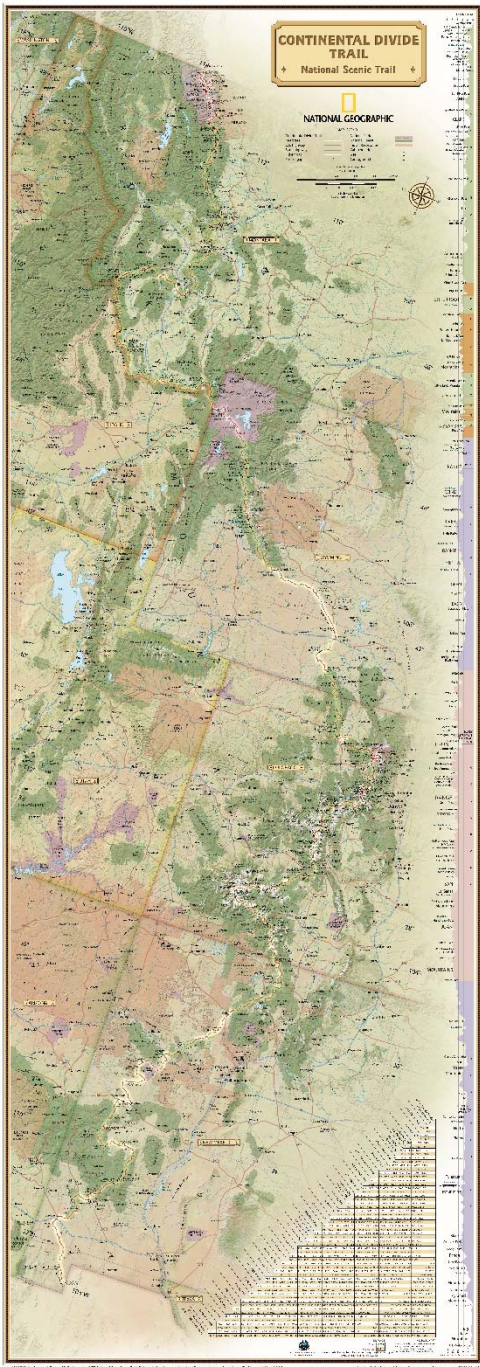


Continental Divide Trail

Rachael Carpenter and Christopher Knoll

National Geographic Maps





The Cartography and Geographic Information Society



Recreation or Travel Map
Honorable Mention

45th Annual CaGIS Map Design Competition

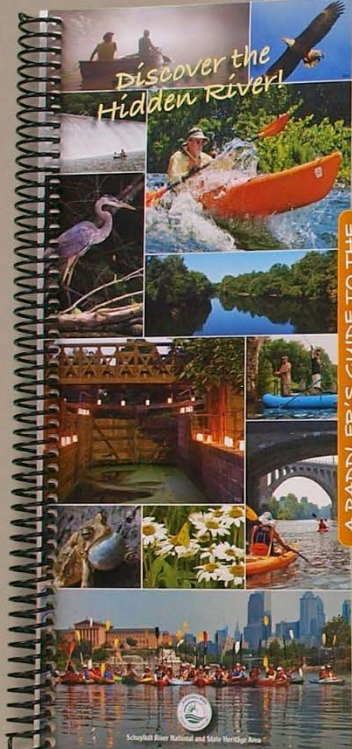


*A Paddler's Guide to the
Schuylkill River Water Trail*

Brian Swisher

The Swisher Studios





Discover the Hidden River!

A PADDLER'S GUIDE TO THE

Schuylkill River Water Trail

SCHUYLKILL HAVEN TO PHILADELPHIA

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SECTION A: SMELL THE ROSES!

0.7 road mile SE of Schuylkill Haven Island Park, 123.0, RR
Breakway Basin
 The wide, grassy Breakway Basin at Parkway in present-day Schuylkill Haven was once a coal that ran straight through town and connected to the Schuylkill River above and below the big bend in the river here. Check out the map! Here in the "Breakway Basin," canyons would take advantage of the inside wind and other advantages that served and benefited from the Schuylkill Navigation (see Section D "Smell the Roses" page). They would've simply, er, take their own way to and weather extremes, and overwinter here in this haven of the Schuylkill (that's the town's name!).



Coal boat used for wintering in the Breakway Basin.

Walk to Shoe Factory Street
 Walk to Art Center (over)
 Because the canal could provide raw materials, transportation, and water power, other businesses grew up and prospered here, most notably shoe factories like the Walk to Shoe Company, founded in 1887, which employed 220 workers and produced 2900 pairs of shoes a day at its peak in 1905. A victim of foreign competition, the shoe company eventually failed. Today the property is enjoying a rebirth as the Walk to Art Center, a thriving colony of artists' studios, galleries, classrooms, and event spaces. (220 Parkway, Schuylkill Haven, 267-732-3732, www.WalktoArtCenter.org)

2.2 road miles N of Auburn Dam Canoe Launch, 113.4, RR
Landingville Marsh Hiking & Birding Trail
 Between the Tunnel Road Trailhead of the Schuylkill River Trail (SRT) and the river, Landingville Marsh is home to hundreds of species of birds. This wooded trail makes a 1.4 mile loop with the SRT and also passes the site of the former Auburn Canal Tunnel (above right).

River Mile 111.6
Auburn (Landingville) Dam and Basin
 This 420-ft. long by 60-ft. high concrete gravity dam was built between 1949 and 1950, as part of the "Schuylkill River Project." To trap, contain, and remove coal silt from the slugged and silted Schuylkill River. Today, most of the coal silt has been removed and boating and fishing are popular and productive pastimes at this 163-acre impoundment. Largemouth bass, brown bullheads, yellow perch, bluegill, white suckers, and chain pickerel are all found here again. On the near side of the dam is the Auburn Impounding Basin, where the coal silt that was pumped from the Schuylkill was deposited and harvested. (For more on the Schuylkill River Project, see the Section C "Smell the Roses" page.)

2.5 road miles NE of Auburn Dam Canoe Launch, 113.4, RR
Auburn Tunnel
 In 1811, the Schuylkill Navigation Company built this 420-ft. tunnel through a low hill. Had they dug 100 feet to the west, a tunnel could have been avoided. But this first transportation tunnel in the United States was built as much for its novelty as for its utility and it soon became a major attraction, drawing sightseers from as far away as Philadelphia. It was periodically shortened and eventually "daylighted" (open cut) in 1942. For more on the Schuylkill Navigation see Section D.



The first transportation tunnel in the United States.

For 10 hours a day, 4 days a week, "breaker boys" mined slate and other impurities from the coal mine computers.

Anthracite Coal
 Nearly all of America's anthracite coal is found in eastern Pennsylvania and much of the 23 billion tons of this "black gold" was found in deposits near the headwaters of the Schuylkill River. Because anthracite is harder and purer and, thus, burns longer and more efficiently than other forms of coal, it became the primary fuel of the Industrial Revolution. It powered steam engines and machines in factories and mills all over the nation and world. It heated homes, heated locomotives, and fired iron and steel furnaces. The anthracite industry reached its peak in 1917 when more than 100 million tons of anthracite were extracted by nearly 160,000 workers, mostly immigrants, who toiled long and hard in the dark mines, putting their lives at risk for meager wages. But after World War I, gas, oil, and electricity replaced "King Coal" as America's primary energy source and the mighty, dominant, and highly-subsidized anthracite coal industry rapidly declined.



Coal Washery on the Schuylkill

Coal Washeries
 Until the 1930s, coal washeries operated between Schuylkill Haven and Port Clinton. Dredges extracted coal silt from the river bottom and three river water was used to float the coal out to the sand and gravel. The coal was then dried and used in factories and power stations. Today, cement pillars with iron rings that were used to anchor dredges with chains are still visible in the brush.

Section A



SECTION A: WAYPOINTS

- Schuylkill Haven**
 120.0 Schuylkill Haven Island Park to 109.8 Auburn (PA-855) Landing
- River Mile 112.2
 • Travel time: 3.5 to 5 hours, plus boating velocity
 • Skills Rating: Novice
 • Water Level: 1 USGS gauge #01468500 (Landingville) Min. 3 ft. Grad 3.1 ft. See history of high water on page 5-2 of safety chapter.
 Always use caution and never approach approaching problem areas.
 - River Mile 120.0, RR
 Schuylkill Haven Island Park
 River: #01468500, 26.172413
 Street: #01468500, 26.172413
 Owner: Schuylkill Haven Borough
 Parking: 10+
 For food, lodging, rental of interest, and other nearby services, see www.SchuylkillHaven.org
 - River Mile 119.2, RR
 Railroad Bridge
 - River Mile 119.2, RR
 Columbia Street Bridge
 - River Mile 119.2, RR
 Mouth of Long Run
 - River Mile 117.4
 Railroad Bridge
 - River Mile 117.4
 CAUTION: Breached dam to run the breached dam downstream of the railroad bridge, go river left.
- Schuylkill Haven**
 109.8 Auburn (PA-855) Landing
- River Mile 115.0, RE
 USGS Gauge #01468500 (Landingville)
 #01468500, 26.172413
 - River Mile 115.0
 Landingville Bridge
 - River Mile 114.8, RE
 Mouth of Mahaness Creek
 - River Mile 114.6
 Canal Street Bridge
 - River Mile 114.2
 Railroad Bridge
 - River Mile 114.0, RR
 Mouth of Red Creek
 - River Mile 113.4, RR
 Auburn Dam Canoe Launch
 River: #01468500, 26.172413
 Road: #01468500, 26.172413
 Owner: Pennsylvania DEP
 Parking: 10+
 - River Mile 113.3, RR
 Schuylkill Dredging Project
 - River Mile 113.3, RR
 Auburn Dam Boat Launch
 River: #01468500, 26.172413
 Road: #01468500, 26.172413
 Owner: PA Fish & Boat Comm.
 Parking: 25+
 Launch permit required
 - River Mile 112.0, RR
 Mouth of Plum Creek
 - River Mile 109.8
 Auburn Bridge
- EMERGENCY SERVICES**
 Cellphone reception ranges from fair to excellent in this section of the river, but because of the mountainous terrain, there may be gaps in coverage in some of the more remote areas.
In an emergency: Call 911

NOTE: The rapids shown on this map appear on IEN 120.0 have not been verified and classified because this stretch is not officially part of the Schuylkill River Water Trail.



Taking a break after set-up and down-purge around Auburn Dam

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**Recreation or Travel Map
Honorable Mention**

45th Annual CaGIS Map Design Competition



Ouachita Trail, Central

Kristian R. Underwood

Underwood Geographics



The Cartography and Geographic Information Society



Recreation or Travel Map
Honorable Mention

45th Annual CaGIS Map Design Competition



Athens Ohio Bicycle Maps

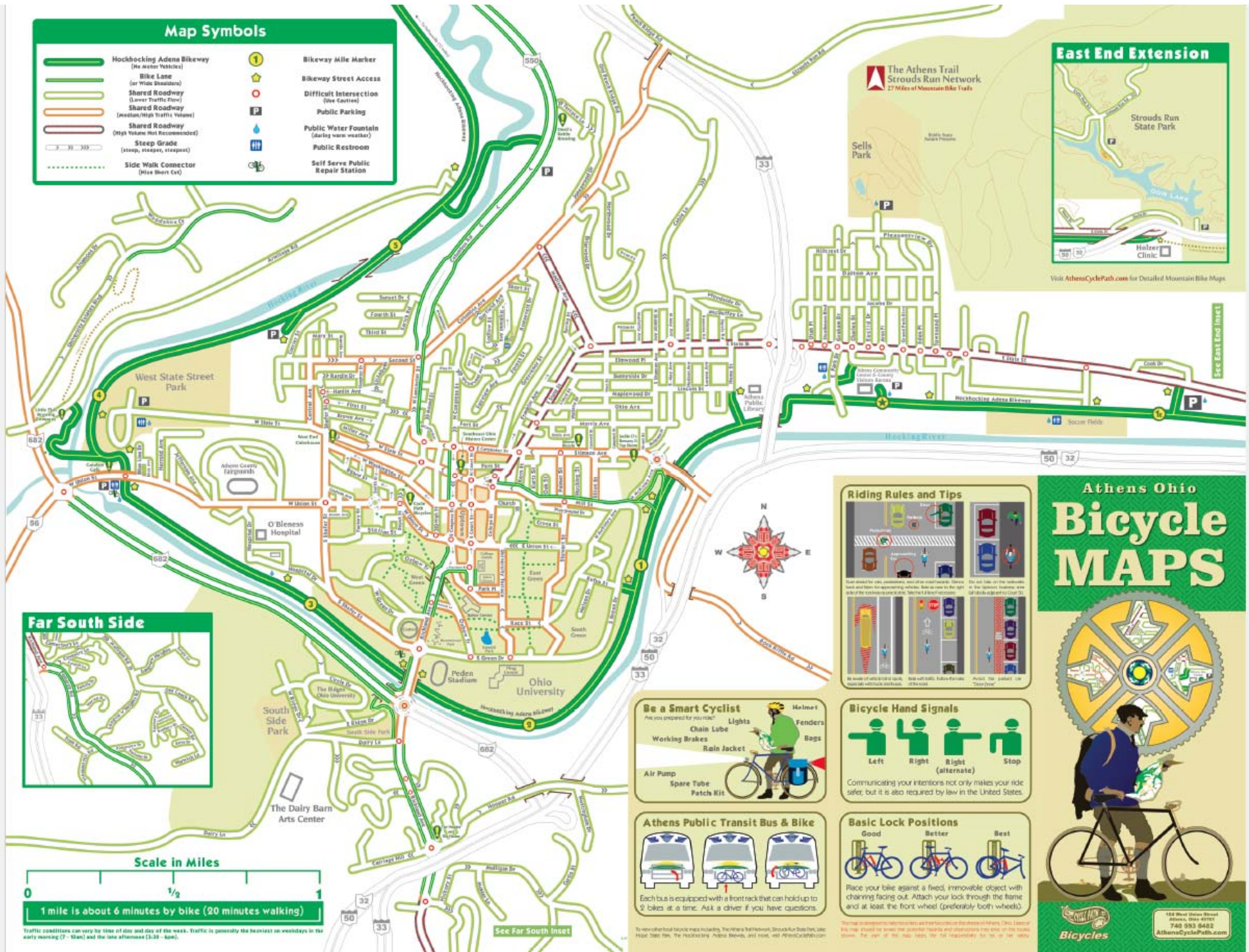
John Lefelhocz

Cycle Path Bicycles of Athens, Ohio

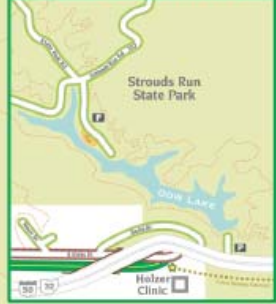


Map Symbols

	Hockhocking Adena Bikeway (for motor vehicles)		Bikeway Mile Marker
	Bike Lane (or Wide Shoulders)		Bikeway Street Access
	Shared Roadway (Lower Traffic Volumes)		Difficult Intersection (Use Caution)
	Shared Roadway (medium/high traffic volumes)		Public Parking
	Shared Roadway (High Volume Not Recommended)		Public Water Fountain (during warm weather)
	Sleep Grade (steep, irregular, steep)		Public Restroom
	Side Walk Connector (use with care)		Self Serve Public Repair Station



East End Extension



Visit AthensCyclePath.com for Detailed Mountain Bike Maps

Far South Side



Scale in Miles



Traffic conditions can vary by time of day and day of the week. Traffic is generally the heaviest on weekdays in the early morning (7-10am) and the late afternoon (3:30-6pm).

Riding Rules and Tips



Be a Smart Cyclist

- Are you prepared for your ride?
- Chain Lube
- Working Brakes
- Rain Jacket
- Air Pump
- Spare Tube
- Patch Kit
- Helmet
- Lights
- Fenders
- Bags

Athens Public Transit Bus & Bike



Each bus is equipped with a front rack that can hold up to 2 bikes at a time. Ask a driver if you have questions.

Bicycle Hand Signals



Communicating your intentions not only makes your ride safer, but it is also required by law in the United States.

Basic Lock Positions



Place your bike against a fixed, immovable object with chaining facing out. Attach your lock through the frame and at least the front wheel (preferably both wheels).

Athens Ohio Bicycle MAPS



164 West State Street
Athens, Ohio 45704
740 993 8462
AthensCyclePath.com

The Cartography and Geographic Information Society



Best Reference Map

45th Annual CaGIS Map Design Competition



No winners



The Cartography and Geographic Information Society



Reference Map
Honorable Mention

45th Annual CaGIS Map Design Competition



Shifting Sands

Damien Saunder, Daisy Chung,
Irene Berman-Vaporis, Ed Merritt
National Geographic Magazine



Shifting Sands

In a single generation Dubai exploded from a humble settlement with modest oil reserves to a sprawling, car-centric metropolis fueled by tourism, real estate, and aviation—it has the world's third busiest airport and is building another. For a more secure, sustainable future, it's investing in solar energy, green building, and mass transit.

URBAN EXPANSION

Pre-1965

Oil begins to flow in the 1960s, and with it come electricity, paved roads, an airport, and even the Middle East's tallest building.

1965-1999

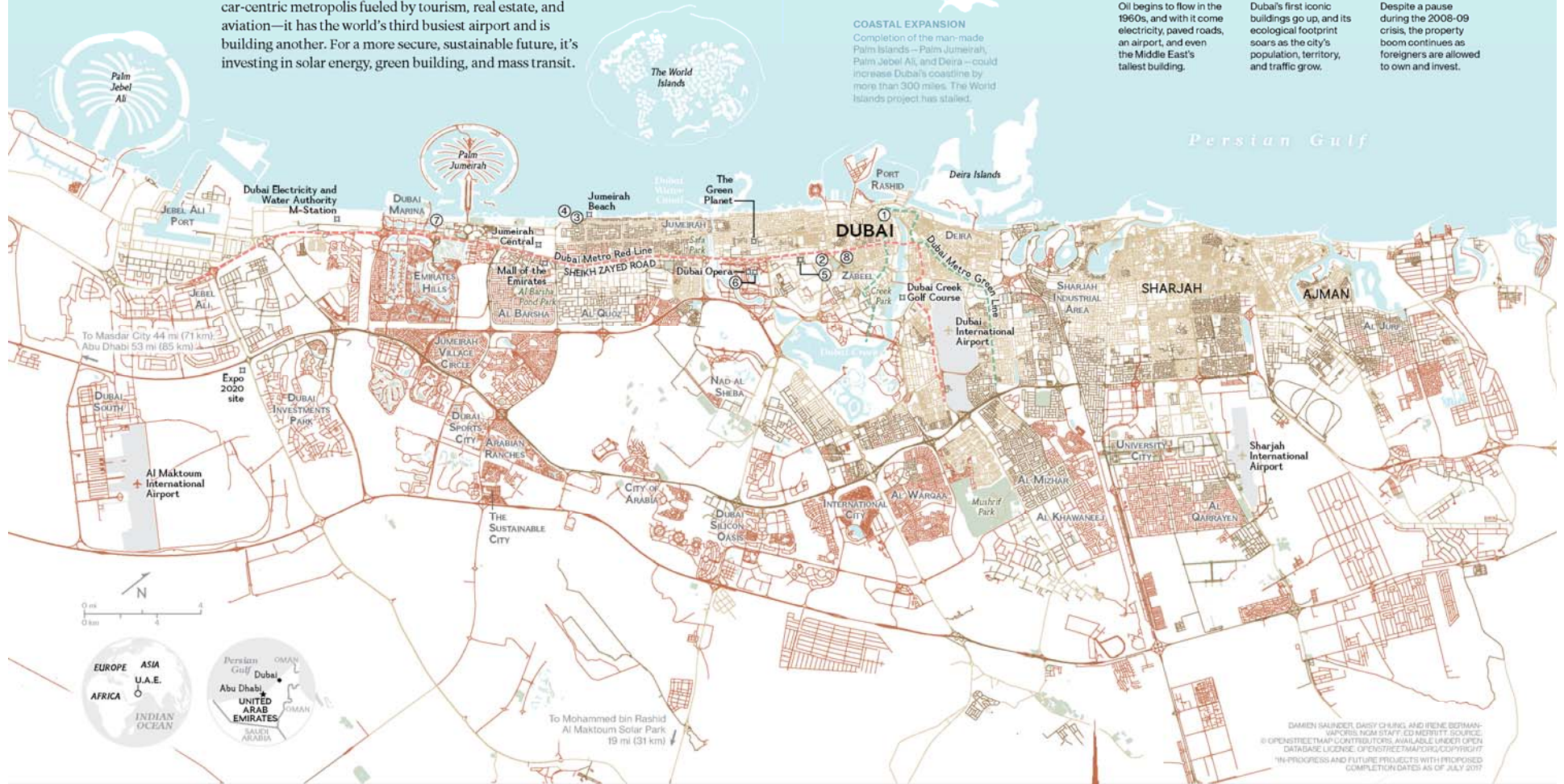
Dubai's first iconic buildings go up, and its ecological footprint soars as the city's population, territory, and traffic grow.

2000-2016

Despite a pause during the 2008-09 crisis, the property boom continues as foreigners are allowed to own and invest.

COASTAL EXPANSION

Completion of the man-made Palm Islands—Palm Jumeirah, Palm Jebel Ali, and Deira—could increase Dubai's coastline by more than 300 miles. The World Islands project has stalled.



BUILDING AN ICONIC SKYLINE
A hub of daring architecture, Dubai is set to host a world's fair, Expo 2020, which spurred its latest construction boom.

1787
Al Fahidi Fort
The city's oldest building

1979
Sheikh Rashid Tower
Dubai's first skyscraper

1997
Jumeirah Beach Hotel
The famed design mimics a breaking wave.

1999
Burj Al Arab
The landmark hotel is sail shaped.

2000
Emirates Towers
The larger tower was the tallest in the Middle East when first built.

2010
Burj Khalifa
The world's tallest structure at 2,717 ft (828 m)

2013
Cayan Tower
A skyscraper built with a 90-degree twist

2017*
Dubai Frame
The structure frames views of old and new Dubai

2020*
Dynamic Tower
Each floor will separately rotate on this shape-shifting tower.

①

②

③

④

⑤

⑥

⑦

⑧

Location yet to be determined

DAMIEN SAUNDERS, DARY CHUNG AND IRENE BERMAN-VAPORIS/NGM STAFF; ED MERRITT. SOURCE: © OPENSTREETMAP CONTRIBUTORS, AVAILABLE UNDER OPEN DATABASE LICENSE; © OPENSTREETMAP/ORG/COPYRIGHT *IN PROGRESS AND FUTURE PROJECTS WITH PROPOSED COMPLETION DATES AS OF JULY 2017

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Managing the Moors

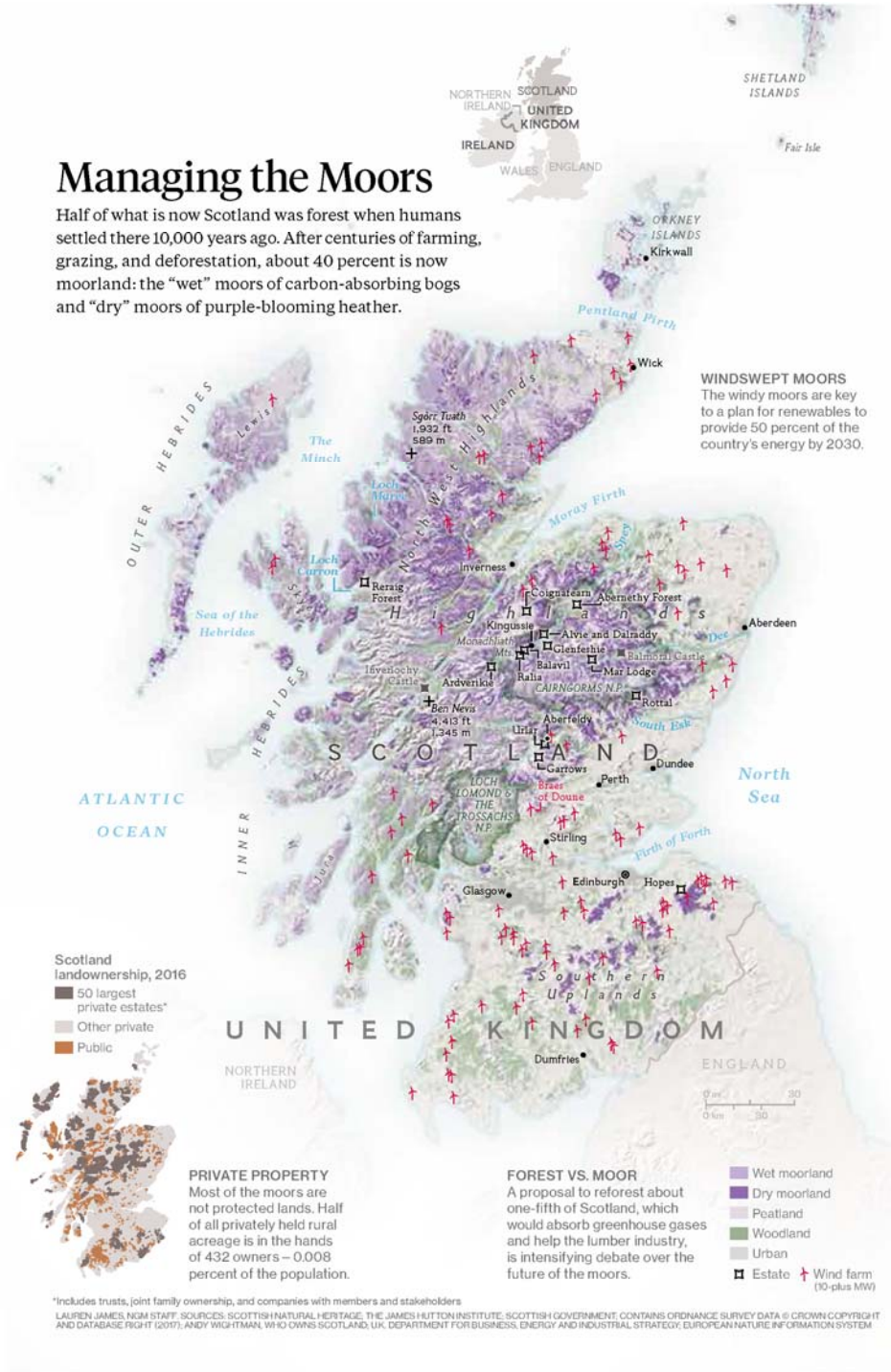
Lauren E. James

National Geographic Magazine



Managing the Moors

Half of what is now Scotland was forest when humans settled there 10,000 years ago. After centuries of farming, grazing, and deforestation, about 40 percent is now moorland: the “wet” moors of carbon-absorbing bogs and “dry” moors of purple-blooming heather.



WINDSWEPT MOORS
The windy moors are key to a plan for renewables to provide 50 percent of the country's energy by 2030.

Scotland landownership, 2016
 ■ 50 largest private estates*
 ■ Other private
 ■ Public

PRIVATE PROPERTY
Most of the moors are not protected lands. Half of all privately held rural acreage is in the hands of 432 owners – 0.008 percent of the population.

FOREST VS. MOOR
A proposal to reforest about one-fifth of Scotland, which would absorb greenhouse gases and help the lumber industry, is intensifying debate over the future of the moors.

■ Wet moorland
 ■ Dry moorland
 ■ Peatland
 ■ Woodland
 ■ Urban
 ■ Estate † Wind farm (10-plus MW)

*Includes trusts, joint family ownership, and companies with members and stakeholders
 LAUREN JAMES, NIG STAFF. SOURCES: SCOTTISH NATURAL HERITAGE, THE JAMES HUTTON INSTITUTE, SCOTTISH GOVERNMENT, CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT AND DATABASE RIGHT (2017), ANDY WIGHTMAN, WHO OWNS SCOTLAND, U.K. DEPARTMENT FOR BUSINESS, ENERGY AND INDUSTRIAL STRATEGY, EUROPEAN NATURE INFORMATION SYSTEM

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Protecting Baja Seas

Matthew W. Chwastyk

National Geographic Magazine



Protecting Baja Seas

Ocean conservationists often call the Gulf of California the "aquarium of the world," but overfishing has threatened the remarkable diversity and quantity of its sea life. Now local communities, in partnership with nonprofits and the Mexican government, are working to protect what is left.

Protected Areas

- Isla Guadalupe Biosphere Reserve
- El Vizcaino Biosphere Reserve
- Archipiélago de Revillagigedo Biosphere Reserve
- Islands and Protected Areas of the Gulf of California (World Heritage site)
- Gray whale migration route
- Gray whale nursery
- Sea turtle nesting area

ISOLATED ISLE
The pristine waters around this sparsely inhabited island are one of the best spots in the world to observe great white sharks.



WHALE HAVEN
Every year gray whales and their calves migrate to the safety of the shallow, warm waters of three Baja lagoons, including still undeveloped San Ignacio within El Vizcaino Biosphere Reserve.



OCEAN CROSSROADS

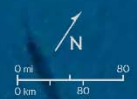
Four remote volcanic islands at the junction of two ocean currents create a biologically rich ecosystem. The protected area abounds with hungry manta rays, sharks, whales, and seabirds.



UNIQUE SPECIES

The islands of Baja California, long isolated, boast a high number of endemic species. More than 240 islands and coastal and marine protected areas in the gulf now make up a single World Heritage site.

MATTHEW W. CHWASTYK, NGM STAFF
SOURCES: JUAN BEZAURY-CREEL, THE NATURE CONSERVANCY; JORGE URBAN RAMIREZ, LAGUNA SAN IGNACIO ECOSYSTEM SCIENCE PROGRAM; JEFFREY SEMINOFF, NOAA; ERIC VANCE, THE STATE OF THE WORLD'S SEA TURTLES



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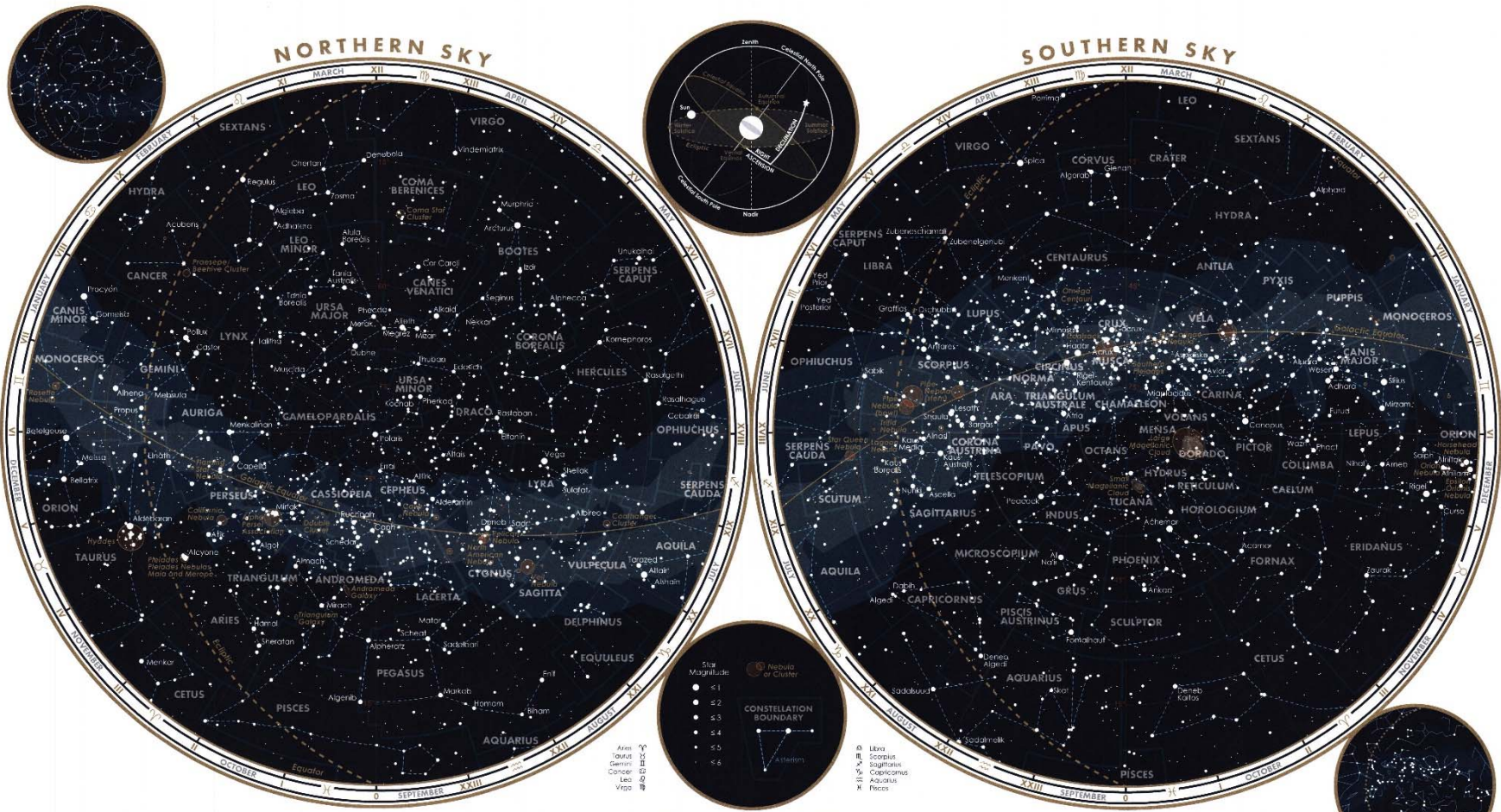


The Night Sky

Heather Smith

ESRI





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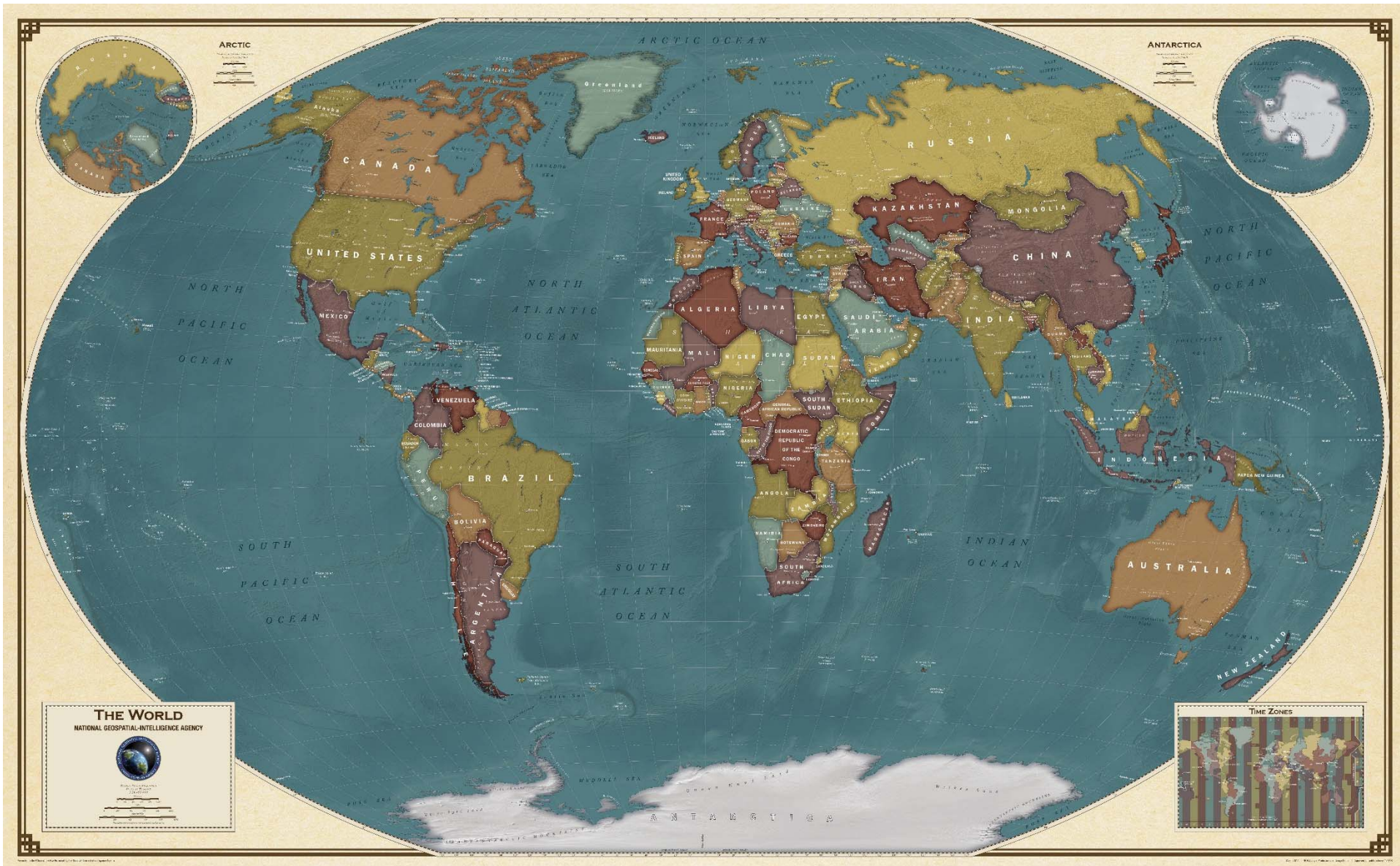


The Vice-President's World Map

Nicholas P. Rosenbach

National Geospatial-Intelligence Agency





The Cartography and Geographic Information Society



**Best Digital & Interactive
Map**

45th Annual CaGIS Map Design Competition



Justice Deferred: Executive Order 9066 and the Geography of Japanese American imprisonment

Davis Asbury, Allen Carroll, Greyson Harris, Cooper Thomas

ESRI Story Maps Team



<https://storymaps.esri.com/stories/2017/japanese-internment/index.html>

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**Digital & Interactive Map
Honorable Mention**

45th Annual CaGIS Map Design Competition



On the Front Lines of Famine

**Allen Carroll, Greyson Harris,
Cooper Thomas, Hannah Wilber**

ESRI Story Maps Team



<https://storymaps.esri.com/stories/2017/hunger-crisis/index.html>

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Digital & Interactive Map
Honorable Mention

45th Annual CaGIS Map Design Competition



***Enclaves and Exclaves: A Tour of the World's
Geographically Engulfed and Orphaned Places***

John Nelson and Allen Carroll

ESRI Story Map Team



<https://storymaps.esri.com/stories/2017/enclaves-exclaves/index.html>