

MATH MODELING CAN

MAKE YOU FILTHY RICH

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GOALS

WHAT CAN MATH MODELING FEEL LIKE?

HOW IS MATH MODELING USED?

IS IT JUST CREATING THE MODEL?

WHAT IS NOT MATH MODELING?

WHAT MIGHT IT LOOK LIKE?

HOW DO YOU COMPARE PROBLEMS?



Doritos® & Cheetos® Mix **20** Singles

6 DORITOS® Nacho Cheese Flavored Tortilla Chips 1 OZ. EA. 6 DORITOS® COOL RANCH® Flavored Tortilla Chips 1 OZ. EA. 3 CHEETOS® Puffs Cheese Flavored Snacks 7/8 OZ. EA. 5 CHEETOS® Crunchy Cheese Flavored Snacks 1 OZ. EA.

20 INDIVIDUAL BAGS: 3-7/8 OZ. EACH, 17-1 OZ. EACH, TOTAL NET WT. 19 5/8 OZ. (1 LB. 3 5/8 OZ.) 556.3 g ⚠ WARNING: PREVENT ENTANGLEMENT AND STRANGULATION. KEEP THIS BAG AWAY FROM YOUNG CHILDREN. IT IS NOT A TOY.

THINKING TIME

- Why did you expect there to be five of each?
- Why was it not five of each?
- How did they decide on this combination?



Classic Mix

20
Singles

4 LAY'S® Classic Potato Chips, 4 DORITOS® Nacho Cheese Flavored Tortilla Chips, 2 DORITOS® COOL RANCH® Flavored Tortilla Chips, 4 CHEETOS® Crunchy Cheese Flavored Snacks, 2 SUNCHIPS® Original Multigrain Snacks, 4 FRITOS® Original Corn Chips (All 1 OZ. Each)

20 INDIVIDUAL BAGS: 1 OZ. EACH, TOTAL NET WT. 20 OZ. (1 LB. 4 OZ.) 567 g

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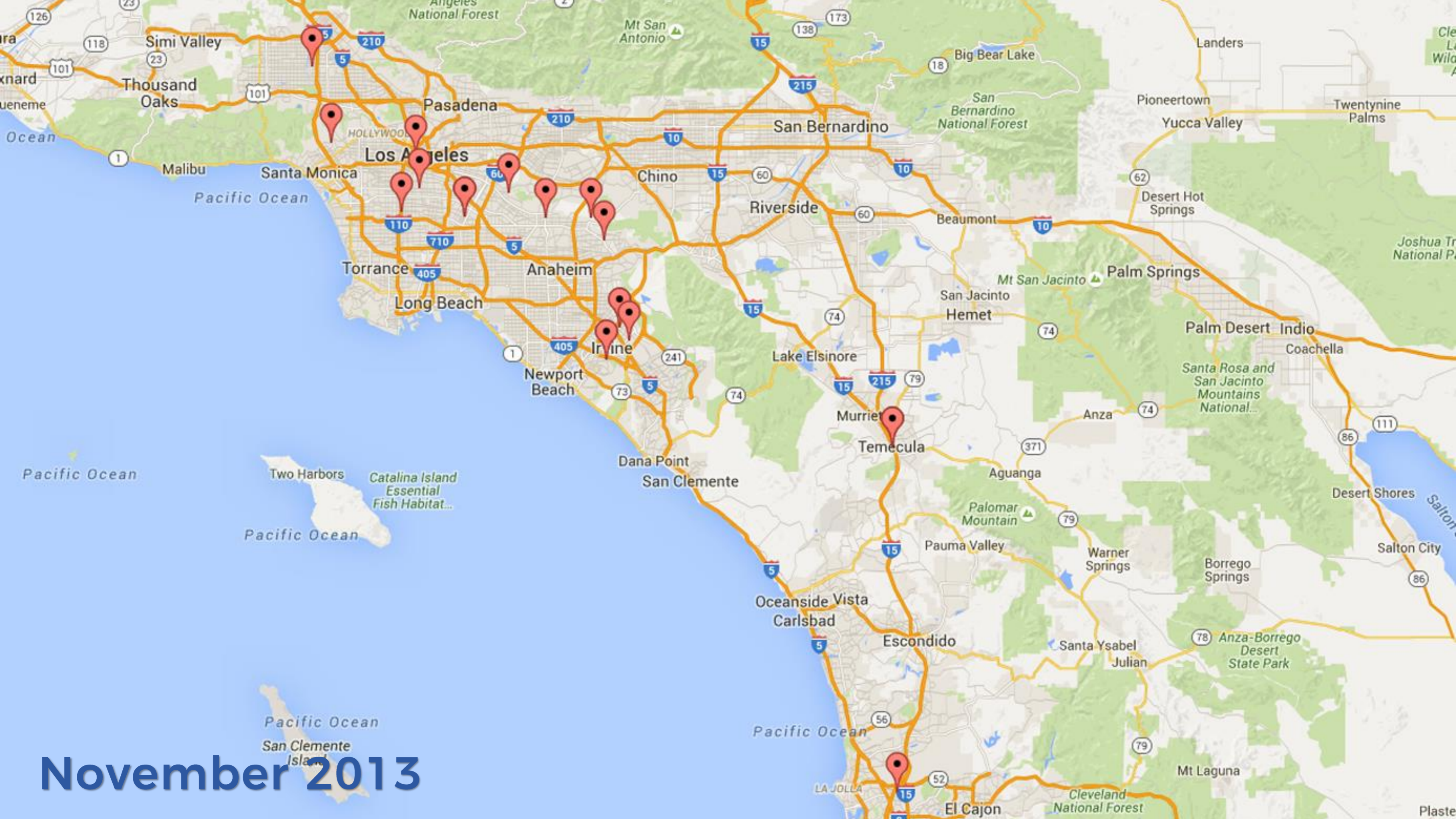




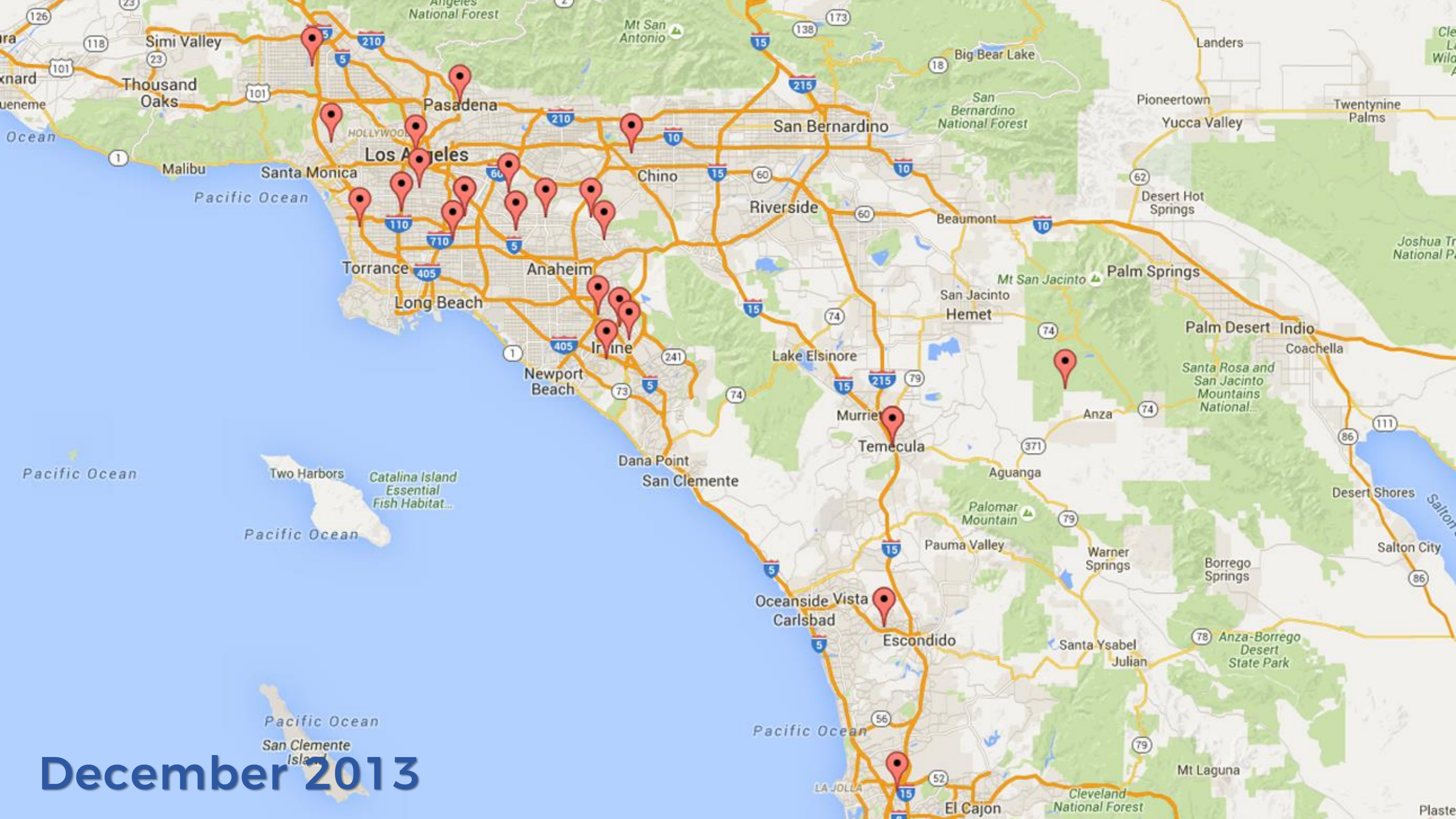
Spies

Analysts

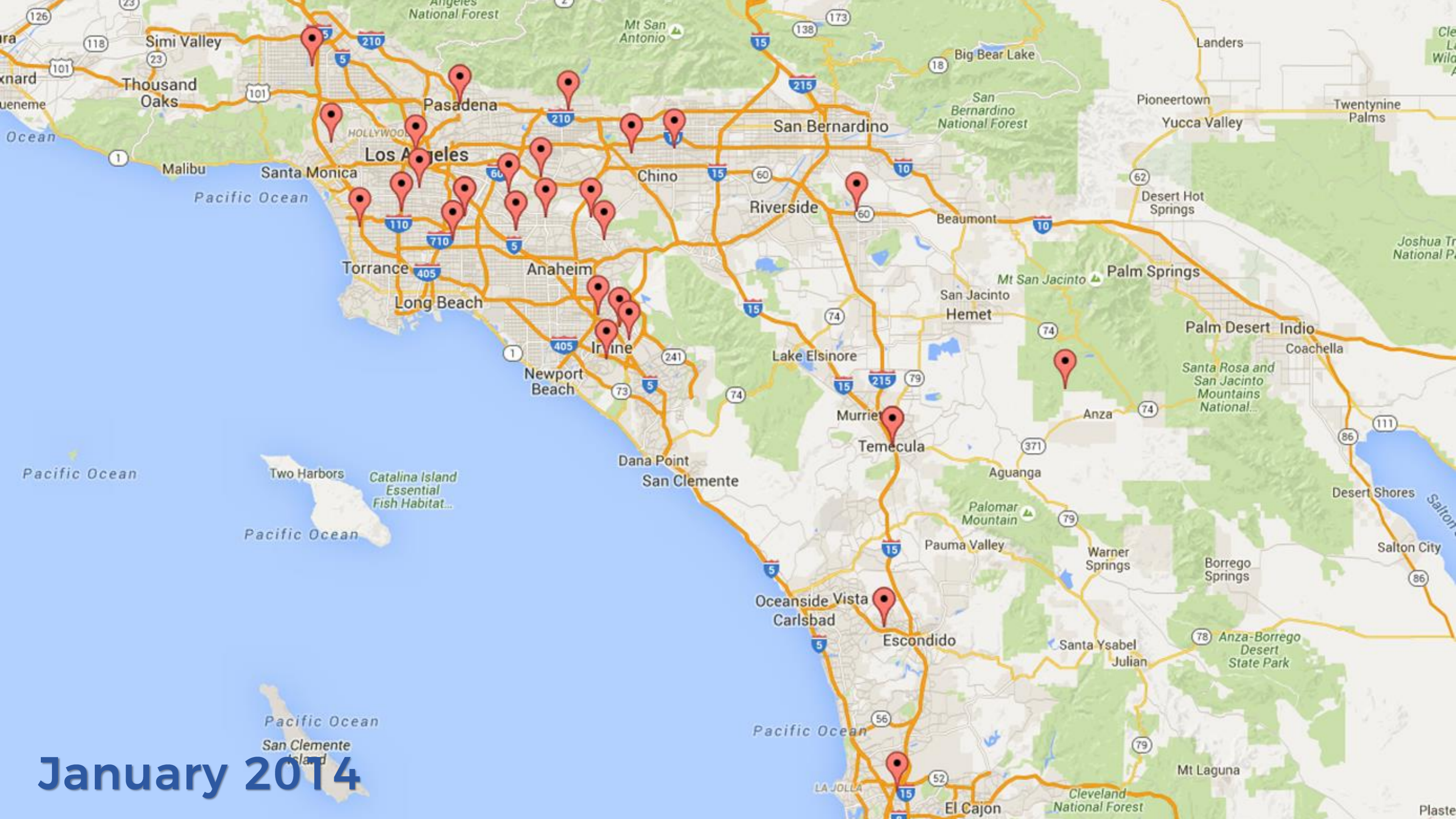
Model



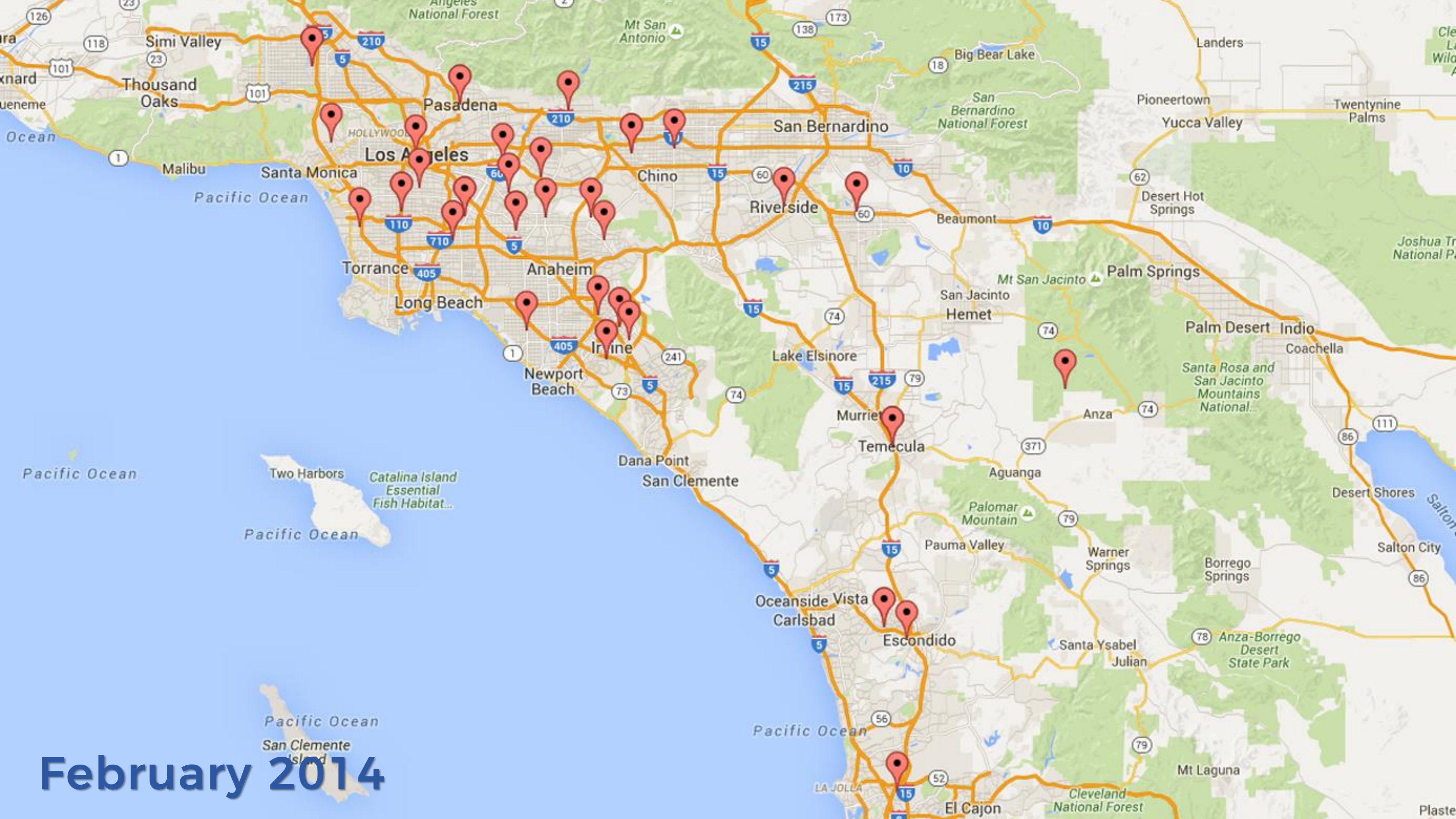
November 2013



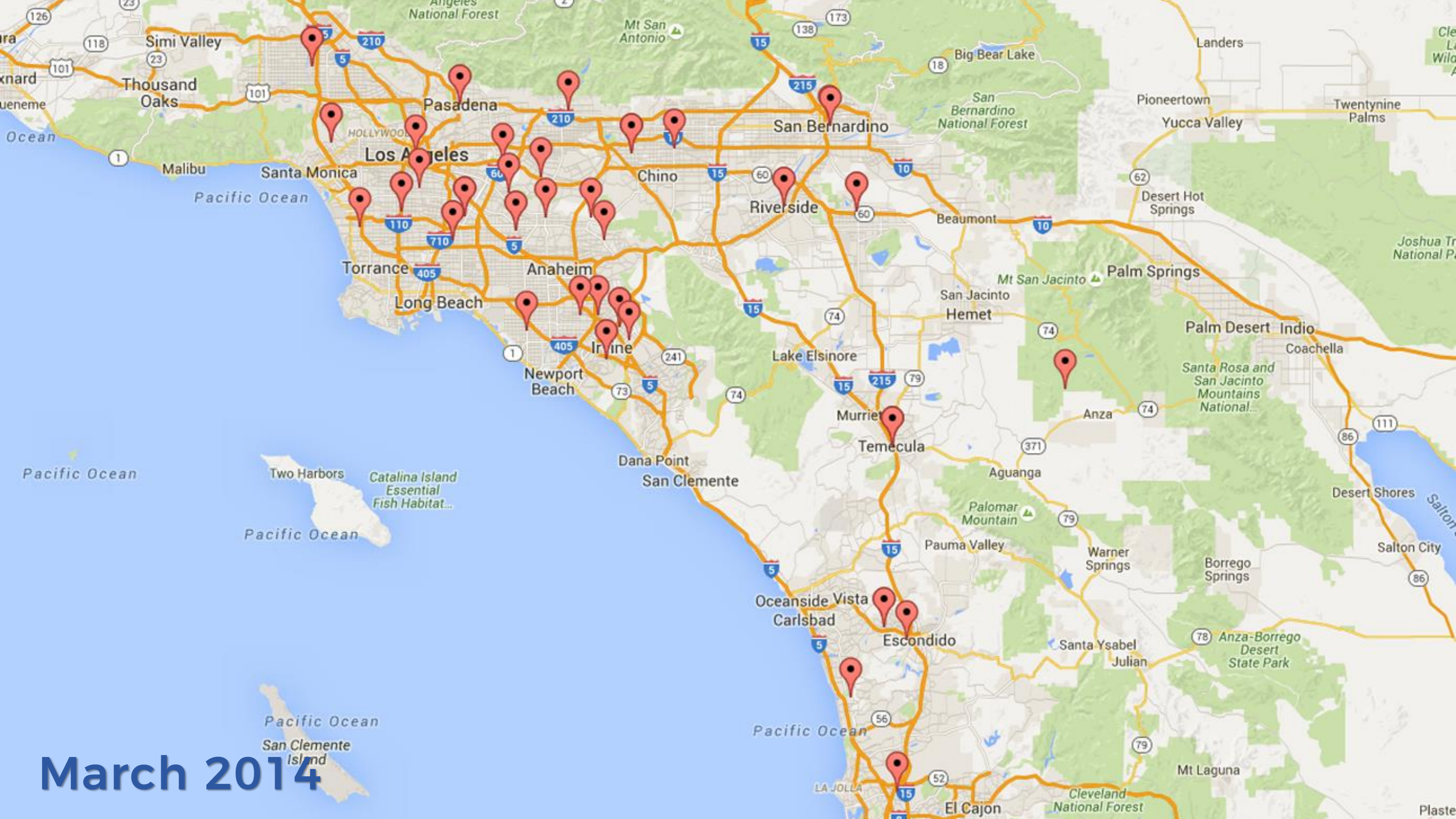
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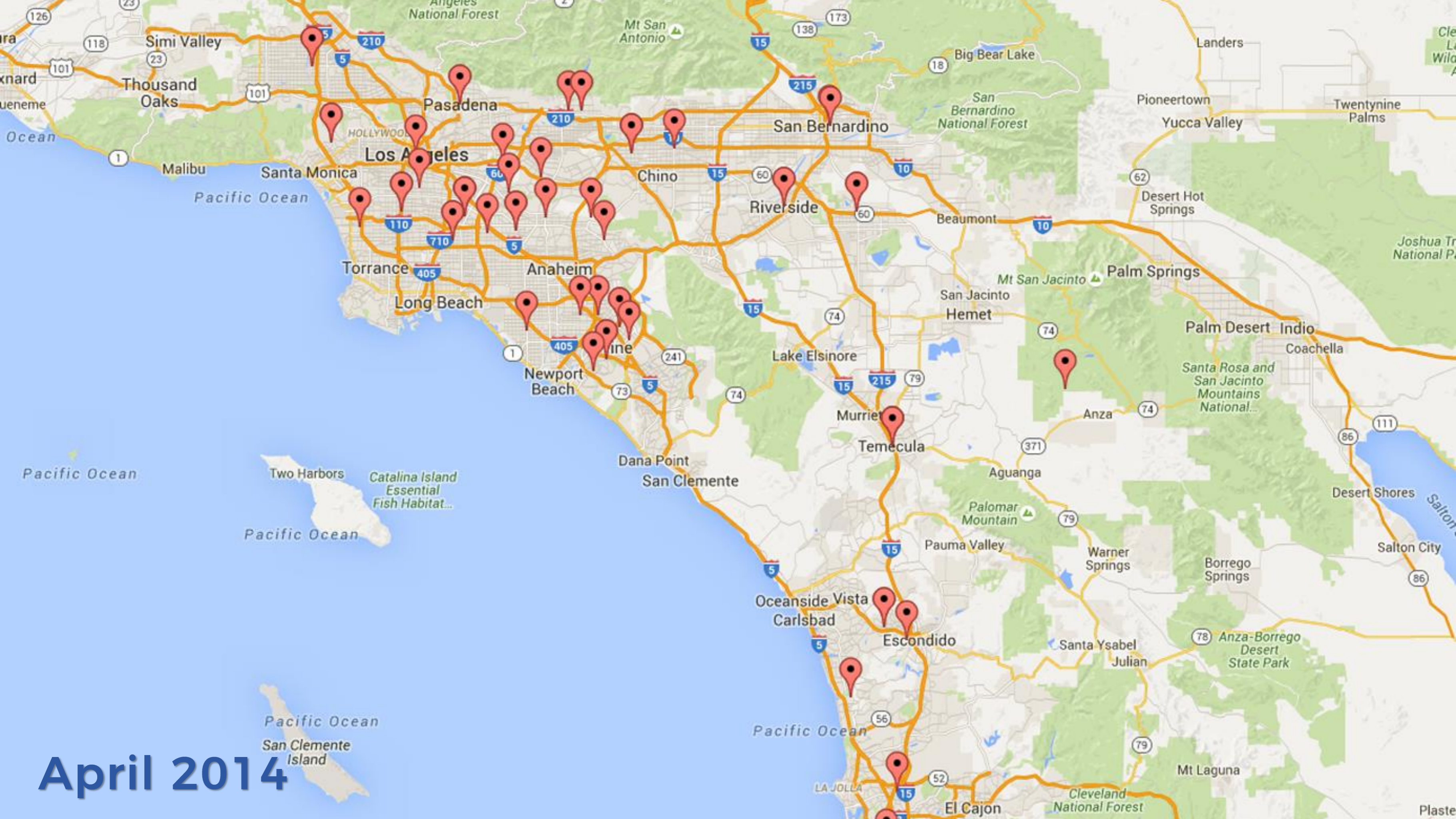
January 2014



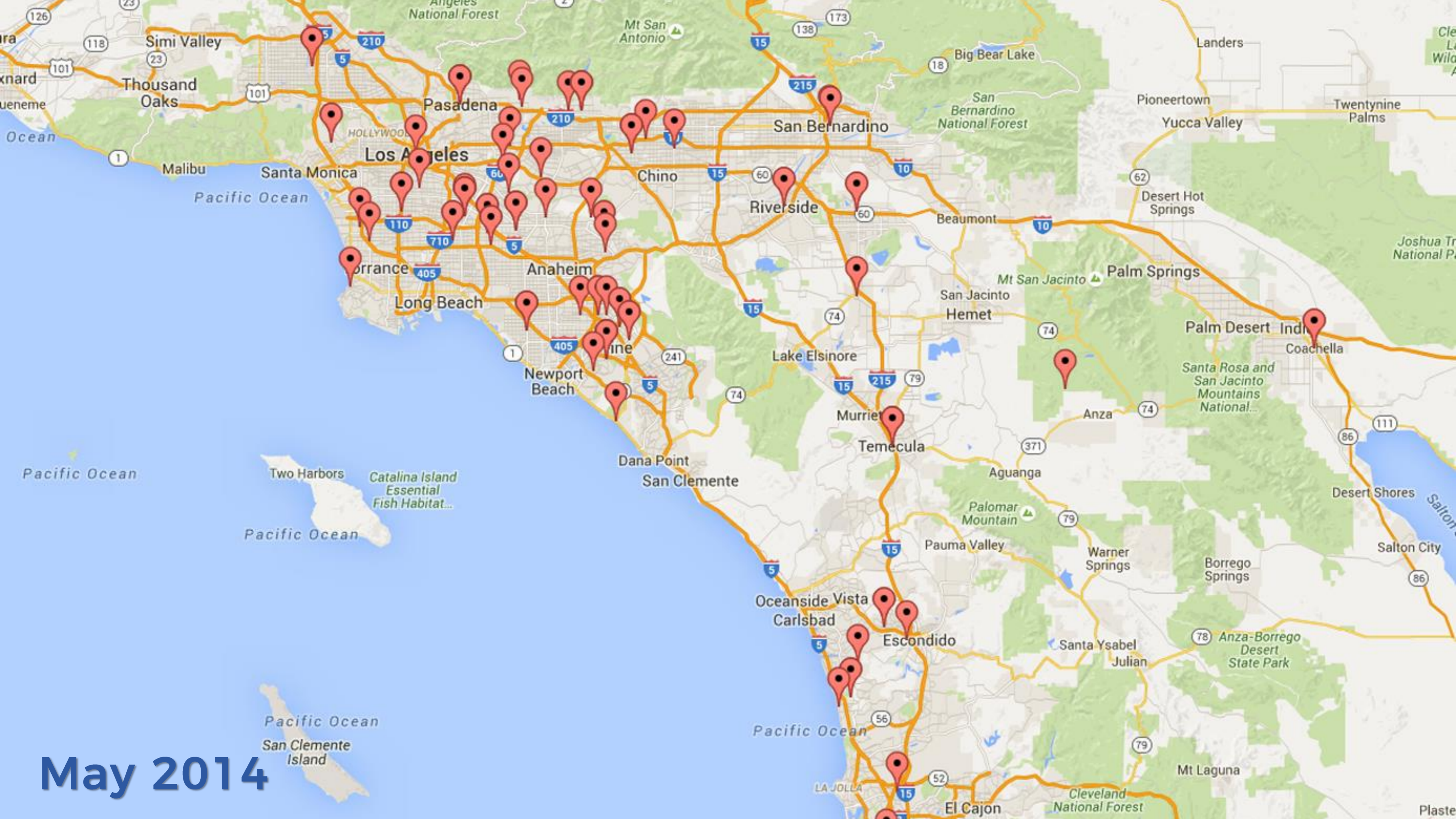
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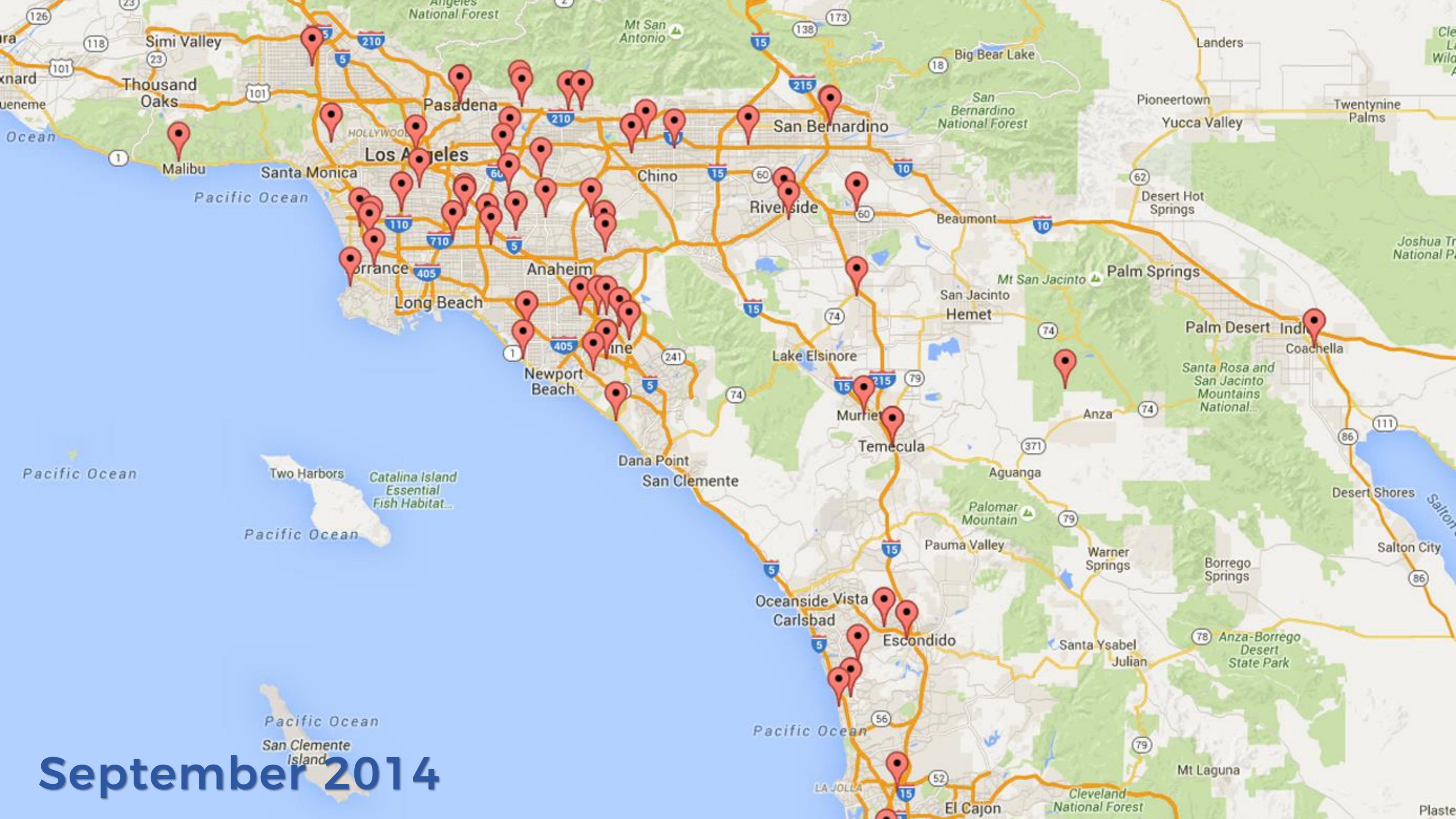
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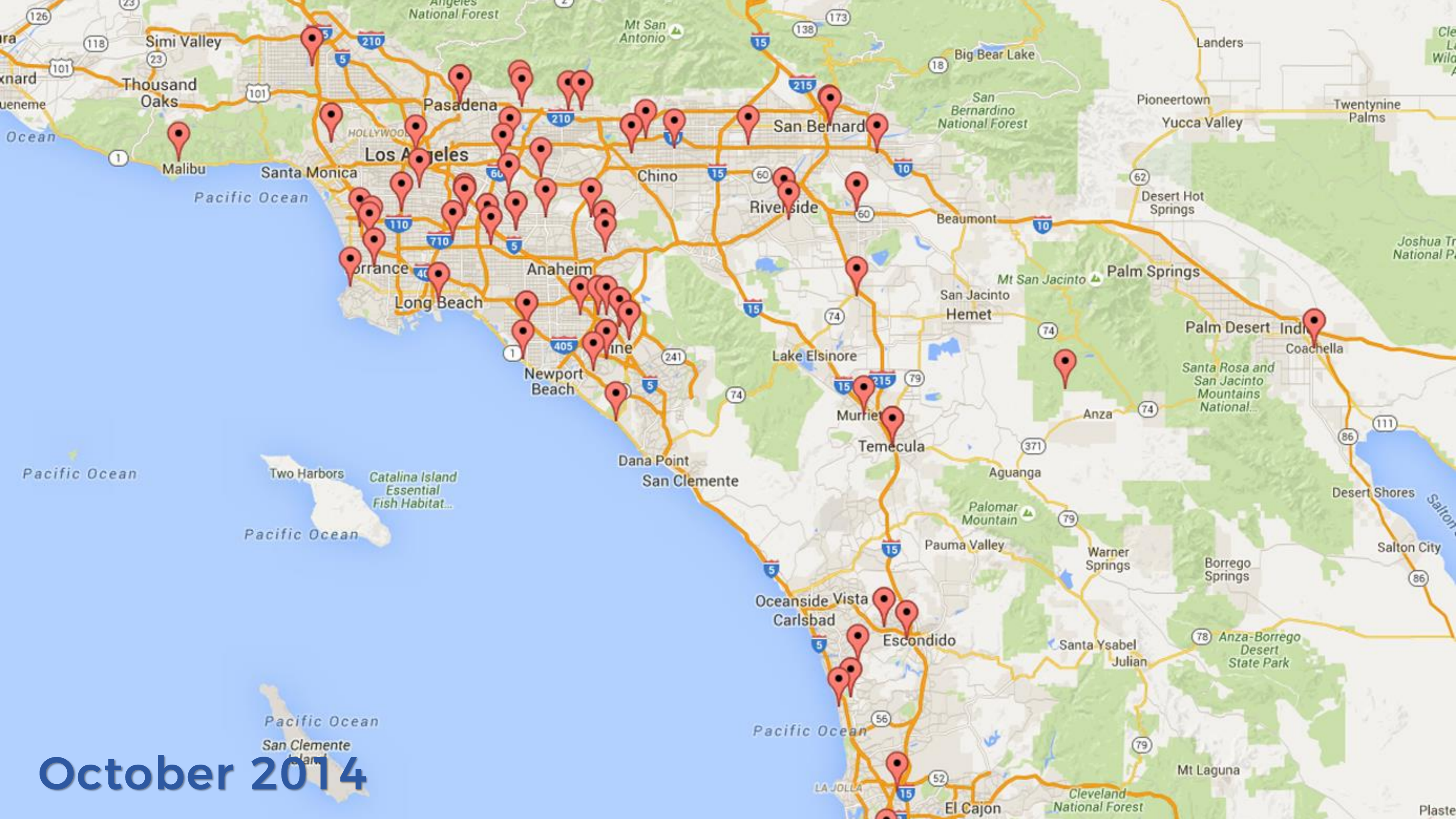
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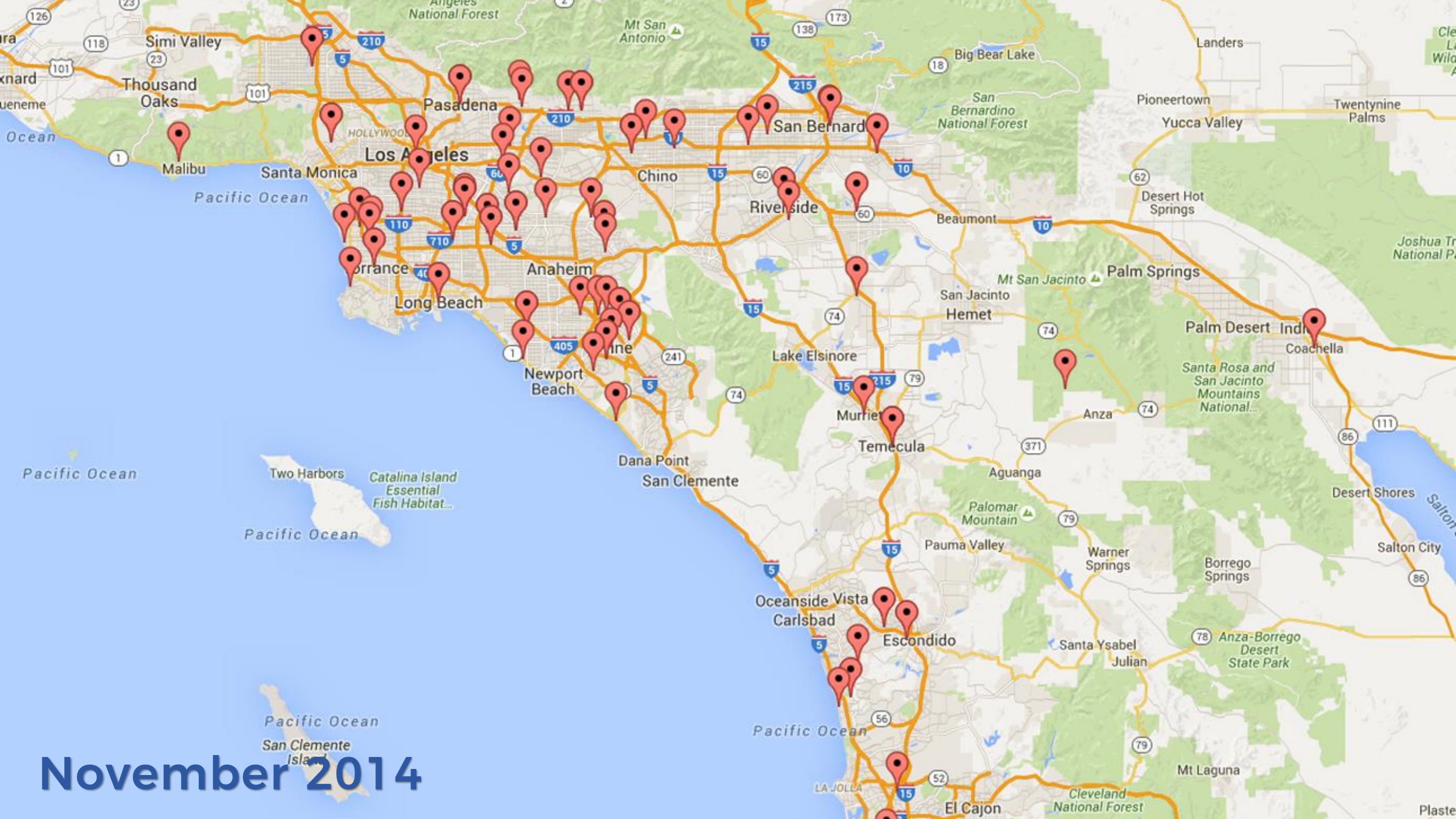
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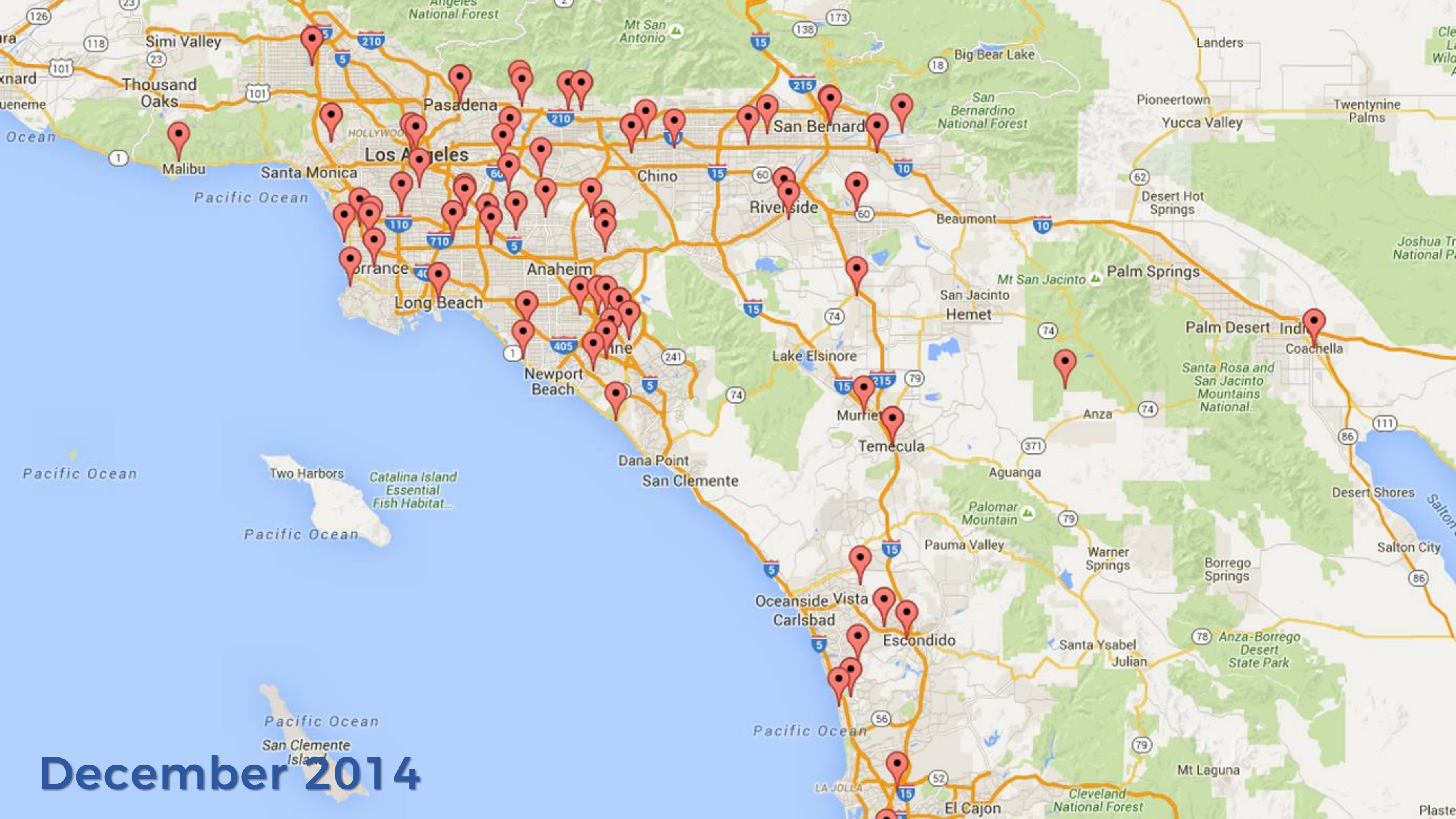
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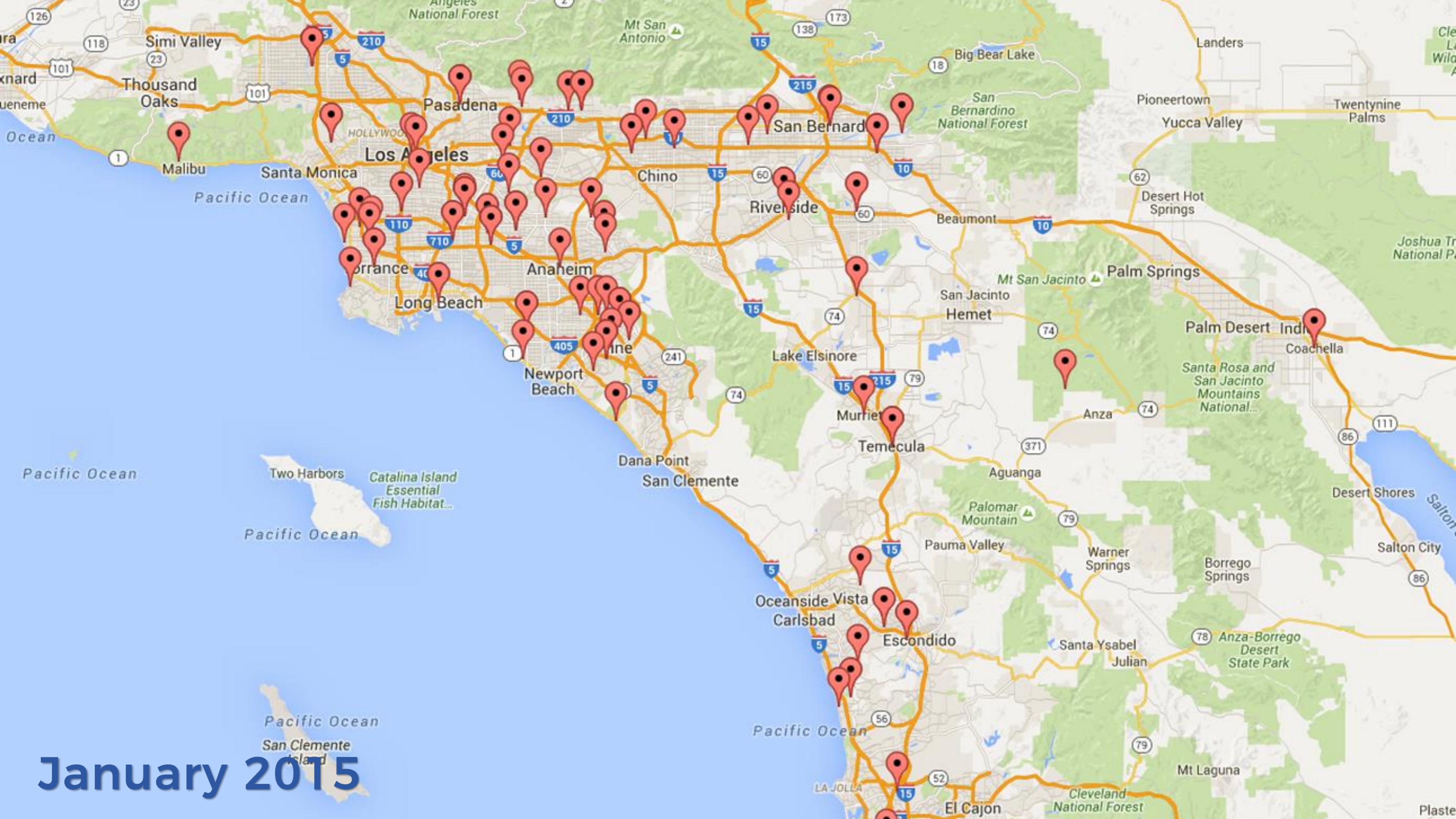
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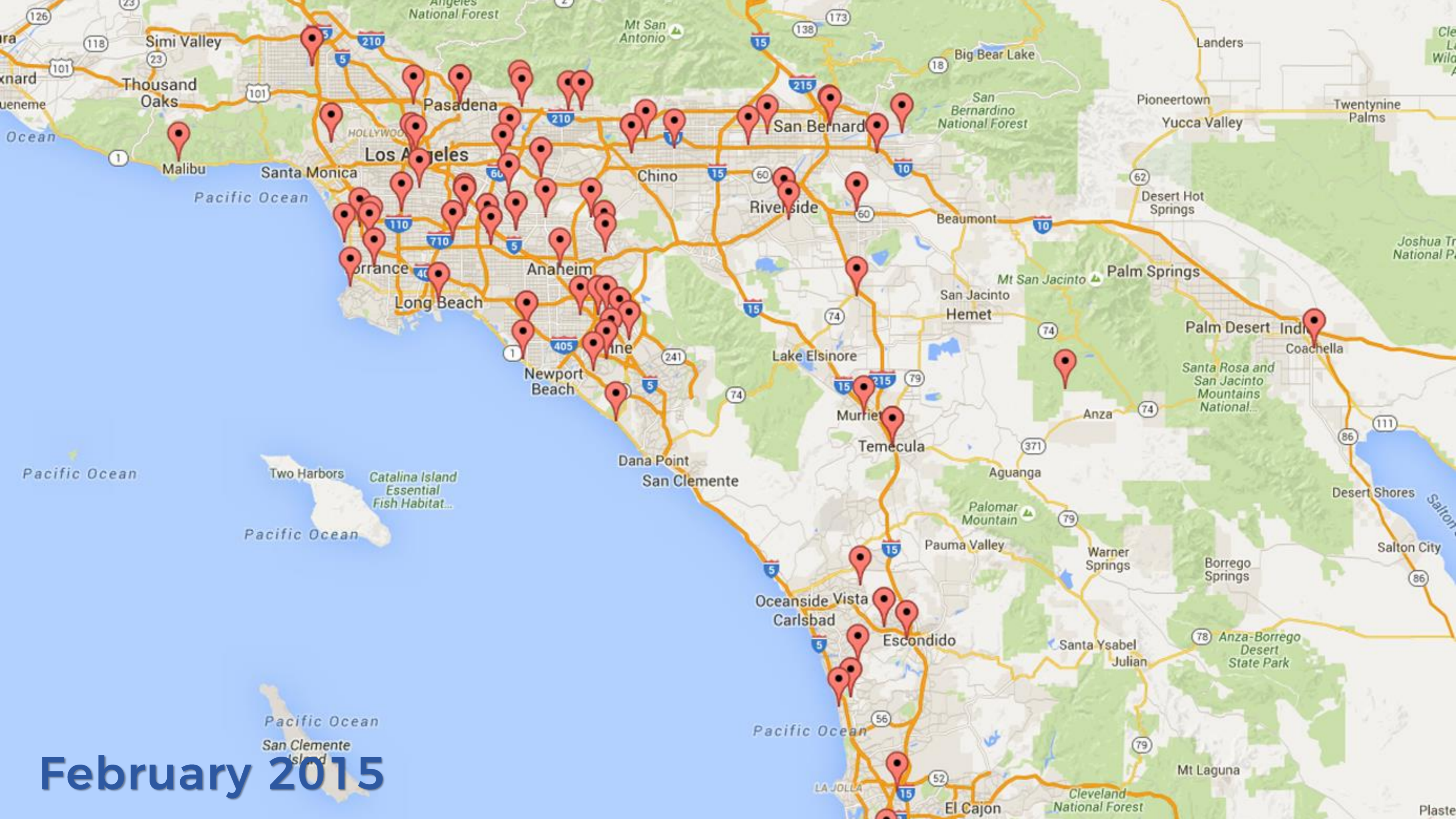
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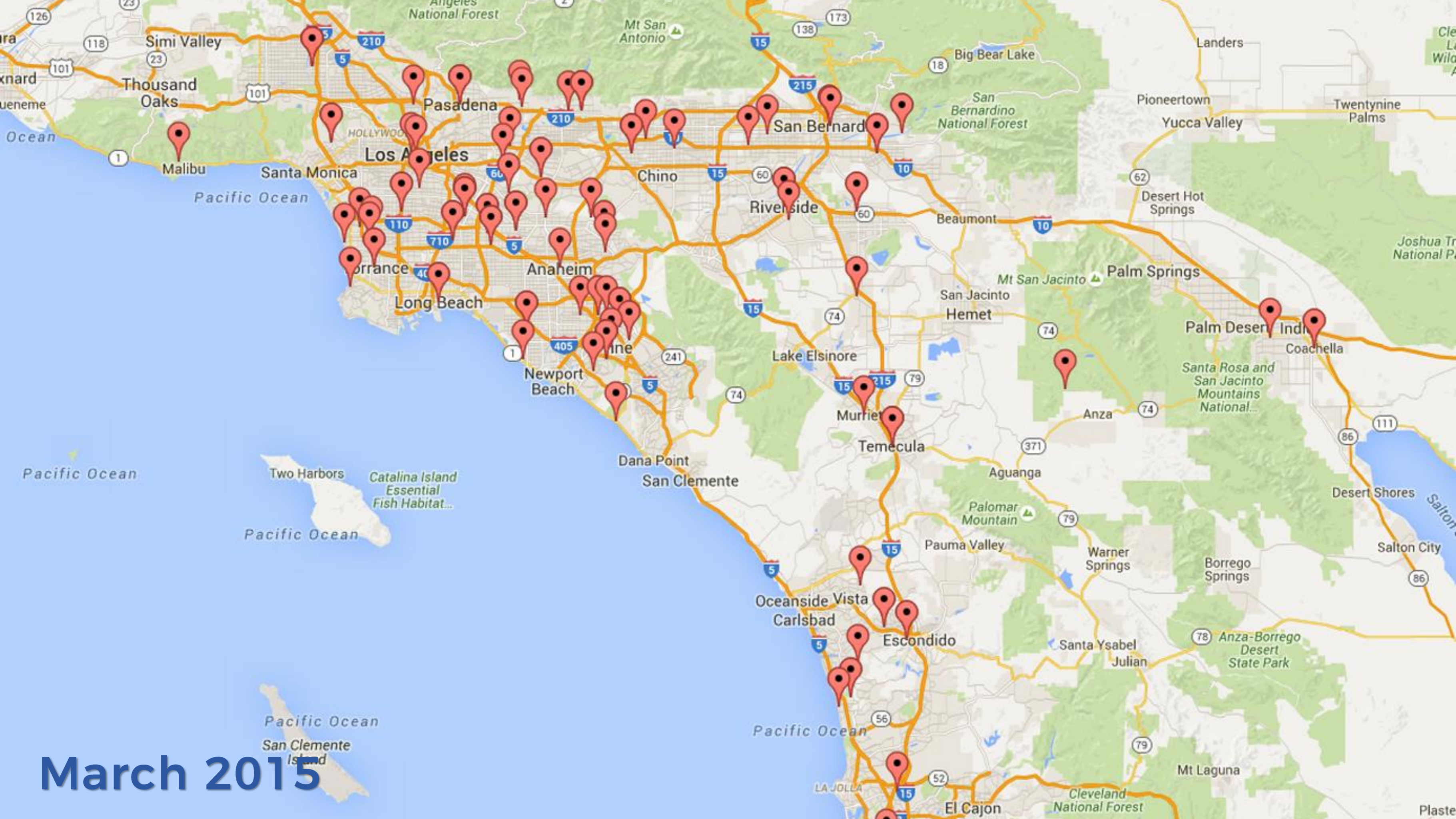
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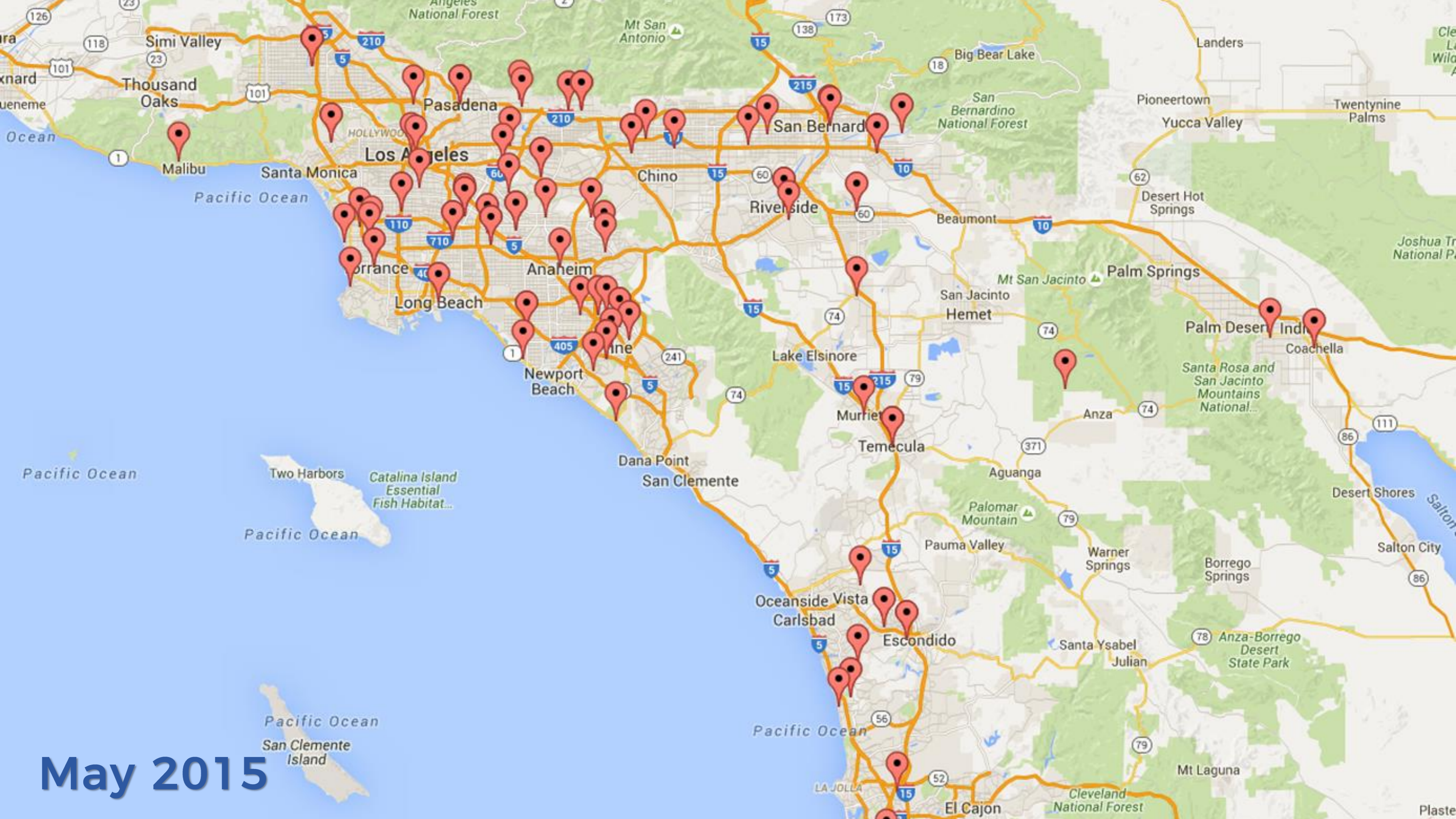
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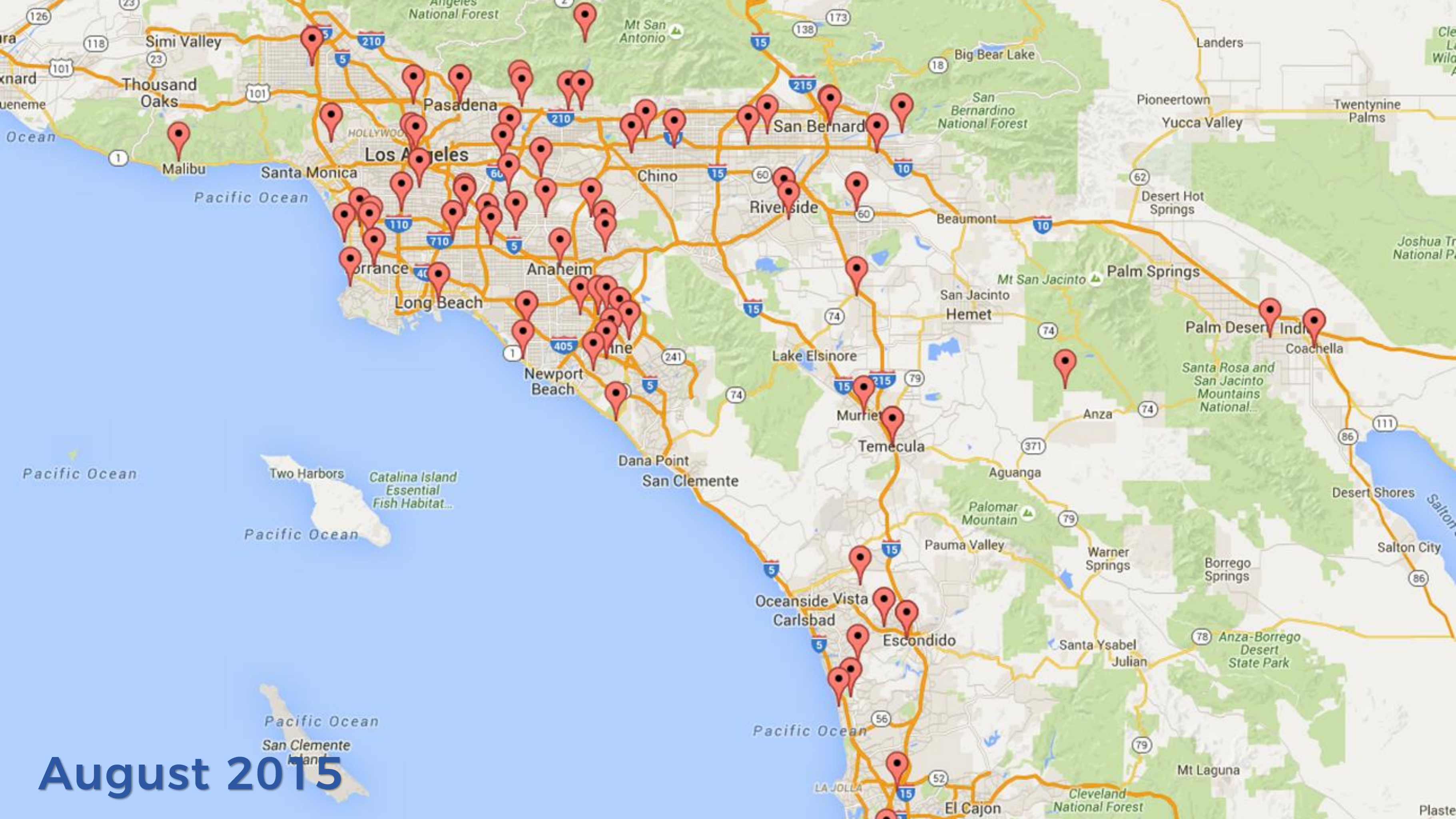
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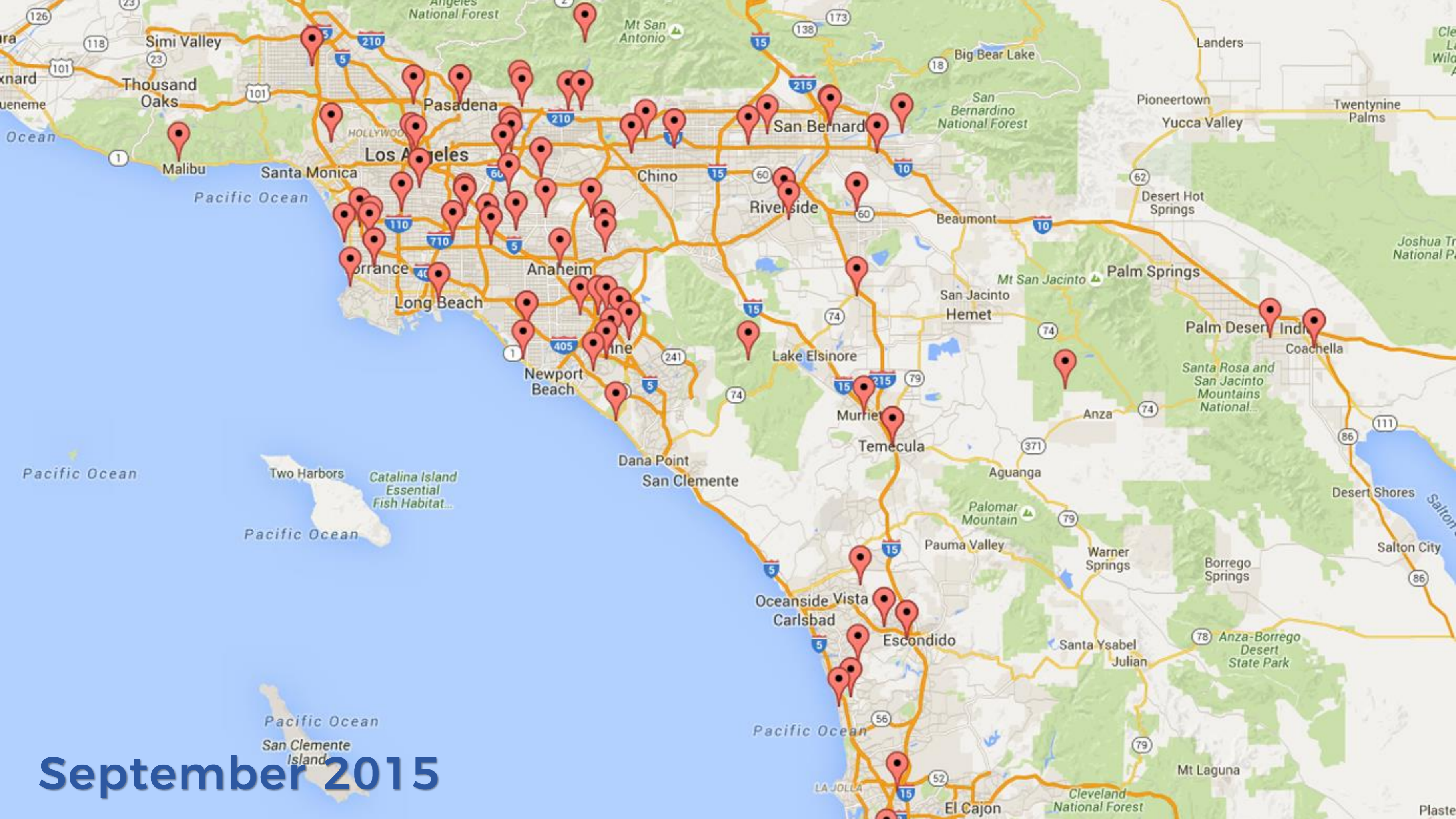
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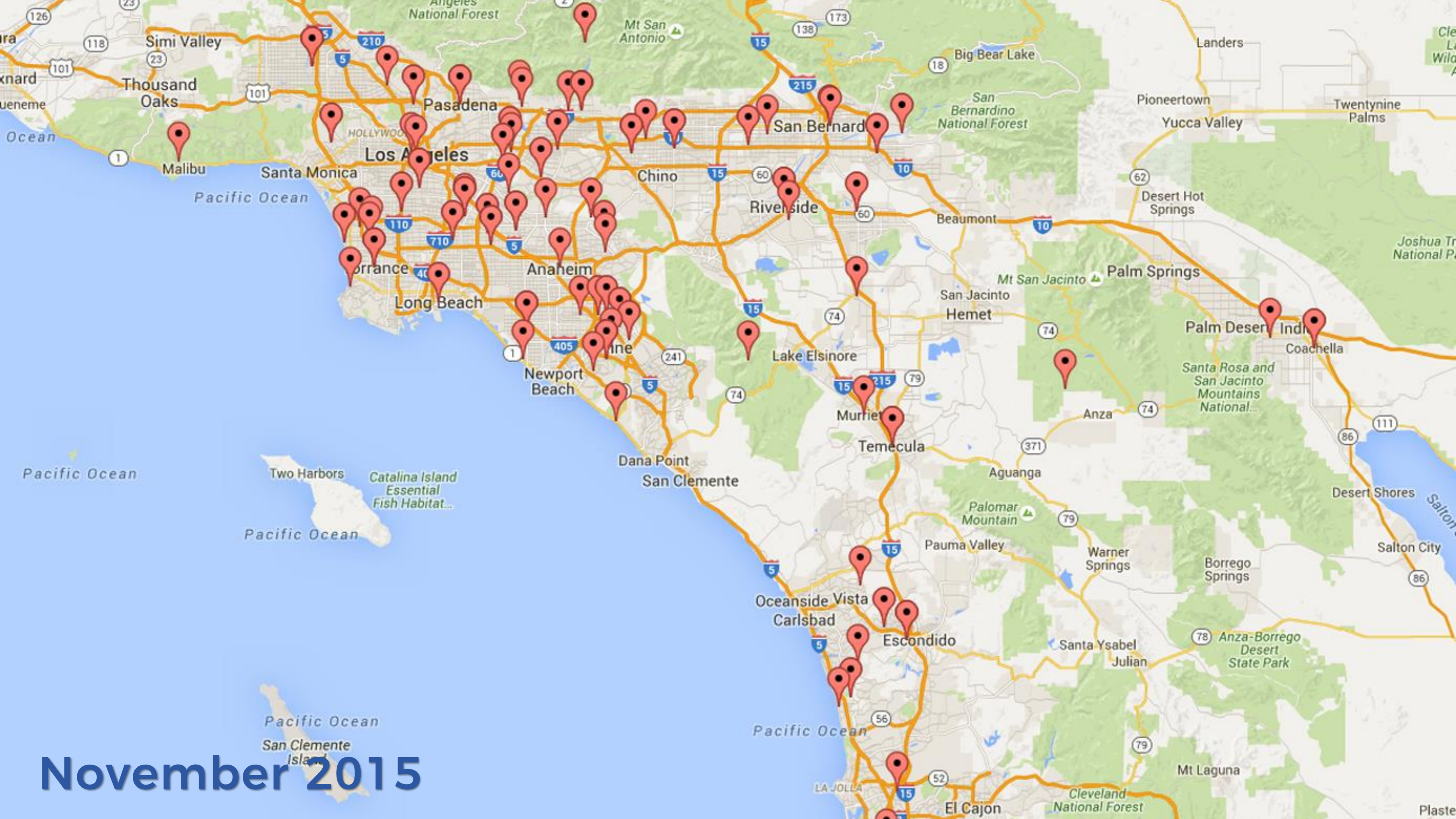
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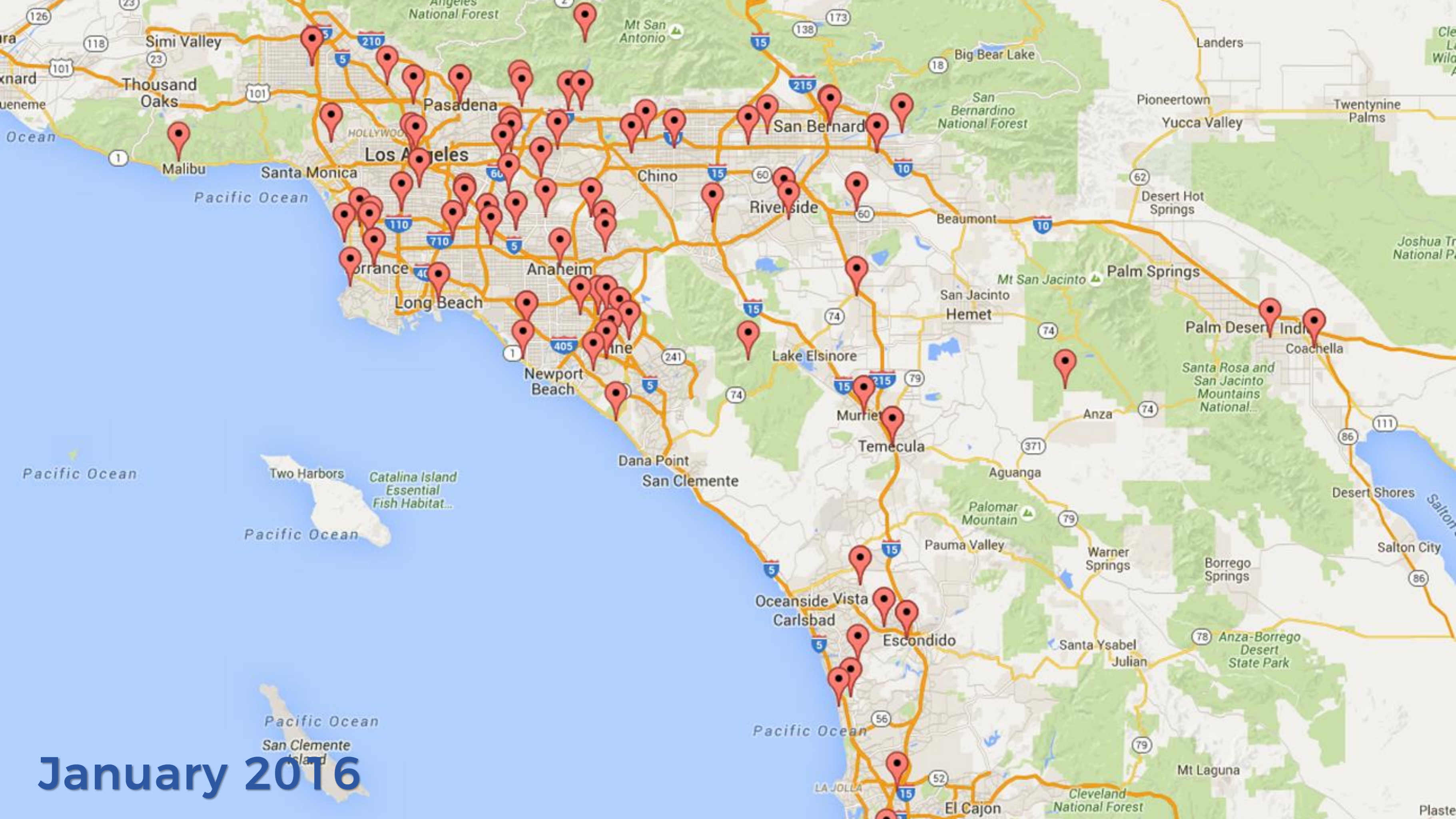
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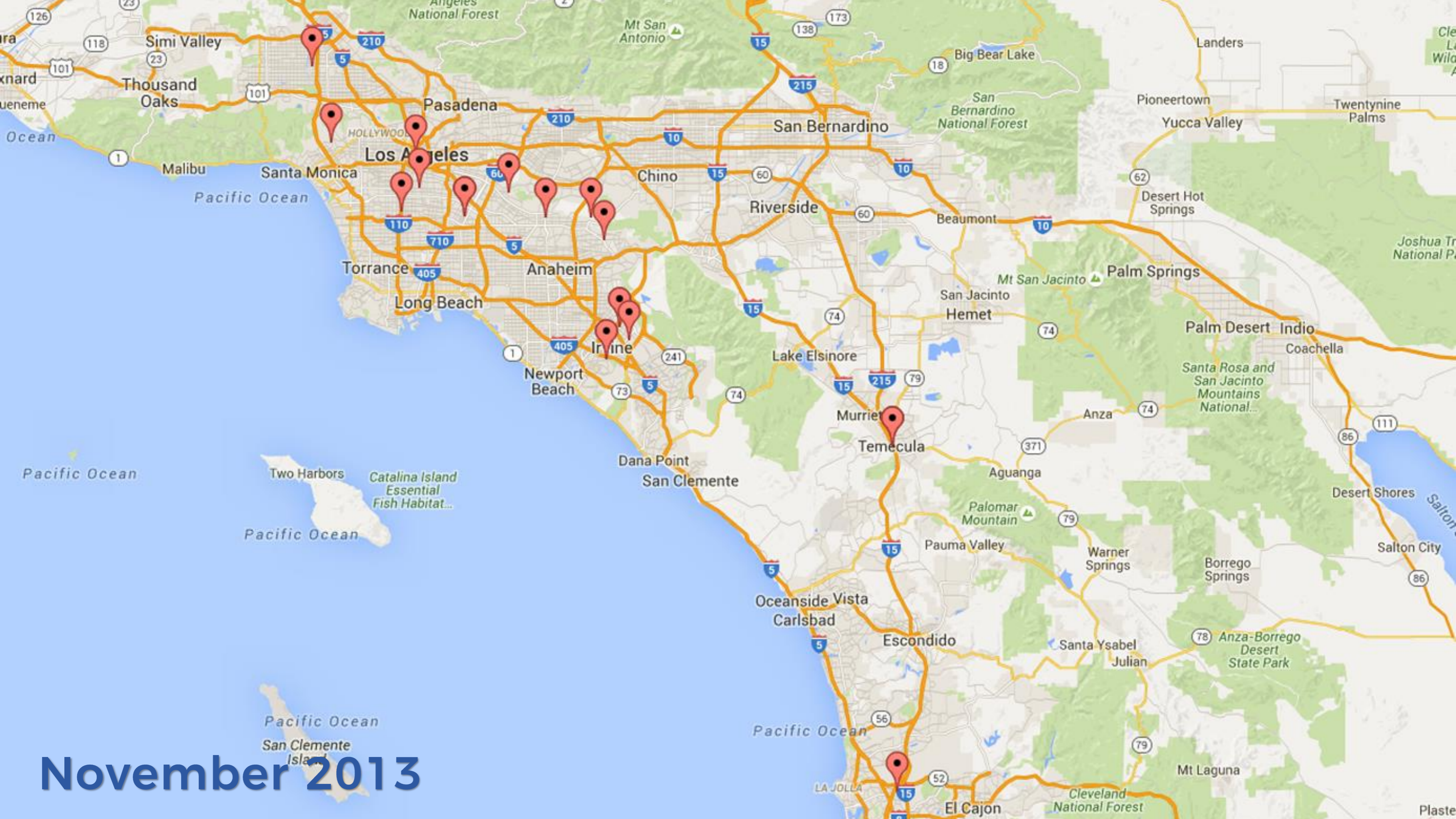
September 2015



November 2015



January 2016



November 2013

Spies

Analysts

Model



Classic Mix

20
Singles

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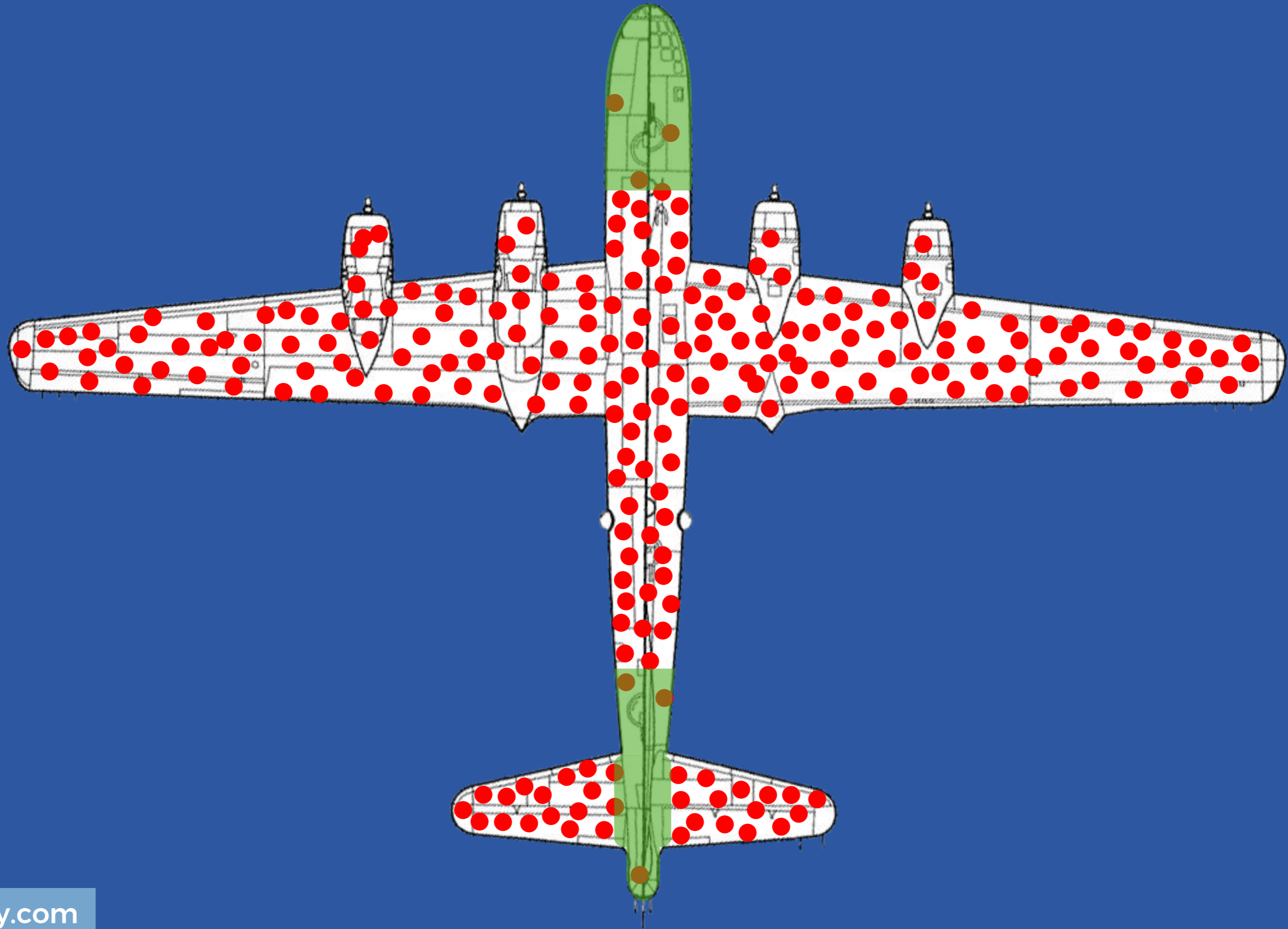
THINKING TIME

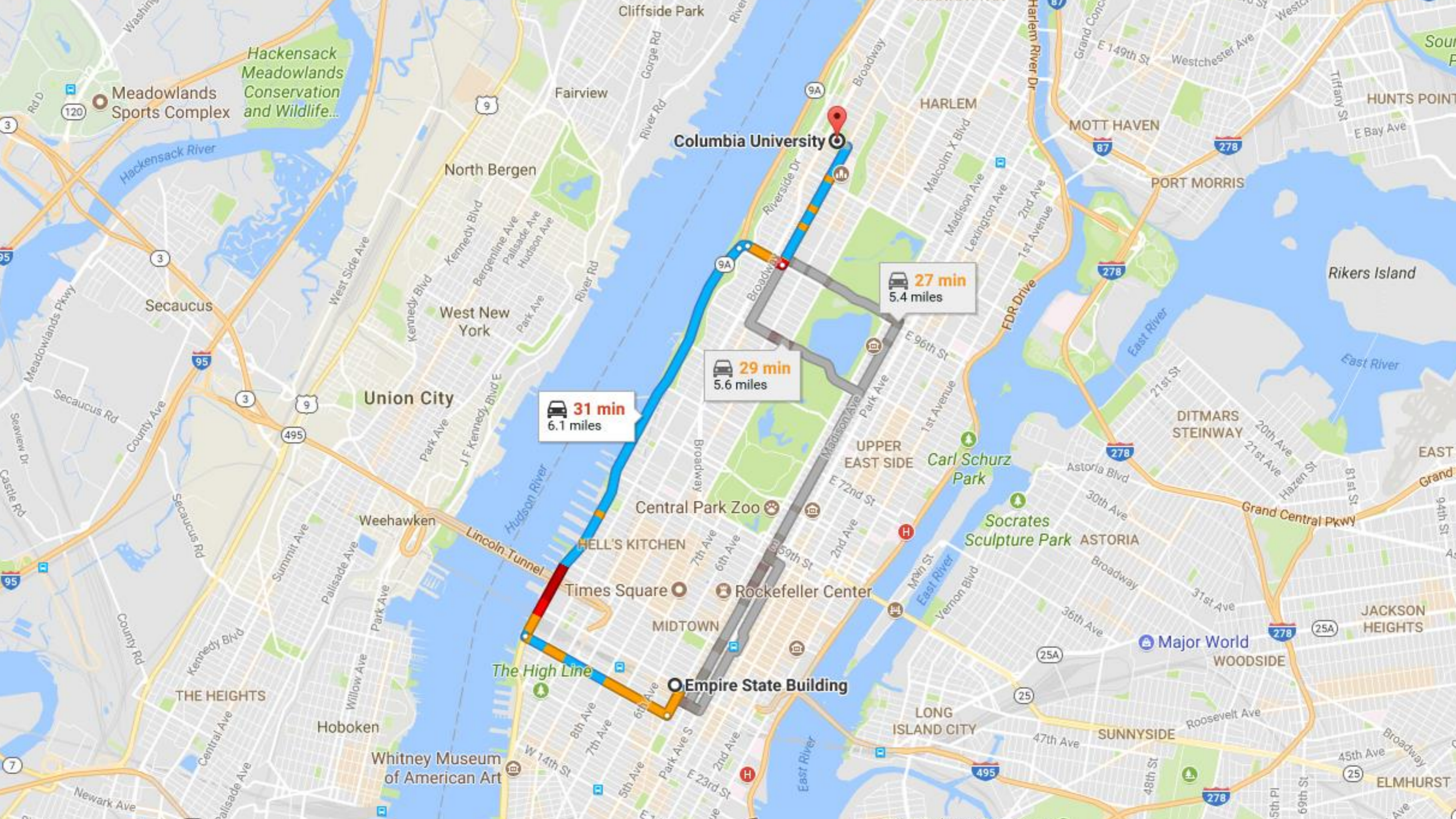


All models are
wrong, but some
are useful.

GEORGE E. P. BOX







Columbia University

Empire State Building

31 min
6.1 miles

29 min
5.6 miles

27 min
5.4 miles

The High Line

Times Square

Rockefeller Center

Central Park Zoo

HELL'S KITCHEN

Carl Schurz Park

Socrates Sculpture Park

Hackensack Meadowlands Conservation and Wildlife...

Meadowlands Sports Complex

Rikers Island

DITMARS STEINWAY

Major World

Whitney Museum of American Art

Weehawken

Hoboken

THE HEIGHTS

Secaucus

West New York

North Bergen

HARLEM

MOTT HAVEN

PORT MORRIS

UPPER EAST SIDE

MIDTOWN

LONG ISLAND CITY

SUNNYSIDE

JACKSON HEIGHTS

ELMHURST

GOALS

WHAT CAN MATH MODELING FEEL LIKE?

HOW IS MATH MODELING USED?

IS IT JUST CREATING THE MODEL?

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WHAT MIGHT IT LOOK LIKE?

HOW DO YOU COMPARE PROBLEMS?



TARGET PARKING




Spies

Analysts

Model

THINKING TIME



They used 25 products for a pregnancy prediction' score including:

- **unscented lotion**
- **mineral supplements**
- **cotton balls**

Source: New York Times



UNITED



N4047

B G →

B →

← G A

A319
4047

Spies

Analysts

Model

THINKING TIME

Priority is determined by:

- passenger's fare class
- itinerary
- frequent flyer program membership
- check-in time

Source: United Airlines



Search



Robert

Home



Robert Kaplinsky

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Messenger

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Groups

Friend Lists

On This Day 3

Insights

Games 7

Fundraisers

Live Video

Pokes

See More...

Create

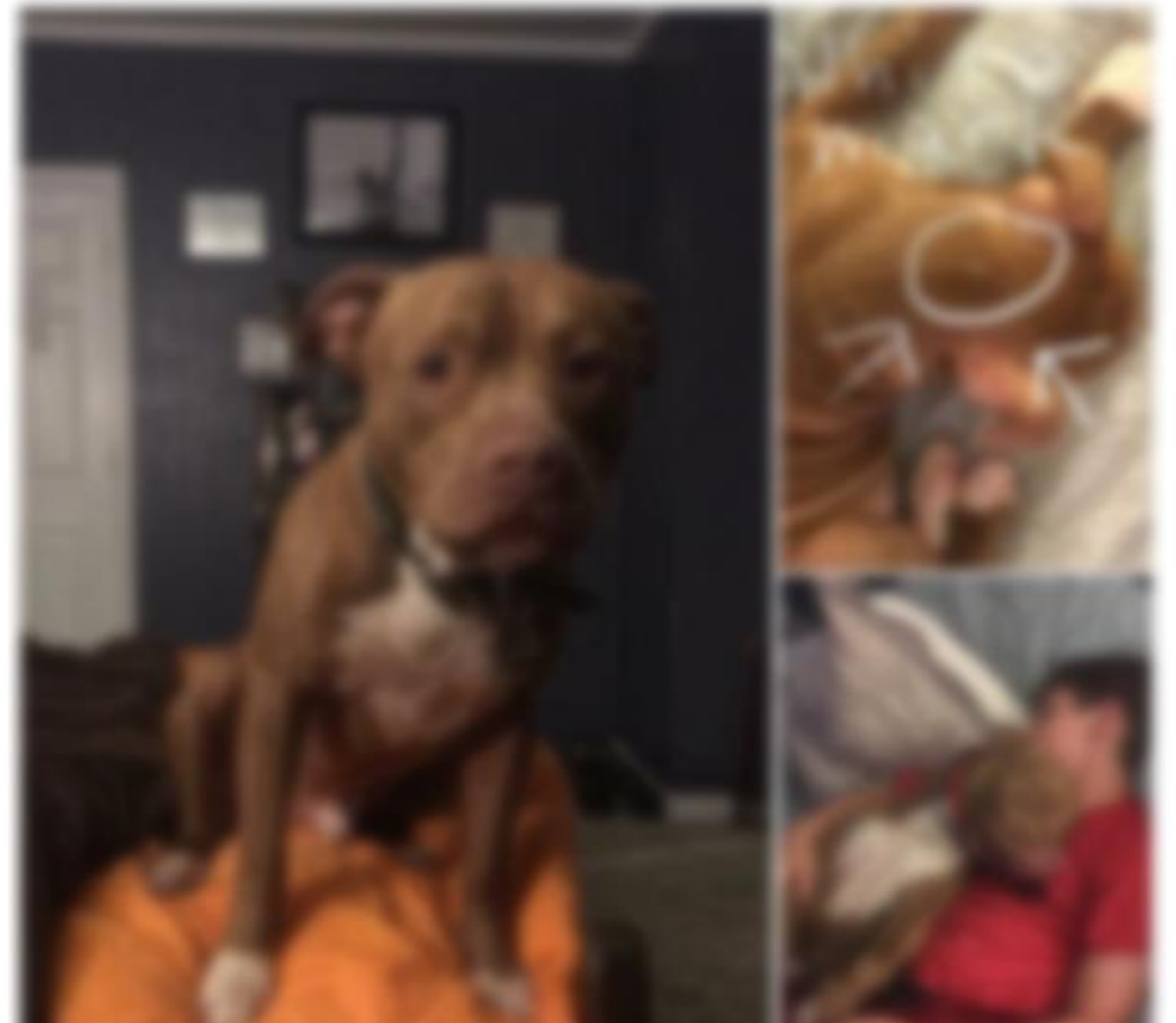
Ad · Page · Group · Event · Fundraiser

Make Post | Photo/Video Album | Live Video

What's on your mind, Robert?

Photo/Video | Feeling/Activity | ...

Ad Schedule...
Missing this dog gets back to his family



News Center

Trending

- James Madison: The Disappearance of James and Isabella's Personal Email Server
- Fredericksburg, Virginia: Mother recovering from copperhead snake bite at Virginia Tech
- Anthony Weiner: Anthony Weiner Sentenced to 21 Months in Prison

Watchlist: Latest Episodes

- Episode 1: The Making of a Legend
- Episode 2: The Making of a Legend
- Episode 3: The Making of a Legend

See All

Sponsored

Create Ad



```
graph TD; Spies --> Analysts; Analysts --> Model; Model --> Spies;
```

Spies

Analysts

Model

THINKING TIME

The stories that show in your News Feed are influenced by:

- friends you interact with the most
- the number of comments and likes a post receives
- what kind of story it is (ex: photo, video, status update)

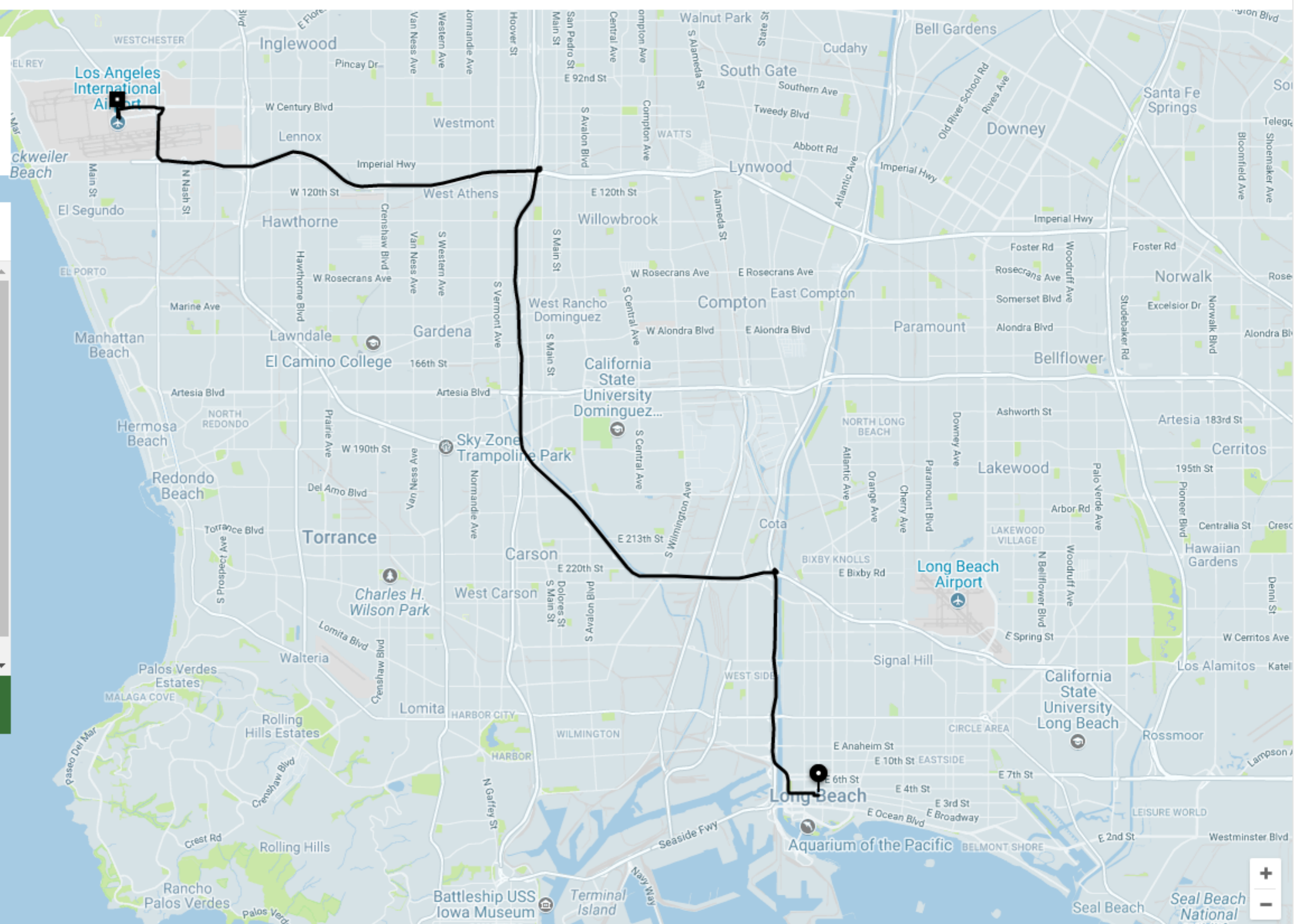
Source: Facebook



● Long Beach, CA

● Los Angeles International Airport, W... →

- Your Options:
- UberBLACK \$95-125 ?
 - UberSUV \$119-155 ?
 - uberX \$30-39 ?
 - UberSELECT \$73-94 ?
 - uberXL \$49-64 ?
 - UberLUX \$141-182 ?
 - POOL \$30-31 ?
- SIGN UP TO RIDE** →



Spies

Analysts

Model

THINKING TIME

This fare includes (but is not limited to):

- **A base rate**
- **Rates for estimated time and distance of the route**
- **The current demand for rides in the area**
- **Booking fee**
- **Any applicable surcharges, fees, and tolls**

Source: Uber



NEW & INTERESTING FINDS ON AMAZON

EXPLORE



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black friday deals week

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EN

Hello, Robert Account & Lists ▾

Orders

Prime ▾



Introducing

echo plus \$149⁹⁹

Now shipping. With built-in smart home hub.

PRIME

Prime members save on deals at Whole Foods



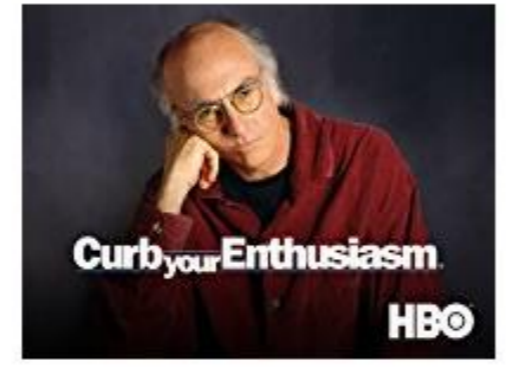
FRESH

NOW AVAILABLE Try our selection



VIDEO

Recommended for you: Curb Your Enthusiasm Season...



MUSIC

Recommended for you: The Hamilton Mixtape [Expli...



MEET ALEXA

Voice control your world with Echo & Alexa devices



RECENT VIEWS

View your browsing history



Related to items you've viewed [See more](#)



Verizon Prepaid.
Save up to \$80/mo

Spies

Analysts

Model

THINKING TIME

Amazon's recommendation system is based on:

- what a user has bought in the past
- which items they have in their shopping cart
- items they've rated and liked
- what other customers have viewed and purchased

Source: Fortune



#1 in dates, relationships and marriages

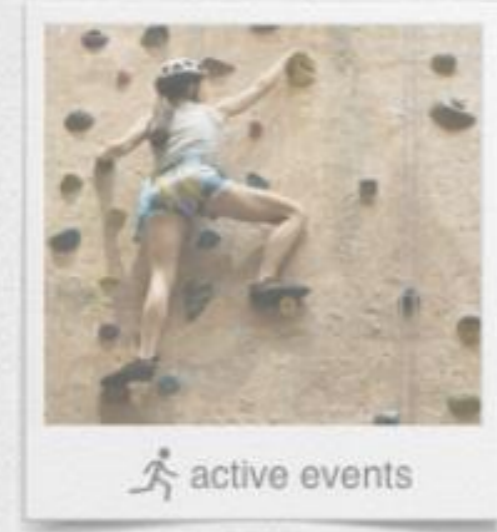


I am a: Seeking a:

Between ages: and

Near ZIP/Postal code:

[View Photos »](#)



active events



happy hours

Do fun stuff, meet cool people
matchevents



cooking classes



game nights

```
graph TD; Spies --> Analysts; Analysts --> Model; Model --> Spies;
```

Spies

Analysts

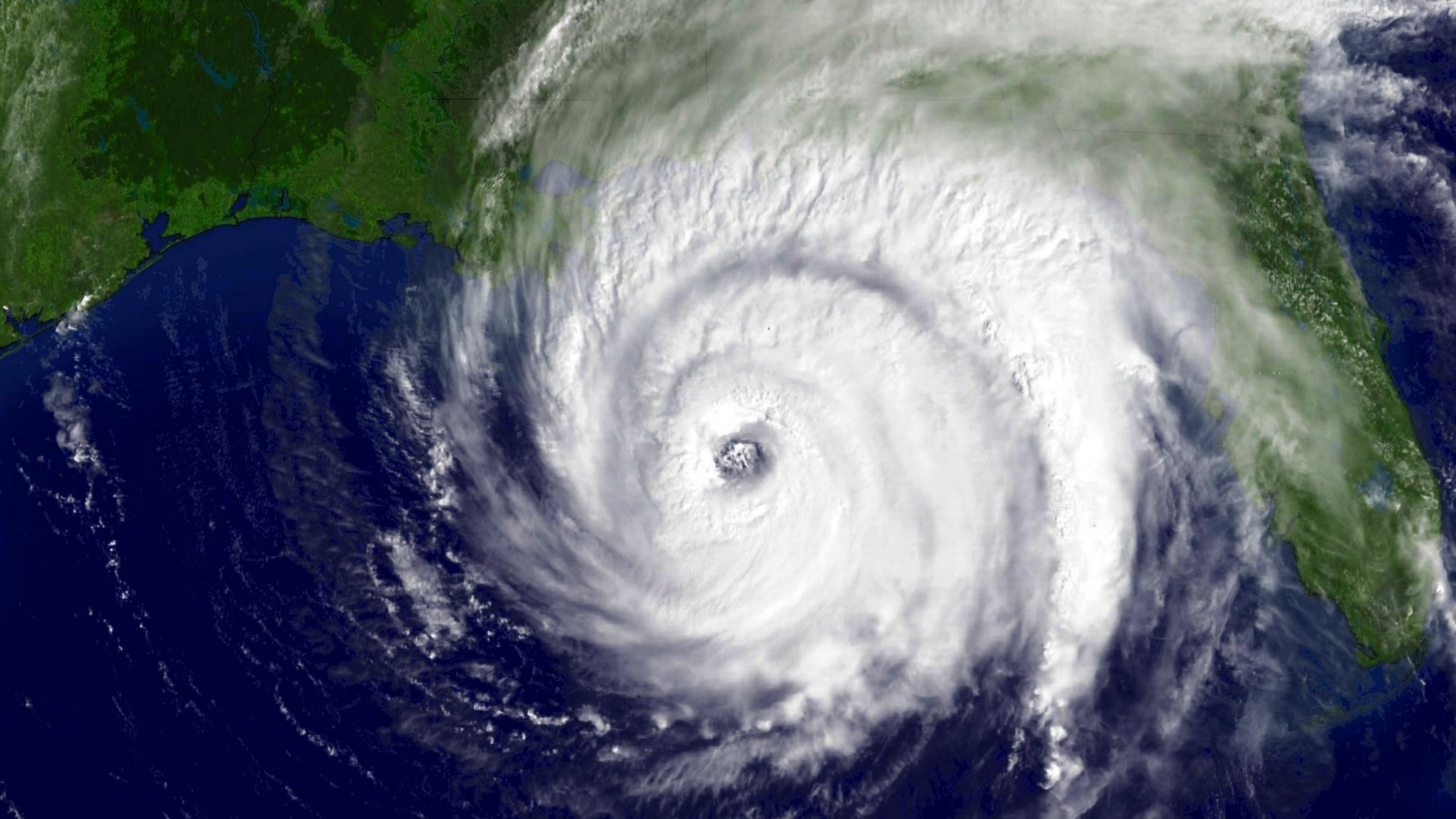
Model

THINKING TIME

The four main components of the equations are:

- what you say
- what you do
- what people like you do
- historical data

Source: Mashable



Spies

Analysts

Model

THINKING TIME



WAFFLE HOUSE

WAFFLE HOUSE

The index has three levels:

- **Green:** full menu - restaurant has power and damage is limited.
- **Yellow:** limited menu - no power or only power from a generator, or food supplies may be low.
- **Red:** the restaurant is closed - indicating severe damage.

Source: Wikipedia

MORE EXAMPLES

- How does US News and World Reports rank colleges?
- How does Google know which results to show?
- How does NASA make their trajectories?
- How does Zillow estimate home prices?
- How do they know how much to charge for life insurance?
- How does Pandora know what music to play?
- How did the BCS rank college football teams?
- How do they figure out who should speak at a conference?

GOALS

WHAT CAN MATH MODELING FEEL LIKE?

HOW IS MATH MODELING USED?

IS IT JUST CREATING THE MODEL?

WHAT IS NOT MATH MODELING?

WHAT MIGHT IT LOOK LIKE?

HOW DO YOU COMPARE PROBLEMS?

NOT MATH MODELING

WHAT DO TEXTBOOKS USE?

WHAT DID OLD TEXTBOOKS USE?

WHAT DID ASSESSMENTS USE?

WHERE DID THIS COME FROM?

WHY IS THIS A PROBLEM?

WHAT HAPPENS IF WE DO NOTHING?



Real-World Link



Common Core
State Standards

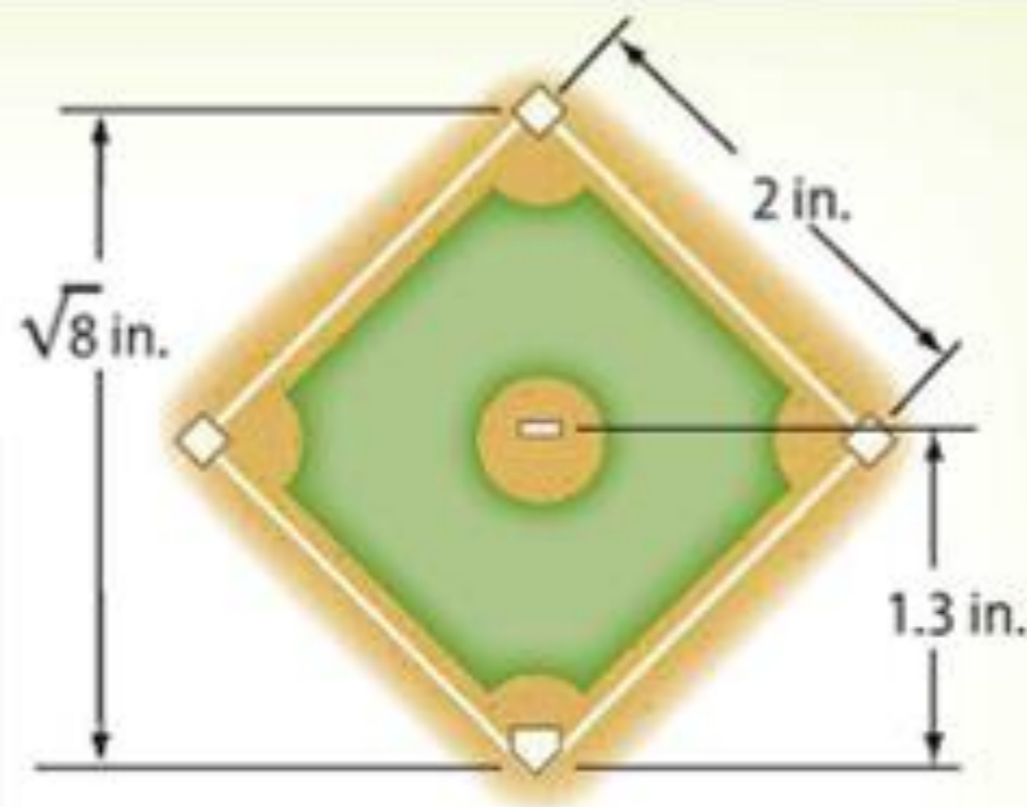
Content Standards

8.NS.1, 8.NS.2, 8.EE.2

Mathematical Practices

1, 3, 4, 6

Sports Major League baseball has rules for the dimensions of the baseball diamond. A model of the diamond is shown.



1. On the model, the distance from the pitching mound to home plate is 1.3 inches. Is 1.3 a rational number? Explain.

2. On the model, the distance from first base to second base is 2 inches. Is 2 a rational number? Explain.

3. The distance from home plate to second base is $\sqrt{8}$ inches. Using a calculator, find $\sqrt{8}$. Does it appear to terminate or repeat?





Real-World Link



Common Core State Standards

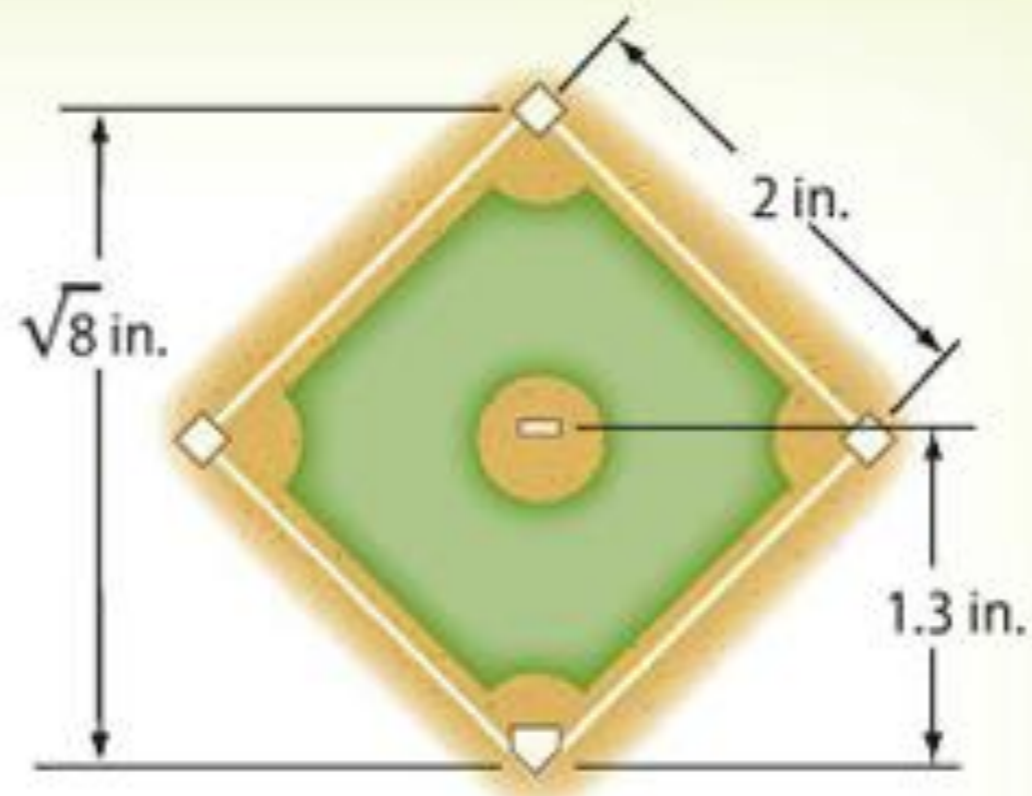
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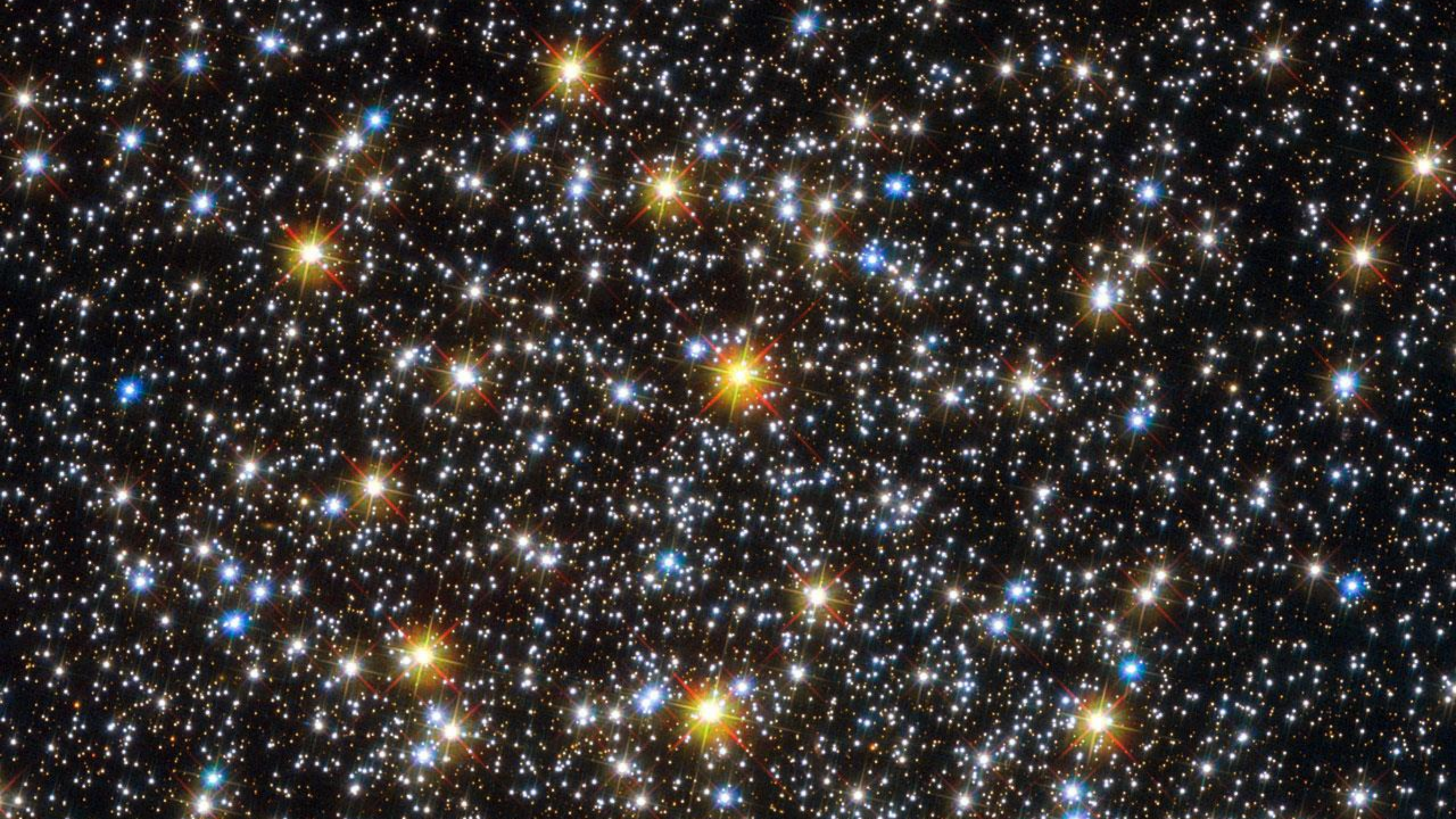


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Spies

Analysts

Model

THINKING TIME



100,000,000,000,000,000
400,000,000,000,000,000

000,000,000,000,000,000,
000,000,000,000,000,000,





Model with Mathematics

Write two numbers in scientific notation with values between 100 and 1,000. Then write an inequality that shows the relationship between your two numbers.

NOT MATH MODELING

WHAT DO TEXTBOOKS USE?

WHAT DID OLD TEXTBOOKS USE?

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WHAT HAPPENS IF WE DO NOTHING?

MILNE'S
INDUCTIVE ALGEBRA

Milne's Inductive Algebra © 1881

183. DIRECTIONS FOR SOLVING.—*Represent one of the unknown quantities by x , and from the conditions of the problem find an expression for each of the other quantities given.*

Find from the problem two expressions that are equal, and express them as an equation.

Solve the equation.

51. When the half of a certain number is added to the number, the sum is as much more than 60 as the number is less than 65. What is the number? *50 ans*

52. The difference between two numbers is 8, and the quotient arising from dividing the greater by the less is 3. What are the numbers?

53. A man left one-half of his property to his wife, one-sixth to his children, a twelfth to his brother, and the rest, which was \$600, to charitable purposes. How much property had he?

NOT MATH MODELING

WHAT DO TEXTBOOKS USE?

WHAT DID OLD TEXTBOOKS USE?

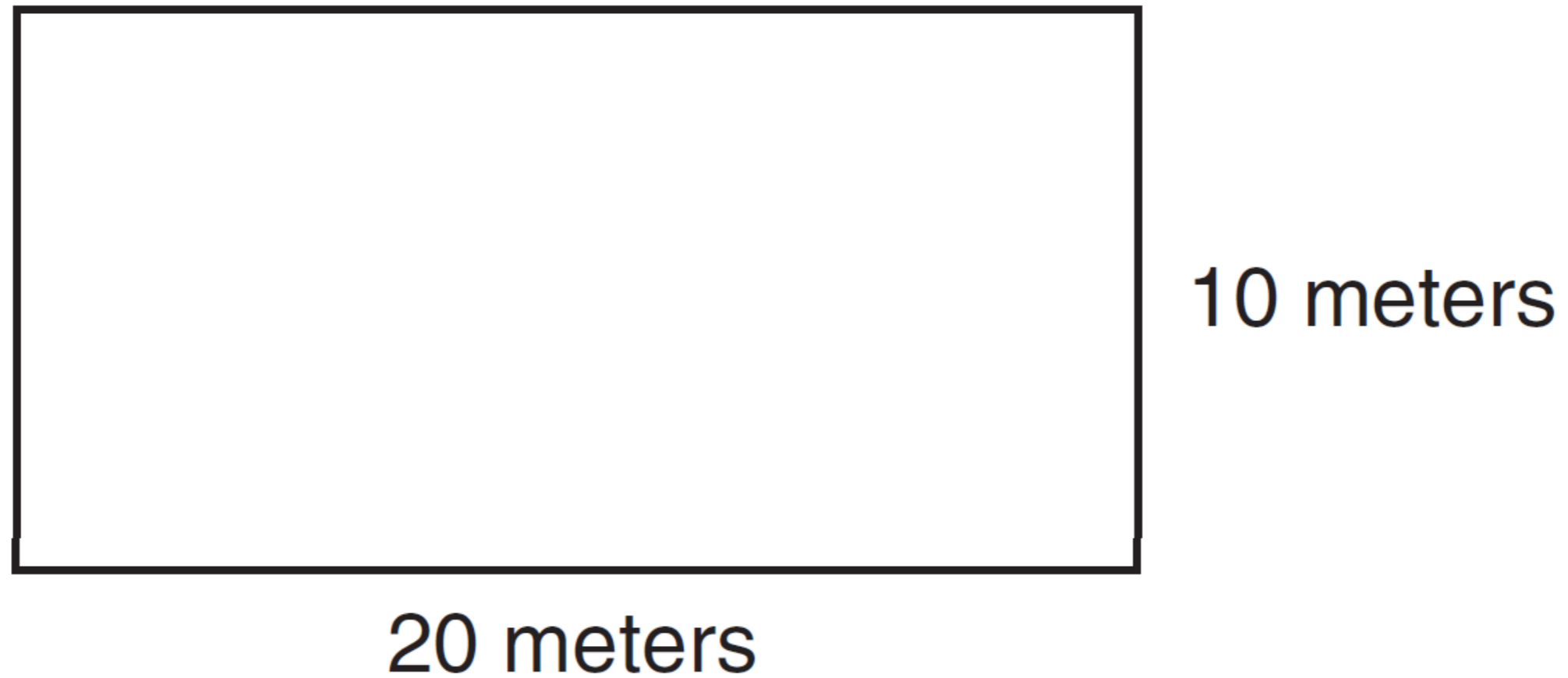
WHAT DID ASSESSMENTS USE?

WHERE DID THIS COME FROM?

WHY IS THIS A PROBLEM?

WHAT HAPPENS IF WE DO NOTHING?

71



**What is the perimeter in meters
?**

NOT MATH MODELING

WHAT DO TEXTBOOKS USE?

WHAT DID OLD TEXTBOOKS USE?

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WHY IS THIS A PROBLEM?

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NOT MATH MODELING

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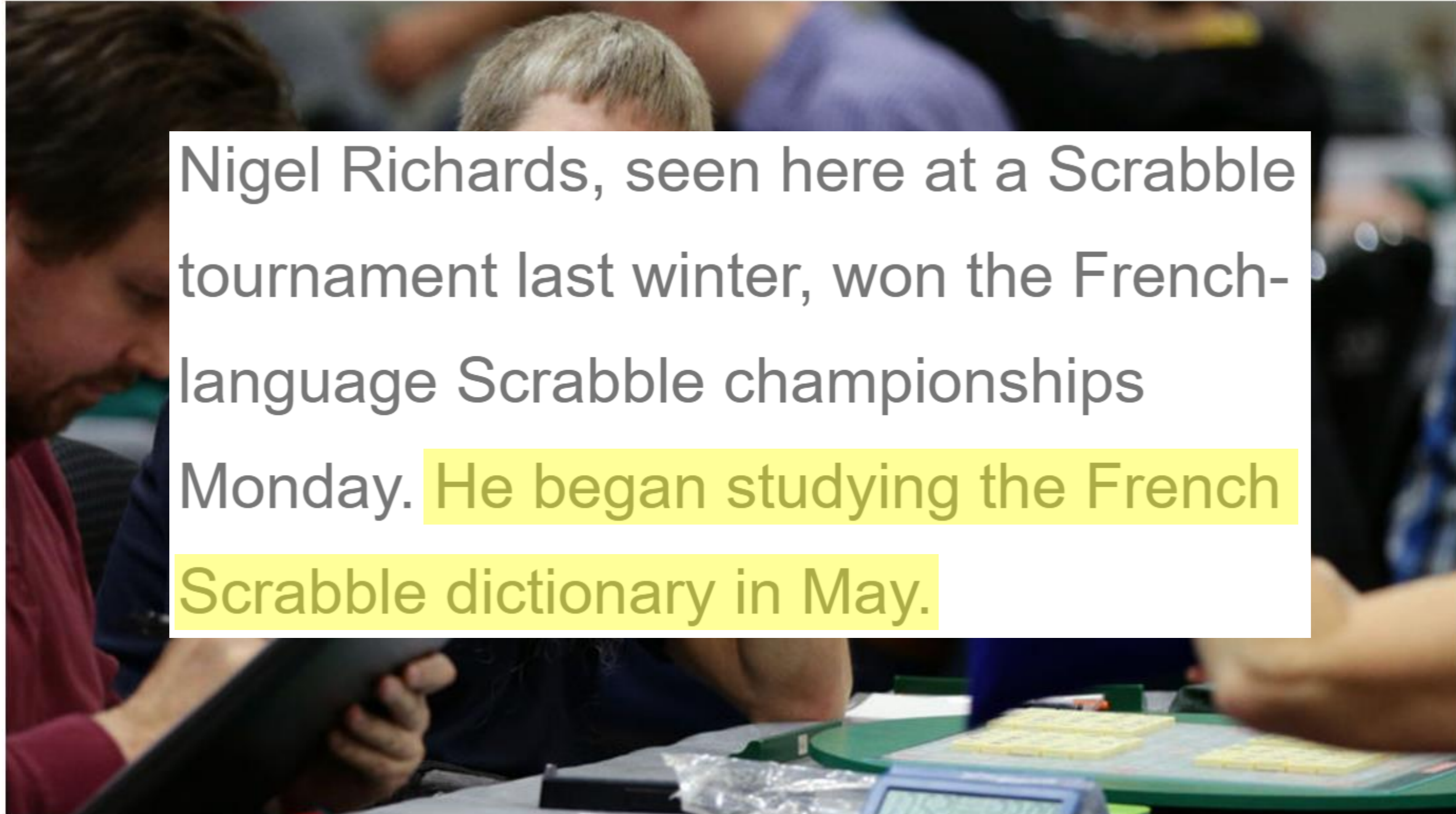
WHAT DID ASSESSMENTS USE?

WHERE DID THIS COME FROM?

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WHAT HAPPENS IF WE DO NOTHING?

Winner Of French Scrabble Title



Nigel Richards, seen here at a Scrabble tournament last winter, won the French-language Scrabble championships Monday. He began studying the French Scrabble dictionary in May.

NOT MATH MODELING

WHAT DO TEXTBOOKS USE?

WHAT DID OLD TEXTBOOKS USE?

WHAT DID ASSESSMENTS USE?

WHERE DID THIS COME FROM?

WHY IS THIS A PROBLEM?

WHAT HAPPENS IF WE DO NOTHING?

THIS UNIT NOT LABELED FOR INDIVIDUAL RETAIL SALE

Ralphs

grade AA

butter

NET WT. 4 OZ. (113g)

NET WT. 4 OZ. (113g)

DISTRIBUTED BY: RALPHS GROCERY CO. LOS ANGELES, CALIF. 90054

| | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 Tbsp. | 2 Tbsp. | 3 Tbsp. | 4 Tbsp. | 5 Tbsp. | 6 Tbsp. | 7 Tbsp. | 8 Tbsp. |
| | | | 1/4 cup | | | | |

1 FIRST QUALITY 1

Ralphs

grade AA
butter

TOP 10 SEARCHES

1. $\frac{1}{3}$ cup butter
2. robert kaplinsky
3. how many tablespoons in $\frac{1}{3}$ cup butter
4. #observeme
5. how many tablespoons is $\frac{1}{3}$ cup of butter
6. $\frac{1}{3}$ cup butter in tablespoons
7. how many tablespoons in $\frac{1}{3}$ cup of butter
8. how much is $\frac{1}{3}$ cup of butter
9. observe me
10. $\frac{1}{3}$ cup butter to tbsp



How much is one third of a cup of butter?



All

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NOT MATH MODELING

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GOALS

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HOW IS MATH MODELING USED?

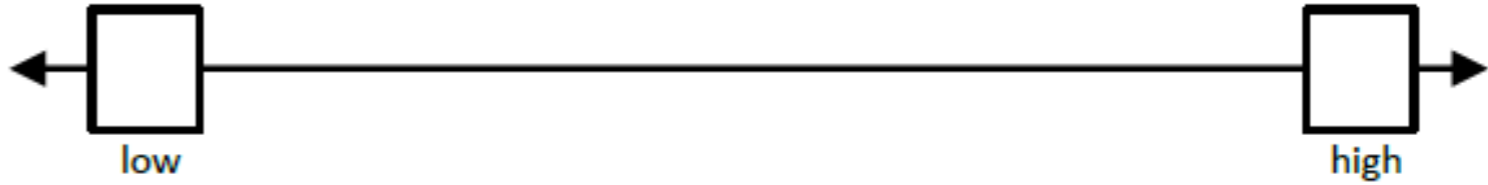
IS IT JUST CREATING THE MODEL?

WHAT IS NOT MATH MODELING?

WHAT MIGHT IT LOOK LIKE?

HOW DO YOU COMPARE PROBLEMS?

Name: _____ Period: _____ Date: _____

| What problem are you trying to figure out? | What estimates do you have? |
|---|--|
| |  <p data-bbox="2059 714 2768 752">Place your estimate on the number line.</p> |
| What info do you already know about the problem? | What info do you need about the problem? |
| <p data-bbox="736 1001 1685 1365">TOP SECRET!</p> | <p data-bbox="1725 767 2558 1103">SPIES ONLY</p> |
| What is your conclusion? How did you reach that conclusion? | |

Your work

DANGER

**ANALYSTS
AT WORK**

MODELING EXAMPLES

ELEMENTARY SCHOOL

MIDDLE SCHOOL

HIGH SCHOOL



THINKING TIME

COUNT ALL



| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|-------------|----|-------------|----|--|----|--|----|-------------|----|-------------|----|--|----|--|----|--|----|--|----|--|----|--|----|--|----|--|
| 1 | | 8 | | 16 | | 24 | | 27 | | 32 | | 40 | | 46 | | | | | | | | | | | | | | | |
| | | | no caffeine | | no caffeine | | | | | | no caffeine | | no caffeine | | | | | | | | | | | | | | | | |
| 2 | | 5 | | 9 | | 13 | | 17 | | 21 | | 28 | | 30 | | 33 | | 37 | | 41 | | 44 | | 47 | | 51 | | | |
| 3 | | 6 | | 10 | | 14 | | 18 | | 22 | | 25 | | 29 | | 31 | | 34 | | 38 | | 42 | | 45 | | 48 | | 52 | |
| 4 | | 7 | | 11 | | 15 | | 19 | | 23 | | | no caffeine | | | 35 | | 39 | | 43 | | | | 49 | | 53 | | | |
| | | | | 12 | | | | 20 | | | | 26 | | | | 36 | | | | | | 50 | | | | | | | |

low/no calories

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|--|----|--|----|-------------|----|-------------|----|-------------|----|-------------|----|-------------|-----|-------------|-----|-------------|-----|--|-----|--|----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|
| 54 | | 62 | | 69 | | 76 | | 84 | | 92 | | 95 | | 103 | | 111 | | 117 | | 125 | | | | | | | | | | | | | | | | | |
| | | | | | no caffeine | | no caffeine | | no caffeine | | no caffeine | | no caffeine | | no caffeine | | no caffeine | | | | | | | | | | | | | | | | | | | | |
| 55 | | 59 | | 63 | | 66 | | 70 | | 73 | | 77 | | 81 | | 85 | | 89 | | 93 | | 96 | | 100 | | 104 | | 108 | | 112 | | 115 | | 118 | | 122 | |
| 56 | | 60 | | 64 | | 67 | | 71 | | 74 | | 78 | | 82 | | 86 | | 90 | | | | 97 | | 101 | | 105 | | 109 | | 113 | | 116 | | 119 | | 123 | |
| 57 | | 61 | | 65 | | 68 | | 72 | | 75 | | 79 | | 83 | | 87 | | 91 | | | | 98 | | 102 | | 106 | | 110 | | 114 | | 120 | | 124 | | | |
| 58 | | | | | | 80 | | 88 | | | | 94 | | | | 99 | | | | 107 | | | | | | | | 121 | | | | | | | | | |

COUNT GROUPS



7

no caffeine

8

no caffeine

8

no caffeine

1

2

no caffeine

5

8

no caffeine

6

no caffeine

8

no caffeine

low/no calories

no caffeine

8

no caffeine

7

no caffeine

7

no caffeine

8

no caffeine

8

1

no caffeine

2

no caffeine

8

no caffeine

8

no caffeine

6

no caffeine

8

no caffeine

1

INVENTED STRATEGY



8



8



no caffeine



8



no caffeine



7



7



no caffeine



7



no caffeine



8



no caffeine



low/no calories



8



8



no caffeine



8



no caffeine



8



no caffeine



8



no caffeine



8



no caffeine



8



no caffeine



8



no caffeine



8



Spies

Analysts

Model

MODELING EXAMPLES

ELEMENTARY SCHOOL

MIDDLE SCHOOL

HIGH SCHOOL



IVE

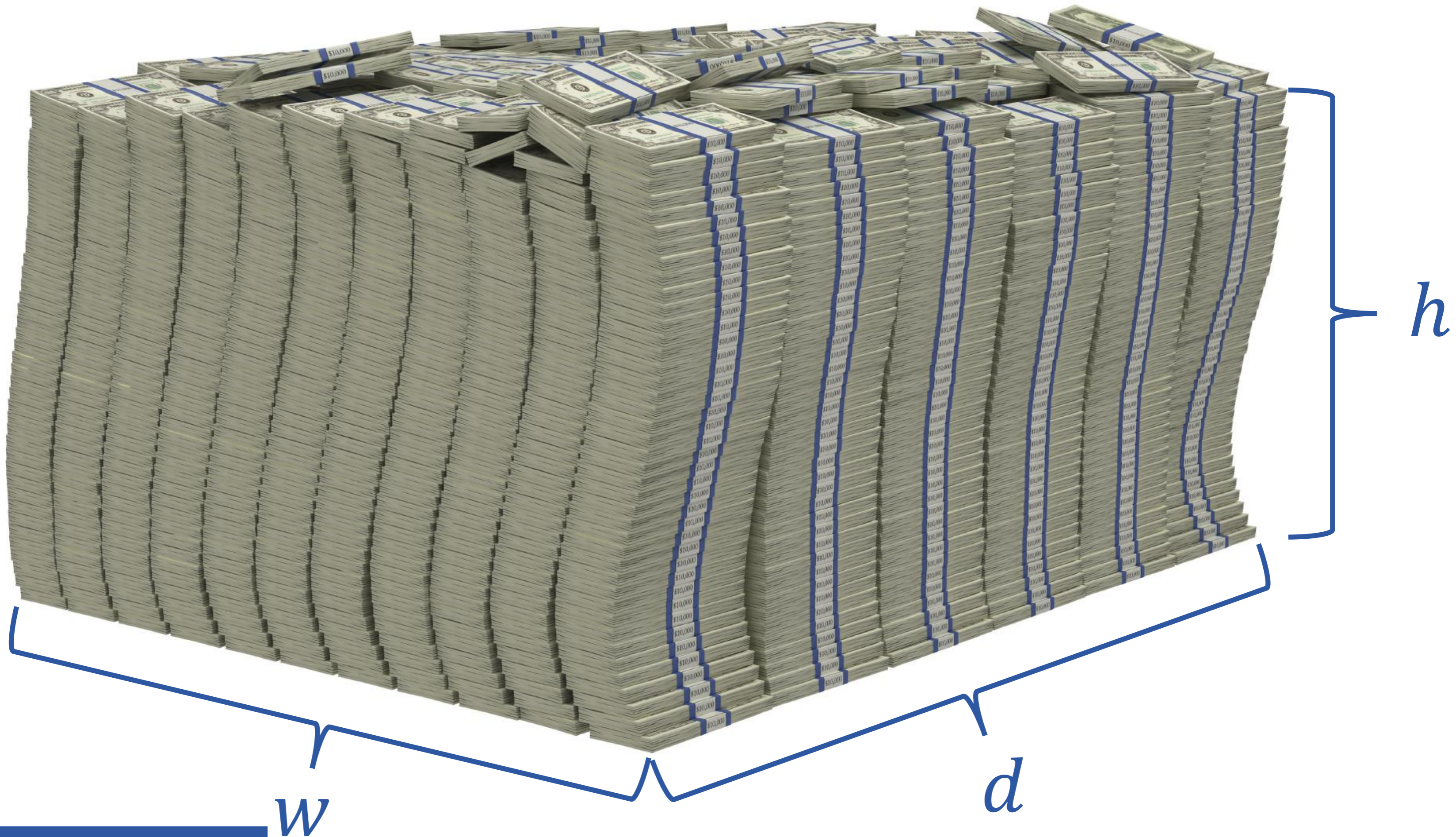
FOX
NEWS

Junction

THINKING TIME







Spies

Analysts

Model



MODELING EXAMPLES

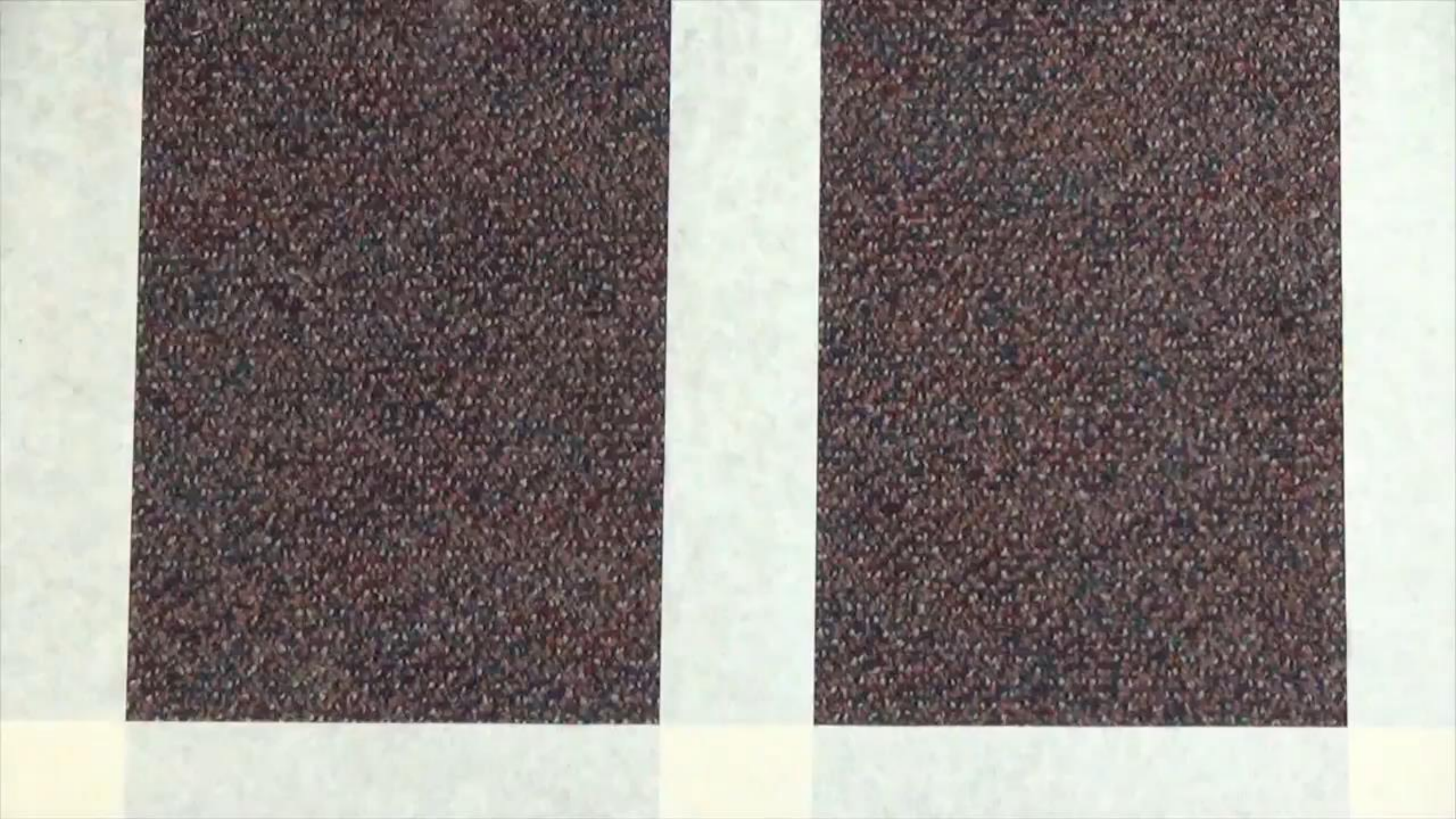
ELEMENTARY SCHOOL

MIDDLE SCHOOL

HIGH SCHOOL

NON-STAGGERED

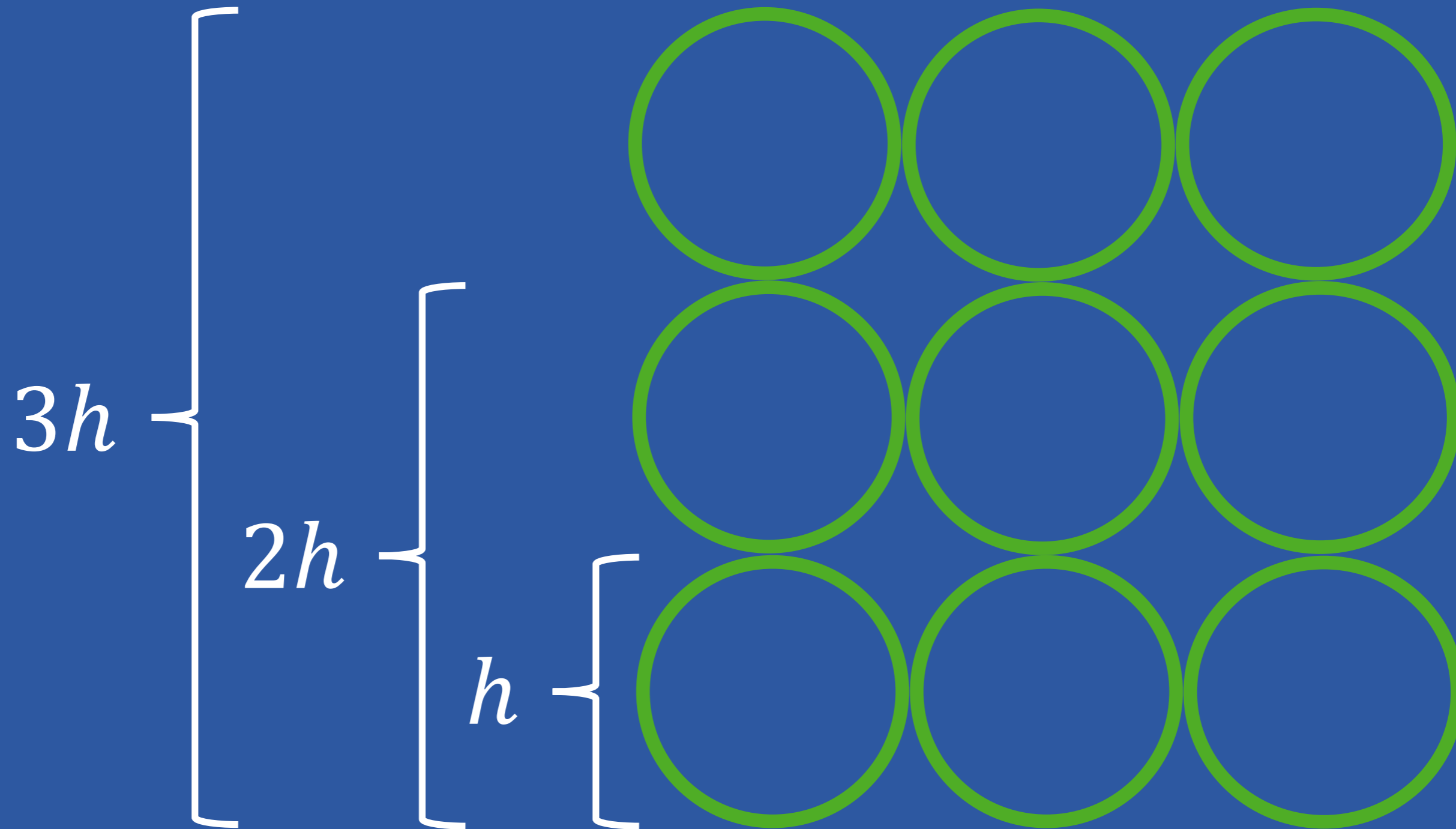
STAGGERED



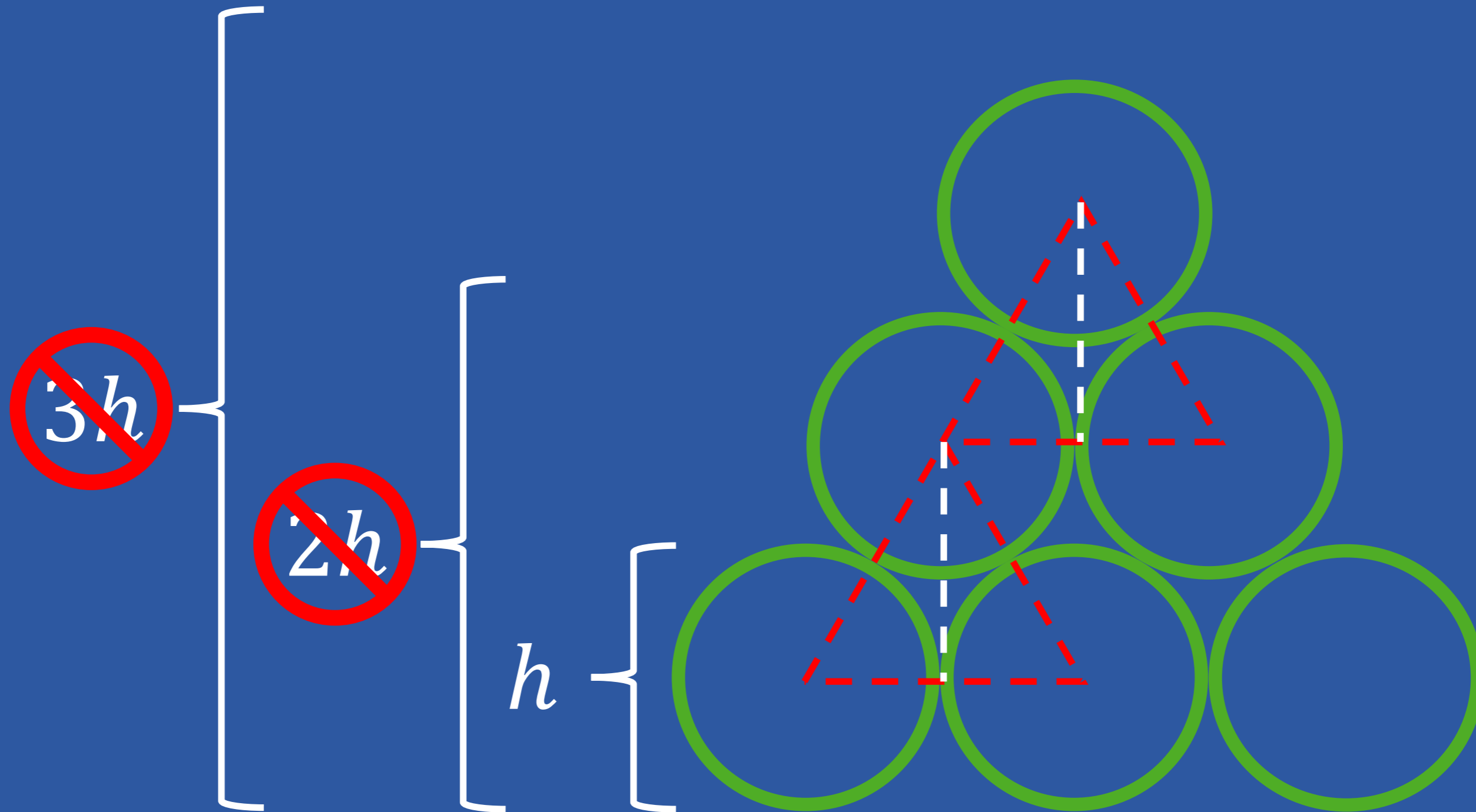
THINKING TIME



NON-STAGGERED PIPES



STAGGERED PIPES



Spies

Analysts

Model

MODELING EXAMPLES

ELEMENTARY SCHOOL

MIDDLE SCHOOL

HIGH SCHOOL

GOALS

WHAT CAN MATH MODELING FEEL LIKE?

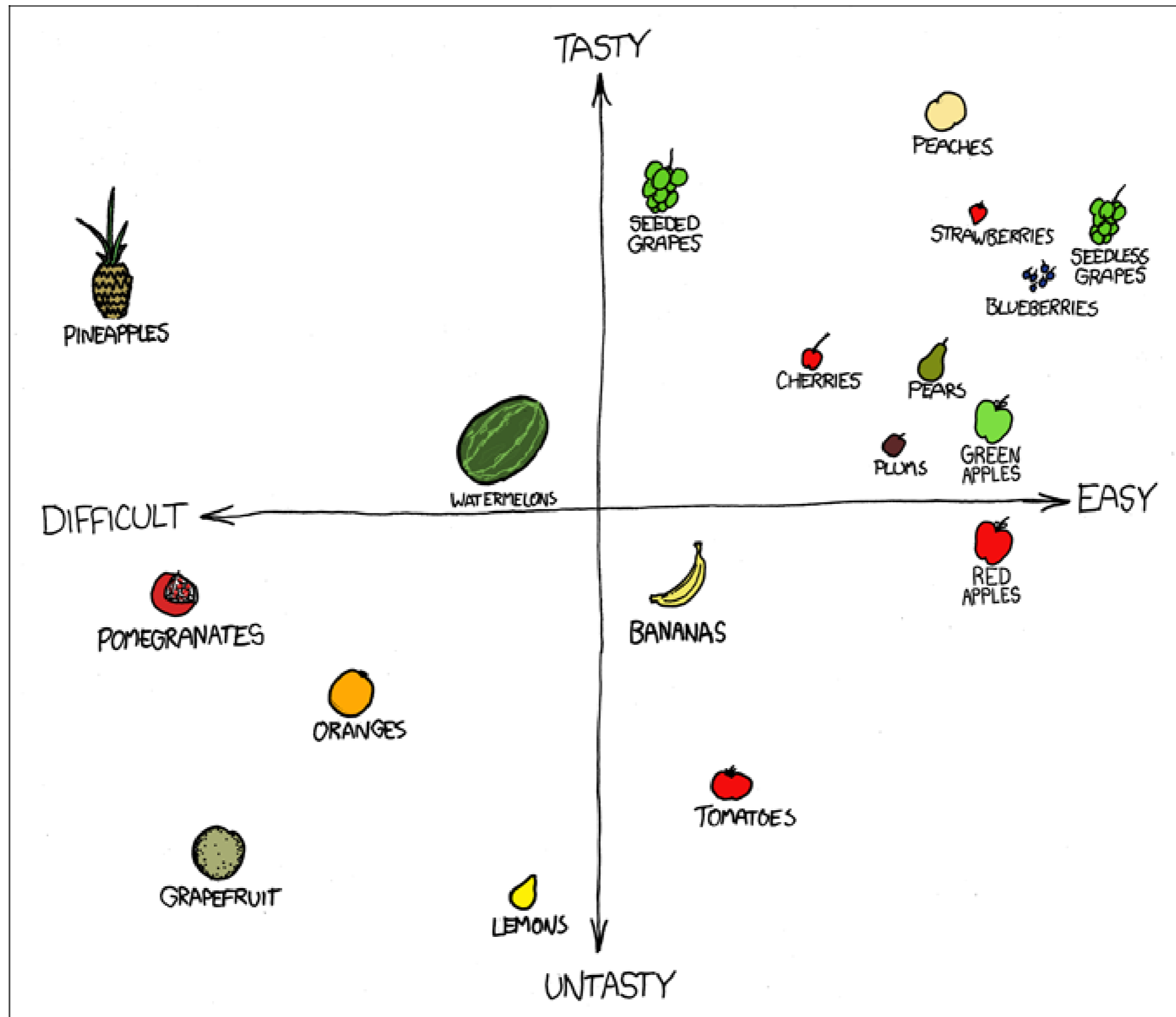
HOW IS MATH MODELING USED?

IS IT JUST CREATING THE MODEL?

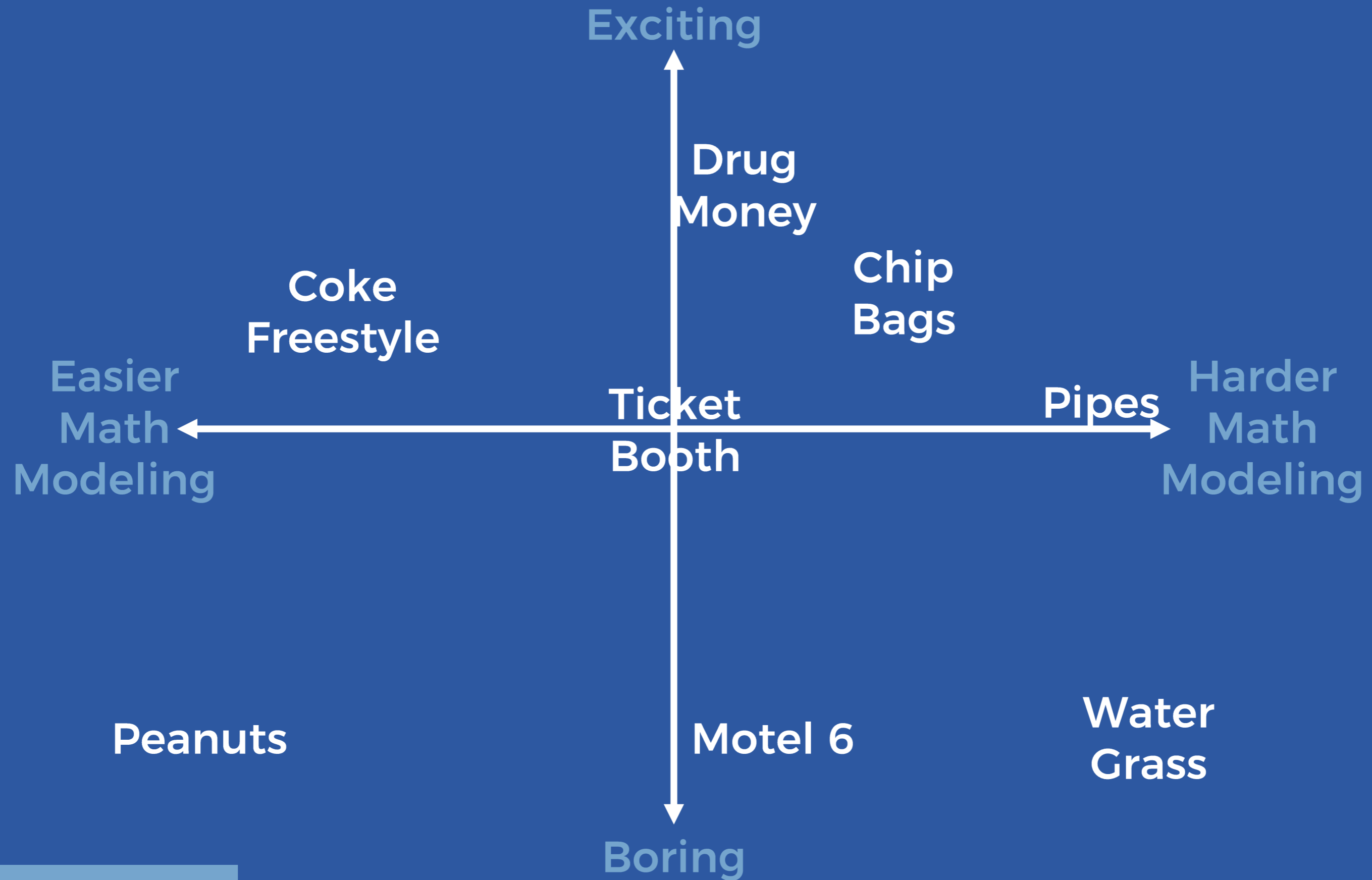
WHAT IS NOT MATH MODELING?

WHAT MIGHT IT LOOK LIKE?

HOW DO YOU COMPARE PROBLEMS?



Source: xkcd.com via Dan Meyer



Spies

Analysts

Model

THINKING TIME

MATH MODEL

- **Spies**

- 3rd Act?
- Checkpoint?
- Open ended?
- Incorrect answer?
- Solutions match answer?

- **Analysts**

- What do I do with this information?!

GOALS

✓ WHAT CAN MATH MODELING FEEL LIKE?

✓ HOW IS MATH MODELING USED?

✓ IS IT JUST CREATING THE MODEL?

✓ WHAT IS NOT MATH MODELING?

✓ WHAT MIGHT IT LOOK LIKE?

✓ HOW DO YOU COMPARE PROBLEMS?

PBL RESOURCES

- Problem-based lesson search engine:
robertkaplinsky.com/prbl-search-engine
- My lessons (Elementary, Middle, and High School)
robertkaplinsky.com/lessons
- Dan Meyer (Middle and High School)
threeacts.mrmeyer.com
- Andrew Stadel (Elementary and Middle School)
www.esteemation180.com/lessons.html
- Graham Fletcher (Elementary and Middle School)
gfletchy.com/3-act-lessons



Home



How Much Money IS That?!
(Volume of a rectangular prism)

Search

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First Name

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Real World Problems

My workshops help teachers implement problem-based lessons by helping them experience them from both student and teacher perspective, leading to increase students' success with performance tasks and the Common Core State Standards.



Depth of Knowledge

Problems at higher depth of knowledge levels have the potential to challenge your most talented student yet remain accessible to everyone. I can help teachers develop best practices for implementing them so that students persevere longer towards finding the solution.

Lessons

- [View all](#)
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- [1st](#)
- [2nd](#)
- [3rd](#)
- [4th](#)
- [5th](#)
- [6th](#)
- [7th](#)
- [8th](#)
- [Alg 1](#)
- [Geo](#)
- [Alg 2](#)



How Much Money Were Those Pennies?



How Can We #SaveNelly?



How Many Chip Bags Will There Be?



How Can We Make Stronger Passwords?

Search

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First Name

Robert Kaplinsky's Problem-Based Lessons

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| | A | B | C | D | E | F | G | H | I |
|----|--|--|------------|------------|------------|------------|------------|------------|------------|
| 1 | Lesson | Concept / Skill | Standard 1 | Standard 2 | Standard 3 | Standard 4 | Standard 5 | Standard 6 | Standard 7 |
| 2 | How Much Money Were Those Pennies? | Money, Multiplying Decimals, Proportions | 4.MD.2 | 5.NBT.5 | 5.NBT.7 | 7.RP.3 | | | |
| 3 | How Can We #SaveNelly? | Dividing Decimals | 6.NS.3 | | | | | | |
| 4 | How Many Chip Bags Will There Be? | Ratio and Proportions, Population Sampling | 6.RP.3 | 6.RP.3c | 7.RP.2 | 7.RP.3 | 7.SP.1 | 7.SP.2 | |
| 5 | How Can We Make Stronger Passwords? | Permutations, Combinations, Probability, Exponents, Exponential Growth | 7.SP.8 | 8.EE.1 | S-MD.7 | S-CP.5 | S-CP.9 | | |
| 6 | How Many Hot Dogs And Buns Should He Buy? | Least Common Multiple (LCM) | 6.NS.4 | | | | | | |
| 7 | What Does 2000 Calories Look Like? | Unit Rates, Ratios, Solving Equations, and Solving Inequalities | 6.EE.3 | 6.EE.4 | 6.EE.5 | 6.EE.6 | 6.EE.7 | 6.EE.8 | 6.RP.2 |
| 8 | How Much Money Are The Coins Worth? | Decimal Operations and Coin Counting | 2.MD.8 | 5.NBT.7 | 6.NS.3 | | | | |
| 9 | How Many Times Will A Case of Paper Jam? | Interpreting Percentages | 6.RP.3c | 7.RP.3 | | | | | |
| 10 | How Many Soda Combinations Are There On A Coke Freestyle? | Counting, Composing, and Decomposing Numbers | K.CC.5 | K.CC.6 | K.OA.1 | K.OA.2 | K.OA.3 | K.OA.4 | K.NB.1 |
| 11 | What Should The Freeway Sign Show? | Fractions on Number Lines, Converting Units, Decimal and Fraction Operations | 3.NF.1 | 3.NF.2 | 3.NF.2a | 3.NF.2b | 3.NF.3 | 3.NF.3a | 4.MD.1 |
| 12 | How Fast Was The Fastest Motorcycle Speeding Ticket Ever? | Converting Units and Unit Rates | 5.MD.1 | 6.RP.3d | 7.RP.1 | N.Q.1 | | | |
| 13 | How Much Did Patrick Peterson Lose By Not Cashing His Check? | Compound and/or Simple Interest | 7.RP.3 | N-RN.2 | A-SSE.1 | A-SSE.3c | A-SSE.4 | A-REI.11 | F-IF.4 |
| 14 | How Many Biscuits Can You Make? | Dividing Fractions and Mixed Numbers | 5.NF.7 | 5.NF.7a | 5.NF.7b | 5.NF.7c | 6.NS.1 | | |
| 15 | How Much Bigger Should They Make Zoolander's School? | Scale and Proportions | 5.NF.5A | 7.RP.2 | 7.G.1 | | | | |
| 16 | Where Is The Freeway Sign Located? | Identifying Fractions on a Number Line | 3.NF.1 | 3.NF.2 | 3.NF.2a | 3.NF.2b | 3.NF.3 | 3.NF.3a | 3.NF.3b |
| 17 | How Far Apart Are Exits On A Ring Road? | Arc length measures | G-C.5 | | | | | | |
| 18 | How Much Is One Third Of A Cup Of Butter? | Identifying Fractions on a Number Line | 3.NF.1 | 3.NF.2 | 3.NF.2a | 3.NF.2b | 3.NF.3 | 3.NF.3a | 3.NF.3b |
| 19 | How Do Skytypers Write Messages? | Transformations (Rotations, Reflections, Dilations, and Translations) | 8.G.1 | 8.G.2 | 8.G.3 | 8.G.4 | G-CO.2 | G-CO.3 | G-CO.4 |
| 20 | How Big Is The Bermuda Triangle? | Coordinate Geometry: Area of Triangle | G-GPE.7 | | | | | | |
| 21 | What Fraction Of Children Are In The Right Car Seat? | Representing and Comparing Fractions | 3.NF.1 | 3.NF.2 | 3.NF.3 | 4.NF.1 | 4.NF.2 | | |
| 22 | How Much Did The Temperature Drop? | Absolute Value | 6.NS.7c | 7.NS.1c | | | | | |
| 23 | How Much Shorter Are Staggered Pipe Stacks? | Circles, Pythagorean Theorem, trigonometric ratios, and linear functions | 8.G.7 | A-CED.1 | A-CED.3 | A-CED.4 | A-SSE.1a | A-SSE.1b | A-SSE.1c |
| 24 | How Do You Write A Check To Pay For Something? | Expanded Form | 2.NBT.3 | 4.NBT.2 | 5.NBT.3a | | | | |
| 25 | How Can We Correct The Scarecrow? | Pythagorean Theorem | 8.G.6 | G-SRT.4 | | | | | |
| 26 | How Much Does A 100x100 In-N-Out Cheeseburger Cost? | Building and Interpreting Linear Functions | 8.F.1 | 8.F.3 | 8.F.4 | 8.F.5 | F-IF.4 | F-IF.5 | F-IF.6 |
| 27 | How Can We Water All Of The Grass? | Circles, Pythagorean Theorem, trigonometric ratios | 7.G.4 | 8.G.7 | G-SRT.8 | G-MG.1 | G-MG.3 | | |
| 28 | How Much Money IS That?! | Volume of rectangular prism | 5.MD.3 | 5.MD.4 | 5.MD.5 | 5.MD.5b | 5.MD.5c | 6.G.2 | 7.G.6 |
| 29 | How Much Money Should Dr. Evil Demand? | Exponential Growth | N-RN.2 | A-SSE.1 | A-SSE.3c | A-SSE.4 | A-REI.11 | F-IF.4 | F-IF.7 |
| 30 | How Tall Is Mini-Me? | Scale and Dividing Decimals | 5.NF.5 | 5.NF.5a | 5.NF.5b | 6.NS.3 | | | |
| 31 | How Did They Make Ms. Pac-Man? | Transformations (Rotations, Reflections, and Translations) | 8.G.1 | 8.G.2 | 8.G.3 | 8.G.4 | G-SRT.2 | G-CO.4 | G-CO.5 |
| 32 | Which Ticket Option Is The Best Deal? | Unit Rates and Ratios | 6.RP.2 | 6.RP.3 | 6.RP.3a | 6.RP.3b | | | |
| 33 | How Far Apart Are The Freeway Exits? | Fractions on a Number Line and Subtracting Fractions | 3.NF.2 | 3.NF.2b | 4.NF.2 | 4.NF.3a | 4.NF.3c | 4.NF.3d | 5.NF.1 |
| 34 | Do We Have Enough Paint? | Area | 3.MD.5 | 3.MD.6 | 3.MD.7 | | | | |



Scary & Dangerous



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