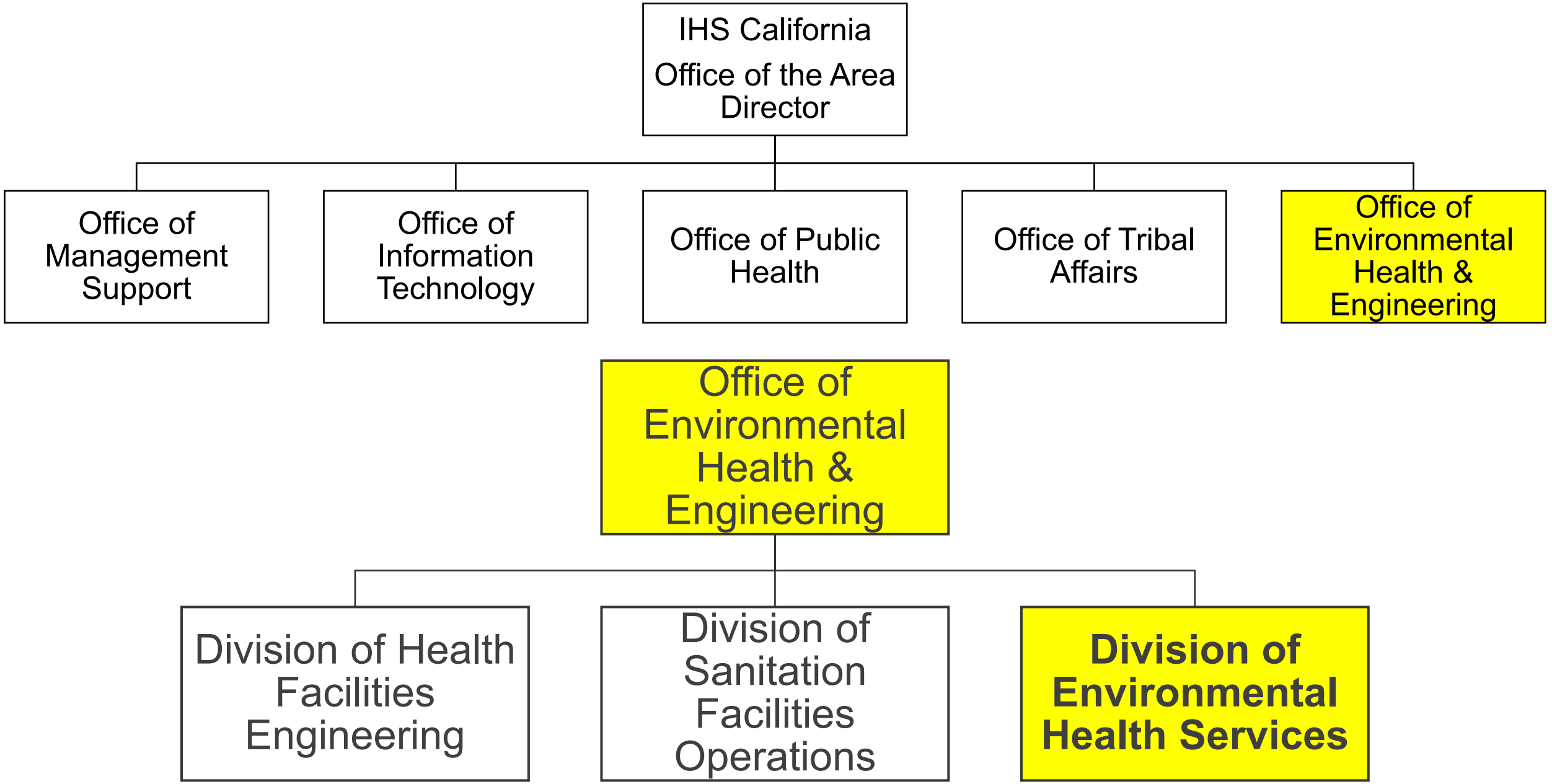
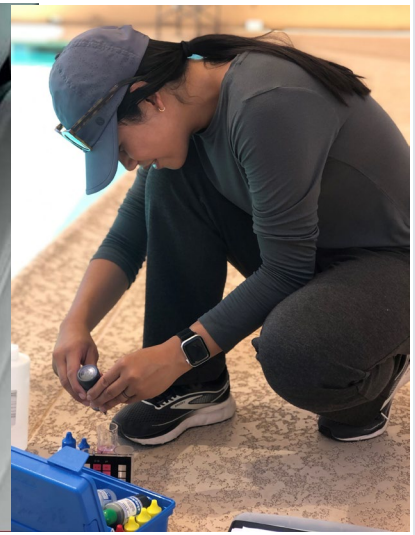
VALLEY FEVER

ALYSSA BERNIDO, REHS/RS
INDIAN HEALTH SERVICE
NOVEMBER 2025


IHS California
Office of the Area Director
Office of Management Support
Office of Information Technology
Office of Public Health
Office of Tribal Affairs
Office of Environmental Health & Engineering
Office of Environmental Health & Engineering
Division of Health Facilities Engineering
Division of Sanitation Facilities Operations
Division of Environmental Health Services

Division of Environmental Health Services



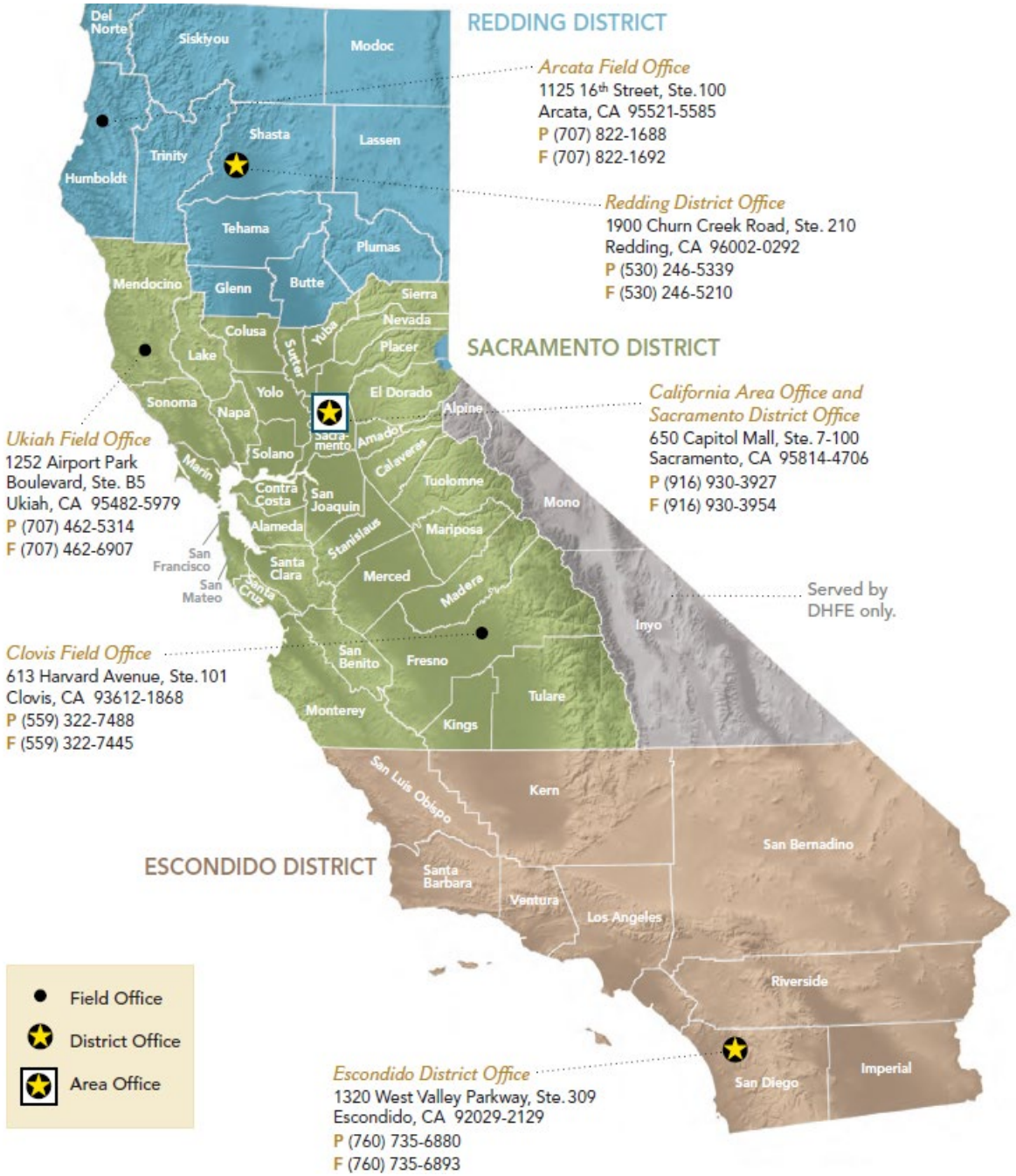
Services

- Investigations
- Surveys/Inspections
- Training
- Plan Review
- Policy Development
- Technical Assistance
- Vector Control
- Disease Surveillance
- Project Development

Topics

- Water Quality
- Air Quality
- Injury Prevention
- Infection Control
- Sanitation
- Fire Safety
- Occupational Safety & Health
- Waste Management
- Food Safety
- Epidemiology
- Vectorborne/Zoonotic Diseases
- Aquatic Facilities
- Emergency Preparedness

- Children's Environment
- Safe Drinking Water
- Food Safety
- Vectorborne and Communicable Diseases
- Healthy Homes



IHS California Area Division of Environmental Health Services	
IHS California Area Office DEHS Program Director	Carolyn Garcia
Redding District Office	vacant
Arcata Field Office	vacant
Sacramento District Office	LTJG Aaron Alexander
Ukiah Field Office	Troy Williams
Clovis Field Office	Alyssa Bernido
Escondido District Office	Captain (ret.) Brian Lewelling

Valley Fever Quick Overview

Coccidioidomycosis

- Valley Fever, Cocci, San Joaquin Valley Fever, Desert Rheumatism

Lung infection

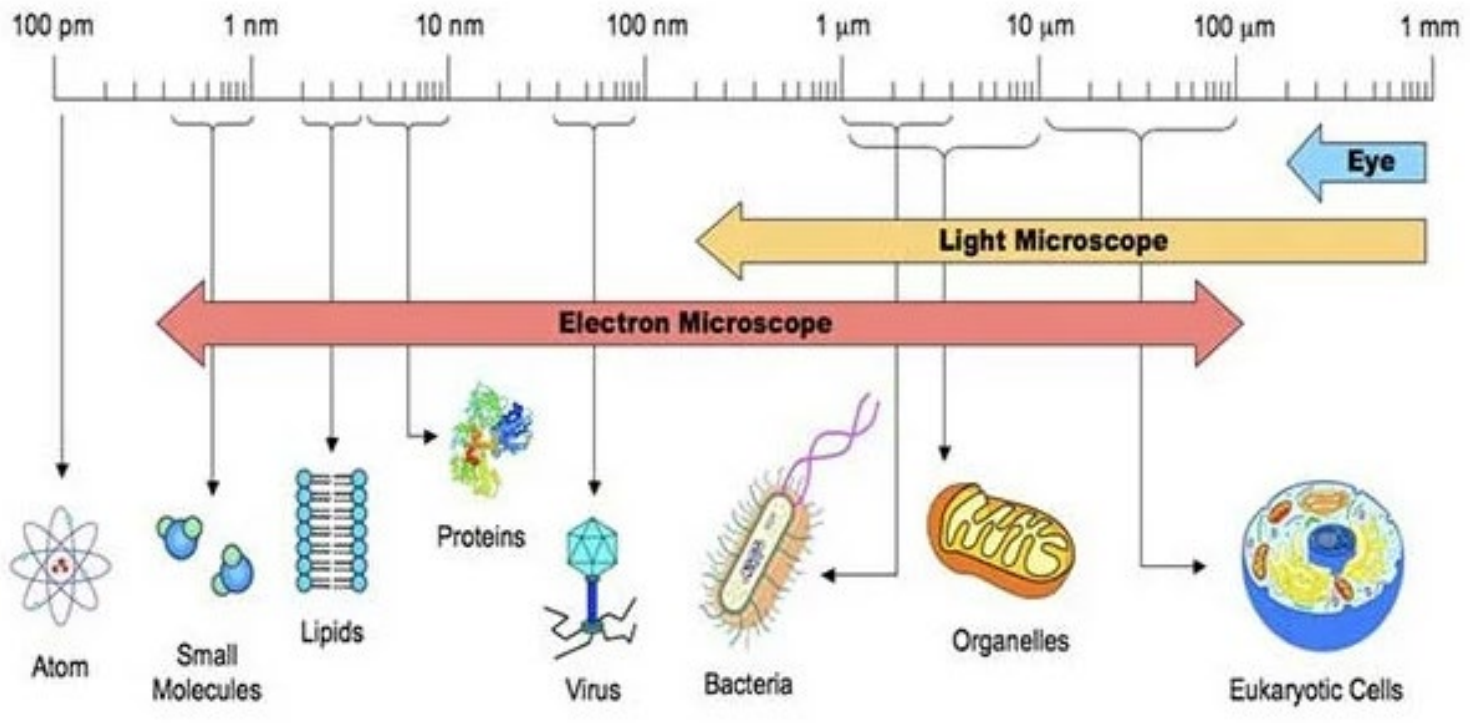
- Breathing in fungus spores, in soil
- *Coccidioides spp.*

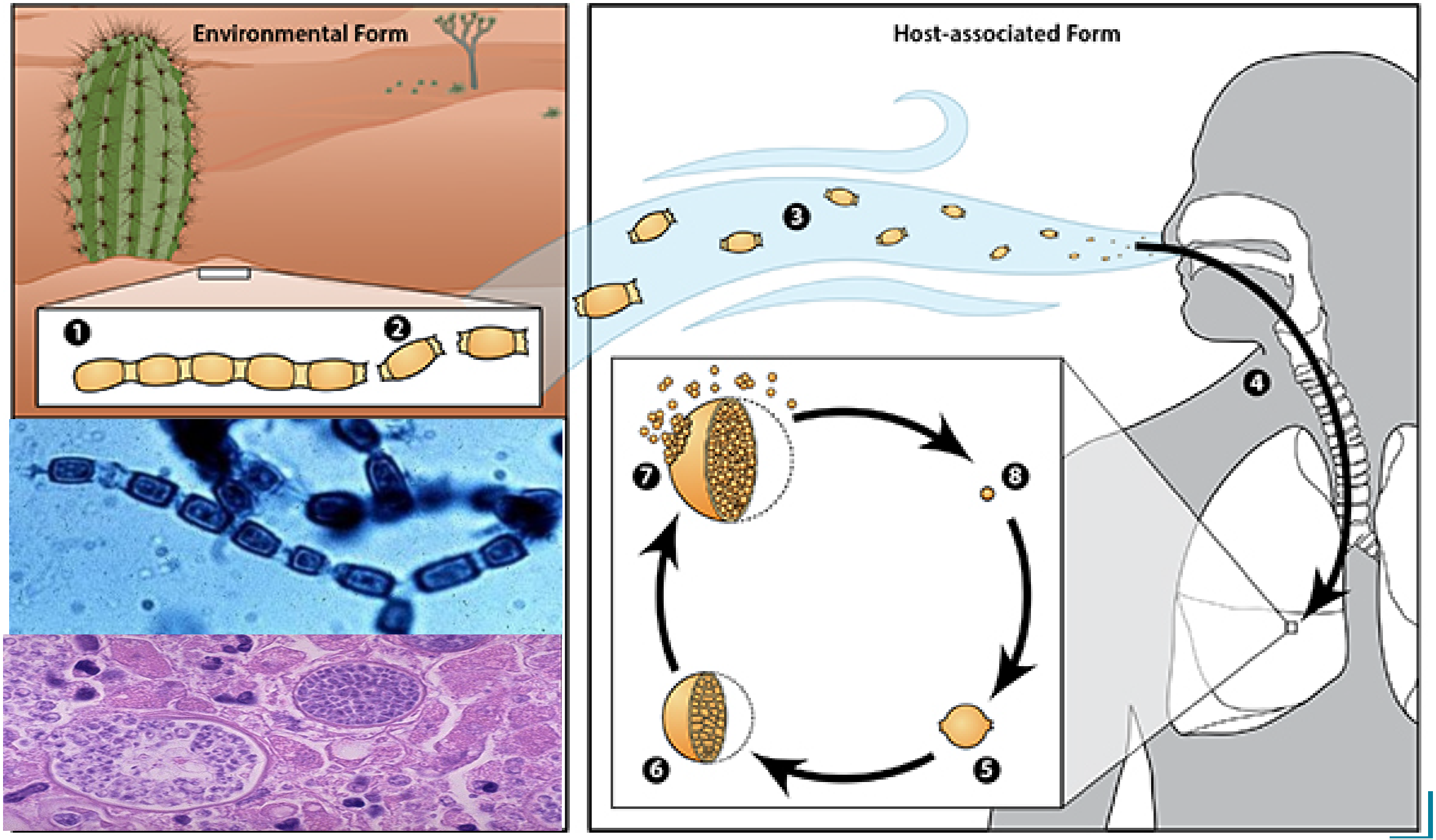
Most U.S. cases – AZ and CA

- Not spread person-to-person
- Most no symptoms, mild-severe

Valley Fever

- **Coccidioidomycosis** [kok-sid-ee-oi-doh-my-koh-sis]
- Fungus, size of arthroconidia = 3-5 µm
  - *Coccidioides immitis* – infections contracted in California, Baja Mexico, SE Washington state
  - *Coccidioides posadasii* – infections contracted in Arizona and elsewhere




Environmental Form
Host-associated Form
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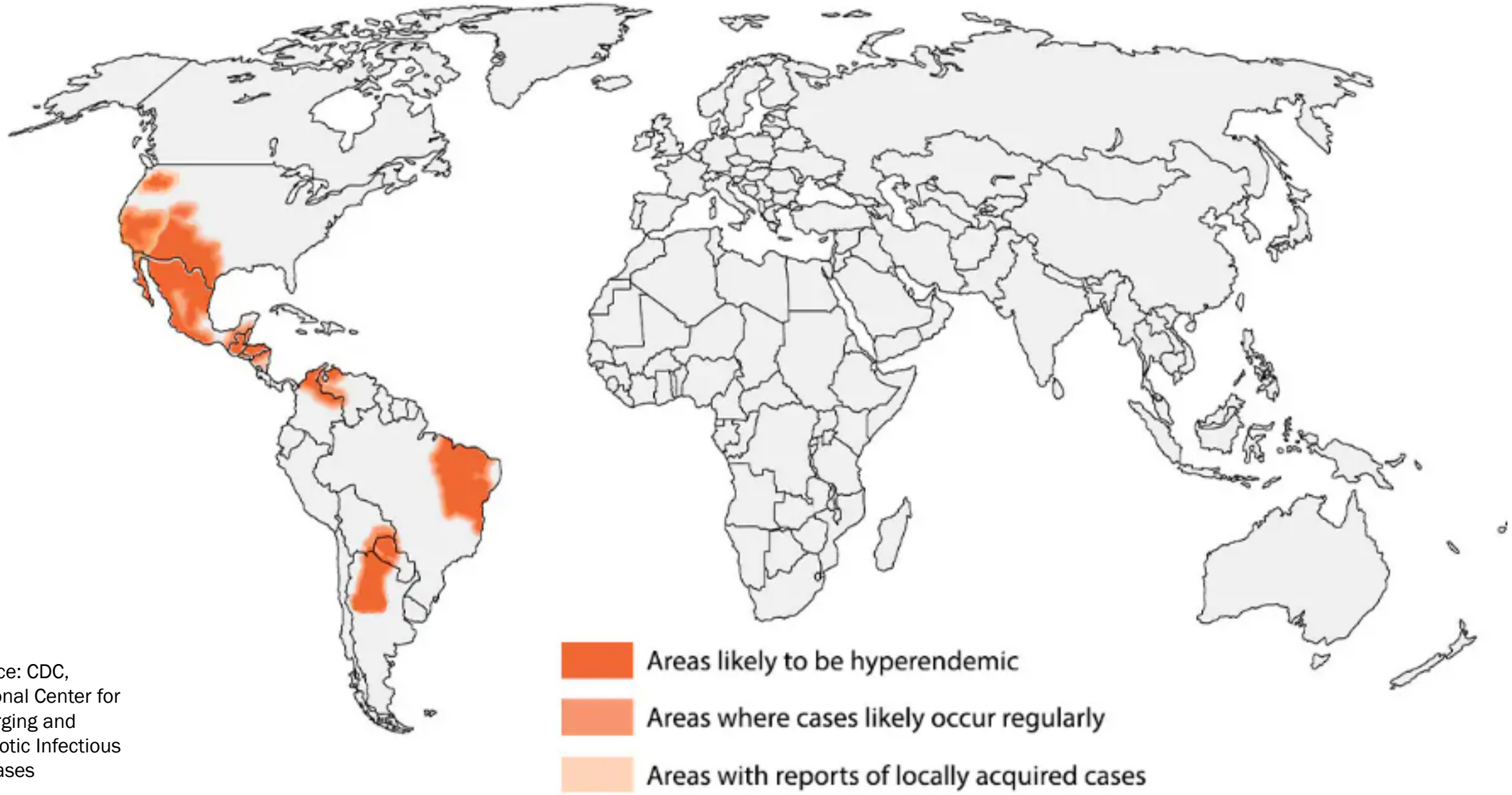
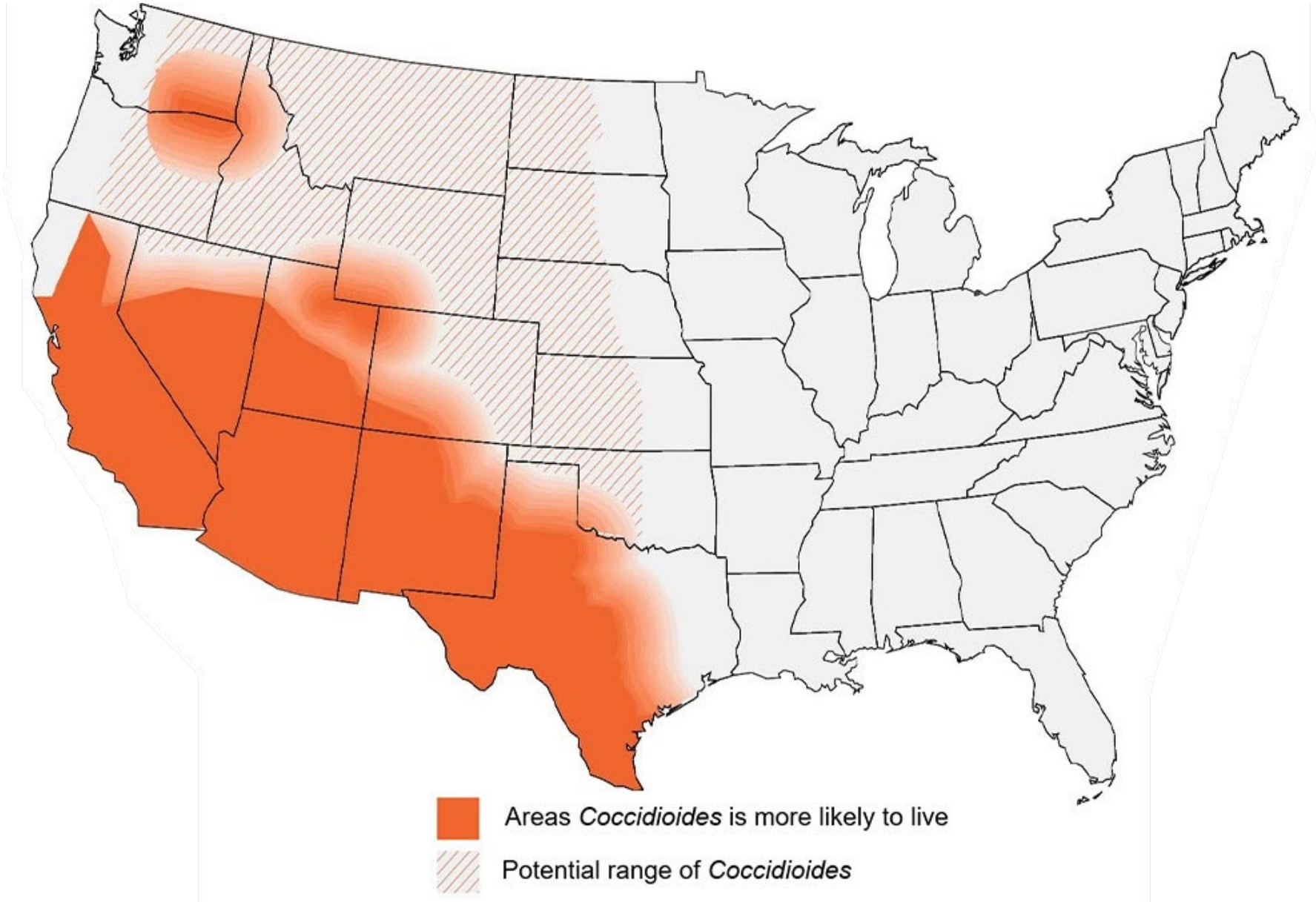
Estimated Areas for Coccidioides Worldwide



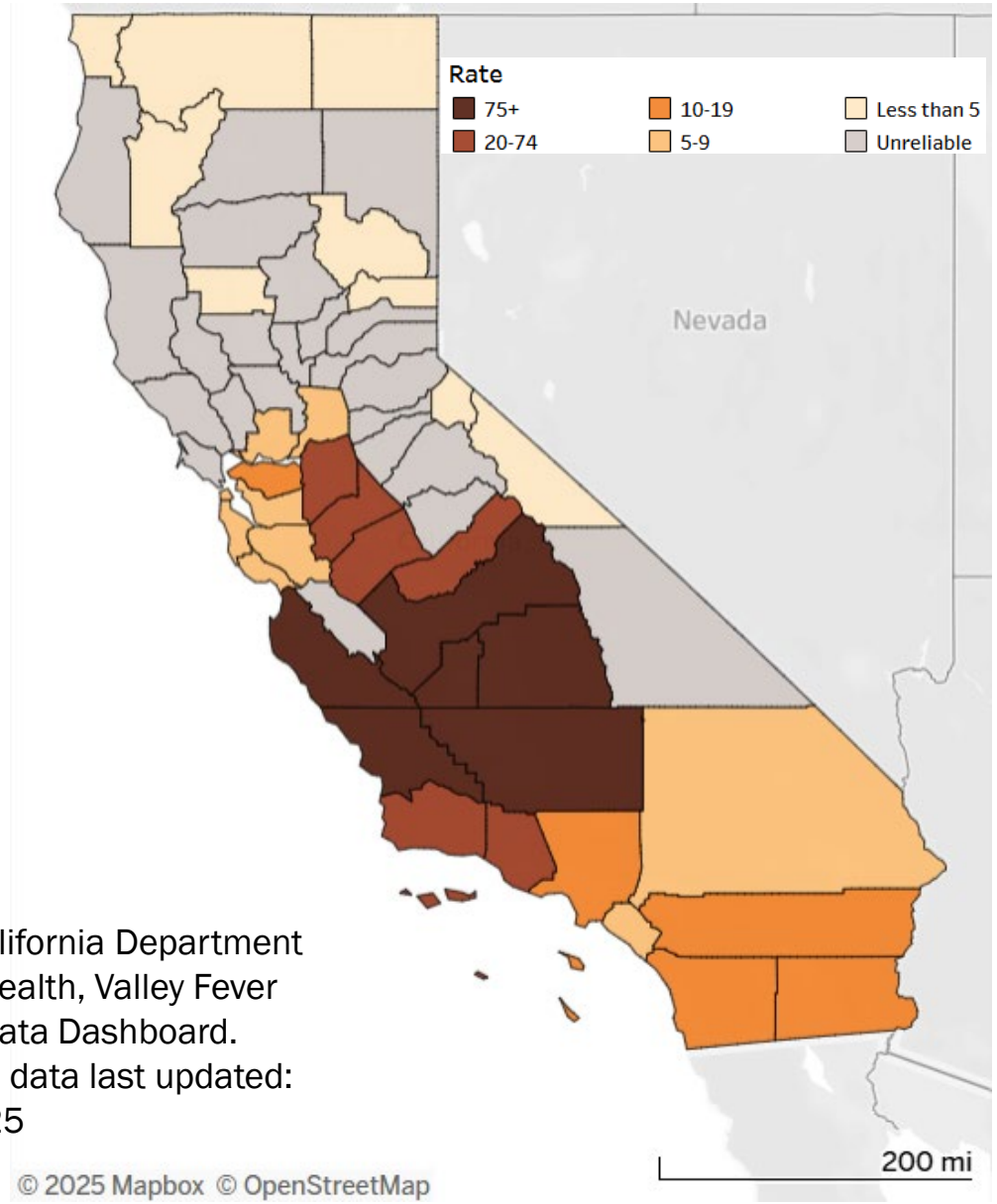
Source: CDC, National Center for Emerging and Zoonotic Infectious Diseases

Estimated Areas for Coccidioides in U.S.



Source: CDC, National Center for Emerging and Zoonotic Infectious Diseases

Valley Fever Incidence Rates by LHJ, California, 2024



Source: California Department of Public Health, Valley Fever Year-end Data Dashboard. Dashboard data last updated: July 1, 2025

County	Incidence Rate per 100,000
• Kern	428.2
• Kings	307.7
• San Luis Obispo	166.2
• Tulare	132.0
• Fresno	100.8
• Monterey	78.6
• San Joaquin	71.1

Valley Fever cases have been reported in all CA counties. Majority of cases are in the central valley and central coast regions.

Symptoms – “Great Imitator”

- 60% infected – no symptoms
- 40% mild-moderate symptoms:
  - Fatigue (tiredness)
  - Cough
  - Fever and headaches
  - Shortness of breath
  - Night sweats
  - Muscle aches or joint pain
  - Rash on upper body or legs
- Contact healthcare provider if symptoms last >1 week
- 5-10% complications or chronic pulmonary disease

- Onset: 1-3 weeks
- Duration: weeks – months; years
- Self-limiting, no medication
- Some develop immunity, not always complete or lifelong

1% of cases – Disseminated Valley Fever

- Very rare – immunocompromised
- Occurs when infection spreads (disseminates) from the lungs to other parts of the body:
  - Skin, bones, joints, liver, kidneys, brain, heart, brain, spinal cord, etc.

- Rob Purdie
  - Founding Member, MyCARE
  - Coccidioidal Meningitis Patient
  - Patient and Program Coordinator, Valley Fever Institute at Kern Medical
  - Bakersfield, California

People at Higher Risk for Severe and/or Disseminated Valley Fever

- 60+ years old
- Pregnant women
- Immunocompromised
- Diabetic
- Black or Filipino
- Prisoners

Treatment & Health Outcomes

- Most recover w/o medication within months
- Antifungal medication for severe cases,
  - May be hospitalized, may take years to recover
- Meningitis from Cocci is *fatal* if not treated
- No vaccine, no cure; research is ongoing
- Usually, infection ➔ immunity
- In rare cases, reactivation/re-infection can occur in immunocompromised

Value of Early Diagnosis

- Alleviates patient anxiety by:
  - Giving a name to the illness
  - Dispelling fear of cancer
  - Providing patient education and prognosis
- Decreases need for:
  - Invasive and expensive tests
  - Use of unnecessary antibiotic therapy
- Allows for earlier detection of complications

Rick's Story

- Prospecting gold,
- Mojave, CA
- Phoenix, AZ native
- Cough, lung pain, chills
- Initial Dx: TB, pneumonia, lung cancer
- Valley Fever tests initially rejected, self-advocated
- Valley Fever positive

Dawn's Story

- Arizona resident
- Terrible persistent cough
- Initial Dx: laryngitis
- Valley Fever tests initially rejected, self-advocated
- 3 years w/cough until dyspnea, admitted to ER
- Lung fluid positive for Valley Fever

Laura's Story

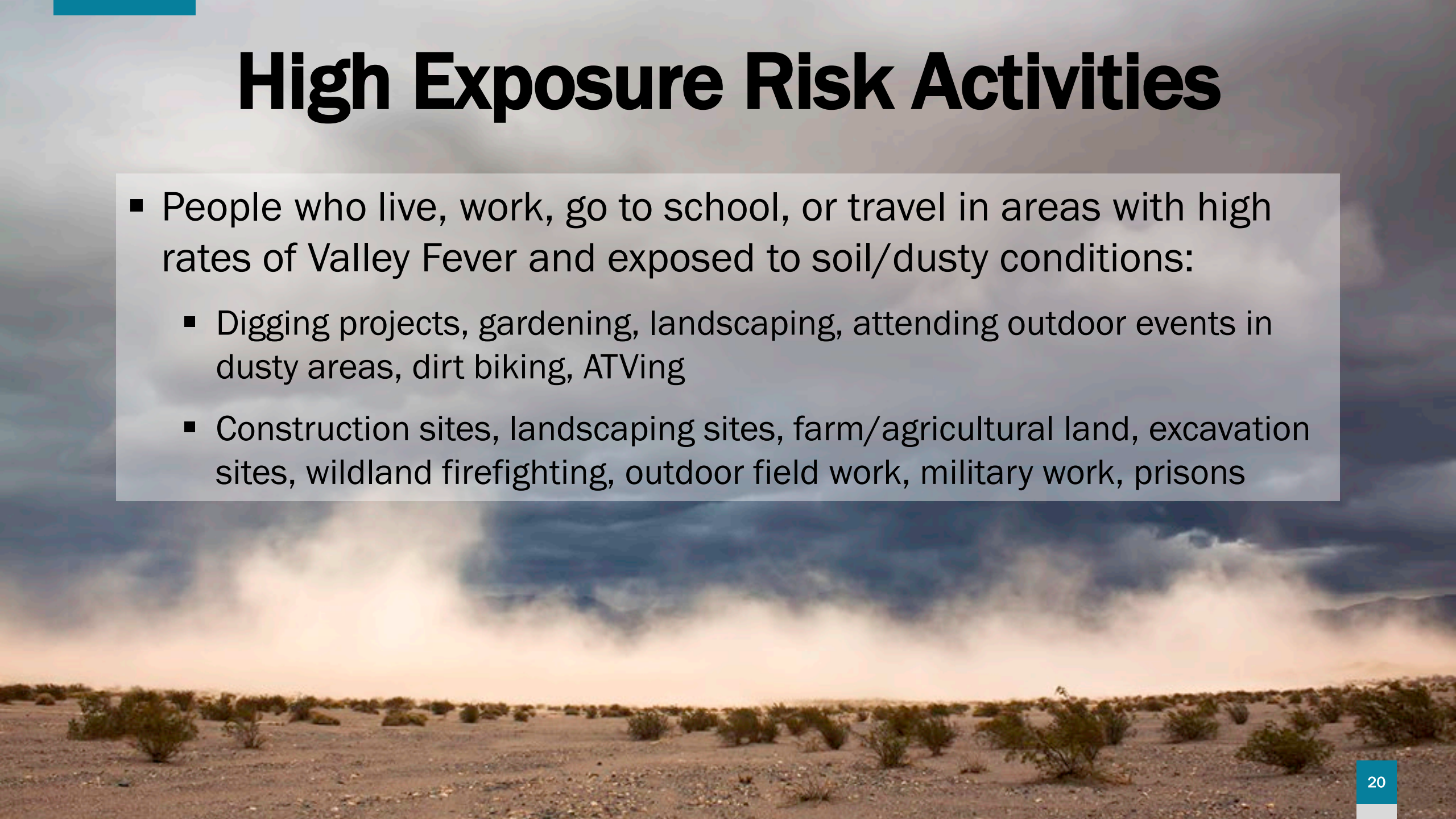
- Arizona resident
- She thought she had COVID
- COVID negative; pneumonia positive
- Did not respond to antibiotics
- Initial Valley Fever test was negative, second test was positive

Sabine's Story

- Arizona resident
- Unusual ankle pain
- Pain worsened from ankles to knees, swelled, felt like stones
- Admitted to ER, tested for different types of arthritis
- Infectious Disease Doctor confirmed Valley Fever

High Exposure Risk Activities

- People who live, work, go to school, or travel in areas with high rates of Valley Fever and exposed to soil/dusty conditions:
  - Digging projects, gardening, landscaping, attending outdoor events in dusty areas, dirt biking, ATVing
  - Construction sites, landscaping sites, farm/agricultural land, excavation sites, wildland firefighting, outdoor field work, military work, prisons



Valley Fever Outbreak – Construction of Solar Power Farm, Monterey County, 2016-2017

- 9 – confirmed cases
  - 6 – diagnosed coccidioidomycosis pneumonia
  - 5 – visited ED (1—4 times); 1 – hospitalized; 0 – died
  - 7 missed work (median: 14 days; range: 1—320 days)
- 8 interviewed
  - Reported frequent high dust levels on worksite; unable to be controlled
  - No respirator fit testing; infrequent/no use of respiratory protection
  - Only 3 knew what to do if they had symptoms
  - Biologist, paleontologist, electrician, truck driver, iron worker, general laborer
- Incidence rate among solar farm workers *significantly higher* than rates in surrounding counties
  - Suggesting illness was work-related

Laws RL, Cooksey GS, Jain S, et al. Coccidioidomycosis Outbreak Among Workers Constructing a Solar Power Farm — Monterey County, California, 2016–2017. MMWR Morb Mortal Wkly Rep 2018;67:931–934. DOI: http://dx.doi.org/10.15585/mmwr.mm6733a4

Cal/OSHA cites 6 employers for exposing workers to Valley Fever

$241,950 in penalties

Violations included failure to:

- Address Valley Fever as a hazard in the IIPP
- Control dust exposure
- Provide and ensure use of respirators
- Report hospitalized cases

True burden?

- Valley Fever often misdiagnosed/unreported
- Difficult to track out-of-state; out-of-county

https://www.dir.ca.gov/DIRNews/2019/2019-31.html
https://www.dir.ca.gov/DIRNews/2017/2017-108.pdf

Department of Industrial Relations
STATE OF CALIFORNIA

N E W S R E L E A S E

News Release No.: 2017-108 **Date:** November 20, 2017

Cal/OSHA Cites Six Employers over $240,000 for Exposing Workers to Valley Fever

Bakersfield — Cal/OSHA has cited six employers $241,950 for workplace safety and health violations after reports that workers contracted Valley Fever on a solar project construction site in Monterey County.

The employers at the California Flats Solar Project in Cholame Hills were cited for serious violations that included failure to control employee exposure to contaminated dust at the worksite, and failure to provide and ensure use of appropriate respiratory protection. One employer, Papich Construction, Inc., was cited in 2013 for some of the same violations.

"Employers who work in areas endemic to Valley Fever must take preventative measures to protect workers who may be exposed," said Juliann Sum, Chief of Cal/OSHA.

Employers cited include:

Employer	Type	Violation Classification	Proposed Penalties
McCarthy Building Companies, Inc.	General contractor	Serious – 2, General – 2	$46,540
Papich Construction Co., Inc.	Subcontractor	Repeat Serious – 1, Serious – 1, General – 2	$68,900
Granite Construction Co., Inc.	Subcontractor	Serious – 2, General – 2	$46,590
Sachs Electric Company	Subcontractor	Serious – 2, General – 2	$46,400
Dudek	Subcontractor	Serious – 1, General – 2	$23,620
Althouse and Meade, Inc.	Subcontractor	Serious – 1	$9,900

Valley Fever is caused by a microscopic fungus known as *Coccidioides immitis,* which lives in the top two to 12 inches of soil in many parts of the state. When soil is disturbed by digging, driving, or high winds, fungal spores can become airborne and may be inhaled by workers. While the fungal spores are more likely to be present in the soils of the Central Valley, they may also be present in other areas of California. Cal/OSHA's

Valley Fever Prevention for Workers

- Stop work in dust storms/high winds
- Minimize hand digging
- Dig with equipment that has enclosed, air-conditioned, HEPA-filtered cabs
- Continuously wet soil while digging/moving soil
- Stay upwind of digging when possible
- Respiratory protection recommended for those who:
  - Dig manually
  - Dig using equipment
  - Work near excavators or other similar equipment
- Respirators should be NISOH certified and part of a comprehensive respiratory protection program, which includes:
  - Medical clearance
  - Initial and periodic training and fit testing
  - Monitoring for respirator effectiveness
- Employers should:
  - Wash tools and equipment before it is moved offsite
  - Require workers to change clothing and shoes at the worksite
  - Arrange prompt medical evaluation and treatment of those with possible disease

- CA law, AB 203
- OSHA General Duty Clause, Section 5(a)(1)
- OSHA Right to Know Law/Hazard Communication

Additional Prevention and Awareness

Chance of infection higher during the dry season following a rainy season

Avoid very dusty areas, e.g., construction sites, etc.

Stay inside during dust storms, keep windows and doors closed

Keep car windows and doors closed, use recirculating air

Use air filtration measures indoors

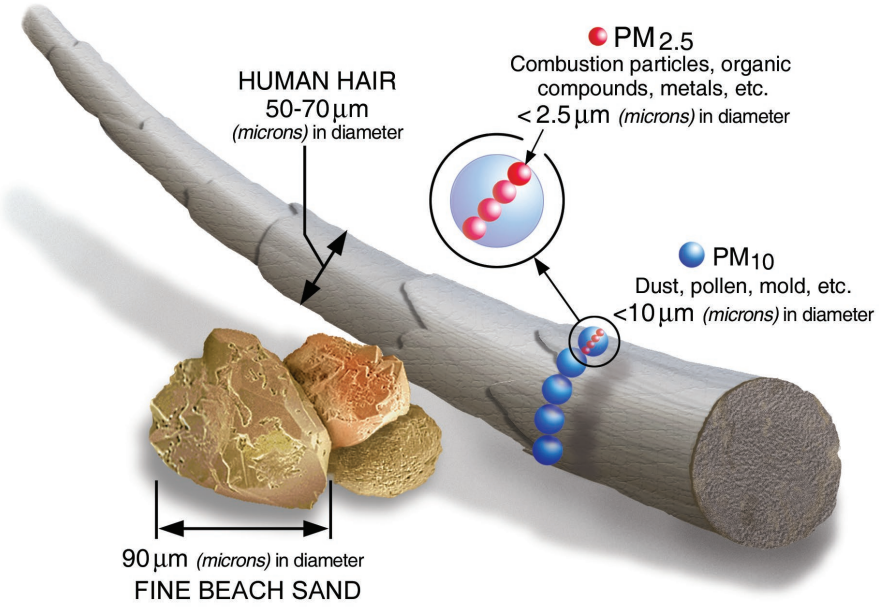
Change out of dusty clothes, after being outdoors

Wash down dusty toys, outdoor furniture, pets, after being outside

If experiencing symptoms for more than a week, talk with your healthcare provider about Valley Fever

What is HEPA & MERV?

- **HEPA** = “high efficiency particulate air (filter)”
  - Removes 99.97% of dust, pollen, mold, bacteria, any airborne particles with a size of 0.3 microns (µm).
- **MERVs** = Minimum Efficiency Reporting Values
  - Rating scale, measures a filter’s ability to capture larger particles between 0.3 and 10 microns
  - The higher the MERV rating the better the filter is at trapping specific types of particles
  - A filter with too high a MERV rating may strain your system, reduce efficiency, and potentially costly repairs – check your HVAC system manufacturer’s specs
  - MERV is based on a national consensus standard (ASRAHE). Other ratings: Filter Performance Rating (FPR), Microparticle Performance Rating (MPR) are proprietary.



MERV Rating	Air filter will trap particles sized .3 to 1.0 microns	Air filter will trap particles sized 1.0 to 3.0 microns	Air filter will trap particles sized 3.0 to 10 microns	Filter Type & Particles Removed
MERV 1	<20%	<20%	<20%	**Fiberglass and Aluminum Mesh** pollen, dust mites, spray paint, carpet fibers, pet dander
MERV 2	<20%	<20%	<20%	
MERV 3	<20%	<20%	<20%	
MERV 4	<20%	<20%	<20%	
MERV 5	<20%	<20%	20% - 34%	**Disposable Filters** mold spores, kitchen aerosols, hair spray, furniture polish, household cleaning sprays
MERV 6	<20%	<20%	35% - 49%	
MERV 7	<20%	<20%	50% - 69%	
MERV 8	<20%	<20%	70% - 85%	
MERV 9	<20%	>50%	85% or better	**Home Box Filters** lead dust, flour, auto fumes, welding fumes
MERV 10	<20%	50% - 64%	85% or better	
MERV 11	<20%	65% - 79%	85% or better	
MERV 12	<20%	80% - 90%	90% or better	**Commercial Filters** bacteria, wildfire smoke, respiratory droplets
MERV 13	>75%	90% or better	90% or better	
MERV 14	75% - 84%	90% or better	90% or better	
MERV 15	85% - 94%	95% or better	90% or better	
MERV 16	95% or better	95% or better	90% or better	
MERV 17	99.97%	99% or better	99% or better	**HEPA and ULPA** viruses, carbon dust
MERV 18	99.997%	99% or better	99% or better	
MERV 19	99.9997%	99% or better	99% or better	
MERV 20	99.99997%	99% or better	99% or better	

EPA Guide to Air Cleaners in the Home

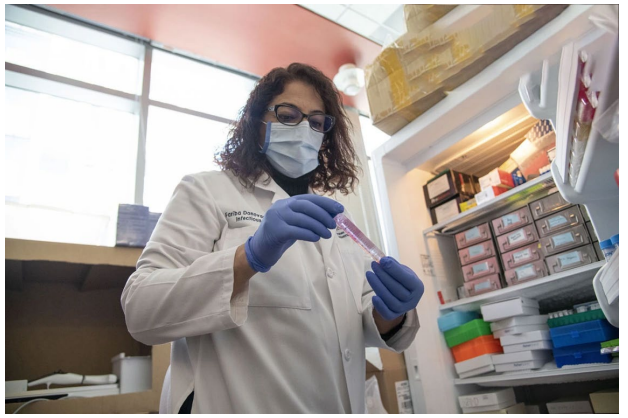
- No air cleaner or filter will eliminate all air pollutants
- All filters need regular replacement
- Portable Air Cleaners:
  - To filter particles, choose one that has a **clean air delivery rate (CADR)** that is large enough for the size of room or area being used, usually has a HEPA filter

Portable Air Cleaner Sizing for Particle Removal						
Room area (sq.ft.)	100	200	300	400	500	600
Minimum CADR (cfm)	65	130	195	260	325	390

Note: this chart is for estimation purposes. The CADRs are calculated based on an 8-foot ceiling. If you have higher ceilings, you may want to select a portable air cleaner with a higher CADR.

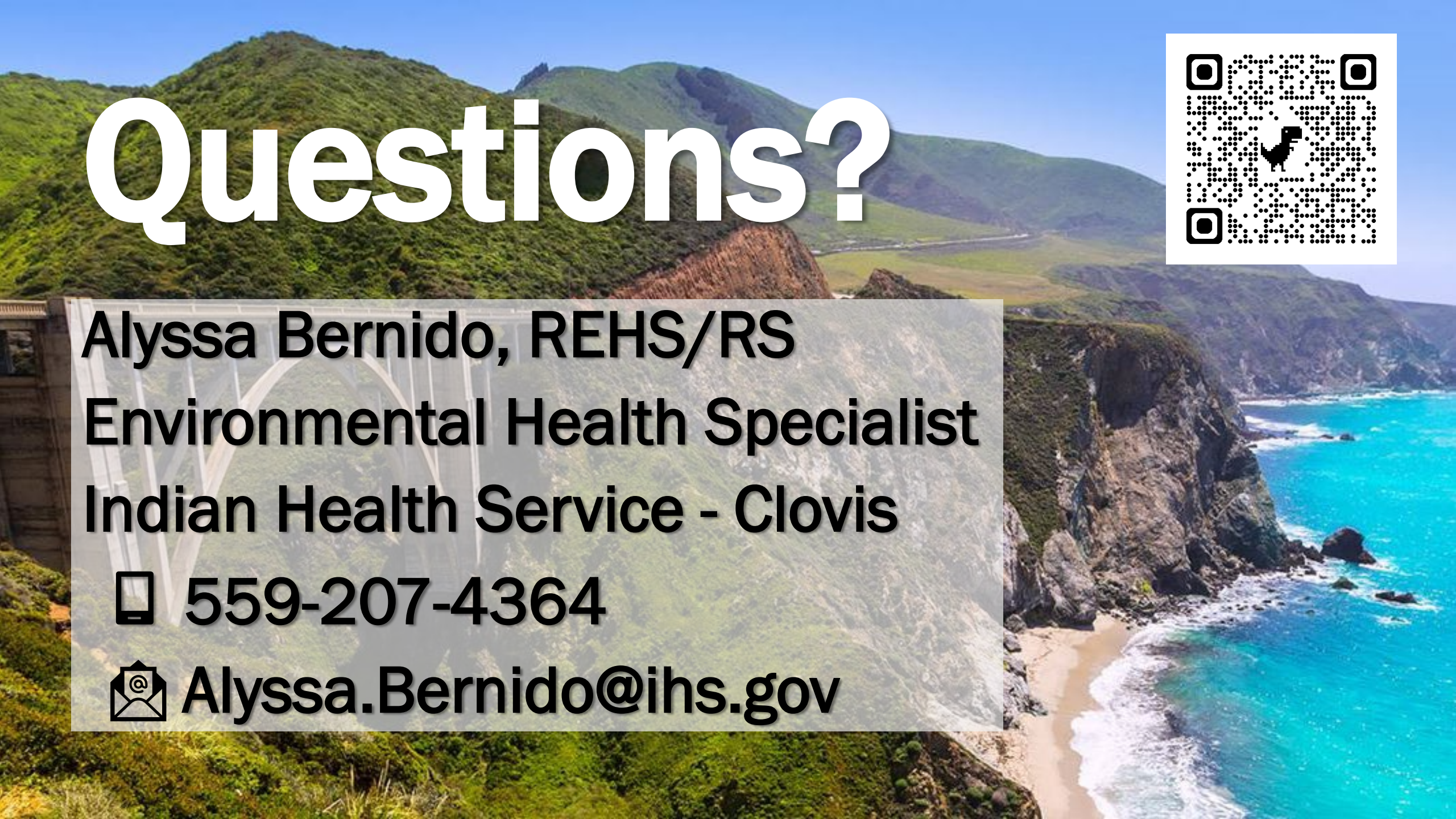
Ongoing Research

- Vaccine development
- Climate change affects
- Geographic range of endemic areas
- Better soil testing
- Better diagnostic tests
- Better treatment
- Research registries



Valley Fever Resources

- For personal medical questions, consult w/your healthcare provider
- Local Tribal Healthcare Programs – PHNs, CHRs
- Tribal Epidemiology Centers – tribalepicenters.org
- IHS – California Area – PHNs, Environmental Health Specialists
- Local County Health Department – Public/Community Health, Epidemiology
- California Department of Public Health – couldbevalleyfever.org
- CDC – www.cdc.gov/valley-fever/index.html
- California Universities:
  - Infectious Diseases – Stanford Health Care Tri-Valley
  - UC Davis Center for Valley Fever
- Valley Fever Center for Excellence – University of Arizona - vfce.arizona.edu
- OSHA, CAL/OSHA
- Congressional Valley Fever Taskforce - valleyfevertaskforce-schweikert.house.gov
- National Institutes of Health
- Valley Fever Institute at Kern Medical


Questions?
Alyssa Bernido, REHS/RS
Environmental Health Specialist
Indian Health Service - Clovis
559-207-4364
Alyssa.Bernido@ihs.gov

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