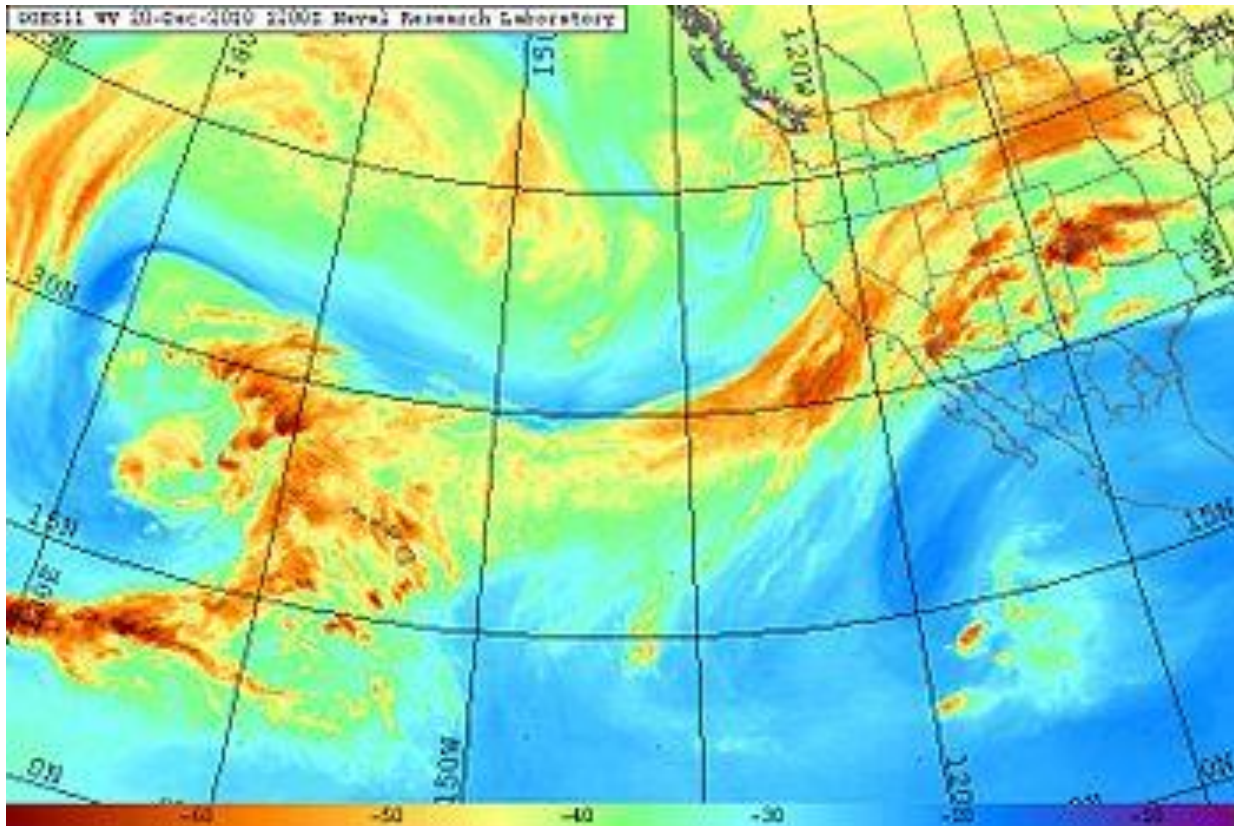




Public Safety Threat of Intense Precipitation in San Diego's Urban Zones



San Diego Fire-Rescue Swiftwater Rescue Team

- 25 Member Team
- Season: November 15 - April 15
- Wettest Months, Dec – Feb
- Annual Training & Certifications
- State CalOES, US&R Resource
- Lead Swiftwater Team in County
- 1-2+ Day events cause the most significant activity



Most Significant Flood Events

- 1978-79
- 1982-83 El Nino
- 1984
- 1987
- 1993
- 1994-95
- 1996-97 El Nino
- 2002
- 2007/08
- 2009/10
- 2010/11
- 2015-16 El Nino
- 2017





Urban Flooding Threats on Roads





Residential Flooding





Fire-Rescue Department



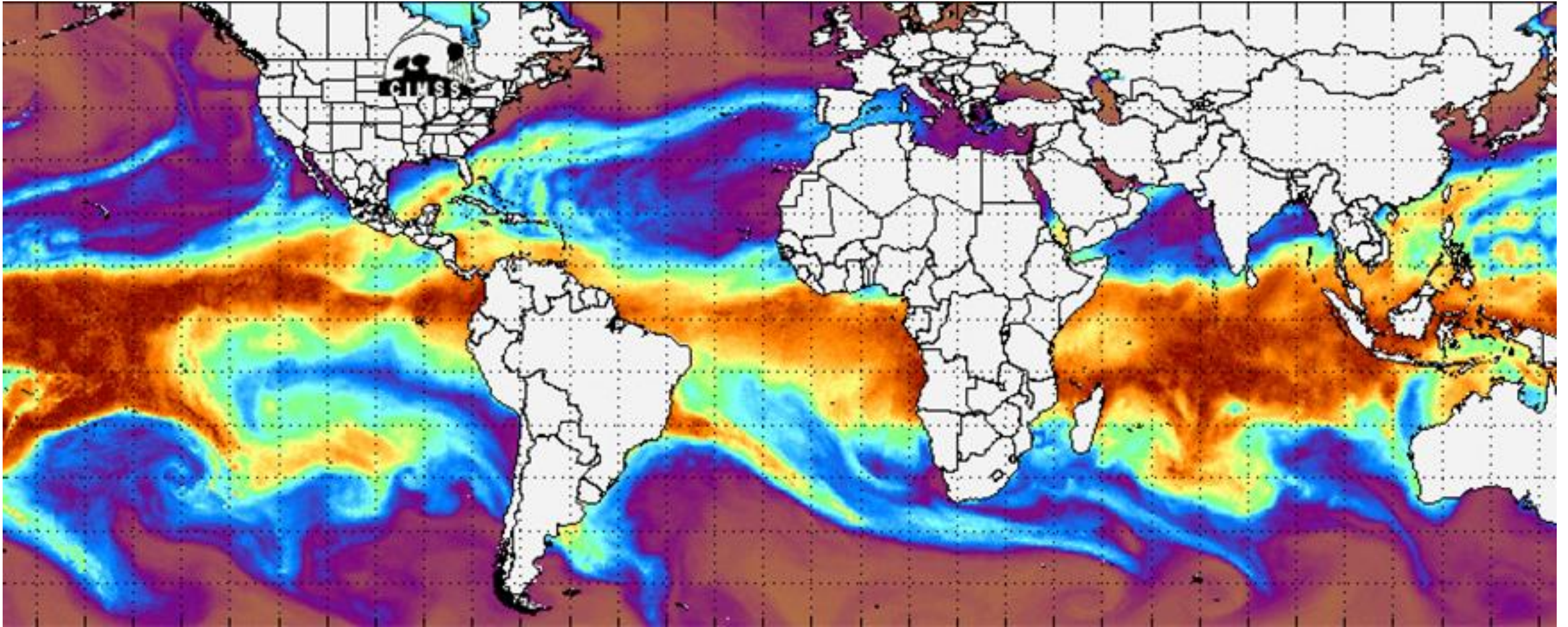


Fire-Rescue Department





January 2016





**BREAKING
NEWS
ALERT**

KEARNY MESA
INFINITI

CARS FLOODED IN FASHION VALLEY PARKING GARAGE

UP IN AFGHAN COMPOUND AFTER FIREFIGHT WITH TALIBAN KILLS U.S. SOLDIER, 19



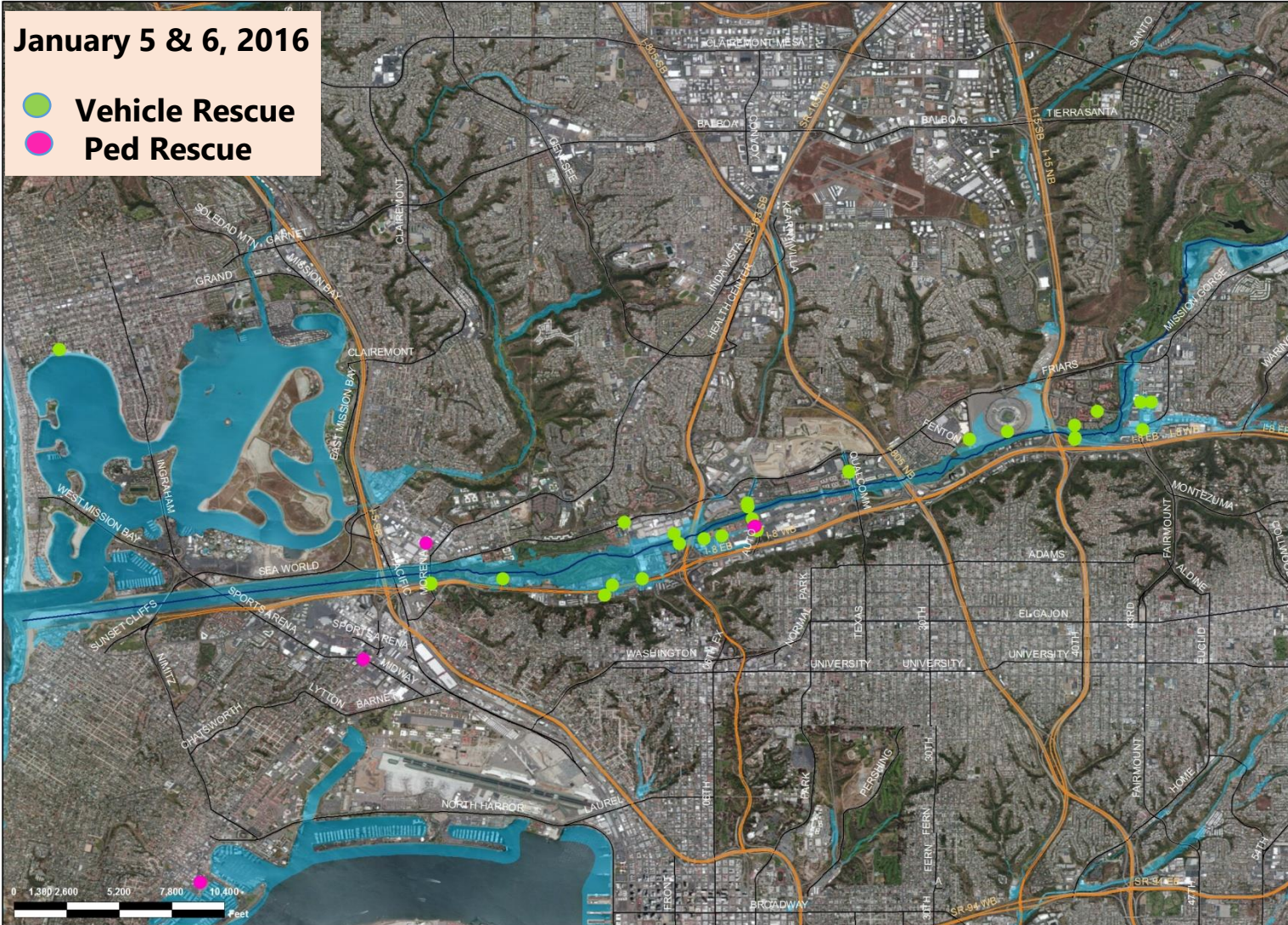
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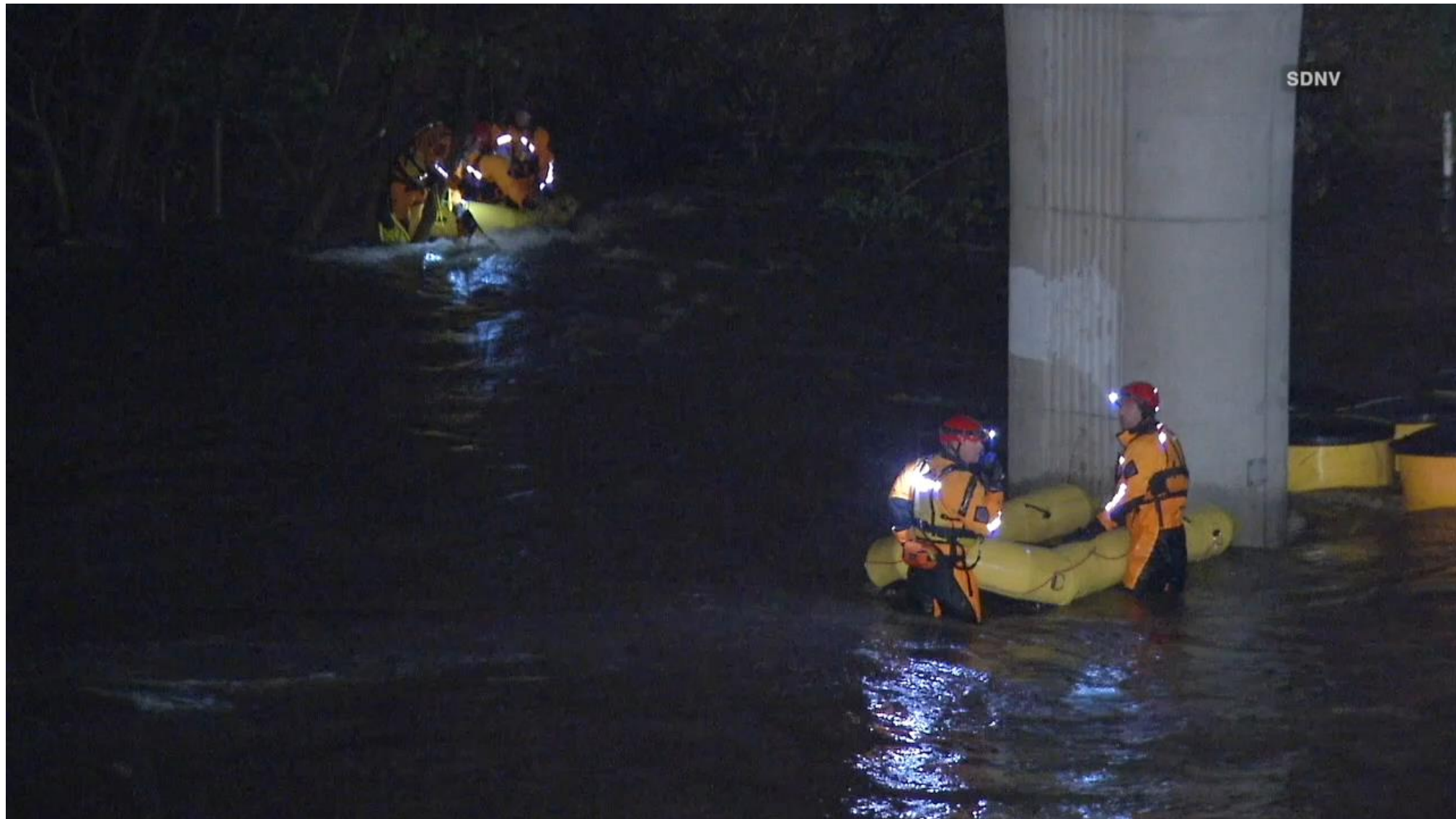
58°

NEWS 8



SD RRT Rescue Locations: Mission Valley

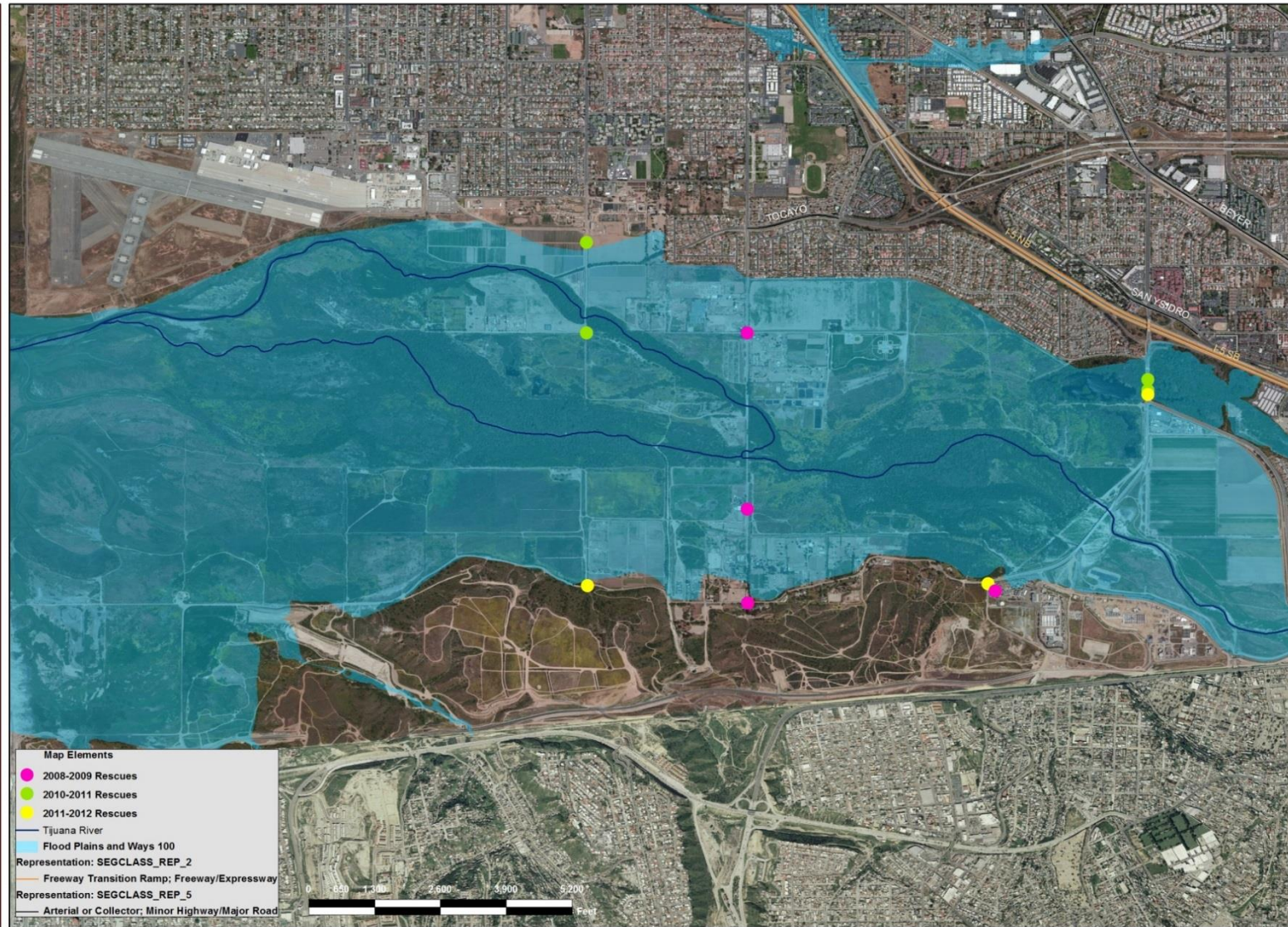




Tijuana River Watershed



SD RRT Rescue Locations: Tijuana River Valley



Hazards

Man-made Hazards



Environmental Hazards



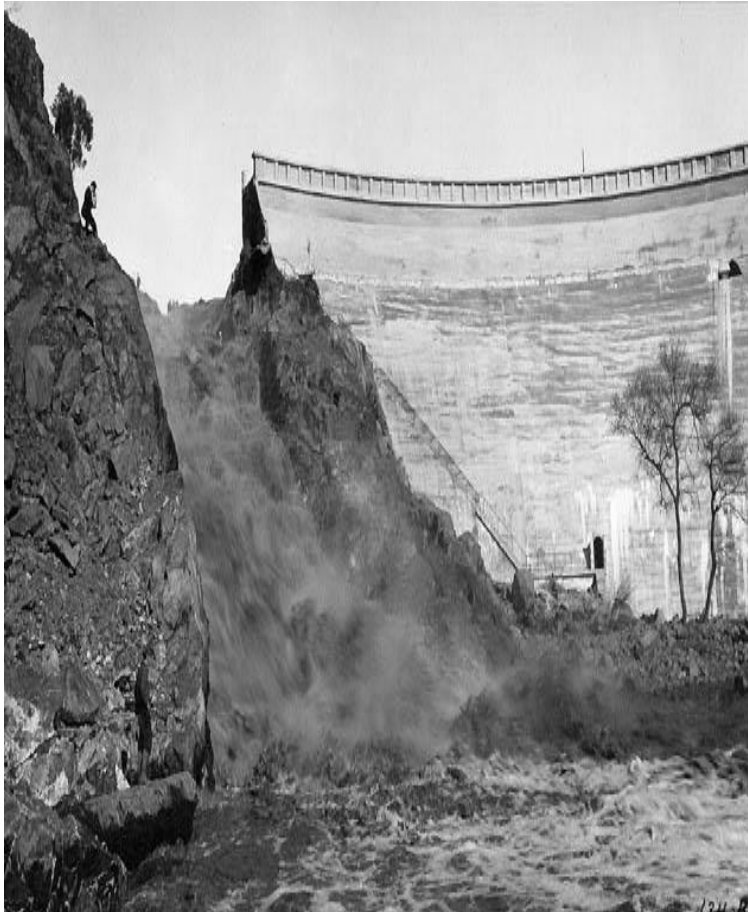


Regional Response & Coordination

- **San Diego City:** FF's, LG's, Police, Utilities & Wastewater
- **Regional Partners:** Sheriff, OES, CHP, Cal Fire, Red Cross
- **San Diego County Swiftwater Teams:** Oceanside, Imperial Beach, Del Mar, Encinitas, BORSTAR, Elfin Forest





River/Flood Rescue Responders



- Emergency personnel, vehicles
- Boats, tech gear, floatation
- Trained for medical aid
- Specialized skills & techniques
- Coms with like agencies
- Staging at strategic locations
- First unit deployed and last unit released
- Expandable Incident Command
- Dependent on weather info



	Water Rescue Guide: Mission Valley, West				SND WR-01
	Location: San Diego River, West of I-805				
	Public Safety Grids: 2223 J-2	Thomas Guide Grids: 1268 J-3	USNG 10K: 11S MS 82		
HAZARD ASSESSMENT	Tactical Plan	Tactical Map	Road Closure & Evacuation Plan	Flooding Projection	Inspected By: Newell/Sandmeyer
Critical Information					Date: 13 JAN 16
HAZARD ASSESSMENT MATRIX – HIGH MODERATE LOW					
FF/LG Safety	Significant hazards to rescue personnel such as low head dams, strainers, sub-surface entrapment features	Moderate hazards to rescue personnel. Strainers have been identified and hazards mitigated.	Low hazards to rescue personnel.		
Civilian Safety	High potential for civilian entry and entrapment in moving water.	Moderate potential for civilian entry and entrapment in moving water.	Moderate potential for civilian entry and entrapment in moving water.		
Air Safety	Narrow canyons or aboveground utilities pose a hazard to Air Operations.	Few hazards to Air Operations	Flat terrain features and no above ground hazards to Air Operations		
HAZMAT	Above and/or underground storage tanks, fertilizers and pesticides.	Moderate HAZMAT hazards	Little or no HAZMAT present		
Access	No paved access. High likelihood of inaccessible populations	Potential blocked access with roadway or bridge washout.	Paved reliable access throughout potential incident		
Topography	Narrow canyons with steep walls	Wide canyons and/or moderate slope walls	Flat, wide floodplain		
Drainage	No storm drainage system and/or high likelihood of debris blockage	Established storm drainage system with moderate potential for debris blockage	Established storm drainage system with low debris blockage potential		
Soil Stability	Unstable soil high landslide potential.	Moderate landslide potential	Low landslide potential		
Residential	Multifamily residential.	Mixed multifamily and single family.	Few or no residential structures.		
Business	Significant business exposure	Moderate business exposure	Low business exposure		
Utilities	High risk to aboveground and below ground utilities.	Moderate risk to utilities	Low risk to utilities		
Transport	High risk to road and rail disruption.	Moderate risk to road and rail disruption.	Low risk to road and rail disruption.		
Livestock	High risk to livestock	Moderate risk to livestock	Low risk to livestock.		
CRITICAL INFORMATION					
Responder Safety- All personnel working within close proximity to the water (<10') must have on appropriate PPE. This would include a PFD (personal flotation device) and helmet, if available. Fire personnel providing shoreline support should wear brush gear (never turnouts) and station boots or tennis shoes. TRT personnel will be in FULL PPE, including dry suits at the IC direction. All water will be assumed contaminated and direct contact shall be avoided. Decon should be done for all first responders and victims. Be cautious of hypothermia in victims with prolonged exposure. High concentration of tourists will be unfamiliar with flooding safety/evacuation routes and shelter locations. Abundant Homeless in encampments in the river flood plain.					
Aviation Hazards- Transmission power lines run the length of mission Valley north of Friars Rd, and cross North to South on the west side of I-805			Potential road closures/Entrapments:- Avenida Del Rio, Fashion Valley Rd, Camino Del Este, Qualcomm Rd, Mission Center Rd,		
Lifeguard Alert Levels			NWS Flooding Categories (Mission Valley)		
Alert 1	Rain forecast- 1/2"-1" Coastal, 1"-1 1/2" Inland, 1 1/2"+ Mountain. Lifeguards- assemble personnel and equipment	Flood Categories (ft.)		Historic Crests	
		Pre-Action Stage 5 ft.	19.30 ft on 1/27/1916		
Alert 2	Rain forecast- 1"-2" Coastal, 2"-3" Inland, 3"+ Mountain. Lifeguards- assemble personnel, take home Vehicles. Fire-Rescue personnel to review Water Rescue Plans	Action Stage 7.5 ft.	16.30 ft on 2/21/1980		
		Flood Stage 11.3 ft.	14.01 ft on 12/22/2010		
Alert 3	Rain forecast- 2"-3" Coastal, 3"-4" Inland, 4"+ Mountain. Lifeguards- deploy personnel to High Hazard areas. Fire-Rescue to initiate windshield water rescue surveys	Mod. flood Stage 13.5 ft.	13.47 ft on 3/06/1995		
		Major Flood Stage 16.5 ft.	11.53 ft on 2/24/2008		
		100 Year Flood 16.5 ft.	10.89 ft on 2/21/2000		
		500 Year Flood 18.5 ft.			
Incident Command Posts: 1. Kearny Mesa Rec Center, 3170 Armstrong St, 2. Veterans War Memorial, 2920 Zoo Dr, 3. Serra Mesa Rec Center 9020 Village Glen Dr.			Staging Locations: 1. Mesa College parking lot, 7250 Armstrong Pl, 2. Zoo parking lot 2900 Zoo Dr. 3. Qualcomm Employee parking lot 2200 Mission Village Dr.		

Flood Rescue Guides





Fire-Rescue Department





Fire-Rescue Department









Swiftwater Rescue Size-Up Checklist

Location

- ✓ Determine accurate address & location of victims on river

Victims

- ✓ Number of victims
- ✓ Disposition: stable or free floating

Water Conditions

- ✓ Standing, slow-med-fast, depth if known

Hazards

- ✓ Submerged objects, floating debris, obstructions

Precipitation

- ✓ Current Precipitation, Micro-cell forecast



Fire-Rescue Department

