

Recovery six months after Cascadia could still be grim

This is the fourth part of a series on a potential Cascadia Subduction Zone disaster

Hurricane Katrina's aftermath offers some lessons

By JADE McDOWELL
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As those in charge of emergency preparedness try to understand what the aftermath of Cascadia might look like six months after the quake, Hurricane Katrina can offer some lessons.

The hurricane hit New Orleans on Aug. 29, 2005, breaching levees and flooding 80 percent of the city. An estimated 1,800 people were killed by the hurricane and its aftermath and more than 1.3 million evacuees from the region submitted aid applications to the Federal Emergency Management Agency from new addresses across all 50 states.

Six months later, the Tulsa World reported only 38 percent of New Orleans residents had returned to the city. Half of the 60 million cubic yards of debris had been removed from the city, and only one third of the city's structures had working electricity. Where utilities had been restored "Help Wanted" signs decorated every business window, the newspaper reported, and restaurants served limited menus.

At a morgue near Baton Rouge, 86 bodies remained



AP Photo/David J. Phillip

A man moves items damaged by floodwaters in the aftermath of Hurricane Katrina in 2005 in Slidell, La., near New Orleans. Emergency responders look to the disaster as a guide for what to expect in the months after a potential massive earthquake and tsunami in the Pacific Northwest.

unidentified. More than 2,000 people were still listed as missing. Some of them had turned up safe without relatives notifying the government, but authorities estimated there were still hundreds of bodies that had been washed out to sea or were still buried in rubble. Only 20 of the city's 128 public schools were oper-

ational, and more than 48,000 families were living in FEMA trailers.

Still empty and rotting

Umatilla County commissioner Larry Givens said he visited New Orleans three years ago and saw hundreds

of homes still sitting empty and rotting. Some homeowners died, while others gave up after being defrauded by fake contractors who took their money to rebuild and disappeared. Some found new jobs and new lives in places like Houston, which took in an estimated 250,000 refugees. "Those people left and for

every week they were gone, that many more said 'Forget it,'" Givens said.

He said in the event of a Cascadia earthquake, Umatilla County would also likely have people who decided to stay in Eastern Oregon after fleeing the west side of the state. The state's Cascadia Subduction Zone Catastrophic Response plan notes that east side hotels, motels, empty buildings, foreclosed housing and other available spaces will all be used for temporary housing.

Even if refugees wanted to return home, the state estimates it will take six months to a year to restore water and sewer services to the valley and one to three years to restore it to the coastal cities.

Recovery from Hurricane Katrina was hindered in part by the confusing patchwork of overlapping jurisdictions that allowed agencies to pass the buck or caused them to duplicate efforts. Tom Hebert, a public policy consultant living on the Umatilla Indian Reservation, wrote a policy paper afterward proposing that the federal government create regional development authorities to coordinate a single response to natural disasters. Their locations around the country would be based on likely disaster scenarios.

"Cascadia would play into the scientifically placed, pre-positioned authorities," Hebert said.

Alphabet soup

For now, however, the state's emergency plan for Cascadia describes the undertaking of rebuilding utilities and other infrastructure with

this alphabet soup: "Deploy Federal and State teams to evaluate damage and establish priorities: OEM and FEMA Public Assistance Program and Technical Assistance Contractor staff. ODOT and FHWA (roads and bridges), ORWARN, DEQ, U.S. EPA (water and wastewater facilities), and PUC, ODOE, USACE (power, levees, and water control facilities)."

Joe Franel, chairman of the Oregon Broadband Advisory Council, said the recovery phase will take place in a situation where the internet, and by extension banking services like debit cards, will be down all over the state for "months."

"For some period of time we will be a cash and barter society," he said.

Franel said how quickly the shelves are restocked in stores will vary on a business-by-business basis, depending on their preparedness and how their suppliers were affected.

In such conditions it will be tempting for Umatilla County residents to become refugees themselves, and ride out the first six months or so with family in another state. However, fuel for vehicles and generators is not expected to be available to regular citizens for "months and months," so if a person's gas tank was almost empty when the earthquake hit they might not be going anywhere.

The best thing people can do, then, Franel said, is work to be personally prepared and to help their communities and neighborhoods prepare to get through Cascadia together.

Rebuilding from the ruins of disaster

This is the final part of a series on a potential Cascadia Subduction Zone disaster.

Cascadia's impacts would last for years

By JADE McDOWELL
EO Media Group

As Oregonians prepare for a Cascadia earthquake, they face the daunting idea that someday life will change drastically for the entire region — without warning.

The Federal Emergency Management Agency has estimated a decades-long recovery. "When it happens, it will change the Pacific Northwest for our lifetimes," Joe Franel said.

Franel, as CEO of Eastern Oregon Telecomm and chairman of the Oregon Broadband Advisory Council, is one of the many people working to prepare for the worst.

They know the next Cascadia event may not happen in their lifetime. Based on geological evidence of past quakes over 2,000 years, scientists say that in the next 50 years there is a 1 in 3 chance that a partial slip of the Cascadia Subduction Zone will cause an earthquake of at least an 8.0 magnitude, while there is a 1 in 10 chance of a full slip that would cause an earthquake 9.0 or higher.

But they also know they must act on the knowledge they have. If the odds are against us and Cascadia hits sooner rather than later, preparation will save lives. And after the time for saving lives is over, preparation could also help save the economy.

8 million people

More than 8 million people live west of the Cascades in the Cascadia zone, which stretches from Northern California to southern British Columbia. The region is home to major companies including Nike,

Amazon, Boeing and Microsoft, and data centers for tech companies like Facebook and Google dot the region.

Seattle and Portland alone represent \$450 billion in annual economic activity, according to the Cascadia Rising exercise scenario, and billions more are generated through coastal ports that will most certainly be destroyed by a major earthquake and tsunami.

The state estimates that if Cascadia happened now it would take three to five years to rebuild all the roads and bridges that collapsed during the earthquake.

The economic impact of such destruction would be felt across the country. When Japan experienced a magnitude 9.0 earthquake in 2011, one year later the Japan Times reported that 644 companies had gone into bankruptcy because of the earthquake, leaving behind \$8 billion in liabilities and shedding 11,412 jobs.

The Oregon Resilience Plan, written by a state com-

mittee to educate legislators on what needs to be done to prepare for Cascadia, estimates \$32 billion in economic losses for Oregon after Cascadia, unless the state implements major seismic upgrades to buildings, roads, bridges, airports and utility infrastructure.

"We cannot avoid the future earthquake, but we can choose either a future in which the earthquake results in grim damage and losses and a society diminished for a generation, or a future in which the earthquake is a manageable disaster without lasting impact," the report reads. "We need to start preparing now by assessing the vulnerability of our buildings, lifelines, and social systems, and then developing and implementing a sustained program of replacement, retrofit, and redesign to make Oregon resilient to the next great earthquake."

"We know how to engineer buildings, roads, and power lines to withstand this earthquake; the hard part will be to



Associated Press/File Photo

Portland's four oldest bridges are over 100 years old and county engineers estimate seismic retrofits alone are expected to cost at least \$75 million. As it stands now, it would take three to five years to rebuild all the roads and

find the will, commitment, and persistence needed to transform our state."

Aftermath forum

At a Cascadia Aftermath forum last week at Blue Mountain Community College, speakers Franel, Umatilla County emergency manager Tom Roberts and college faculty member Philip Schmitz said it is critical the state continue to plan and to invest in seismic upgrades.

A \$25 million retrofitting

of the Pittcock Building in Portland, for example, could prevent the collapse of the 1913-era building through which all of the state's internet flows.

"This is going to potentially be one of the largest events in recorded history," Roberts told the audience. "It might not happen in our lifetimes, but it is important for all of us today to know what to expect so we can pass that information on to the next generation, so they can pass it on to the next generation, until it does happen."

TV LISTINGS

Evening listings
MONDAY

MONDAY EVENING												FEBRUARY 27	
A	L	6 PM	6:30	7 PM	7:30	8 PM	8:30	9 PM	9:30	10 PM	10:30	11 PM	11:30
2	KATU	(2) KATU News at 6		Jeopardy!	Wheel of Fortune	The Bachelor (N)		When We Rise Chronicles the LGBT Civil Rights movement. (P) Pt. 1 of 4 (N)				KATU News at 11	(35) Jimmy Kimmel
3	KOMO	(4) KOMO 4 News		Jeopardy!	Wheel of Fortune	The Bachelor (N)		When We Rise Chronicles the LGBT Civil Rights movement. (P) Pt. 1 of 4 (N)				KOMO 4 News	(35) Jimmy Kimmel
5	KING	(5) NBC Nightly News	KING 5 News	KING 5 News	Evening	The Voice Contestants battle for a recording contract. (SP) (N)		Taken "Pilot" (P) (N)				KING 5 News	(35) Tonight Show
6	KOIN	(6) KOIN Local 6 at 6	CBS Evening News	Extra	Ent. Tonight	Big Bang Theory	Man Plan (N)	Superior Donuts	2 Broke Girls (N)	Scorpion "Don't Burst My Bubble" (N)		KOIN 6 News @ 11	(35) S. Colbert
7	KIRO	(7) KIRO 7 News	CBS Evening News	The Insider	Ent. Tonight	Big Bang Theory	Man Plan (N)	Superior Donuts	2 Broke Girls (N)	Scorpion "Don't Burst My Bubble" (N)		KIRO News	(35) S. Colbert
8	KGW	(8) KGW News at 6:00 p.m.		Live at Seven	Inside Edition	The Voice Contestants battle for a recording contract. (SP) (N)		Taken "Pilot" (P) (N)				KGW News at 11	(35) Tonight Show
9	KRCW	(9) Last Man Standing	Last Man Standing	Modern Family	Modern Family	Supergirl "Homecoming" (N)		JaneVirgin "Chapter Fifty-Seven" (N)		KGW News at 10	Two and a Half	Two and a Half	Met Your Mother
10	KOPB	(10) This Old House	Business (N)	PBS NewsHour		Antique "Palm Springs (Hour Two)" (N)		An Oregon Experience		Africa's Great Civilizations "Origins/The Cross and the Crescent" (N)			
12	KPTV	(12) 6 O'Clock News		Family Feud	Family Feud	24: Legacy "4:00 PM - 5:00 PM" (N)		APB "Signal Loss" (N)		10 O'Clock News		11 O'Clock News	2 Broke Girls
13	KPDx	(13) Mike & Molly	Mike & Molly	Big Bang Theory	Big Bang Theory	FOX 12's 8 O'Clock News on PDX-TV		FOX 12's 9 O'Clock News on PDX-TV		Family Guy	Family Guy	American Dad	Cleveland Show
13	KCPQ	(13) Modern Family	Modern Family	Big Bang Theory	Big Bang Theory	24: Legacy "4:00 PM - 5:00 PM" (N)		APB "Signal Loss" (N)		Q13 News at 10		Q13 News	The Simpsons
20	TBS	(20) Family Guy	Family Guy	Family Guy	Family Guy	American Dad "Amer. Dad 2/2"		American Dad	Family Guy	Family Guy		Conan (N)	
22	KZJQ	(22) Two and a Half	Two and a Half	Last Man Standing	Last Man Standing	Modern Family	Modern Family	Q13 News at 9		Big Bang Theory	Big Bang Theory	Friends	Friends
29	ESPN	(29) NCAA Basketball Oklahoma at Kansas (L)		SportsCenter		SportsCenter		SportsCenter		SportsCenter		SportsCenter	
30	ESPN2	(30) NCAA Basketball Miami at Virginia Tech (L)		NFL Live		NFL Live		Jalen & Jacoby (N)	E:60 Profile	Nación ESPN		E:60 Pictures	NCAA Basketball
31	NICK	(31) Henry Danger	Henry Danger	Paradise Run	The Thundermans	The Thundermans	Game Shakers	Full House	Full House	Full House		Friends	Friends
32	DISN	(32) Bunk'd	Bizaardvark	K.C. Undercover	Good Luck Charlie	Stuck in Middle	Good Luck Charlie	Liv and Maddie	Liv and Maddie	Bunk'd	Bunk'd	Jessie	Jessie
34	FAM	(34) (5:30) *** Home Alone 2: Lost in New York (92) Joe Pesci, Macaulay Culkin.		Shadowhunters "Bound by Blood" (N)		Shadowhunters "Bound by Blood" (N)		Beyond "Into the Light" (SF) (N)		Shadowhunters "Bound by Blood" (N)		The 700 Club	
35	FMC	(35) (4:40) The Secret Life of Walter Mitty	(55) *** The Secret Life of Walter Mitty			The 2000s "Things Get Real"		The 2000s "Chaos and Crisis"		Yun-Fat Chow, Emmy Rossum, Justin Chatwin.		Dragonball Evolution	Justin Chatwin.
36	ROOF	(36) To Be Announced										Little Women: Atlanta	
39	LIFE	(39) (5:00) NCAA Basketball TCU/Tex. Tech (L)		Mariners Mondays "Any Which Way You Win" (N)						UFC UFC 185			
39	FS1	(39) (5:00) NCAA Basketball Bay/Ok. (L)		Fighter's Cut (N)	UFC Flashback (N)	Fox Sports Live	TMZ Sports (N)	Speak for Yourself		Skip and Shannon: Undisputed Opinions on the biggest sports topics of the day.			
43	SPK	(43) Cops	Cops	Cops	Cops	Cops	Cops	Cops	Cops	Cops	Cops	Cops	Cops
44	COI	(44) Futurama	Futurama	Futurama	Futurama	South Park	South Park	Archer Pt. 1 of 2	Archer Pt. 2 of 2	South Park	South Park	The Daily Show (N) @midnight (N)	
45	HIST	(45) Amer. Pickers "The Empire Picks Back"		A. Pickers "No Stoner Left Turned"		Amer. Pickers "Picked a Peck of Pepper"		Pickers "Hydro Homestead" (N)		(05) Pawn Stars (N) (35) Pawn Stars	(05) Pawn Stars	(05) Pawn Stars	(35) Pawn Stars
46	A&E	(46) The First 48 "Cranked"		The First 48		First 48 "Love Hate/ A Soldier's Life" (N)		Cold Case Files (N)		Bates Motel (N)		(05) The First 48 "Blood on Bourbon"	
47	TLC	(47) Say Yes-Dress	Say Yes-Dress	Say Yes-Dress	Say Yes-Dress	My 40 Year Old Child		Counting On (N)		Suddenly Rich "Daddy Warbucks" (N)		Counting On	
48	DISC	(48) Fast N' Loud "Opening Bid"		Fast N' Loud "Buggin' Out"		Fast N' Loud "The Vomit Comet" (N)		Fast N' Loud (N)		Diesel Brothers (N)		Fast N' Loud	
49	NCGO	(49) The '90s "The Countdown"		The 2000s "End of Innocence"		The 2000s "Things Get Real"		The 2000s "Chaos and Crisis"		The 2000s "Moment of Truth"		The 2000s "Chaos and Crisis"	
50	TNT	(50) (4:00) NBA Basketb. Indiana Pacers at Houston Rockets Site: Toyota Center -- Houston, Texas (L)				Inside the NBA				NBA Basketball Toronto Raptors at New York Knicks		York Knicks	
51	AMT	(51) (4:30) *** Air Force One (97) Gary Oldman, Harrison Ford.		*** Con Air (1997, Action) John Cusack, John Malkovich, Nicolas Cage.						HUMANS (N)		HUMANS	
52	USA	(52) Modern Family	Modern Family	Modern Family	Modern Family	WWE Monday Night Raw				(05) Friday Night Tykes			
53	FOOD	(53) Rachael vs. Guy "Boardwalk Bites"		Rachael vs. Guy "Sink Or Swim"		Baking "Molecular Kidstronomy" (N)		Cake Wars "Champs: Shrek"		Diners, Drive-Ins	Diners, Drive-Ins	Diners, Drive-Ins	Diners, Drive-Ins
54	HGTV	(54) Love It or List It		Love It or List It		House Hunters (N) House Hunters		Love/List "Too Close for Comfort" (N)		House Hunters (N) House Hunters		TinyHouseHunters	TinyHouseHunters
55	FX	(55) (5:00) *** The Amazing Spider-Man (12) Emma Stone, Andrew Garfield.		*** The Amazing Spider-Man 2 (2014, Action) Emma Stone, Jamie Foxx, Andrew Garfield.						The Amazing Spider-Man 2			
57	CNN	(57) Anderson Cooper 360		CNN Tonight With Don Lemon		CNN Tonight With Don Lemon		Anderson Cooper 360		Anderson Cooper 360		CNN Tonight With Don Lemon	
58	FNC	(58) Tucker Carlson Tonight		Hannity		The O'Reilly Factor		Tucker Carlson Tonight		Hannity		The First 100 Days	
61	Shark	(61) Shark Tank		Shark Tank		Shark Tank		Shark Tank		Shark Tank		Paid Program	Paid Program
63	BRV	(63) Vanderpump Rules "Into the Closet"		VanderpumpR "Beads, Beers and Tears"		VanderpumpR "Man Tears and Braziers"		Vanderpump Rules "Drag Battle" (N)		Summer House (N)		WatchWhat (N)	Vanderpump Rules
64	TRM	(64) (5:00) To Be or Not To Be		*** To Each his Own (46) Roland Culver, Mary Anderson, Olivia De Havilland.		(15) *** Tom Jones (1963, Comedy) Susannah York, Hugh Griffith, Albert Finney.						Tom, Dick & Harry	
65	SYFY	(65) (5:00) *** Skyfall (2012, Action) Helen McCrory, Ralph Fiennes, Daniel Craig.		*** Mission: Impossible III (2006, Action) Philip Seymour Hoffman, Keri Russell, Tom Cruise.						*** Jeepers Creepers 2 (03, Hor) Jonathan Breck, Ray Wise.			
162	RFD	(162) Rancher (N)	Red Steagall	Horse Master	Inside Reining	Craig Cameron	Rural Eve. News	Rural America "Live" Tomlyn		American Rancher	Red Steagall	Product Showcase	