

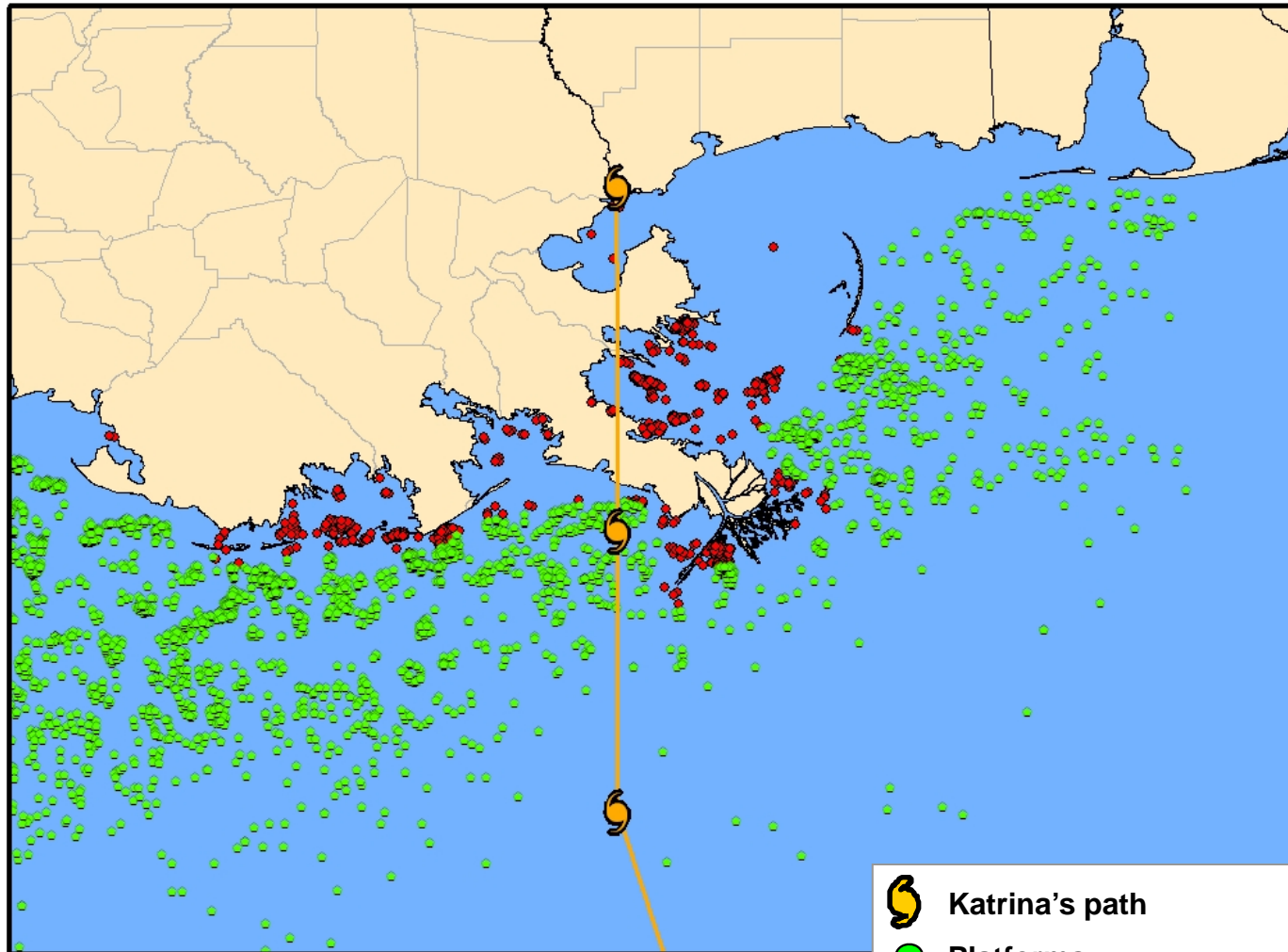
The Impacts of the Recent Hurricanes to Energy Infrastructure and Markets




Presentation to the Baton Rouge City Club
Distinguished Lecture Series

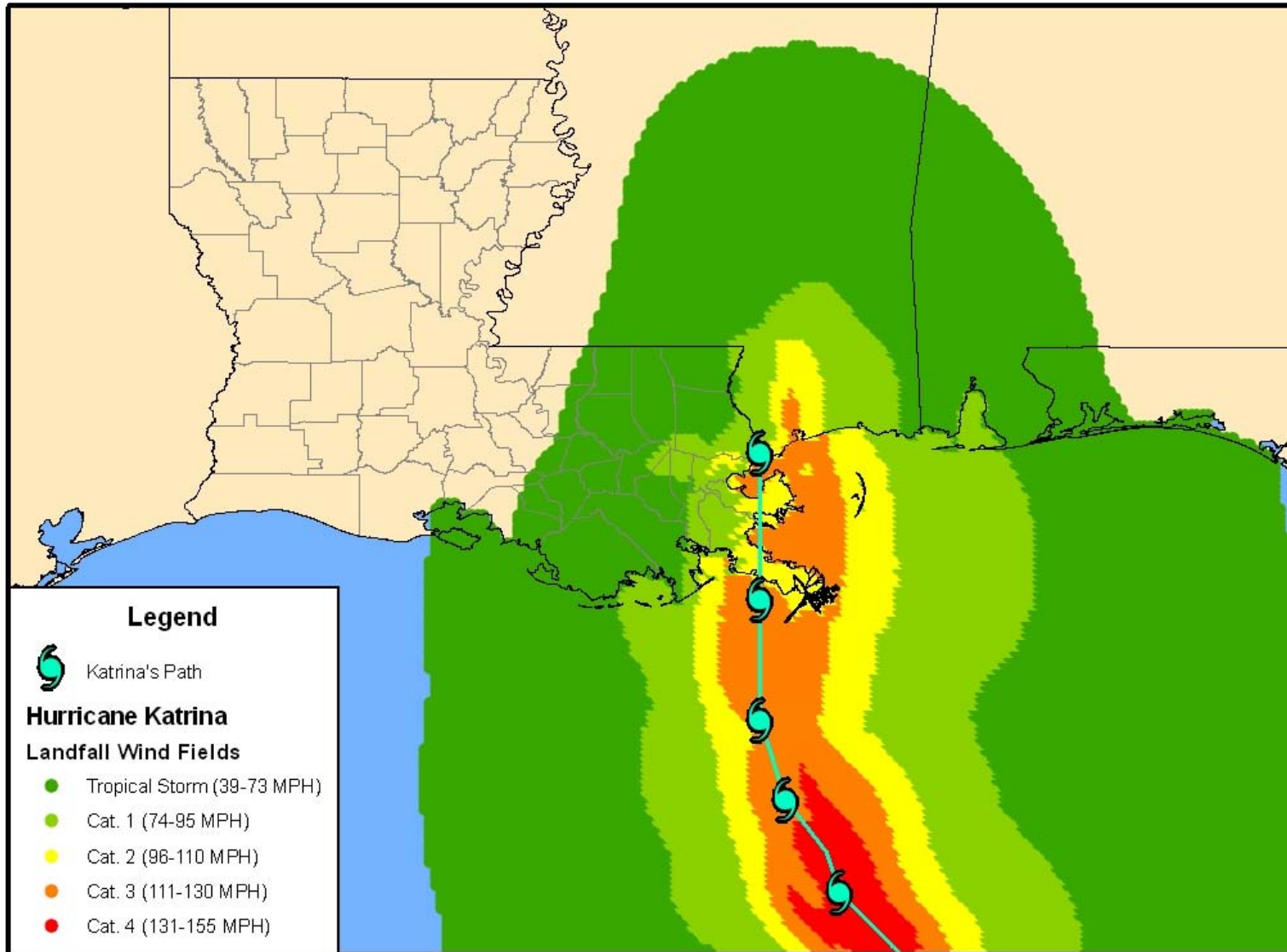
October 13, 2005

David E. Dismukes
Center for Energy Studies
Louisiana State University





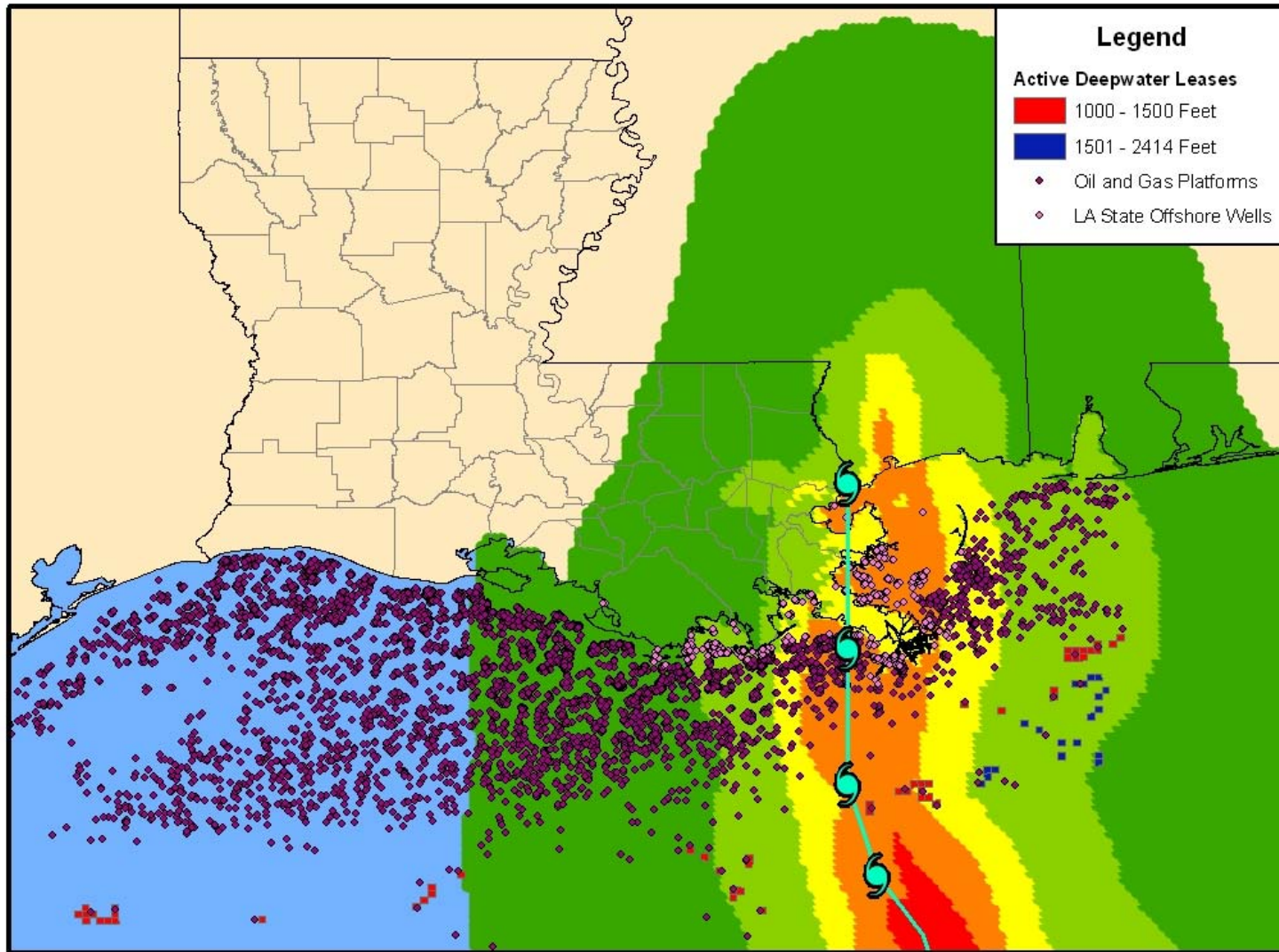
-  Katrina's path
-  Platforms
-  Louisiana state offshore wells





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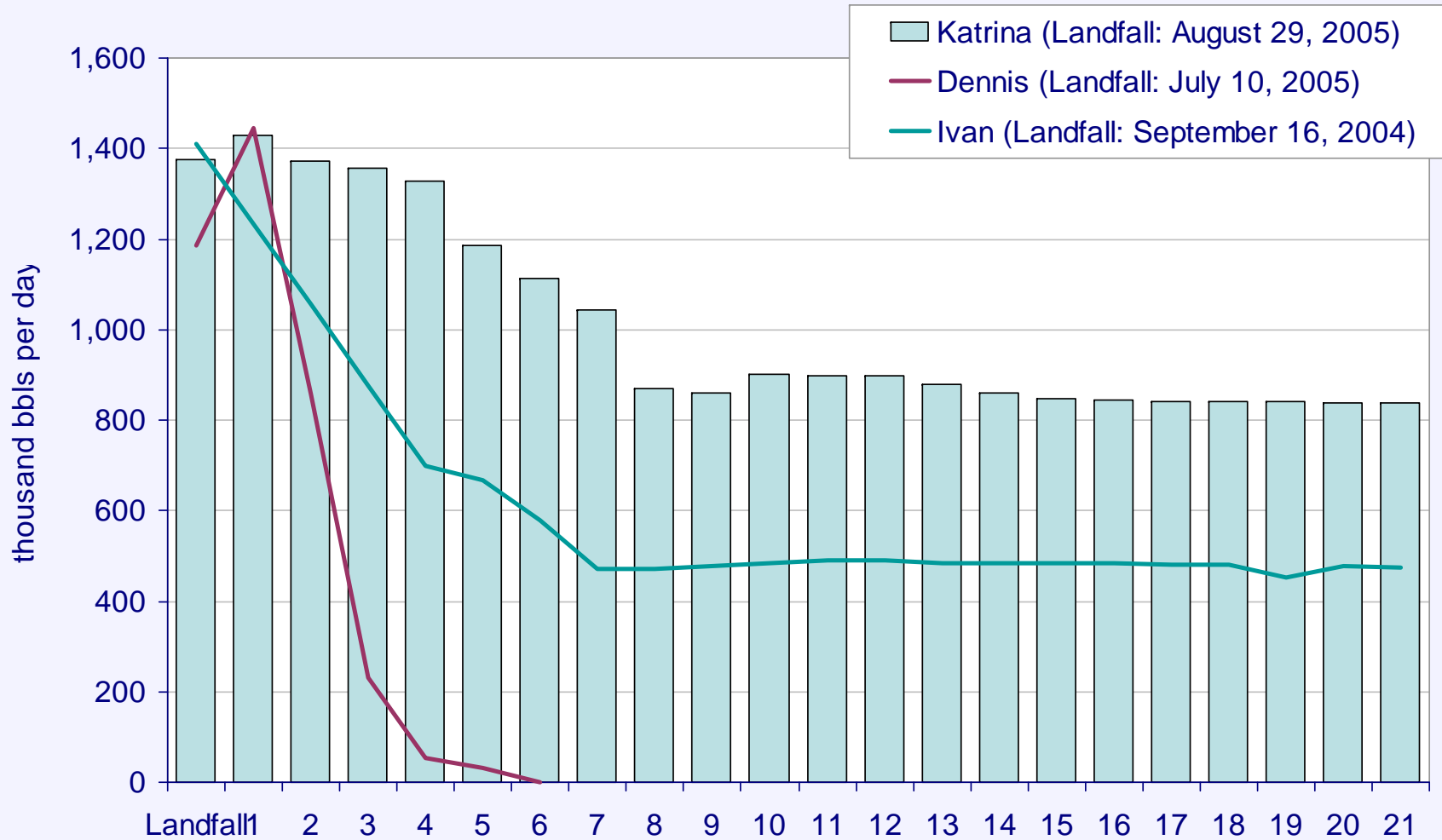
Platforms/Structures Impacted by Katrina





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Katrina versus Other Major Hurricanes Shut-in Oil Production

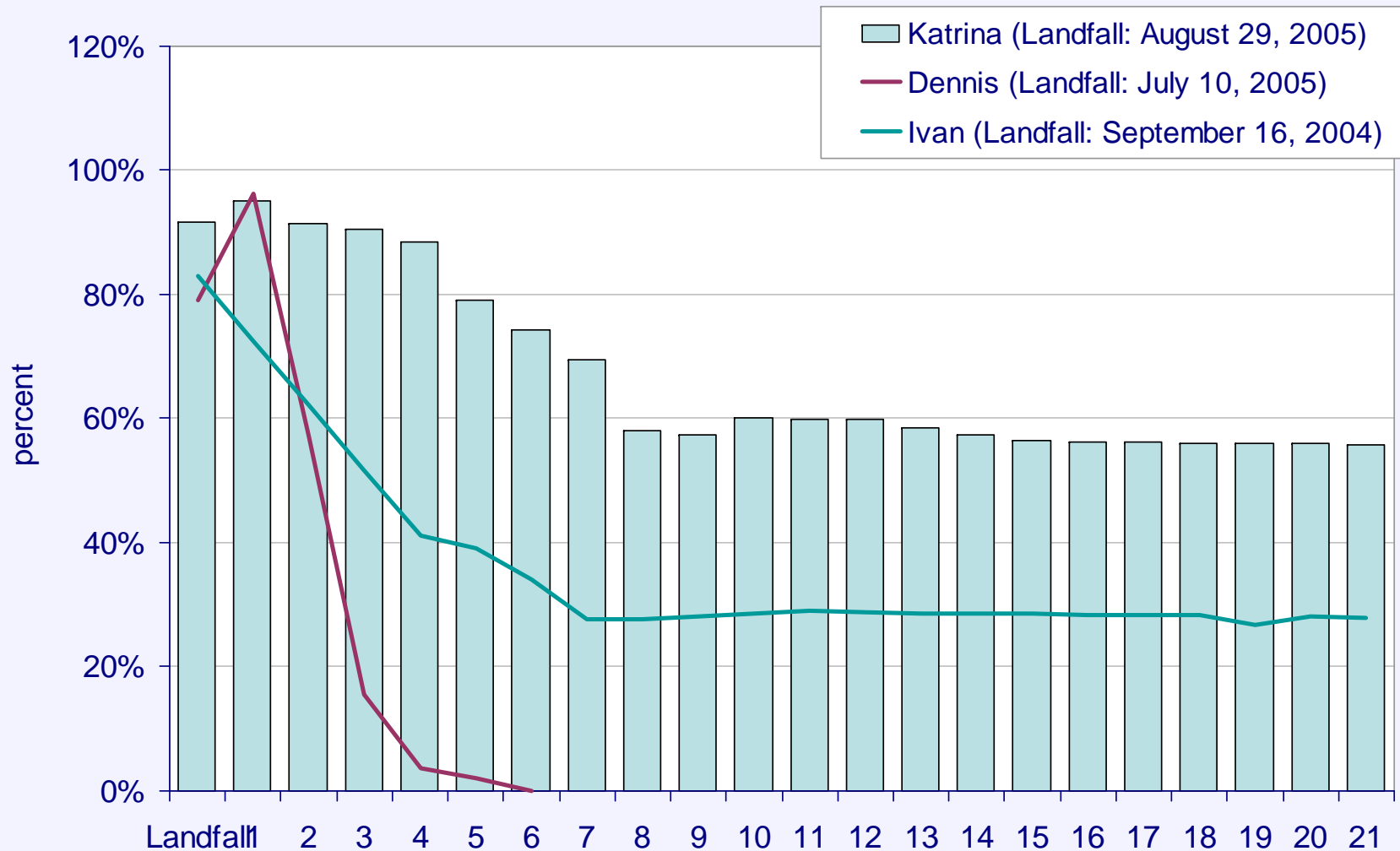


Source: Minerals Management Service



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Katrina versus Other Major Hurricanes - Shut-in Oil Production as a Percent of Daily GOM Production



Source: Minerals Management Service

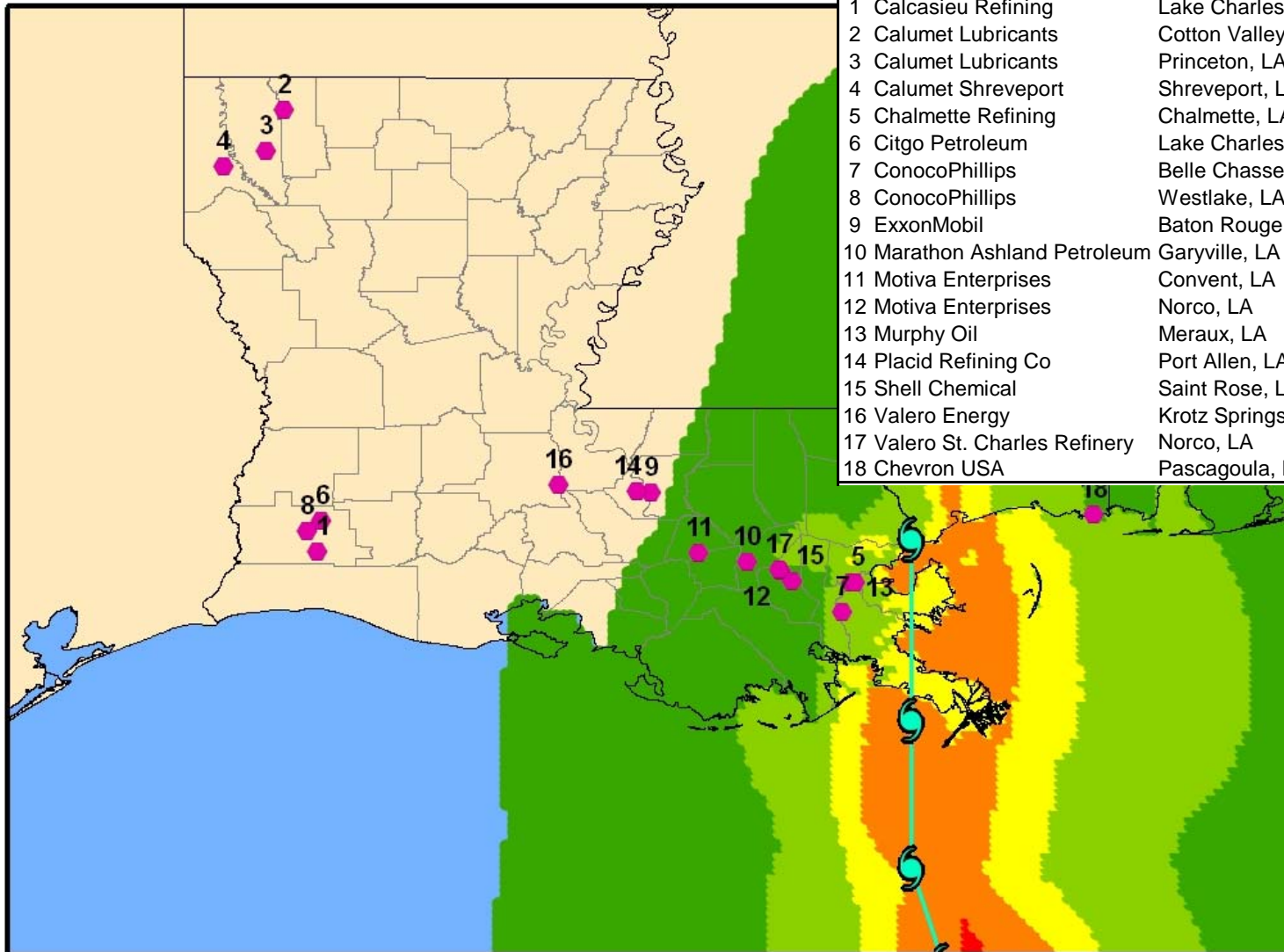


Refineries Impacted by Katrina Gulf Coast, Port Arthur and Lake Charles

Company	Location	Processing Capacity (barrels per day)	Status (as of August 31)
ExxonMobil	Baton Rouge, LA	493,500	reduced runs
ChevronTexaco	Pascagoula, MS	325,500	shutdown
Citgo	Lake Charles, LA	324,300	total supply loss
ConocoPhillips	Belle Chasse, LA	247,000	shutdown
Marathon	Garyville, LA	245,000	shutdown
ConocoPhillips	Lake Charles, LA	239,400	total supply loss
Motiva (Shell)	Convent, LA	235,000	shutdown
Motiva (Shell)	Norco, LA	226,500	shutdown
Total	Port Arthur, TX	211,500	reduced runs
ExxonMobil	Chalmette, LA	187,200	shutdown
Valero	St. Charles	185,000	shutdown
Murphy	Meraux	120,00	shutdown
Valero	Krotz Springs, LA	80,000	reduced runs
Shell Chemical	Saraland, AL	80,000	?
Shell Chemical	St Rose, LA	55,000	shutdown
Placid Oil	Port Allen, LA	48,500	reduced runs



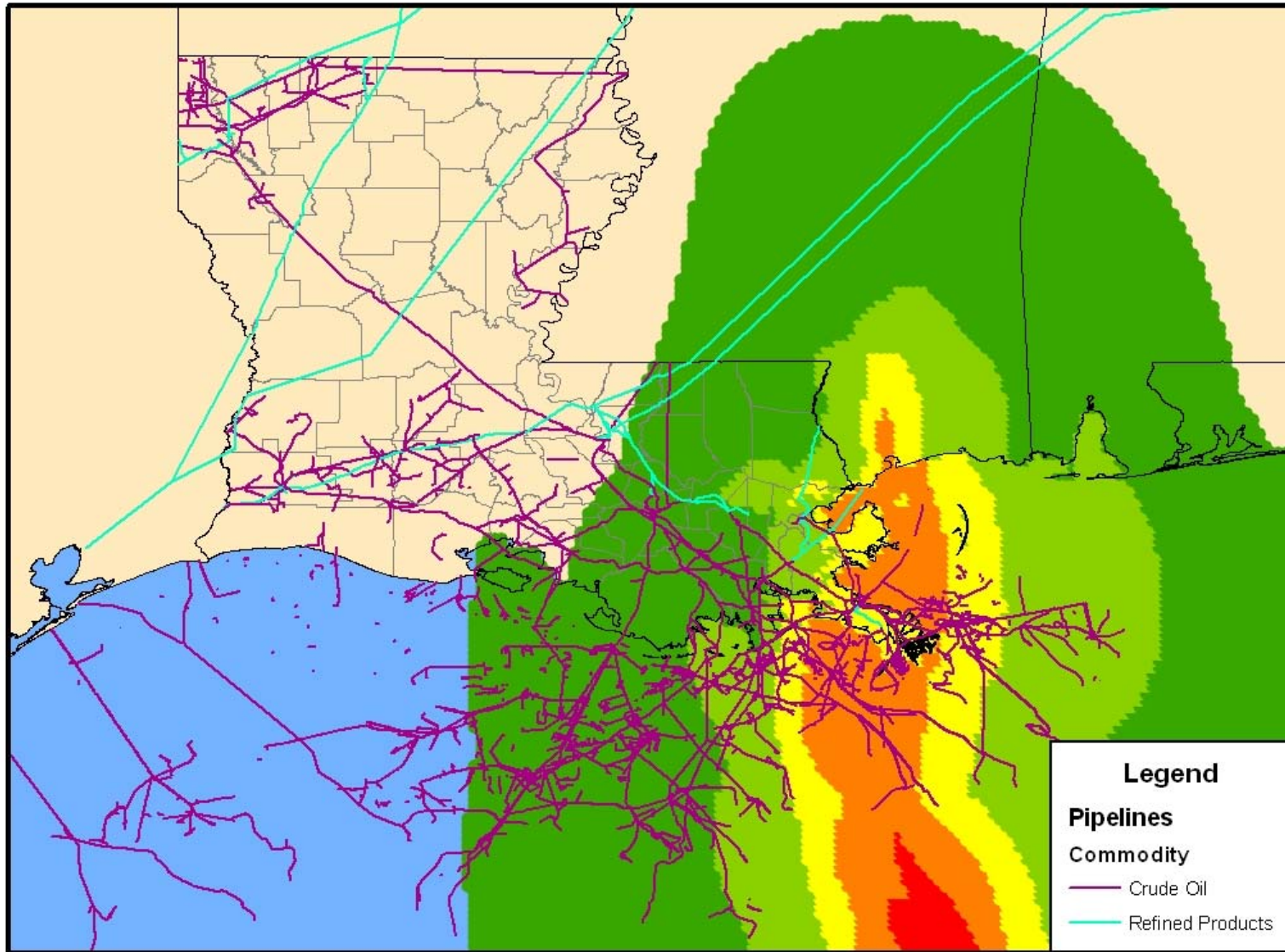
Refineries Shutdown Due to Katrina

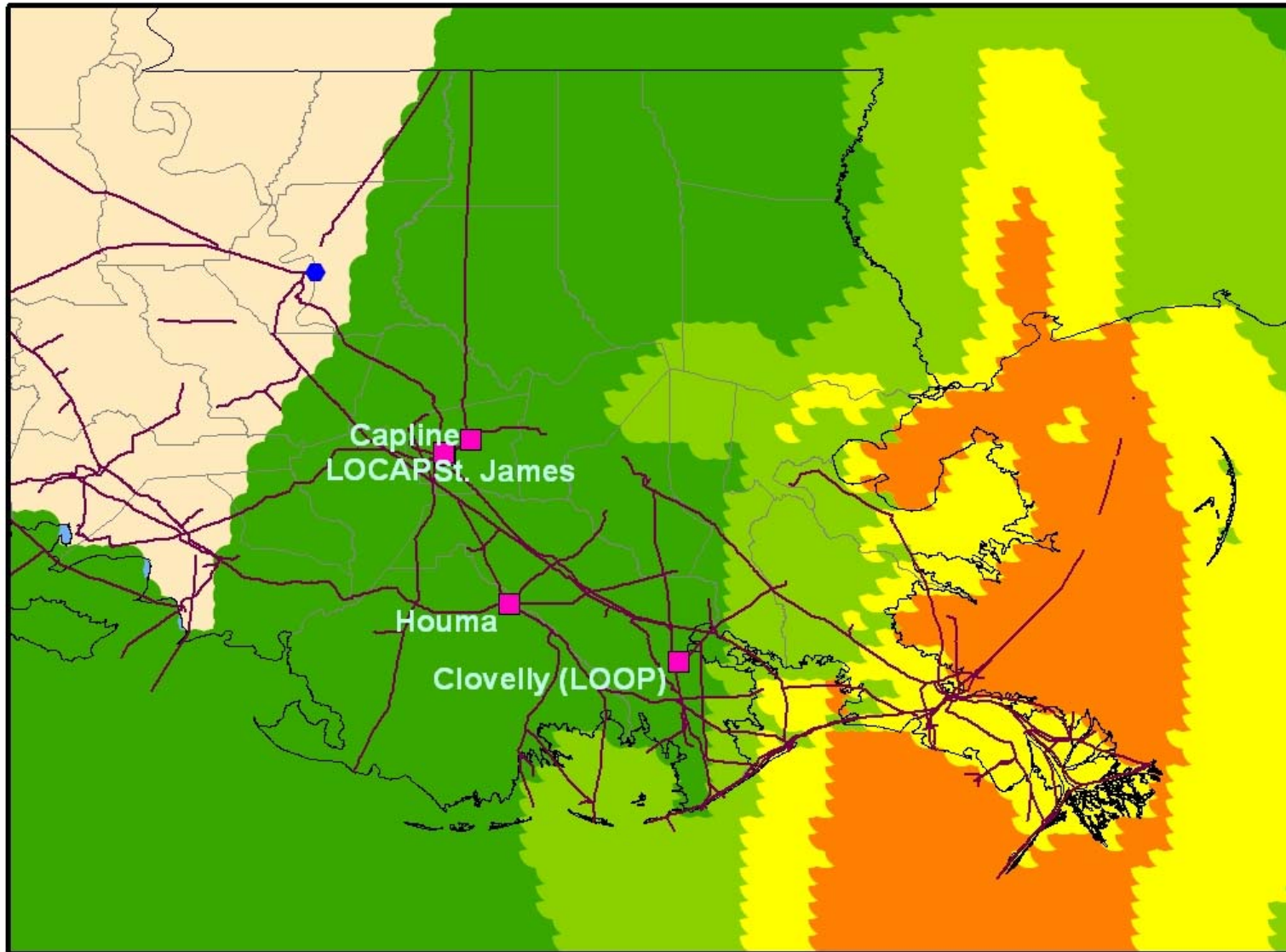


Refinery	Location	Capacity (bbls/day)	
1	Calcasieu Refining	Lake Charles, LA	30,000
2	Calumet Lubricants	Cotton Valley, LA	13,020
3	Calumet Lubricants	Princeton, LA	8,300
4	Calumet Shreveport	Shreveport, LA	35,000
5	Chalmette Refining	Chalmette, LA	187,200
6	Citgo Petroleum	Lake Charles, LA	324,300
7	ConocoPhillips	Belle Chasse, LA	247,000
8	ConocoPhillips	Westlake, LA	239,400
9	ExxonMobil	Baton Rouge, LA	493,500
10	Marathon Ashland Petroleum	Garyville, LA	245,000
11	Motiva Enterprises	Convent, LA	235,000
12	Motiva Enterprises	Norco, LA	226,500
13	Murphy Oil	Meraux, LA	120,000
14	Placid Refining Co	Port Allen, LA	48,500
15	Shell Chemical	Saint Rose, LA	55,000
16	Valero Energy	Krotz Springs, LA	80,000
17	Valero St. Charles Refinery	Norco, LA	185,003
18	Chevron USA	Pascagoula, MS	325,000



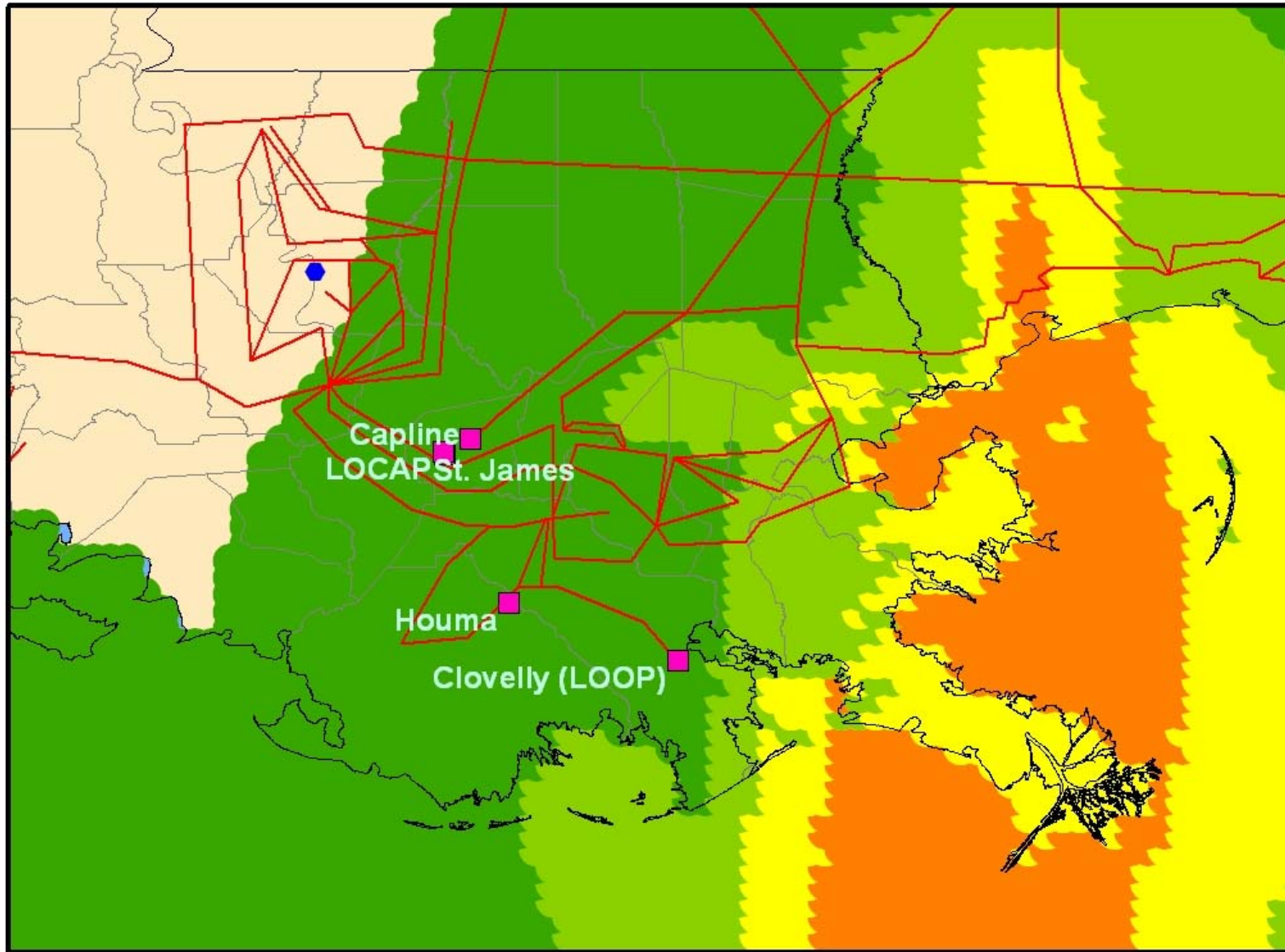
Crude and Product Pipelines Impacted by Katrina





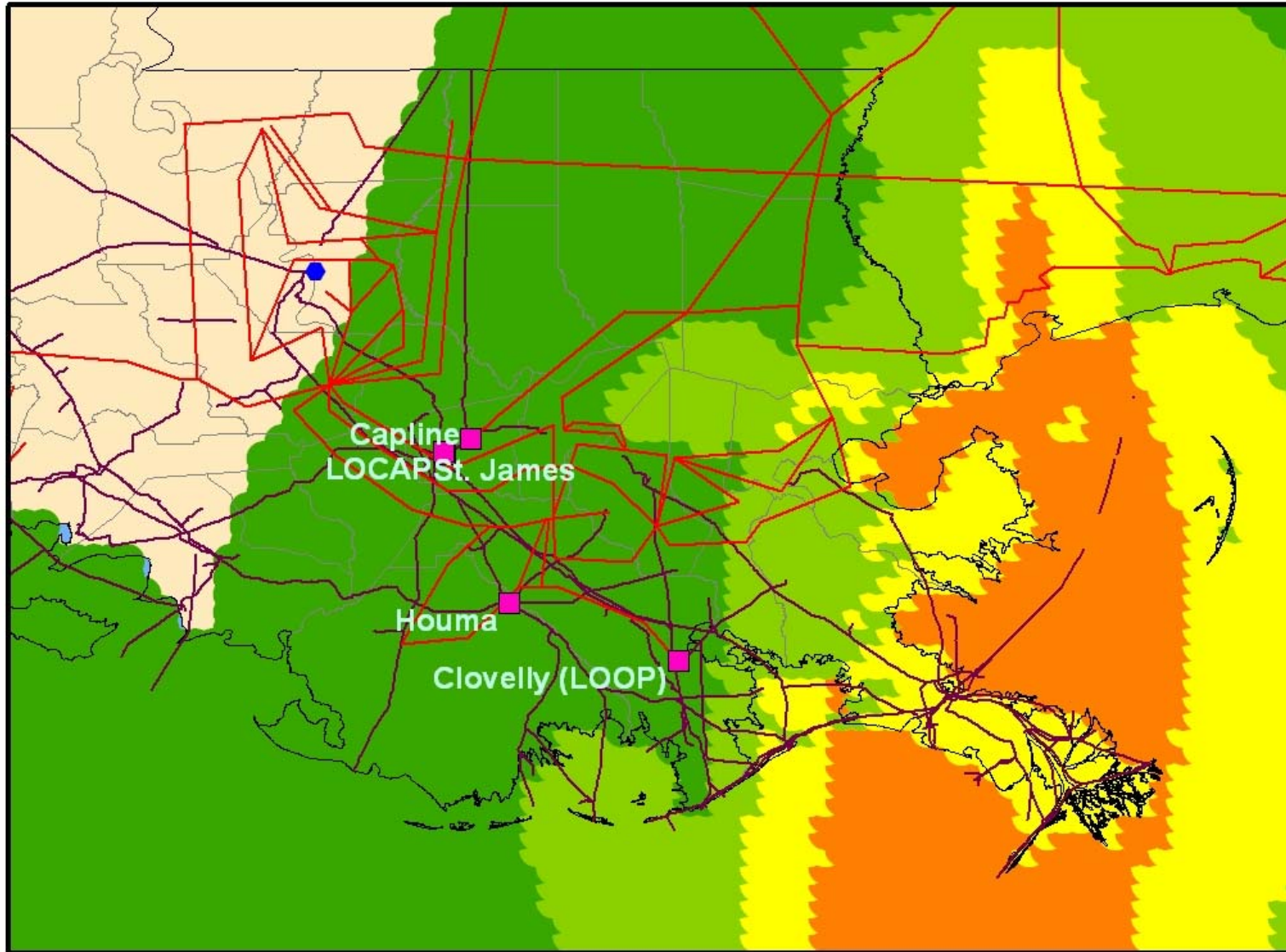


Critical Electricity Transmission Lines Impacted by Katrina





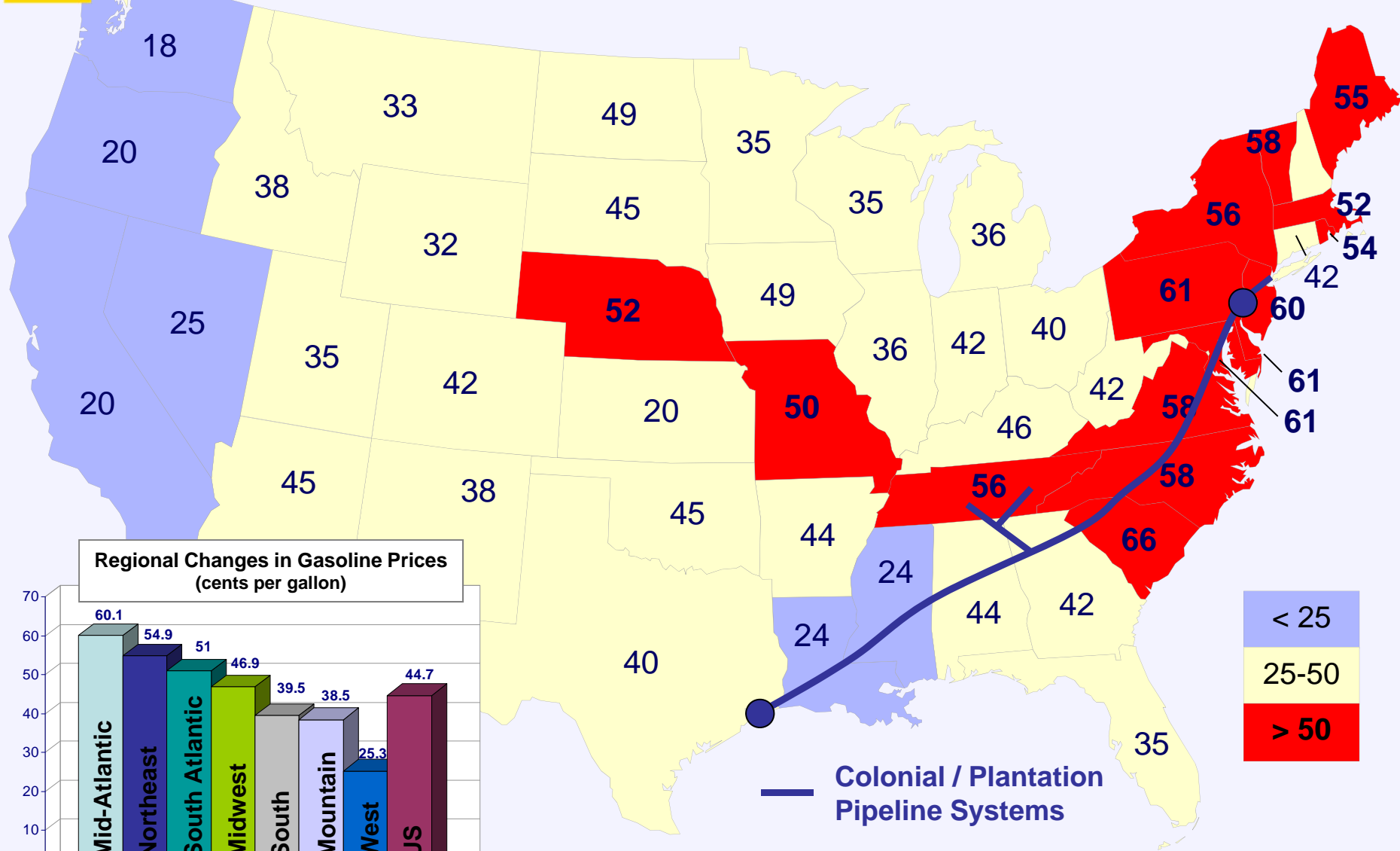
Critical Terminals and the Power-Pipeline Infrastructure





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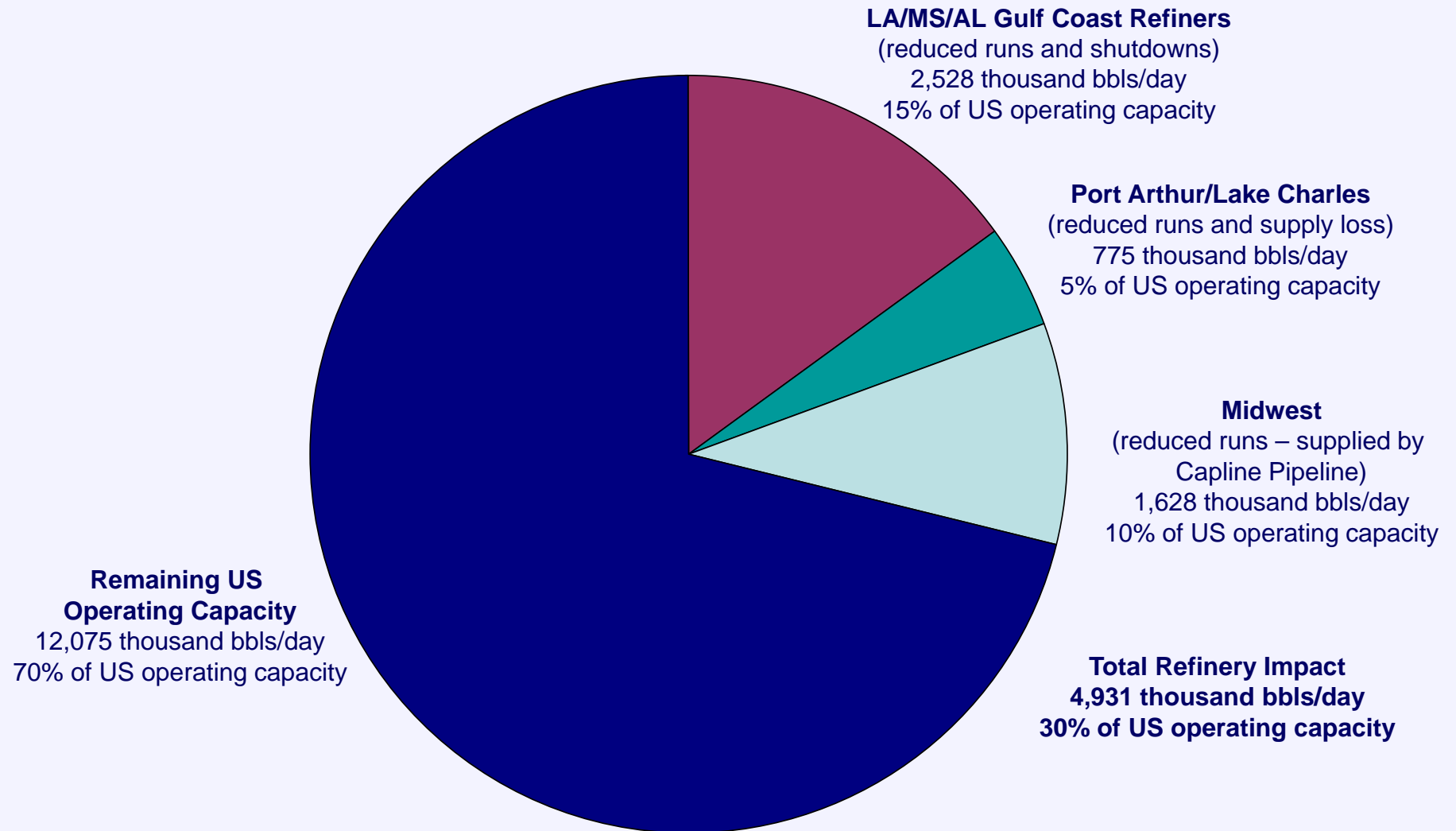
Gasoline Price Increases August 30, 2005 to September 6, 2005



Source: American Petroleum Institute



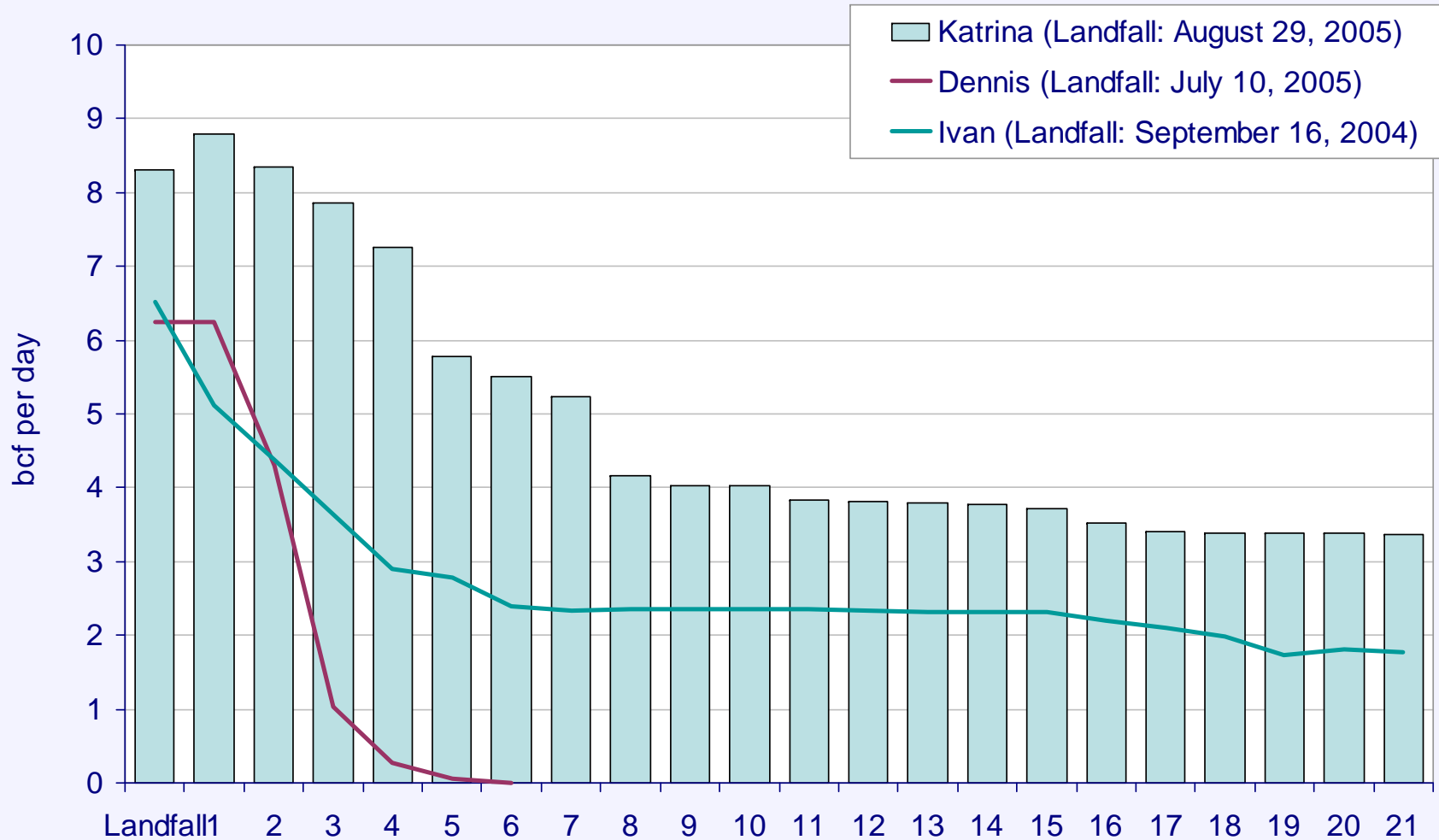
Total Immediate Refinery Impact





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Katrina versus Other Major Hurricanes Shut-in Natural Gas Production

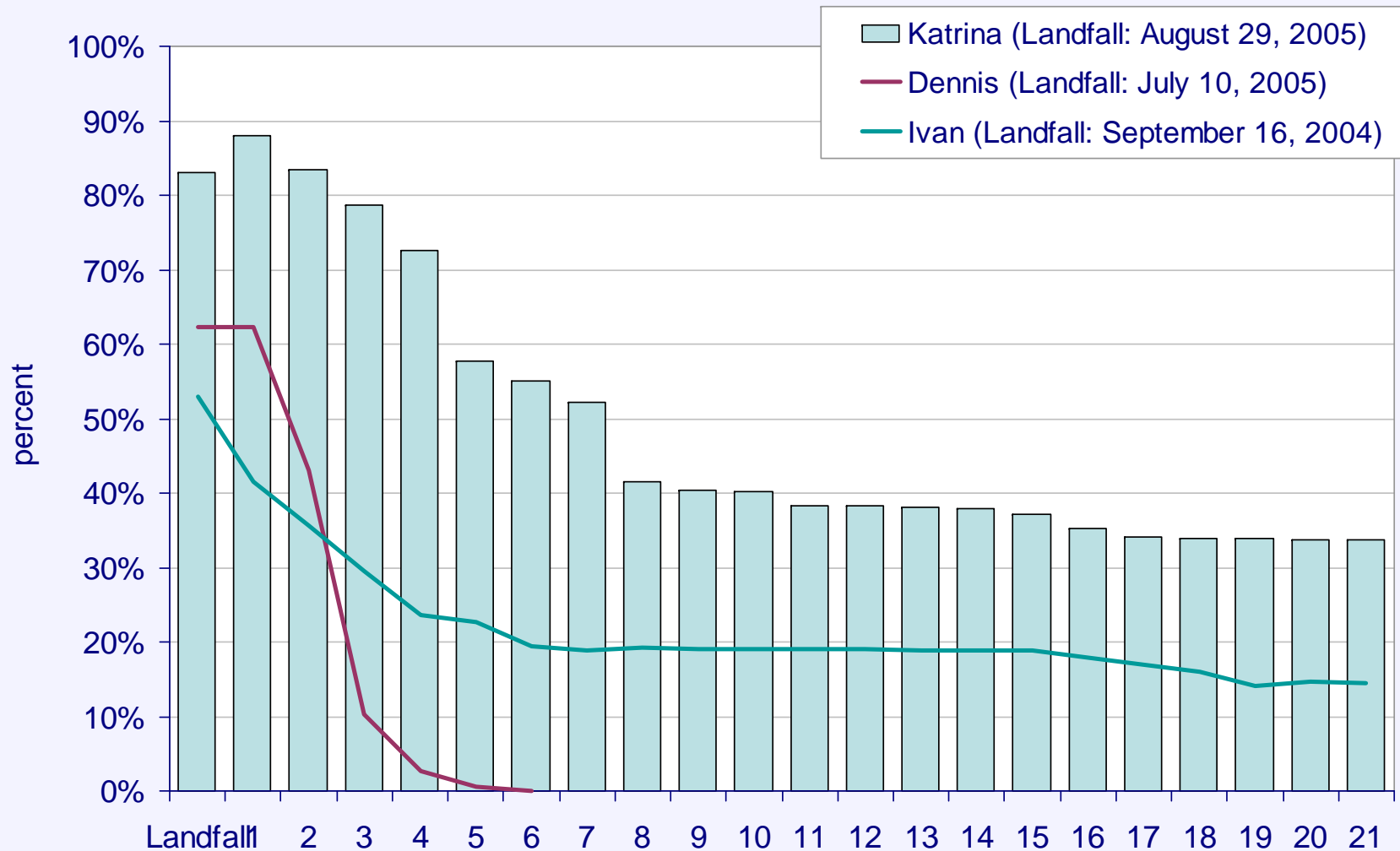


Source: Minerals Management Service



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Katrina versus Other Major Hurricanes - Shut-in Gas Production as a Percent of Daily GOM Production

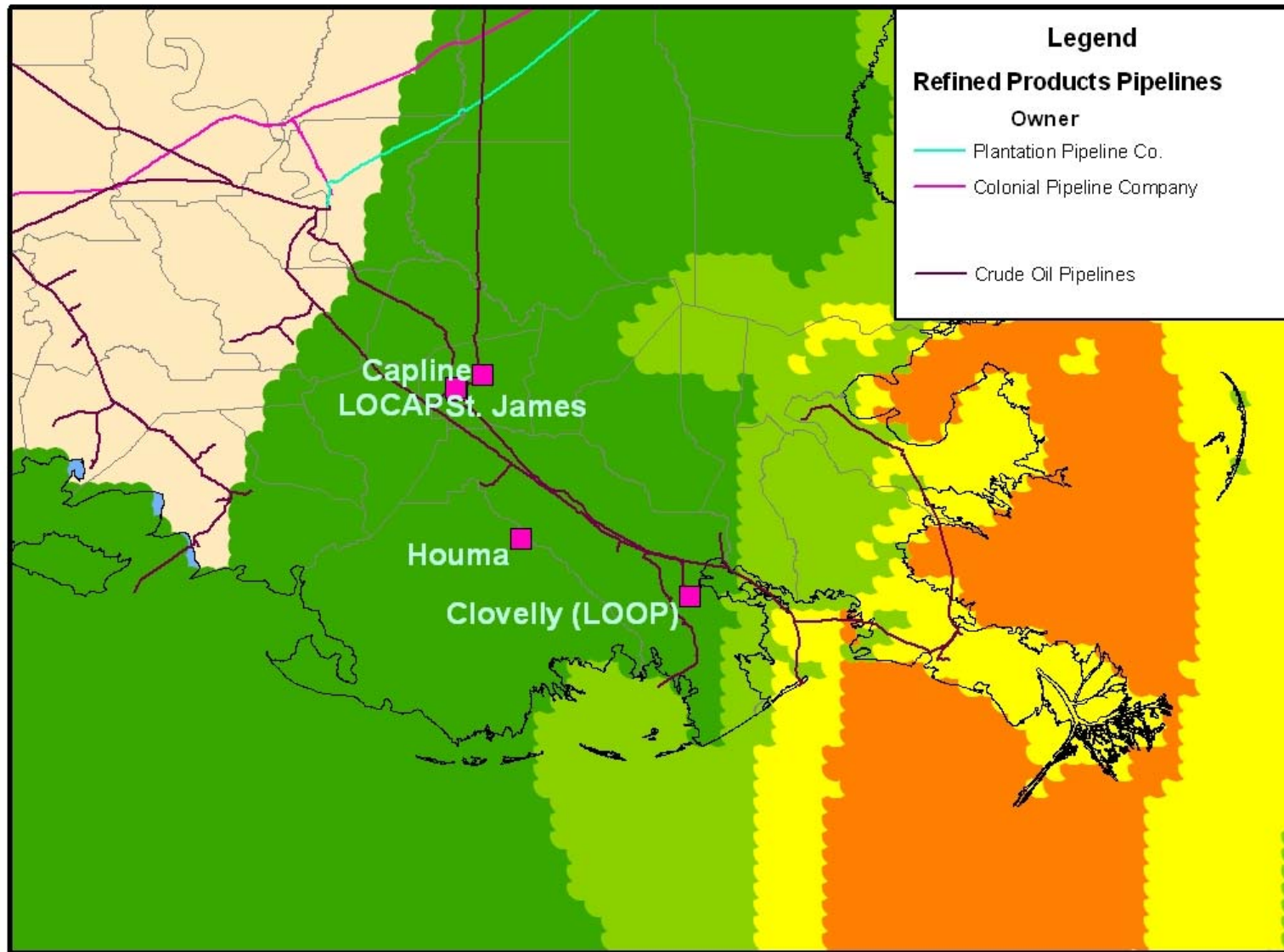


Source: Minerals Management Service



Number of Natural Gas Processing Facilities Out

Plant	Location	Capacity as of Jan 1, 2005 ----- (MMcf/d) -----	2004 Average Throughput	Status (as of September 10)
Duke Energy	Bay, AL	600	172	available for service, but waiting on pipeline outlet for liquids
BP	Pascagoula, MS	1,000	768	power restored. waiting for pipelines to deliver gas
Dynegy	Venice, LA	1,300	997	seawater damage. Could take 3-6 months to repair
Dynegy	Yscloskey, LA	1,850	1,343	seawater damage. Could take 3-6 months to repair
Enterprise Prod.	Toca, LA	1,100	468	assessment ongoing
ExxonMobil	Garden City, LA	630	n.a.	waiting on power
ExxonMobil	Grand Isle, LA	115	72	waiting on power
Marathon	Burns Point, LA	200	60	waiting on power





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Power Outages Number of Customers

State Outage Data August 30, 2005 (as of 3 PM)			
State	Number of Customers without Power	Total Customers	Percent of Customers without Power
Alabama	624,427	2,339,004	27%
Florida	194,856	9,075,577	2%
Georgia	12,500	4,156,052	0%
Louisiana	890,294	2,130,925	42%
Mississippi	909,173	1,420,571	64%
Total	2,631,250	19,122,129	14%



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Power Outages Generating Stations

Company	Power Plant	Location	Nameplate Capacity (MW)
Entergy Louisiana	Ninemile Point	Westwego, LA	2,142
Entergy Louisiana	Baxter Wilson	Vicksburg, MS	1,328
Entergy New Orleans	Michoud	New Orleans, LA	959
Entergy New Orleans	AB Patterson 3 & 4	New Orleans, LA	133
Mississippi Power	Daniel	Escatawpa	1,064
Mississippi Power	Watson	Gulfport, MS	1,012



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Power Outages Generating Stations – Entergy Patterson



Source: Entergy



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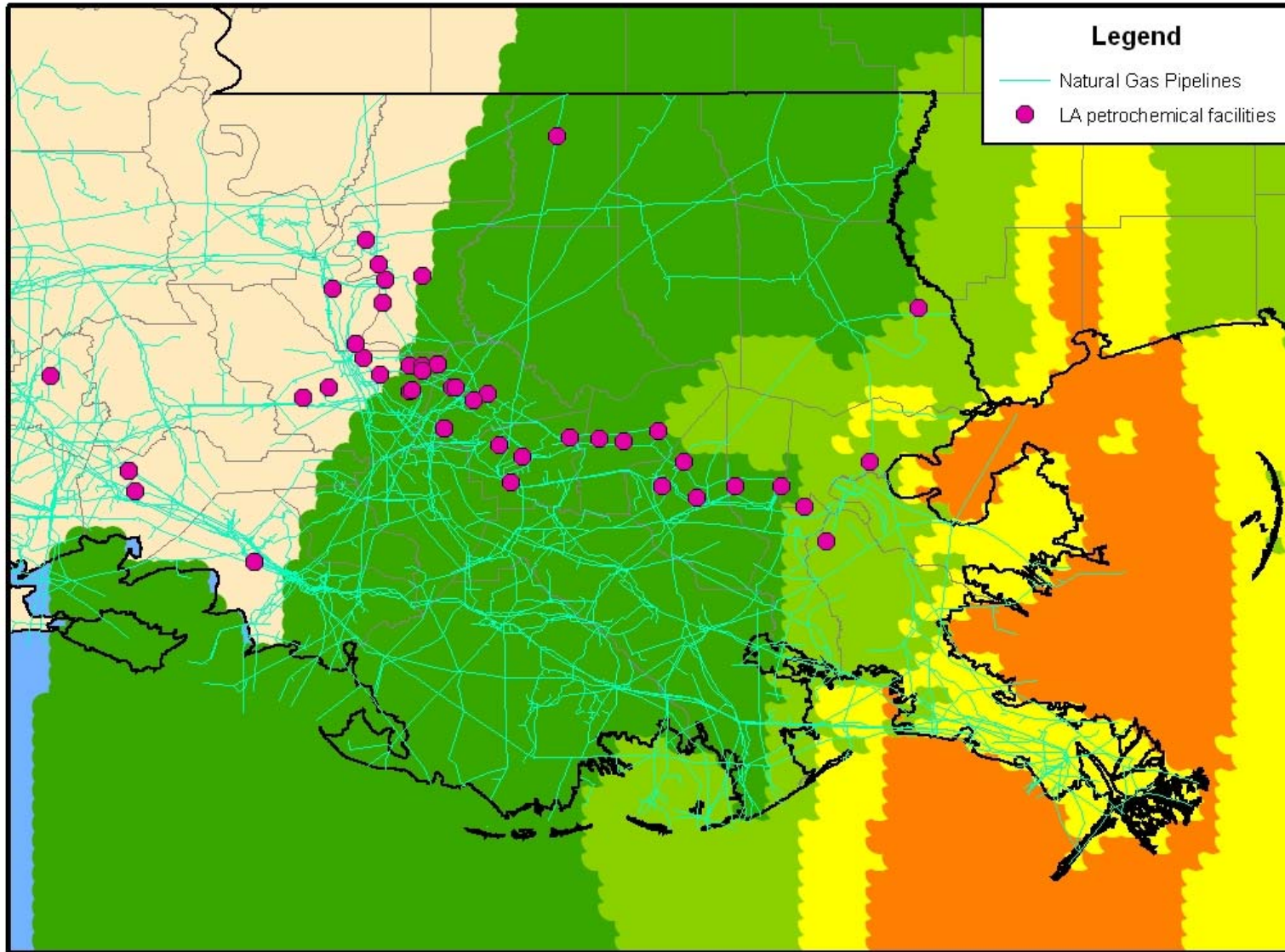
Power Outages Substation Damage



Source: Entergy



Petrochemical Facilities Impacted by Katrina





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Shell Mars Tension Leg Platform



Source: Shell.com



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Ocean Warwick Dauphin Island, AL





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Semi-Sub Stuck Under Bridge North Mobile Bay



Photo via Noble Drilling and GlobalSantaFe



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Venice Port, Supply & Crew Bases





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Chevron Refinery Pascagoula, MS



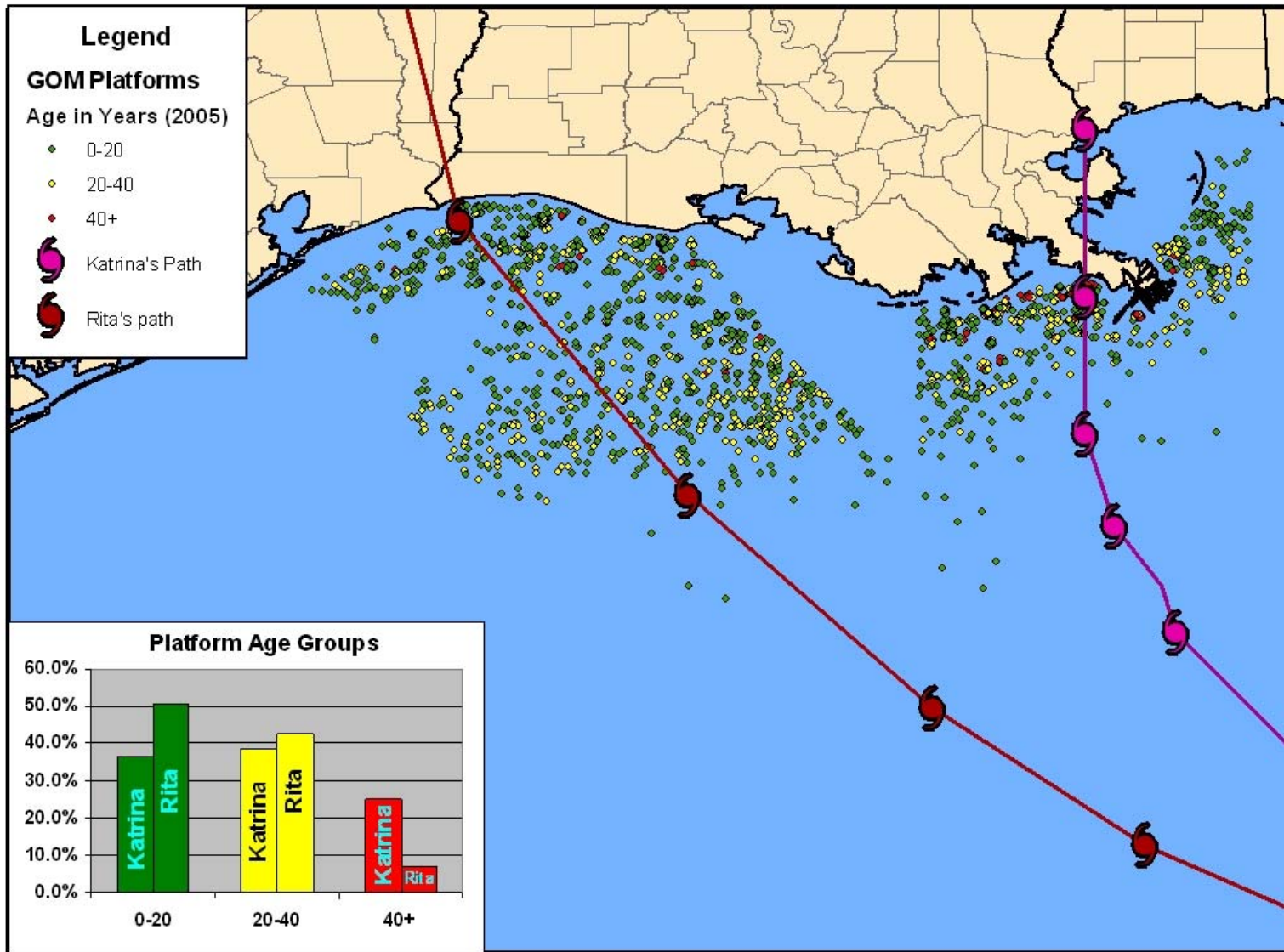


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Then,
Along Comes Rita



Platforms/Structures Impacted by Rita





Status / Operator	Rig Name	Rig Type	Year Built	Notes
Major Damage				
Chevron	GSF Adriatic VII	Jackup	1983	Ran aground in shallow waters offshore Louisiana; severe damage
Res Tech./ADTI	GSF High Island III	Jackup	1980	Ran aground in shallow waters offshore Louisiana; severe damage
Arena/ADTI	Noble Joe Alford	Submersible	1982	Drifted approx. 8 miles. Damage comprised of bent or broken support members below the hull
BHP Billiton	Noble Max Smith	Semisub	1999	Drifted 123 miles. Principal damage is large hole in starboard outboard column, a crossover deck, and the main deck outboard of an anchor winch.
Newfield	Rowan Louisiana	Jackup	1975	The hull apparently detached from its legs and is aground offshore Louisiana.
Minor Damage				
LLOG	Ocean Saratoga	Semisub	1976	Rig grounded in 35' of water on Vermilion 111.
Kerr McGee	Ocean Star	Semisub	1974	Rig grounded in 35' of water in Eugene Island 142.
ExxonMobil	ENSCO 68	Jackup	1976	Drill floor shifted.
Energy Resource Technology	ENSCO 69	Jackup	1976	Skid-off drilling package shifted on the oil company platform.
Apache	ENSCO 90	Jackup	1982	Rig is listing on location at South Marsh 130.
Chevron	Hercules 21	Jackup		Rig listing on Main Pass 41.
Petroquest	Barge 300	Inland Barge		Rig submerged on location; water damage to the electrical, power, mud pump and other systems.
Nabors Offshore	Dolphin 111	Jackup	1982	Windows in the pilot house and quarters blown out; water damage to control systems and the quarters.
Houston Exploration	Pool 54	Jackup	1982	Mast was blown over but Nabors has a substitute mast available and should be able to return the rig to service in a few weeks.
Petrobras	Noble Lorris Bouzigard	Semisub	1975	Broke some mooring lines, remaining lines holding the unit in position approximately 0.8 of a mile off its original location.
Adrift				
Kerr McGee	Noble Amos Runner	Semisub	1999	Rig drifted 75 miles off location.
Anadarko	Noble Paul Romano	Semisub	1998	Rig Drifted 118 miles off location.
Chevron	Noble Therald Martin	Semisub	1977	Rig drifted 89 miles off location
Hunt	Rowan Fort Worth	Jackup	1978	Unable to locate rig.
Remington O&G	Rowan Halifax	Jackup	1982	Rig drifted off pre-storm location.
Remington O&G	Rowan Odessa	Jackup	1976	Rig moved off pre-storm location.
Shell	Deepwater Nautilus	Semisub	2000	Moved 40 miles south of pre-storm location.
BP	Transocean Marianas	Semisub	1998	Moved 130 miles norwest of pre-storm location



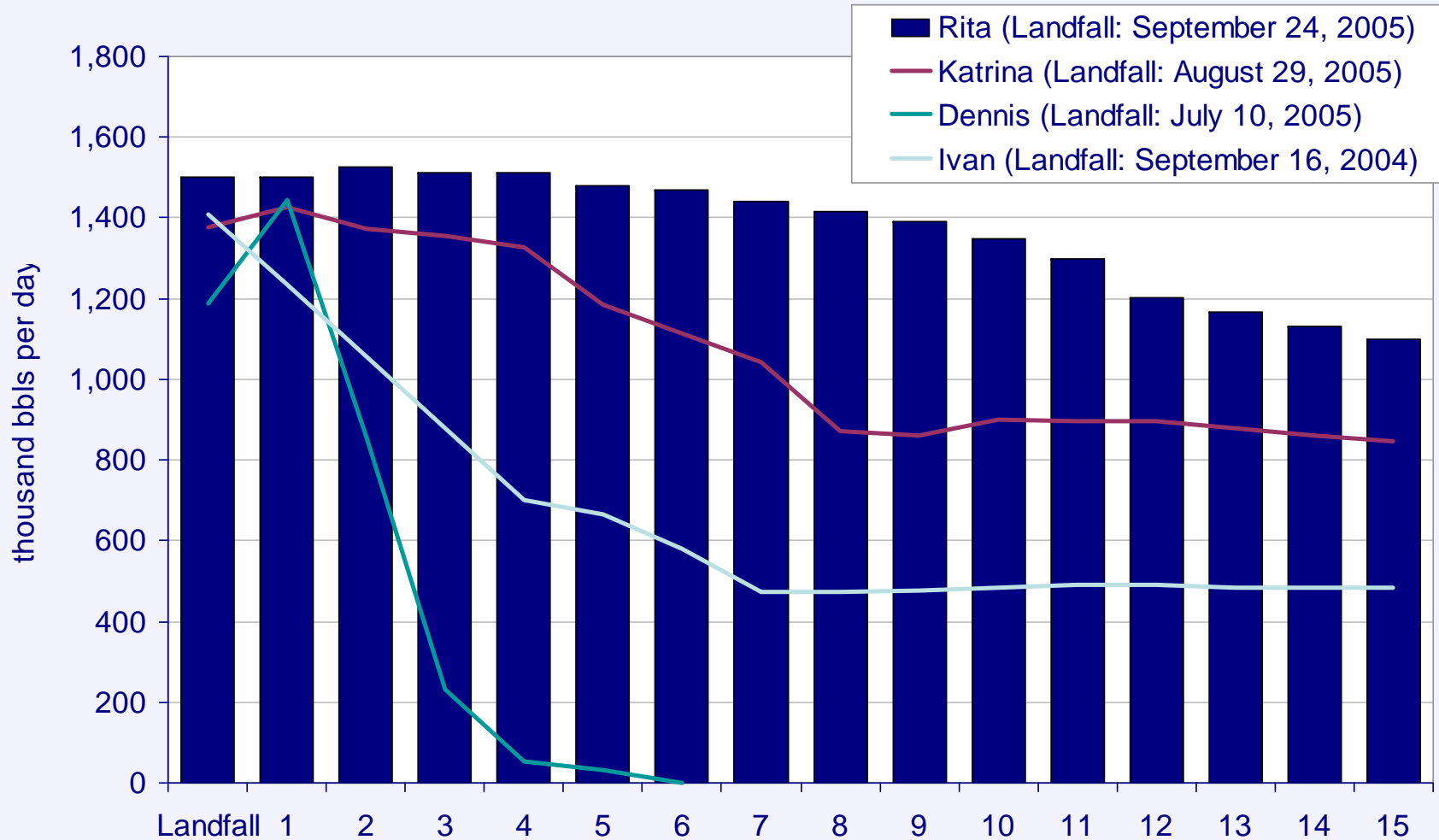
Date	Shut-in Oil Production (bbls/day)	Percent of Daily GOM Oil Production (%)	Rita Cumulative Shut-in Oil Production (bbls)	Percent of Annual GOM Oil Production (%)	Total Cumulative Shut-in Oil Production ¹ (bbls)	Percent of Annual GOM Oil Production (%)
20-Sep-05	877,275	58.5%	877,275	0.2%	26,000,491	4.7%
21-Sep-05	1,097,357	73.2%	1,974,632	0.4%	27,104,502	5.0%
22-Sep-05	1,379,000	91.9%	3,353,632	0.6%	28,483,502	5.2%
23-Sep-05	1,486,877	99.1%	4,840,509	0.9%	30,280,661	5.5%
24-Sep-05	1,500,898	100.0%	6,341,407	1.2%	31,781,559	5.8%
25-Sep-05	1,501,863	100.0%	7,843,270	1.4%	33,283,422	6.1%
26-Sep-05	1,527,630	100.0%	9,370,900	1.7%	34,811,397	6.4%
27-Sep-05	1,512,937	100.0%	10,883,837	2.0%	36,361,383	6.6%
28-Sep-05	1,511,715	100.0%	12,395,552	2.3%	37,881,777	6.9%
29-Sep-05	1,478,780	98.6%	13,874,332	2.5%	39,360,557	7.2%
30-Sep-05	1,467,577	97.8%	15,341,909	2.8%	40,828,134	7.5%
3-Oct-05	1,391,926	92.8%	1,391,926	0.3%	45,119,329	8.2%
4-Oct-05	1,349,617	90.0%	2,741,543	0.5%	46,457,059	8.5%
5-Oct-05	1,299,928	86.7%	4,041,471	0.7%	47,756,987	8.7%
6-Oct-05	1,202,364	80.2%	5,243,835	1.0%	48,959,351	8.9%
7-Oct-05	1,162,913	77.5%	6,406,748	1.2%	50,105,764	9.2%
11-Oct-05	1,062,530	70.8%	1,062,530	0.2%	54,557,243	10.0%

Note: ¹ cumulative production is as of August 26, 2005
Source: Minerals Management Service



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Rita versus Other Major Hurricanes Shut-in Oil Production

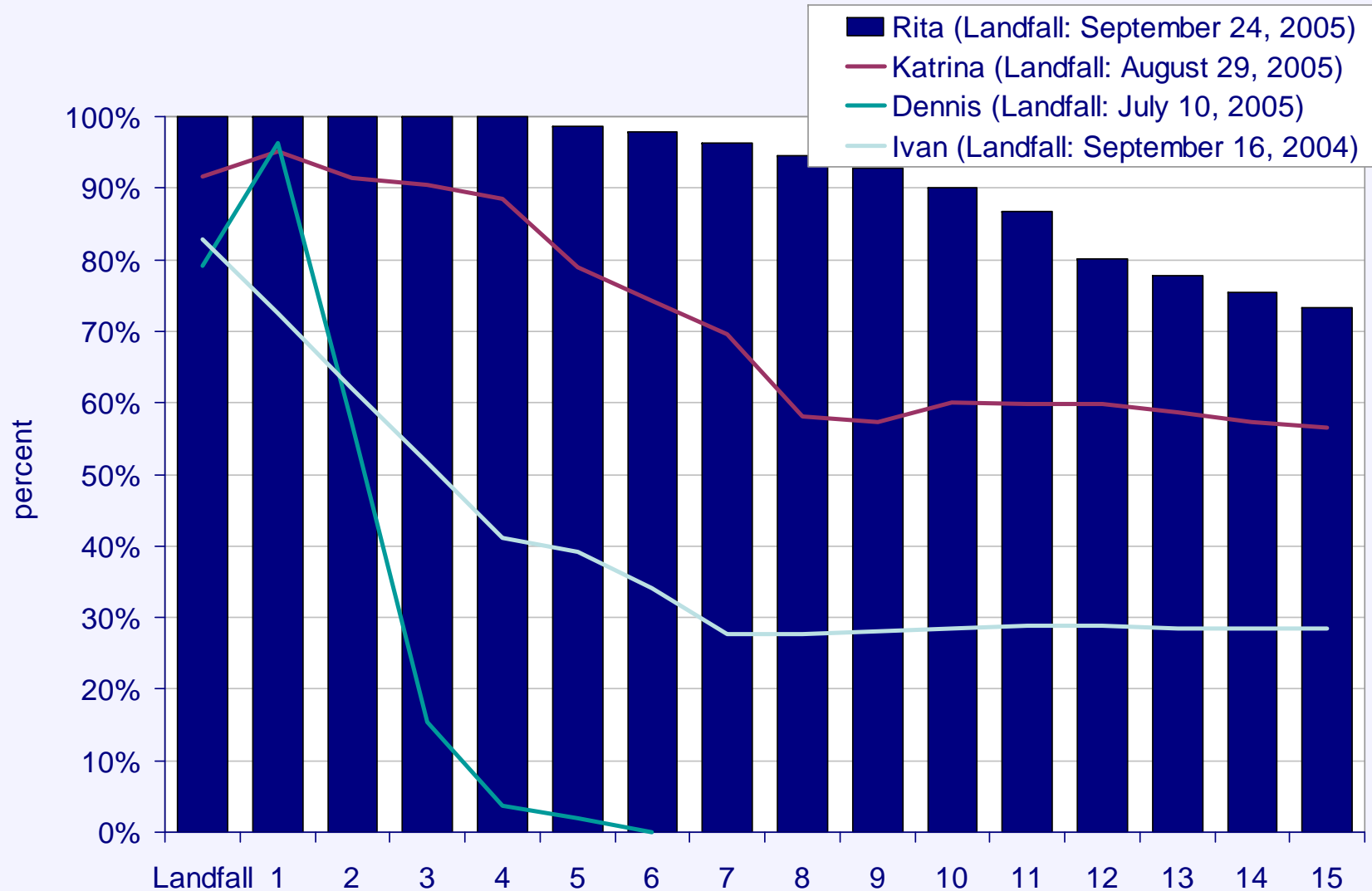


Source: Minerals Management Service



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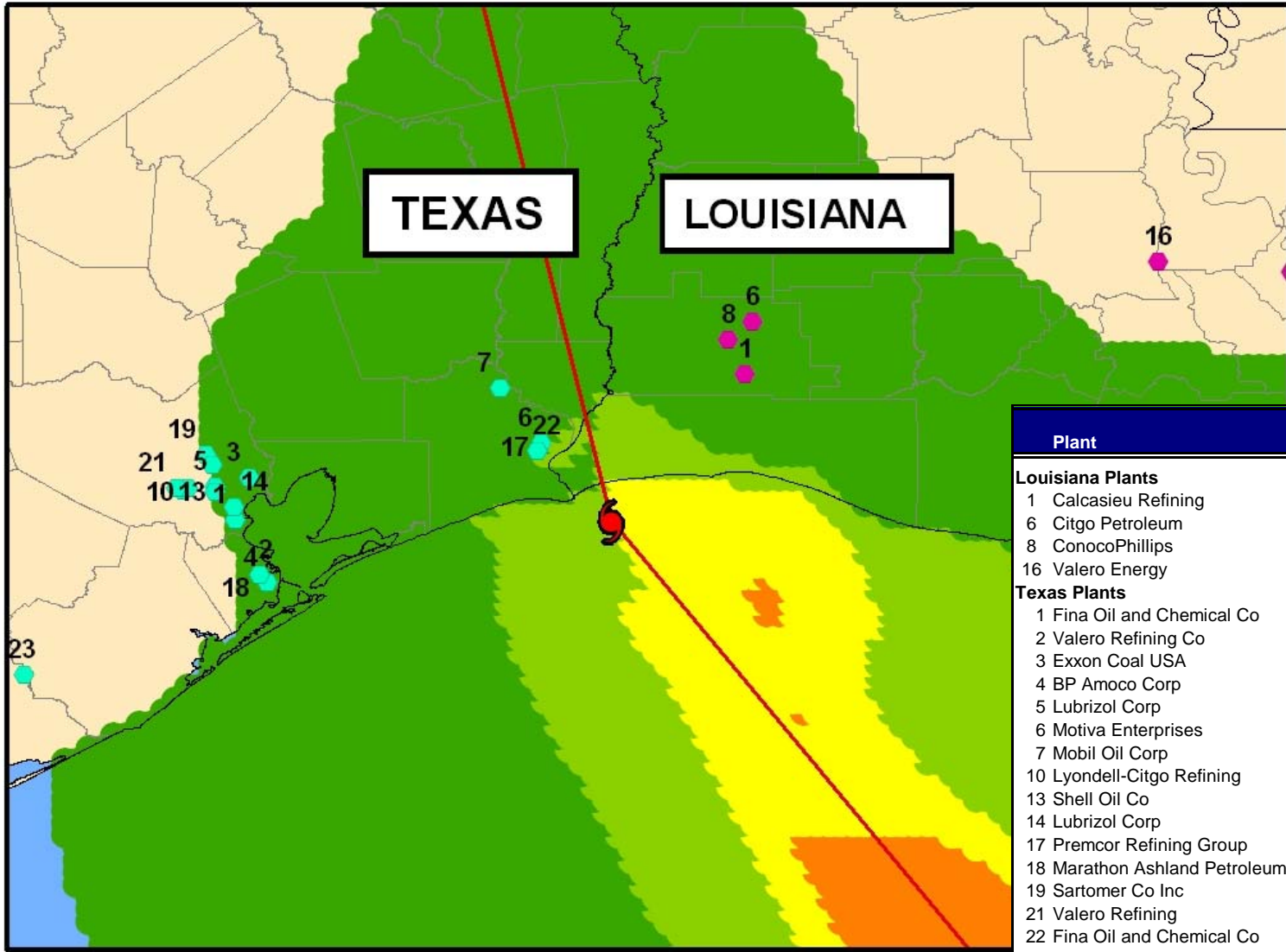
Rita versus Other Major Hurricanes - Shut-in Oil Production as a Percent of Daily GOM Production



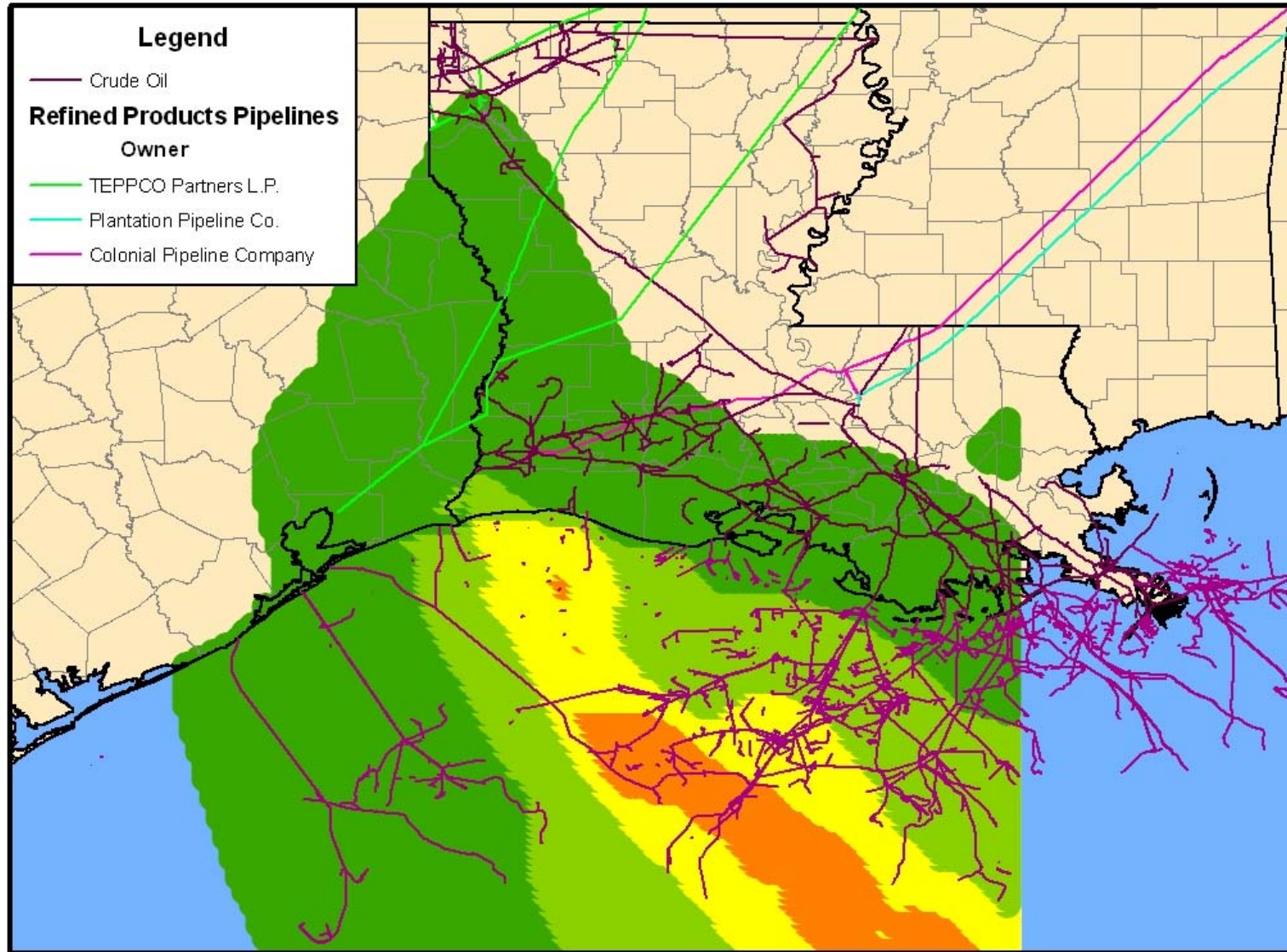
Source: Minerals Management Service



Refineries Shutdown Due to Rita

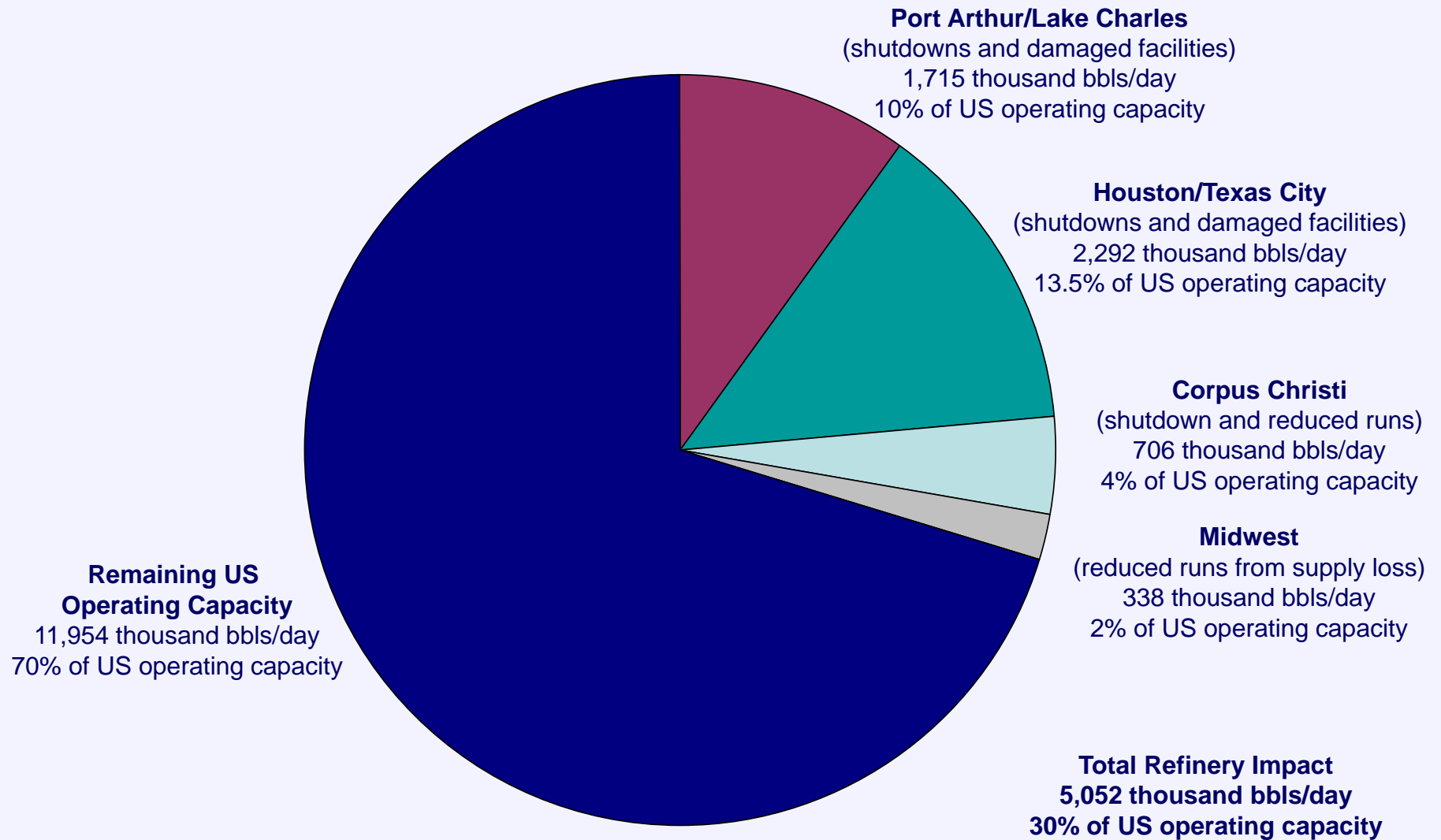


Plant	Location	Barrels per Day	
Louisiana Plants			
1	Calcasieu Refining	Lake Charles	30,000
6	Citgo Petroleum	Lake Charles	324,300
8	ConocoPhillips	Westlake	239,400
16	Valero Energy	Krotz Springs	80,000
Texas Plants			
1	Fina Oil and Chemical Co	Pasadena	80,000
2	Valero Refining Co	Texas City	90,000
3	Exxon Coal USA	Baytown	75,000
4	BP Amoco Corp	Texas City	84,000
5	Lubrizol Corp	Deer Park	80,000
6	Motiva Enterprises	Port Arthur	59,000
7	Mobil Oil Corp	Beaumont	82,000
10	Lyondell-Citgo Refining	Houston	99,000
13	Shell Oil Co	Deer Park	88,000
14	Lubrizol Corp	Pasadena	80,000
17	Premcor Refining Group	Port Arthur	100,000
18	Marathon Ashland Petroleum	Texas City	96,000
19	Sartomer Co Inc	Houston	100,000
21	Valero Refining	Houston	92,000
22	Fina Oil and Chemical Co	Port Arthur	85,000
23	Phillips Petroleum	Old Ocean	100,000





Total Immediate Refinery Impact





Date	Shut-in Natural Gas Production (MMcf/day)	Percent of Daily GOM Gas Production (%)	Rita Cumulative Shut-in Gas Production (MMcf)	Percent of Annual GOM Gas Production (%)	Total Cumulative Shut-in Gas Production ¹ (Bcf)	Percent of Annual GOM Gas Production (%)
20-Sep-05	3,482	34.8%	3,482	0.1%	120.4	3.3%
21-Sep-05	4,713	47.1%	8,195	0.2%	125.2	3.4%
22-Sep-05	6,594	65.9%	14,789	0.4%	131.8	3.6%
23-Sep-05	7,204	72.0%	21,993	0.6%	140.5	3.8%
24-Sep-05	7,488	74.9%	29,481	0.8%	148.0	4.1%
25-Sep-05	8,047	80.5%	37,528	1.0%	156.0	4.3%
26-Sep-05	7,843	78.4%	45,371	1.2%	163.9	4.5%
27-Sep-05	7,856	78.6%	53,227	1.5%	172.5	4.7%
28-Sep-05	8,027	80.3%	61,254	1.7%	180.6	4.9%
29-Sep-05	7,979	79.8%	69,233	1.9%	188.5	5.2%
30-Sep-05	7,941	79.4%	77,174	2.1%	196.5	5.4%
3-Oct-05	7,495	75.0%	7,495	0.2%	219.6	6.0%
4-Oct-05	7,169	71.7%	14,664	0.4%	226.6	6.2%
5-Oct-05	6,895	69.0%	21,559	0.6%	233.4	6.4%
6-Oct-05	6,628	66.3%	28,187	0.8%	240.1	6.6%
7-Oct-05	6,441	64.4%	34,628	0.9%	246.5	6.8%
11-Oct-05	6,042	60.4%	6,042	0.2%	271.7	7.4%

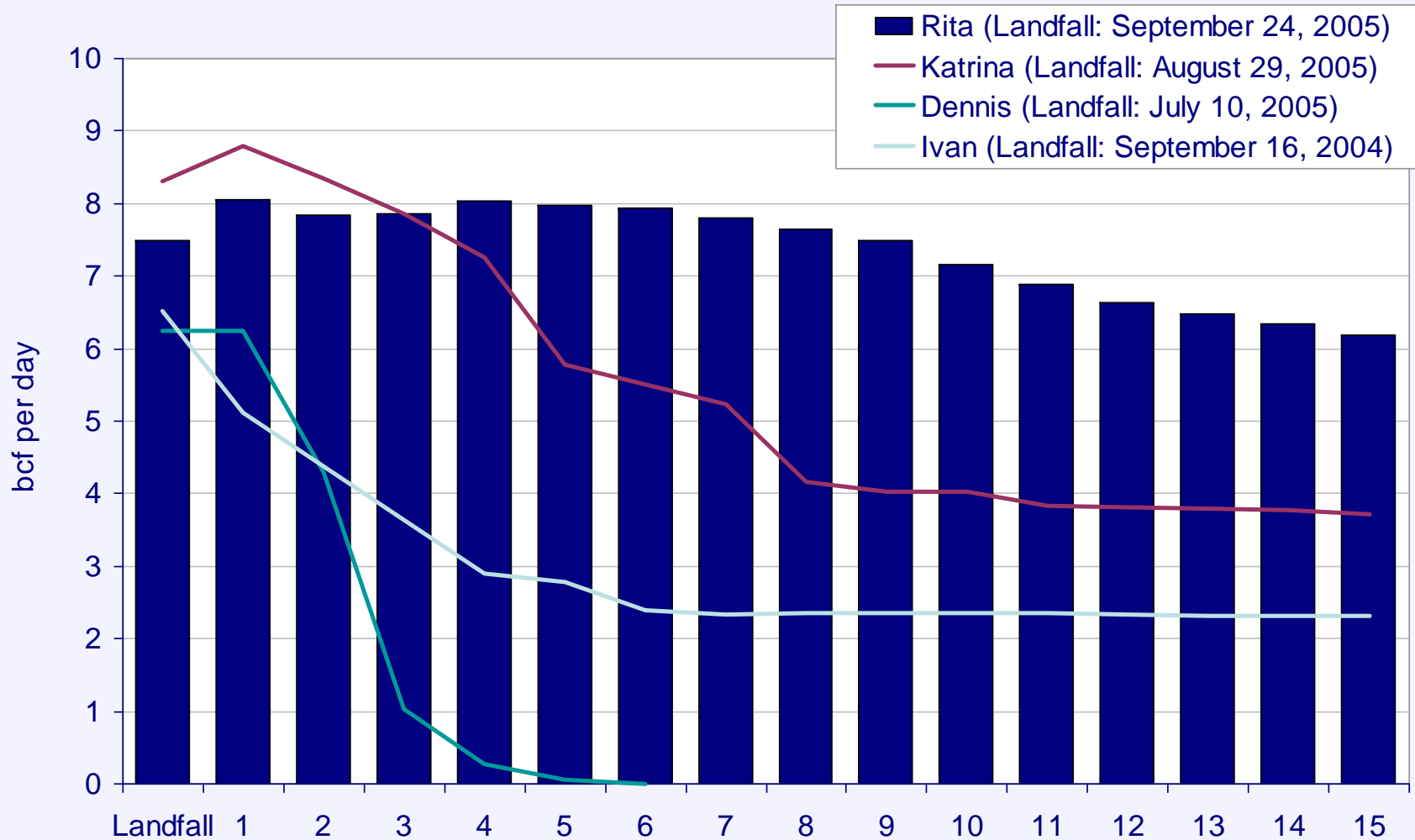
Note: ¹ cumulative production is as of August 26, 2005

Source: Minerals Management Service



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Rita versus Other Major Hurricanes Shut-in Natural Gas Production

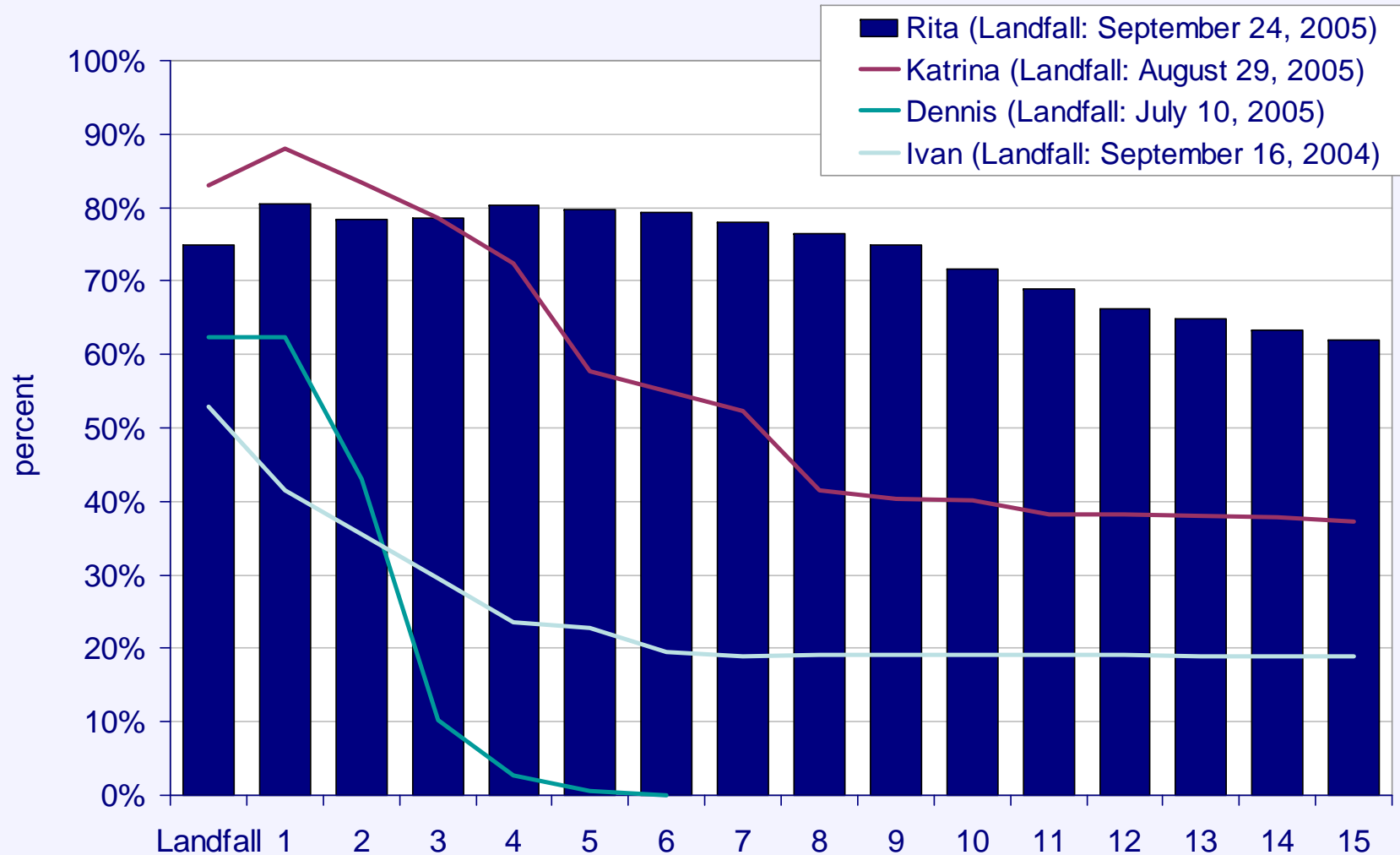


Source: Minerals Management Service



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Rita versus Other Major Hurricanes - Shut-in Gas Production as a Percent of Daily GOM Production



Source: Minerals Management Service

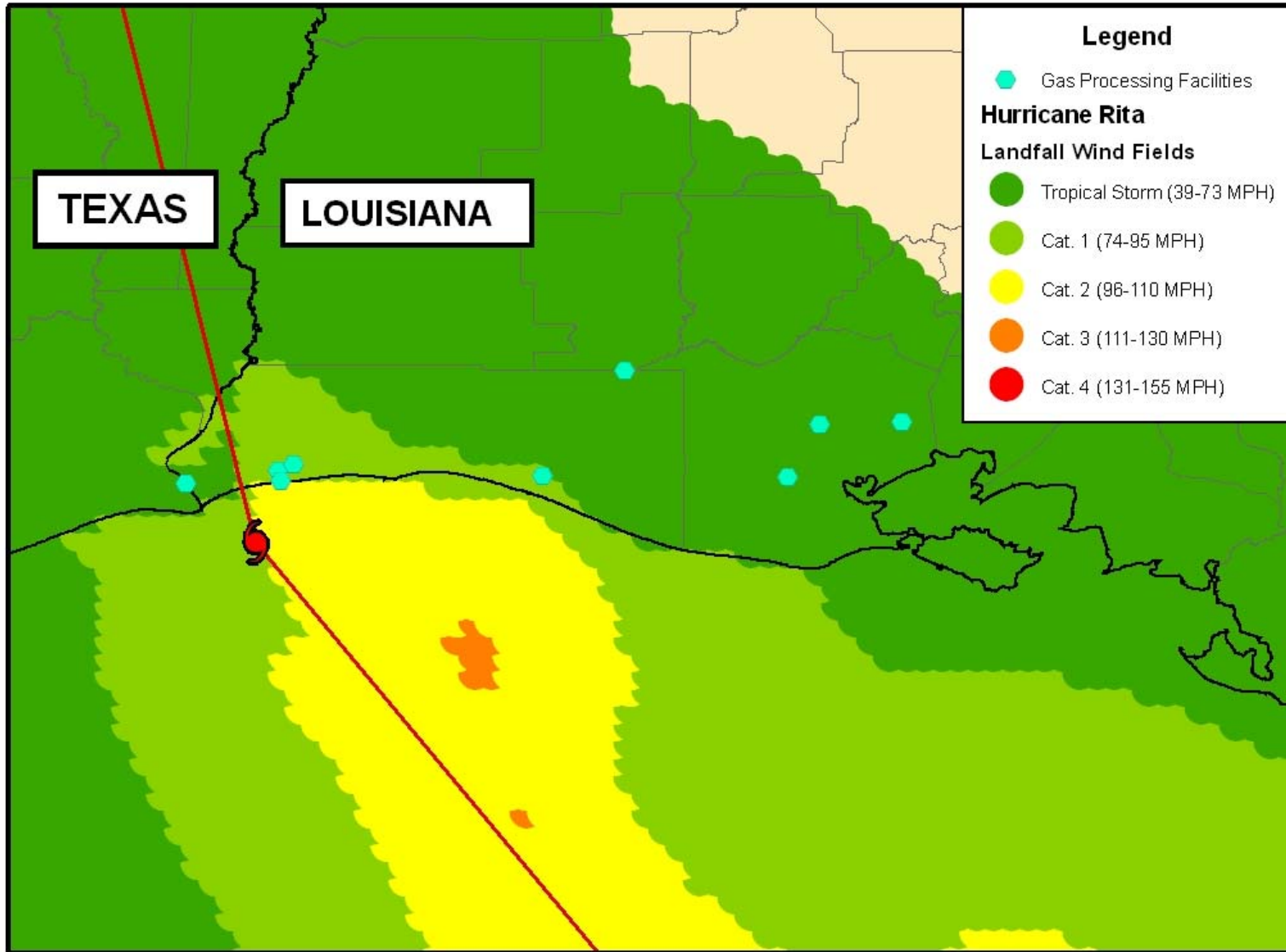


Number of Natural Gas Processing Facilities Out

Potential Impacts on GOM Gas Supply from Processing Facility Outages	Number of Facilities	Capacity (MMcf/d)	Throughput (MMcf/d)
Katrina Facilities (Central GOM)	4	4,250	2,948
Rita Facilities (Western GOM)			
Cameron Facilities	6	2,155	1,231
Vermillion Facilities	3	1,470	774
Total Rita Impacts	9	3,625	2,005
Total (All Katrina and Rita)		7,875	4,953
Assume GOM Gas Production		10,000	10,000
Percent of Total (Katrina + Cameron Only)		64%	42%
Percent of Total (Katrina + Cameron & Vermillion)		79%	50%



Gas Processing Facilities Impacted by Rita





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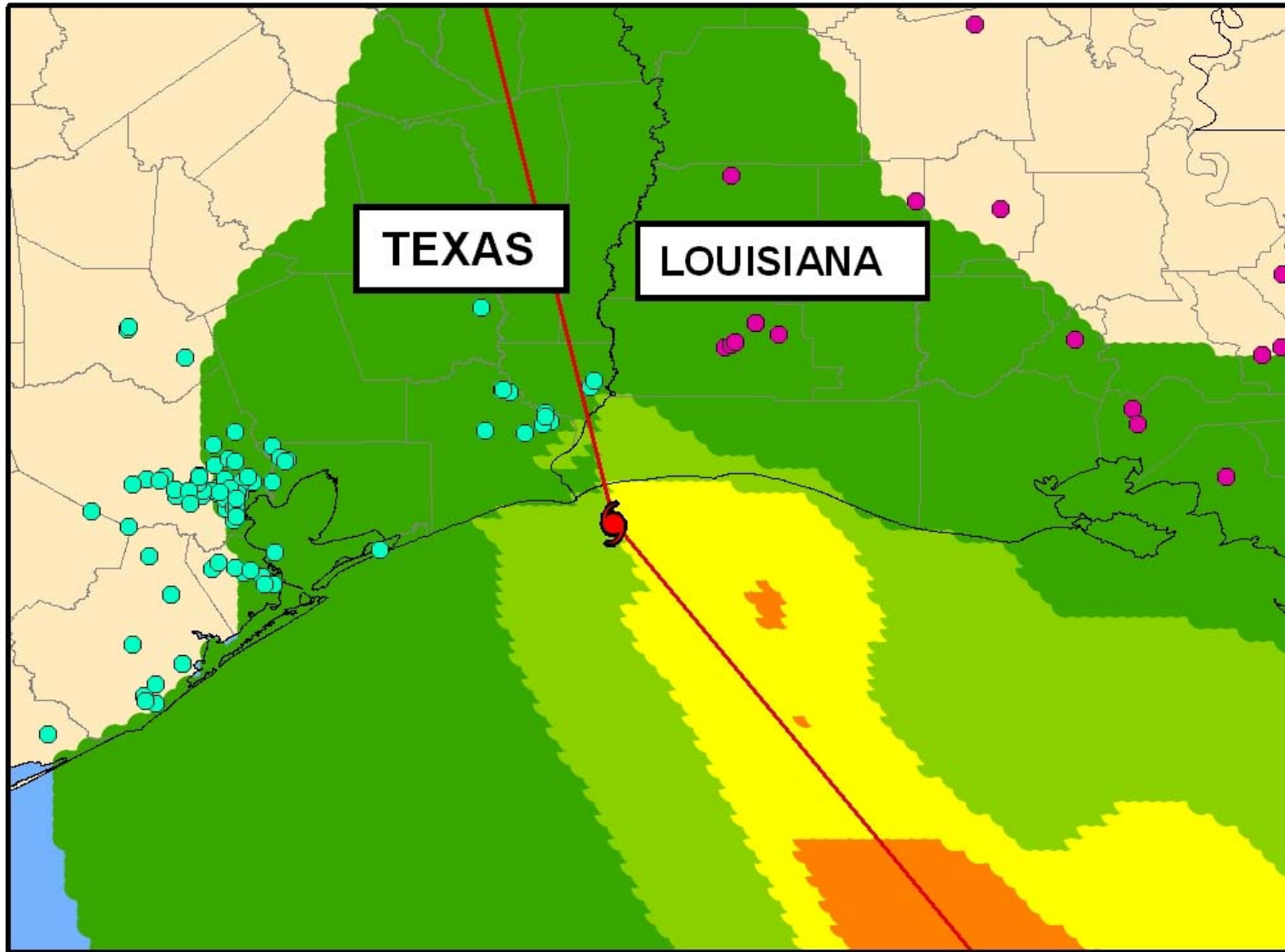
Power Outages - Number of Customers as of September 26, 2005

State	Number of Customers without Power	Percent of Customers without Power
Arkansas	11,137	n.a.
Louisiana	539,647	32%
Mississippi	7,383	n.a.
Texas	707,757	7%

Note: Arkansas and Mississippi outages are for Entergy customers only.
Source: Energy Information Administration, Department of Energy



Plant	Unit	Capability (MW)	Fuel Type	Status as of Storm Peak
Toledo Bend	1	40	Hydro	Outage
Toledo Bend	2	40	Hydro	Outage
Roy S. Nelson	1	110	Gas/Oil	Outage
Roy S. Nelson	2	105	Gas/Oil	Outage
Roy S. Nelson	3	153	Gas/Oil	Operating but disconnected
Roy S. Nelson	4	500	Gas/Oil	Outage
Roy S. Nelson	6	385	Coal	Outage
Sabine	1	212	Gas/Oil	Outage
Sabine	2	212	Gas/Oil	Outage
Sabine	3	390	Gas/Oil	Outage
Sabine	4	525	Gas/Oil	Outage
Sabine	5	470	Gas/Oil	Outage





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Henry Hub, September 25, 2005



Source: LIOGA



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Energy Transmission

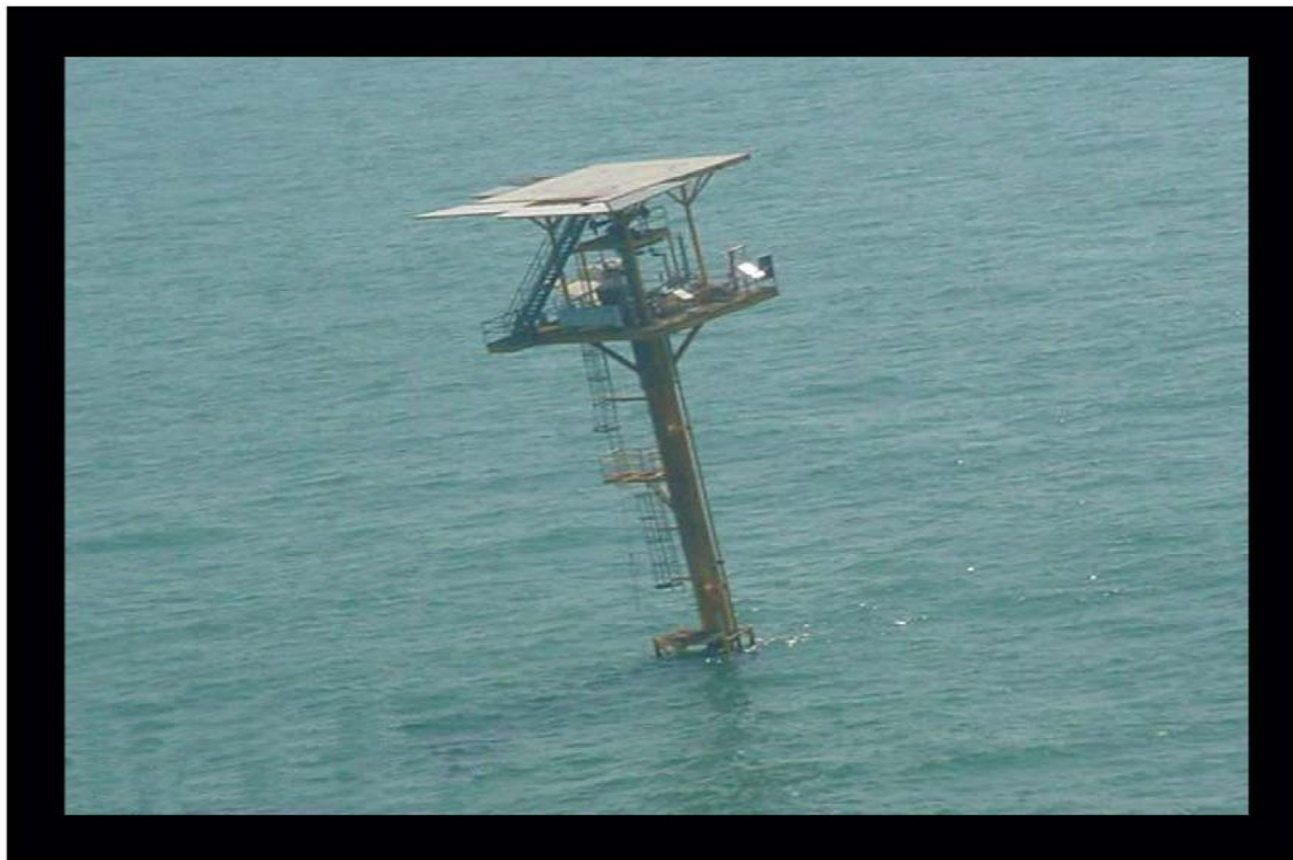


Source: Entergy.com



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Single Well Caisson – Western GOM



Damaged Single-Well Caisson: The vast majority of damage occurred to small, older platforms. Damage ranged from stripping of decking and rails to bending of well jacket and in some cases total removal of all above sea level structural components.

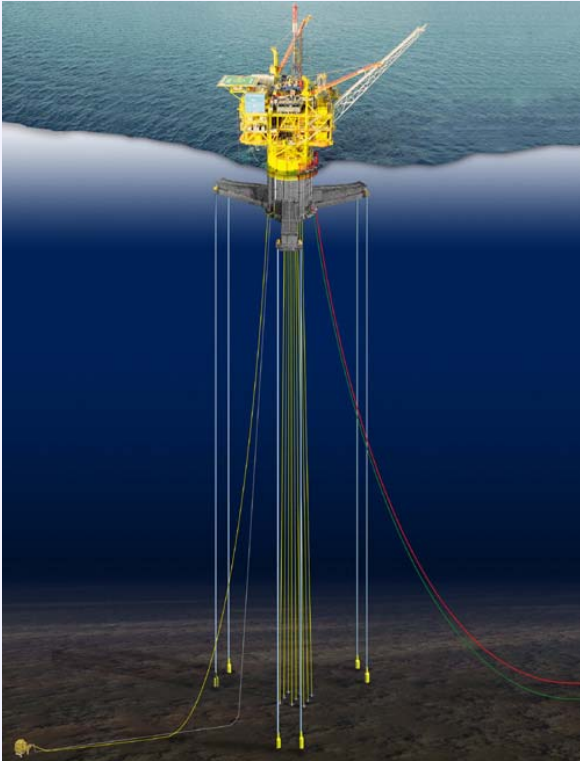


Temporary Natural Gas Release: To date, all subsea safety valves have held. There have been a couple of incidents where pipeline damage has allowed the temporary venting of gas that was in the pipeline. There are currently no known incidents of gas venting from wells and the temporary venting from pipelines appears to have stopped.



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Chevron Typhoon TLP





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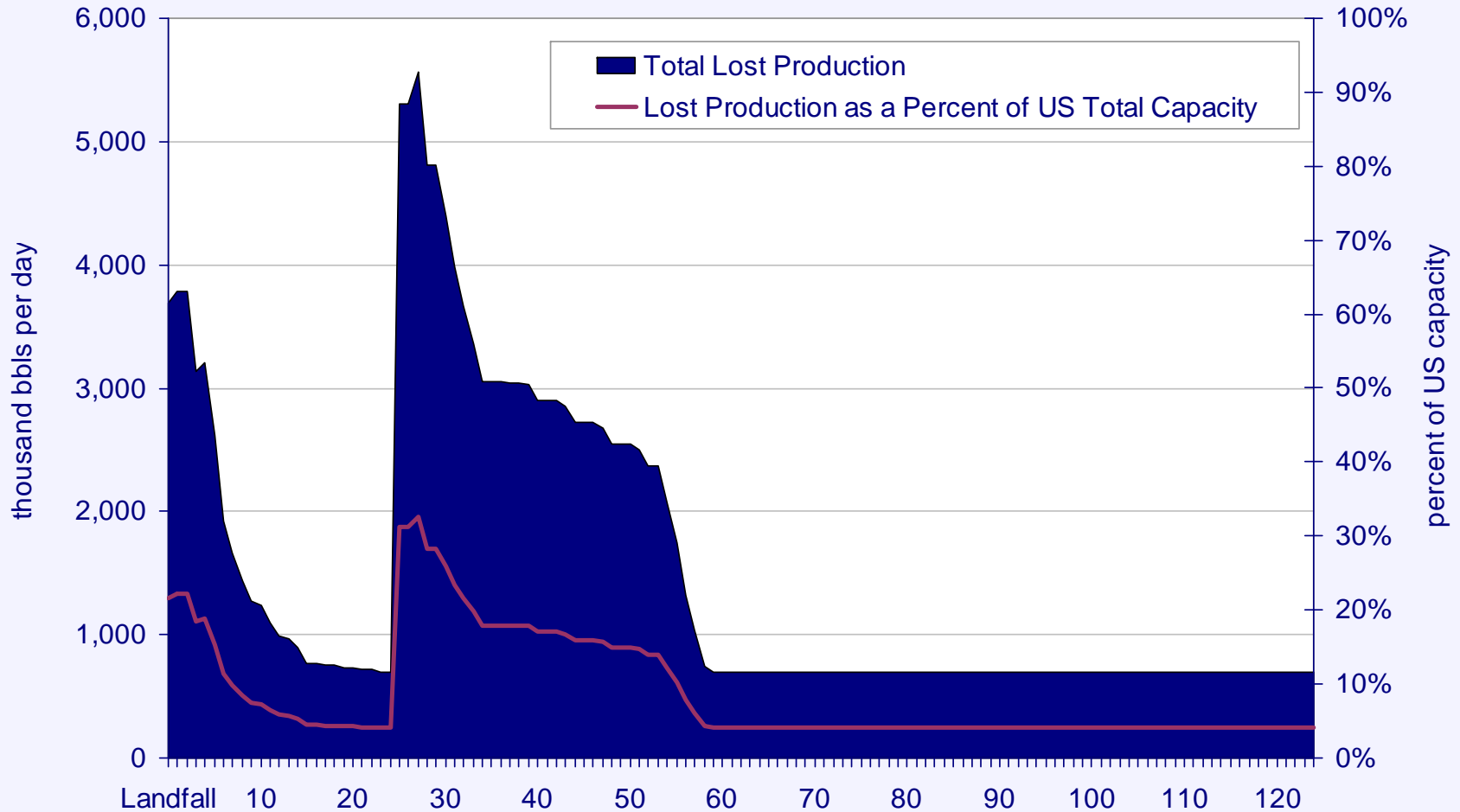
Longer Run Impacts of Hurricanes Katrina and Rita



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Estimated Decrease in Refining Production from both Katrina and Rita

Refining capacity should return to normal soon, but there will be a stubborn
five percent of total capacity that has unknown return date – not good for tight markets

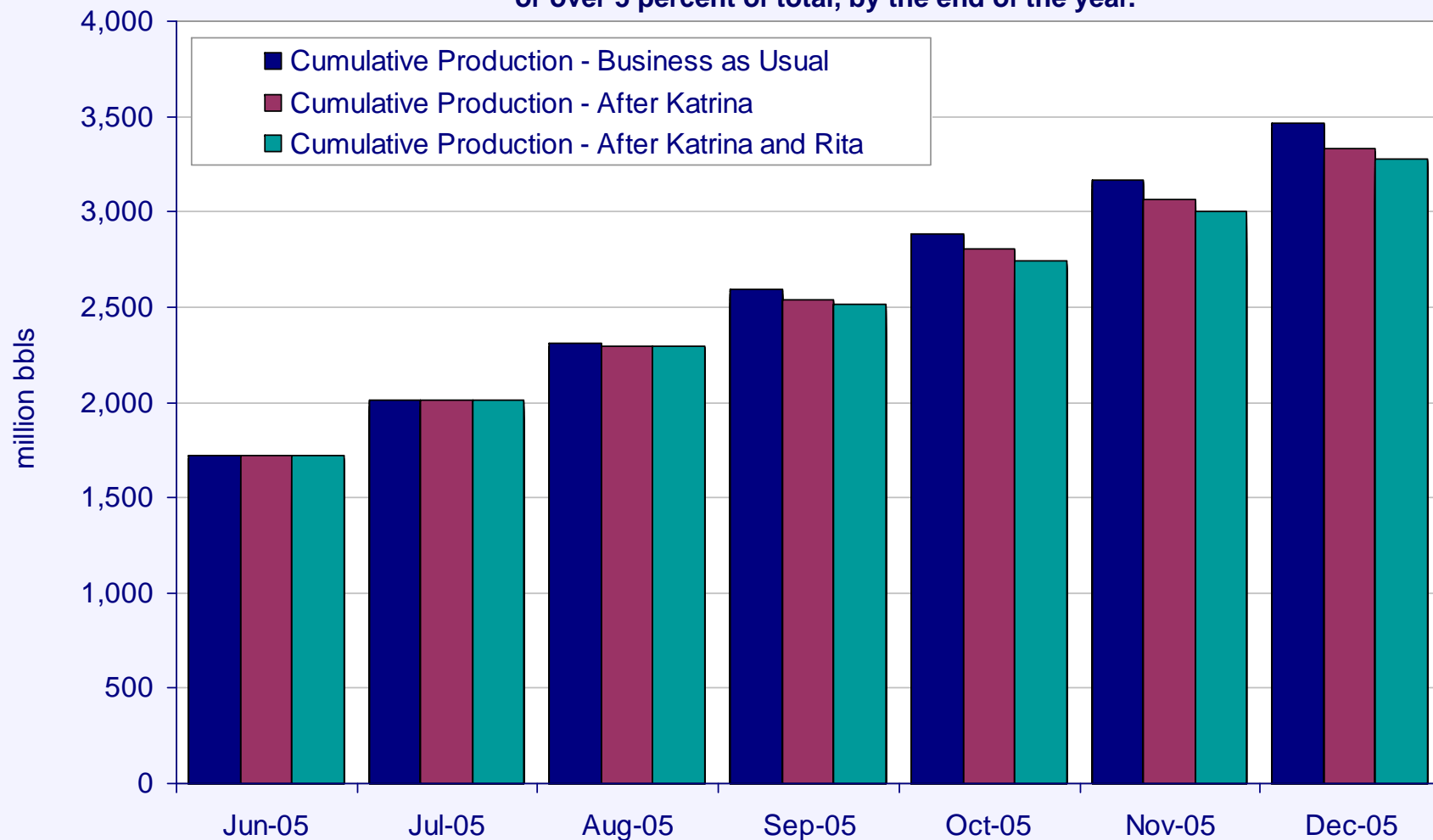


Source: Assumes 95 percent capacity factor; assumes 4 week recovery for facilities damaged by Rita.



Cumulative Refining Production

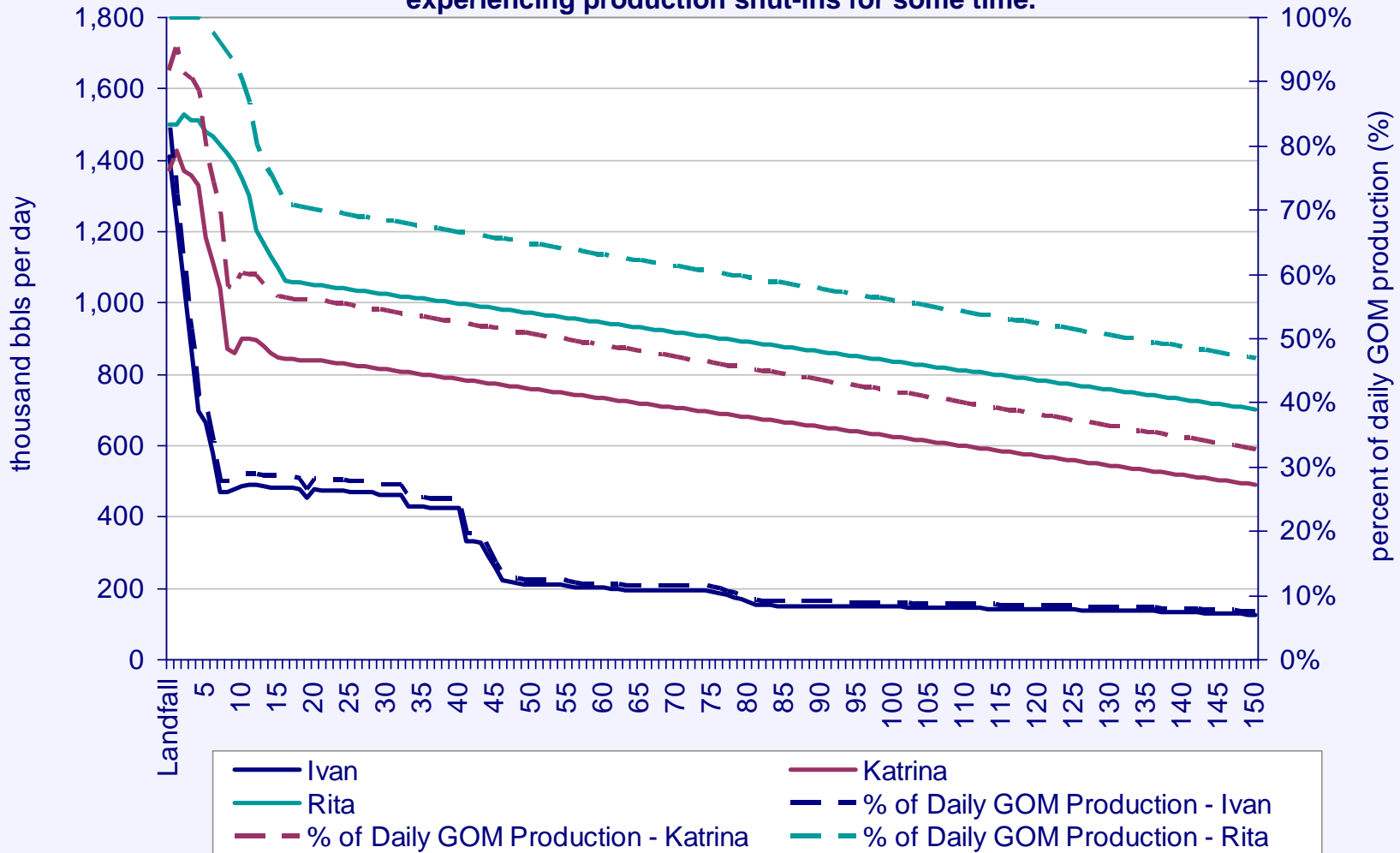
Impacts of Katrina result in a loss of 136.5 million barrels, or 4 percent of total production, by the end of the year. Impacts of Katrina and Rita result in a loss of 188.7 million barrels, or over 5 percent of total, by the end of the year.



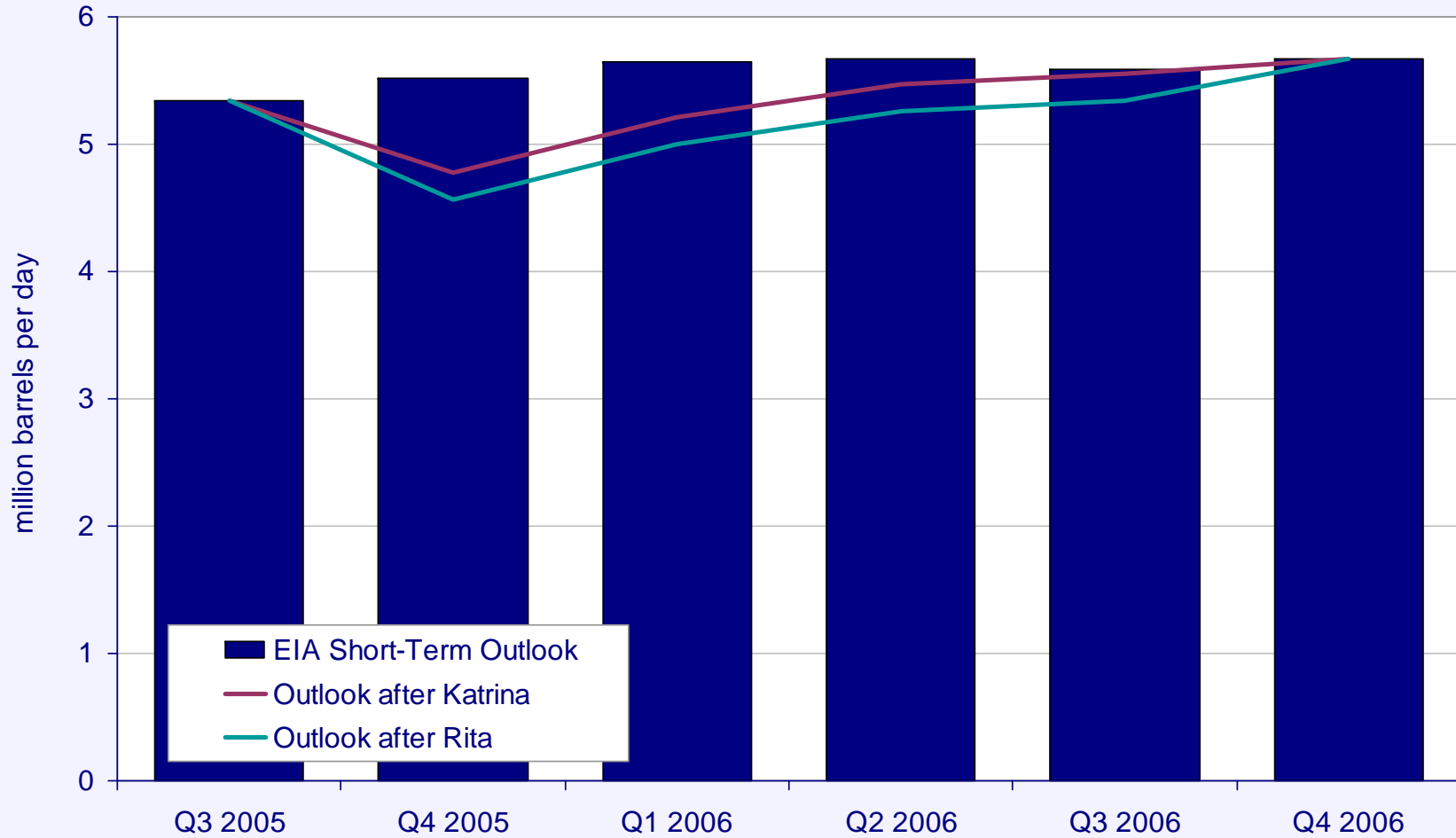


Estimated Return of Existing Crude Production

If crude production returns follow path similar to Ivan, we could still be experiencing production shut-ins for some time.



Note: Assuming recovery of 2,685 barrels per day for remaining days.

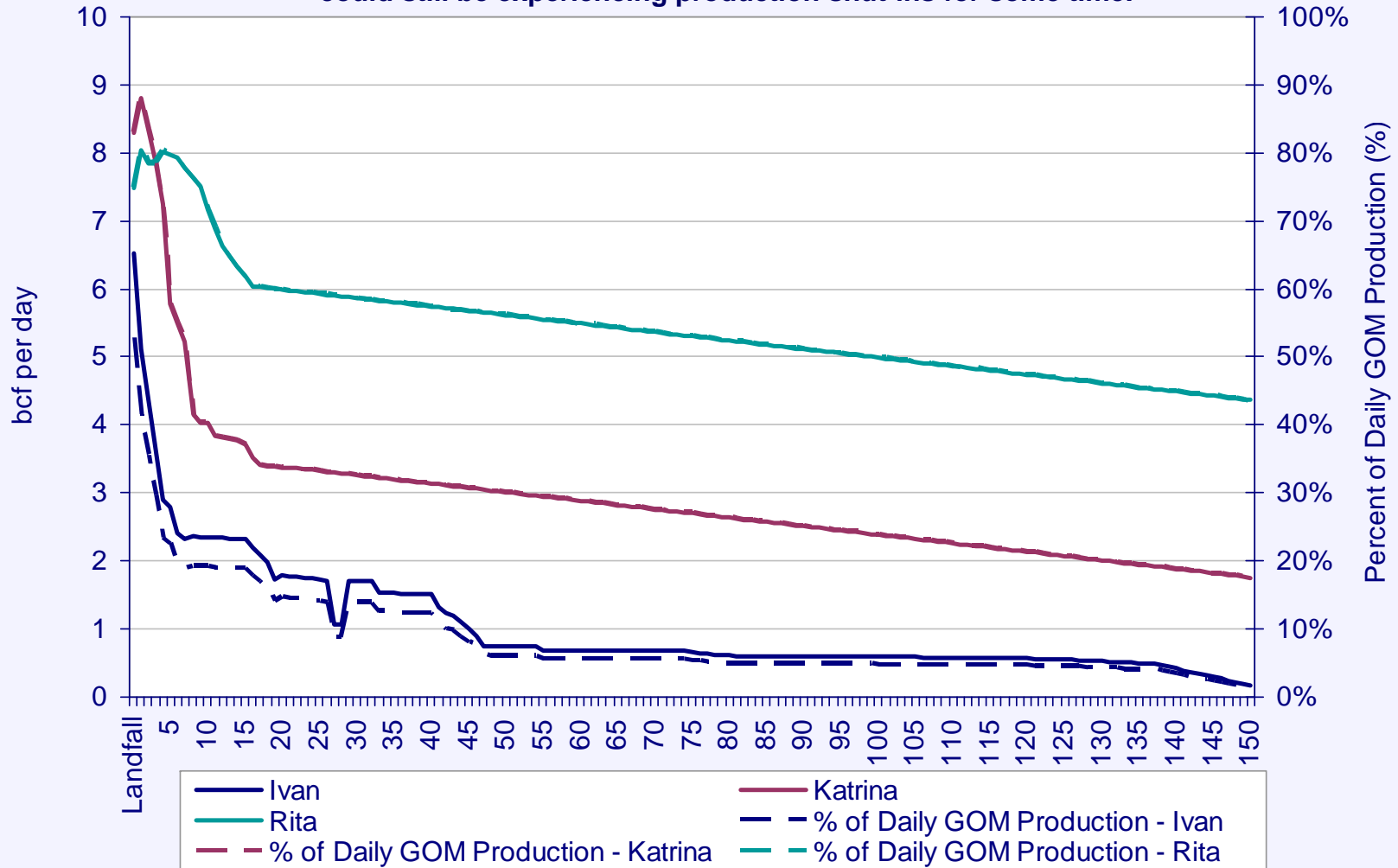


Note: Assuming recovery of 15.65 bcf per day for 150 days.



Estimated Return of Existing Natural Gas Production

If natural gas production returns follow path similar to Ivan, we could still be experiencing production shut-ins for some time.

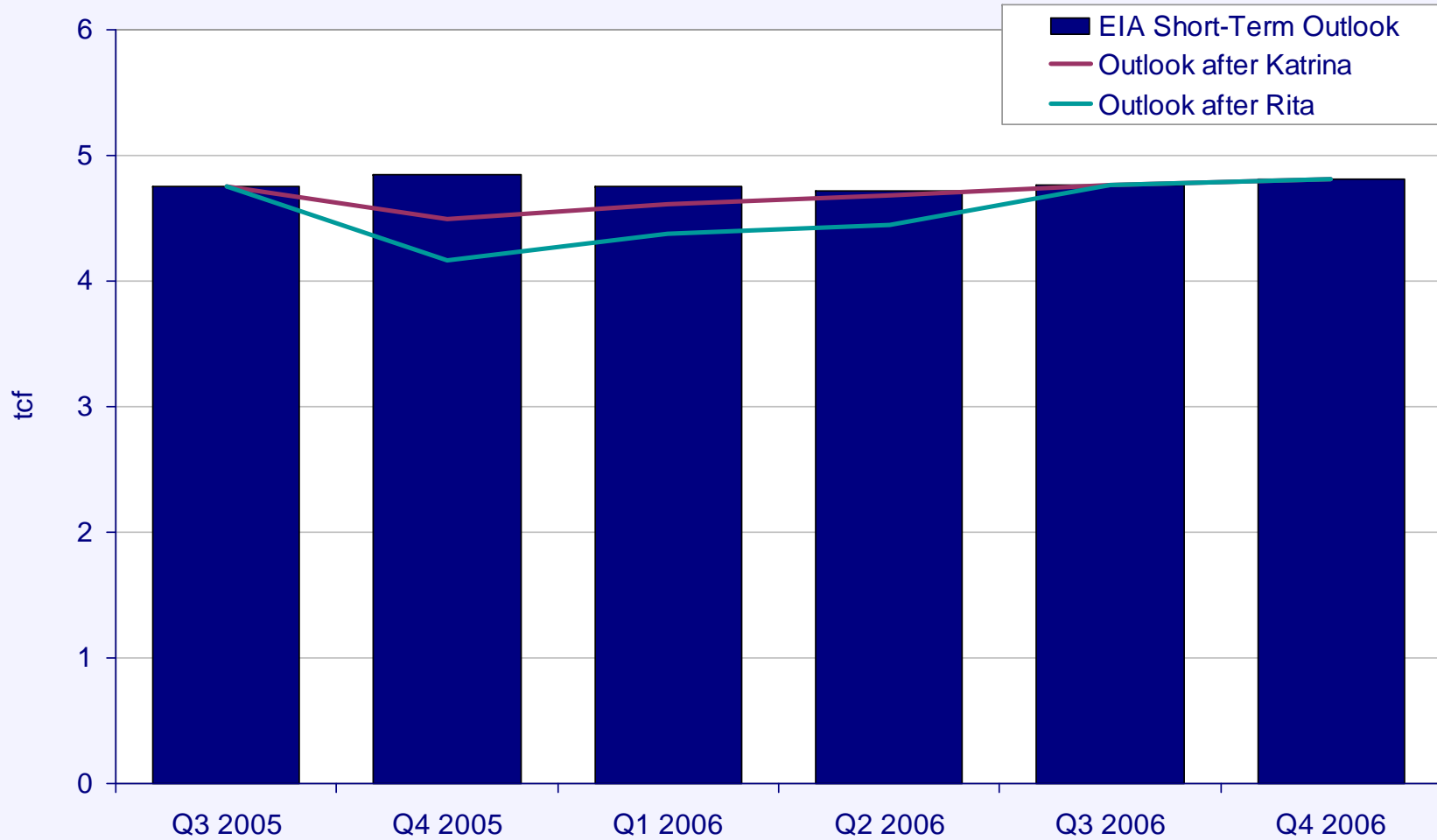


Note: Assuming recovery of 12.53 bcf per day for remaining days.



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Forecast versus New Forecast Natural Gas



Note: Assuming recovery of 15.65 bcf per day for 150 days.



Estimated Decrease in Natural Gas Storage

	Using 5-Year Average Weekly Injection		Using 2005 Average Weekly Injection	
	Katrina (Bcf)	Katrina and Rita	Katrina (Bcf)	Katrina and Rita
Current Natural Gas Storage Amount: (stocks as of September 30, 2005)	2,929	2,929	2,929	2,929
Total Remaining Injection Amount: (from September 30, 2005)	240	240	182	182
Estimated Storage Level, Nov. 1:	3,169	3,169	3,111	3,111
Estimated Lost Natural Gas Production (Sep 30-Nov 1):	97	181	97	181
Estimated Natural Gas Production (Sep 30-Nov 1):	1,581	1,498	1,581	1,498
Estimated Natural Gas Consumption (Sep 30-Nov 1):	1,406	1,406	1,406	1,406
Balance after Consumption	175	91	175	91
Difference between Injection Amount and Balance	(65)	(149)	(7)	(91)
Estimated Storage Level, Nov 1 (Corrected):	3,104	3,020	3,104	3,020

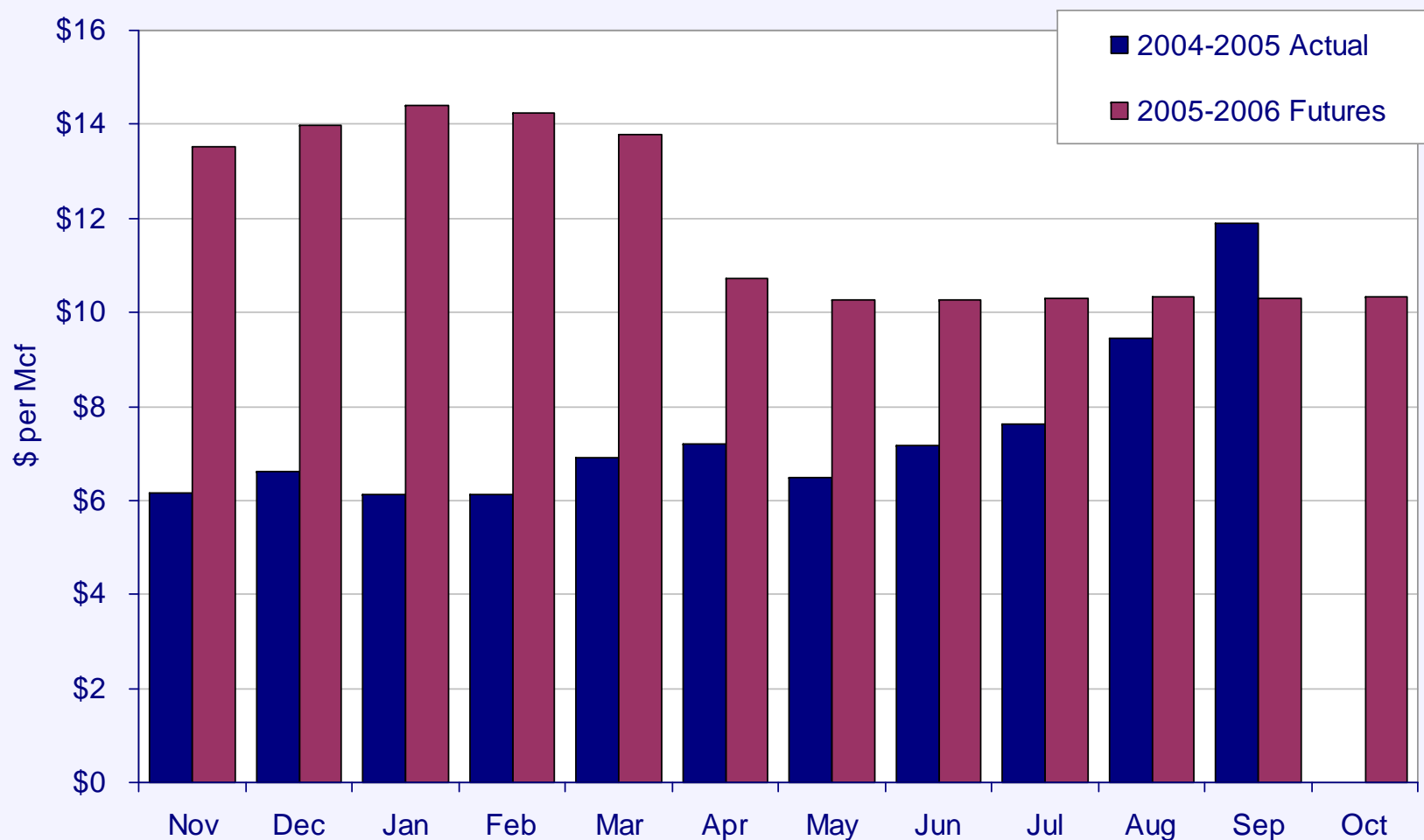


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Price Outlook



Forecast for Energy Commodity Prices Natural Gas Futures



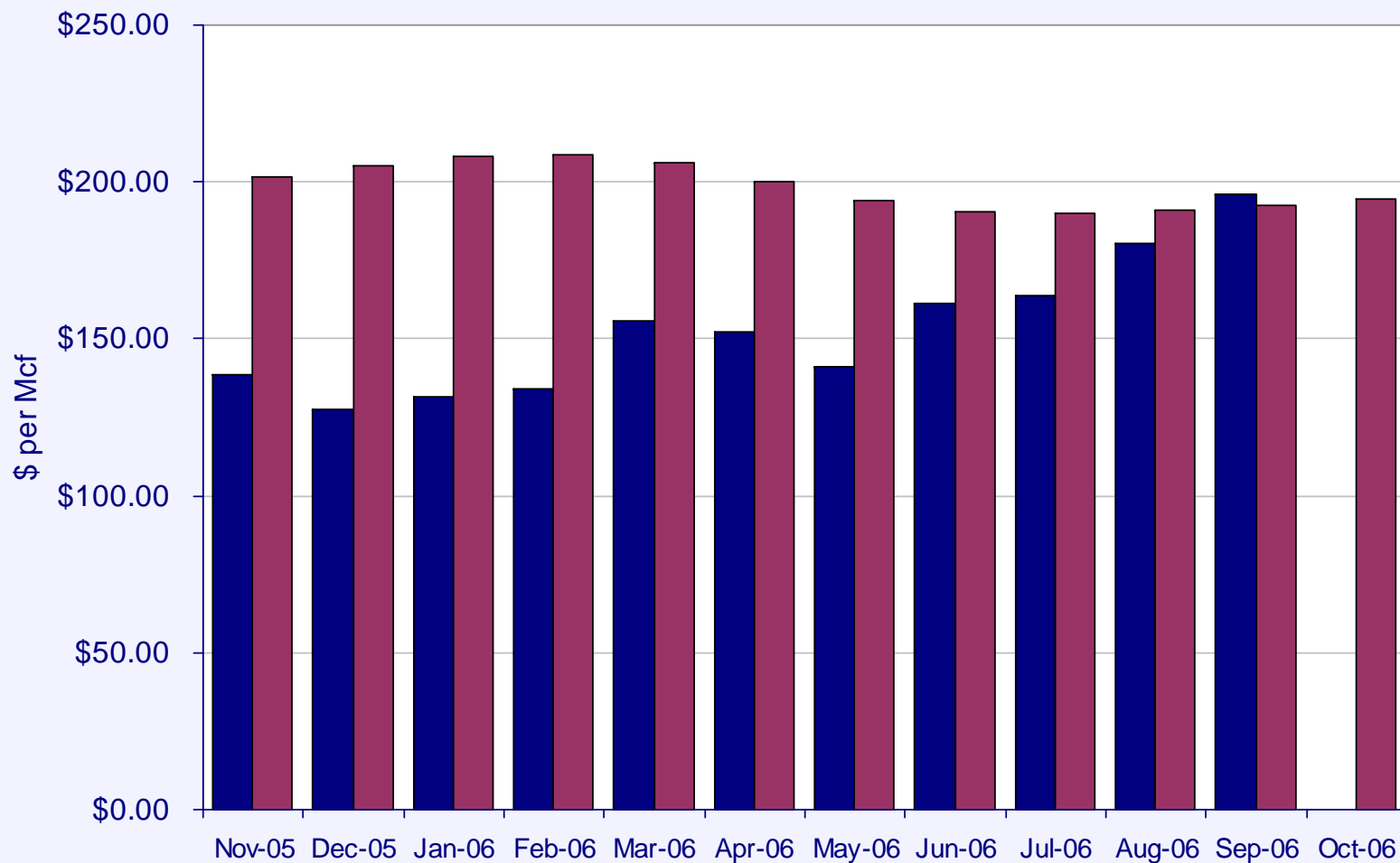
Note: Prices recorded on October 11, 2005

Source: Federal Reserve Bank of St. Louis; and Nymex.com



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Forecast for Energy Commodity Prices Heating Oil Futures



Note: Prices recorded on October 11, 2005

Source: Energy Information Administration, Department of Energy; and Nymex.com



Industrial Natural Gas Usage, Expenditures and Taxes

	Sector Usage Shares (%)	Estimated Natural Gas Usage		Estimated Taxable Natural Gas Expenditures		Estimated Natural Gas Taxes	
		2005 (MMcf)	2006	2005 (\$ 000)	2006	2005 (\$ 000)	2006
20 Food and Kindred Products	0.8%	6,513	6,578	\$ 86,132	\$ 67,259	\$ 3,273	\$ 2,556
22 Textile Mill Products	0.2%	1,346	1,359	\$ 17,798	\$ 13,898	\$ 676	\$ 528
23 Apparel & Textile Products	0.0%	21	21	\$ 272	\$ 212	\$ 10	\$ 8
24 Lumber and Wood Products	0.5%	3,944	3,984	\$ 52,164	\$ 40,734	\$ 1,982	\$ 1,548
26 Paper and Allied Products	4.0%	33,347	33,680	\$ 441,014	\$ 344,382	\$ 16,759	\$ 13,087
27 Printing & Publishing	0.0%	54	54	\$ 709	\$ 554	\$ 27	\$ 21
28 Chemicals and Allied Products	83.0%	689,732	696,629	\$ 7,705,935	\$ 6,017,476	\$ 292,826	\$ 228,664
29 Petroleum and Coal Products	10.2%	84,390	85,234	\$ 1,116,061	\$ 871,519	\$ 42,410	\$ 33,118
30 Rubber & Misc. Plastic Prods.	0.0%	332	336	\$ 4,396	\$ 3,432	\$ 167	\$ 130
32 Stone, Clay & Glass Products	0.4%	3,740	3,777	\$ 49,460	\$ 38,623	\$ 1,879	\$ 1,468
33 Primary Metal Industries	0.5%	4,165	4,207	\$ 55,084	\$ 43,014	\$ 2,093	\$ 1,635
34 Fabricated Metal Products	0.1%	1,063	1,073	\$ 14,055	\$ 10,976	\$ 534	\$ 417
35 Machinery & Computer Equip.	0.0%	251	253	\$ 3,318	\$ 2,591	\$ 126	\$ 98
36 Electric & Electronic Equip.	0.1%	577	582	\$ 7,624	\$ 5,954	\$ 290	\$ 226
37 Transportation Equipment	0.2%	1,845	1,863	\$ 24,399	\$ 19,053	\$ 927	\$ 724
38 Instruments & Related Products	0.0%	6	6	\$ 84	\$ 65	\$ 3	\$ 2
39 Misc. Manufacturing Industries	0.0%	3	3	\$ 37	\$ 29	\$ 1	\$ 1
Total	100.0%	831,328	839,641	\$ 9,578,541	\$ 7,479,772	\$ 363,985	\$ 284,231



Fall Signal (Sep-Oct)	Winter Signal (Nov-Mar)	Overall 6 Months
Bullish, weather and supply concerns	Bullish, weather and supply concerns -- daily super spikes probable	Bullish, low injections set up chronic tight market conditions -- potential lows going into next injection season.
Range: 12.00-14.00	Range: 13.00-16.00	Range: 12.00-16.00

- **Short term (September-October) weather futures prices are bullish for natural gas in the South and West, but neutral in the East and Midwest**
- **Forecast of \$58 to \$70 crude through the end of 2006. Refining capacity challenges will keep pressure on prices.**
- **Diminishing natural gas surpluses especially in the aftermath of Katrina and Rita. Storage forecasts call into question the supply adequacy heading into the winter season given our preliminary winter assessments.**
- **Katrina and Rita impacts felt until next hurricane season.**



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November – March HDD Seasonal Strips

City	Market	10 Year Average	% Difference from 10-Year Average
Atlanta	1690	1693.3	-0.2%
Boston	725	725.1	0.0%
Cleveland		717.1	
Cincinnati	988	979	0.9%
Denver		724.5	
Dallas	2480	2475.7	0.2%
Houston	1385	1329	4.0%
Kansas City	4410	4306.5	2.3%
Tuscon	1455	1382.4	5.0%



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November – March HDD Forecast

Region	Market	10-Year Average	% Difference from 10-Year Average
Northeast	4164	4034	3.1%
Midwest	5233	5127	2.0%
South	2042	1967	3.7%
West	1973	2106	-6.7%
Average	3353	3308	1.3%



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Future CES Events to Note



Louisiana's Integration with Global Energy Markets · October 19-20, 2005

Rotunda Conference Facilities · Energy, Coast & Environment Building
Louisiana State University · Baton Rouge, Louisiana

Watch for conference agenda and registration information appearing soon at
www.enrg.lsu.edu/conferences



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Questions, Comments, & Discussion

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