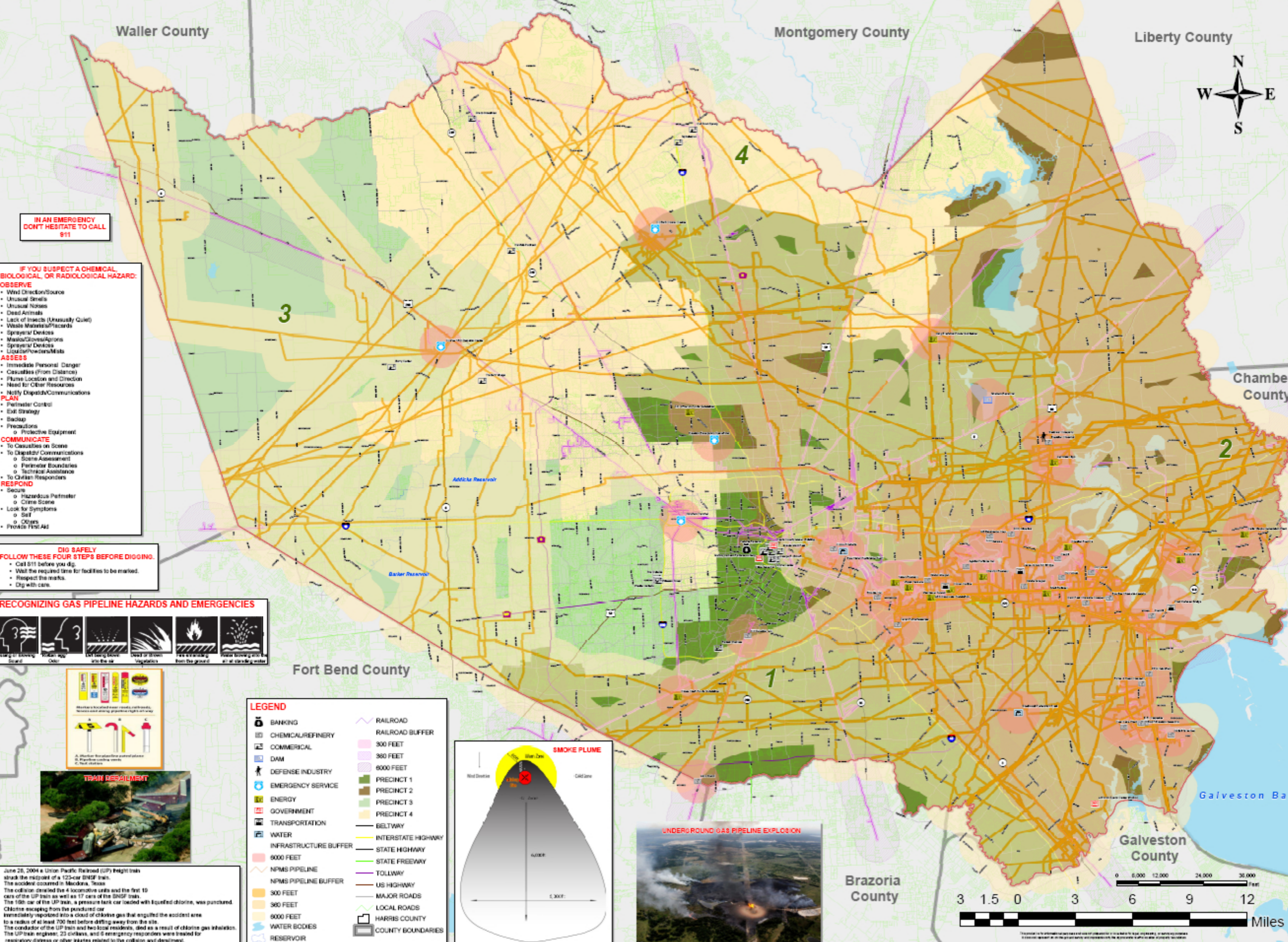


PIPELINE RAILROAD AND INFRASTRUCTURE PUBLIC SAFETY AWARENESS



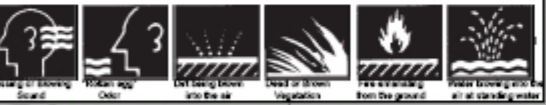
**IN AN EMERGENCY
DON'T HESITATE TO CALL
911**

- IF YOU SUSPECT A CHEMICAL, BIOLOGICAL, OR RADIOLOGICAL HAZARD:**
- OBSERVE**
- Wind Direction/Source
 - Unusual Smells
 - Unusual Noises
 - Dead Animals
 - Lack of Insects (Unusually Quiet)
 - Waste Materials/Hazards
 - Spray/Leak Devices
 - Mists/Cloves/Aerosols
 - Spray/Leak Devices
 - Liquids/Powders/Mists
- ASSESS**
- Immediate Personal Danger
 - Casualties (From Distance)
 - Plume Location and Direction
 - Need for Other Resources
 - Notify Dispatch/Communications
- PLAN**
- Perimeter Control
 - Exit Strategy
 - Backlog
 - Precautions
 - o Protective Equipment
- COMMUNICATE**
- To Casualties on Scene
 - To Dispatch/Communications
 - o Scene Assessment
 - o Perimeter Boundaries
 - o Technical Assistance
 - To Civilian Responders
- RESPOND**
- Secure
 - o Hazardous Perimeter
 - o Crime Scene
 - Look for Symptoms
 - o Sulf
 - o Others
 - Provide First Aid

**DIG SAFELY
FOLLOW THESE FOUR STEPS BEFORE DIGGING:**

- Call 811 before you dig.
- Wait the required time for facilities to be marked.
- Respect the marks.
- Dig with care.

RECOGNIZING GAS PIPELINE HAZARDS AND EMERGENCIES

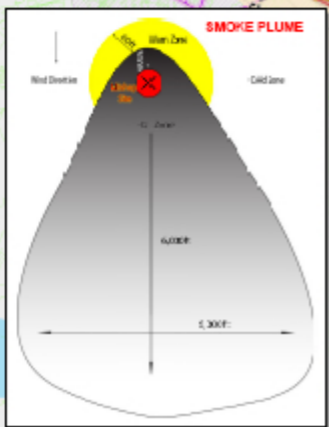


TRAIN DERAILMENT

June 28, 2004 a Union Pacific Railroad (UP) freight train struck the midpoint of a 123-car BNSF train. The accident occurred in Mesquite, Texas. The collision derailed the 4 locomotive units and the first 10 cars of the UP train as well as 17 cars of the BNSF train. The 19th car of the UP train, a pressure tank car loaded with liquefied chlorine, was punctured. Chlorine escaping from the punctured car immediately reported into a cloud of chlorine gas that engulfed the accident area to a radius of at least 700 feet before drifting away from the site. The conductor of the UP train and two local residents, died as a result of chlorine gas inhalation. The UP train engineer, 23 civilians, and 6 emergency responders were treated for respiratory distress or other injuries related to the collision and derailment.

LEGEND

	BANKING		RAILROAD
	CHEMICAL/REFINERY		RAILROAD BUFFER
	COMMERCIAL		300 FEET
	DAM		360 FEET
	DEFENSE INDUSTRY		6000 FEET
	EMERGENCY SERVICE		PRECINCT 1
	ENERGY		PRECINCT 2
	GOVERNMENT		PRECINCT 3
	TRANSPORTATION		PRECINCT 4
	WATER		BELTWAY
	INFRASTRUCTURE BUFFER		INTERSTATE HIGHWAY
	6000 FEET		STATE HIGHWAY
	NPS PIPELINE BUFFER		STATE FREEWAY
	300 FEET		TOLLWAY
	360 FEET		US HIGHWAY
	6000 FEET		MAJOR ROADS
	WATER BODIES		LOCAL ROADS
	RESERVOIR		HARRIS COUNTY
			COUNTY BOUNDARIES



Information for new GIS professionals.

Question:
How could a new GIS professional get started making basic buffers?

Answer:
Start by deciding what type of buffer tool would be best to use?
On this map a Multi Ring Buffer was used.

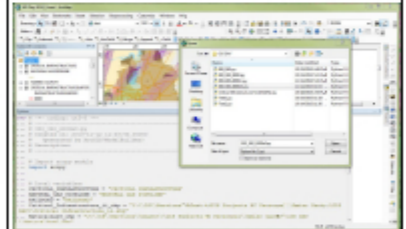
Question:
What is one efficient way of making these buffers?

Answer:
Model Builder and Python Scripts.
This model's multi ring buffer polygons represent a radius of cold, warm, and hot zone boundaries around a mishap site. The use of polygons to represent real-world features is a function of GIS models. Even if a model seems it is simple in nature.

This Multi Ring Buffer Python script was created from the above tools to automate this task. This script was created and ran in the PythonWin IDE or Interactive Development Environment.



You can also load and run prewritten scripts from ArcMap's Python Window.



Bibliography and Notes

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Revised A-1 Boundaries Effective 2010

Harris County ATIS Applied Technology Systems 2010

Prepared by ATIS Team/November 14th 2013/ABO

Please note that natural gas, railroad, and infrastructure accidents are uncommon. While these industries typically are safe, accidents still happen. Knowing what to look for and who to call is a step toward being prepared in an emergency.

