

Transport Forum, Luzern

01.12.2011

Noise and Air Quality Monitoring Campaigns


by iMONITRAF! WP5 Folks

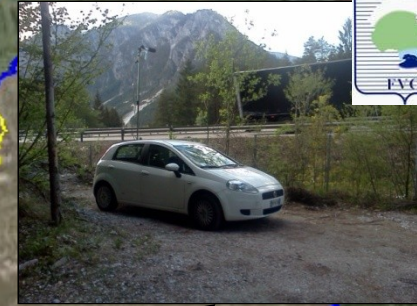
Noise Measurement Protocol

- Measures are ensured to be confrontable between corridors
- One measurement campaign for season
- Noise levels are measured at 3-20 meters from road, 2-4 meters height
- Noise levels are normalized at 10 meters from road, 4 meters height
- When possible, meteo and traffic datas are gathered as well

iMONITRAF! Measurement Sites



 Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra



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US Dept of State Geographer

Distance from road [m]

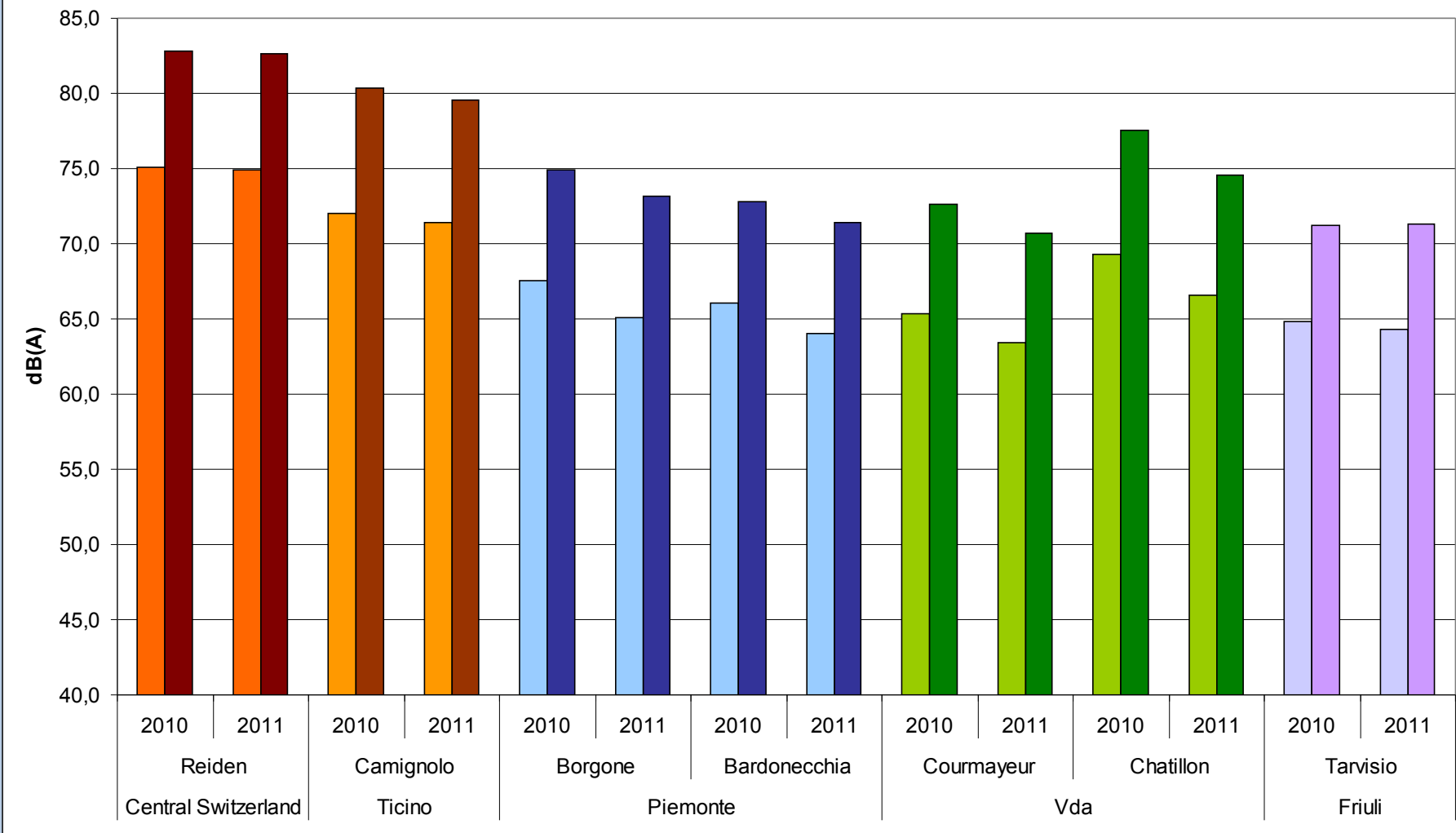
Gotthard	Camignolo	4
	Reiden	4
Fréjus	Borgone	6
	Bardonecchia	10
Mont Blanc	Courmayeur	4
	Chatillon	18
Tarvisio	Tarvisio	20

iMONITRAF! INDICATOR 6

Noise Monitoring

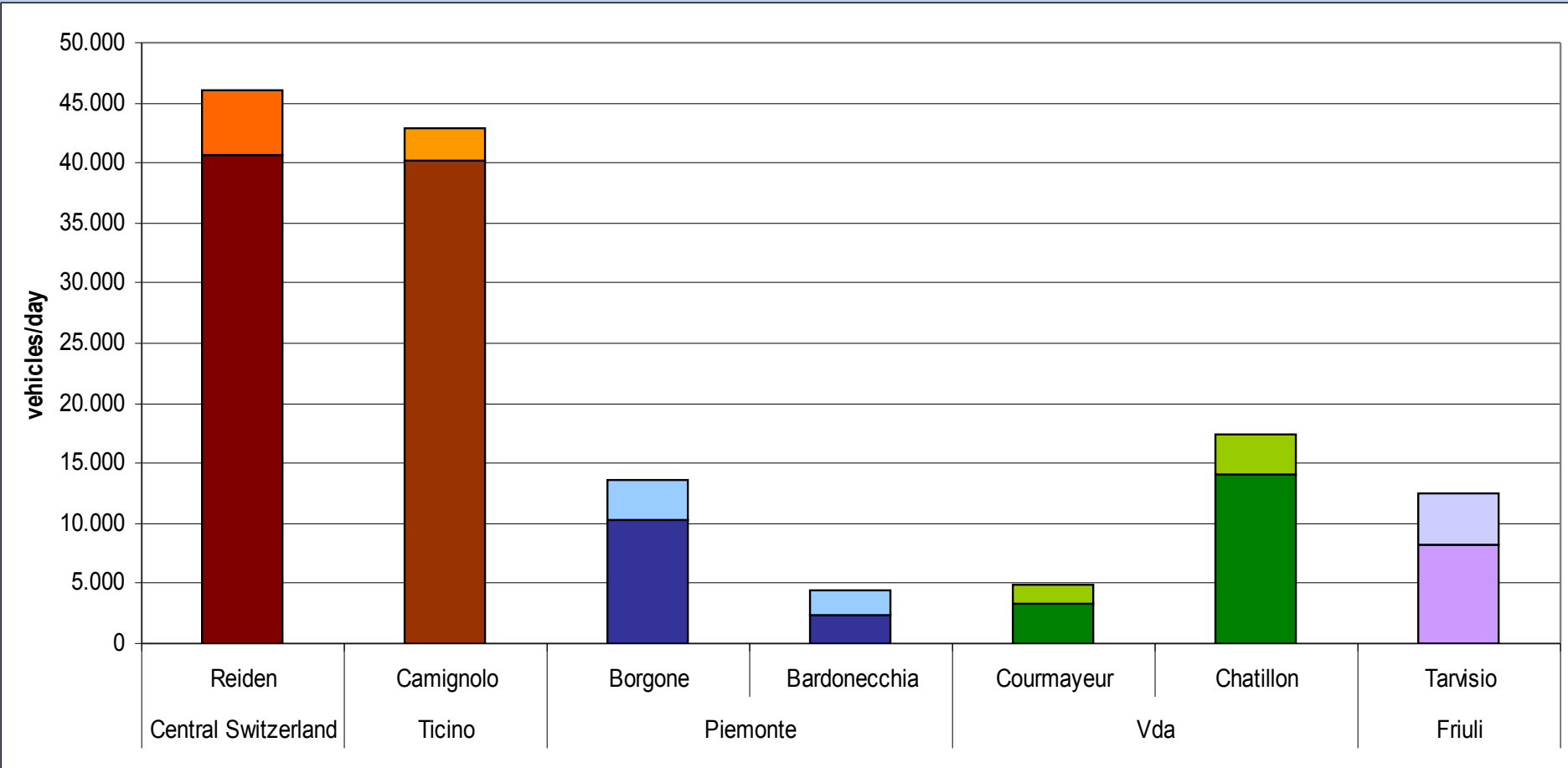


L_night / L_{den}



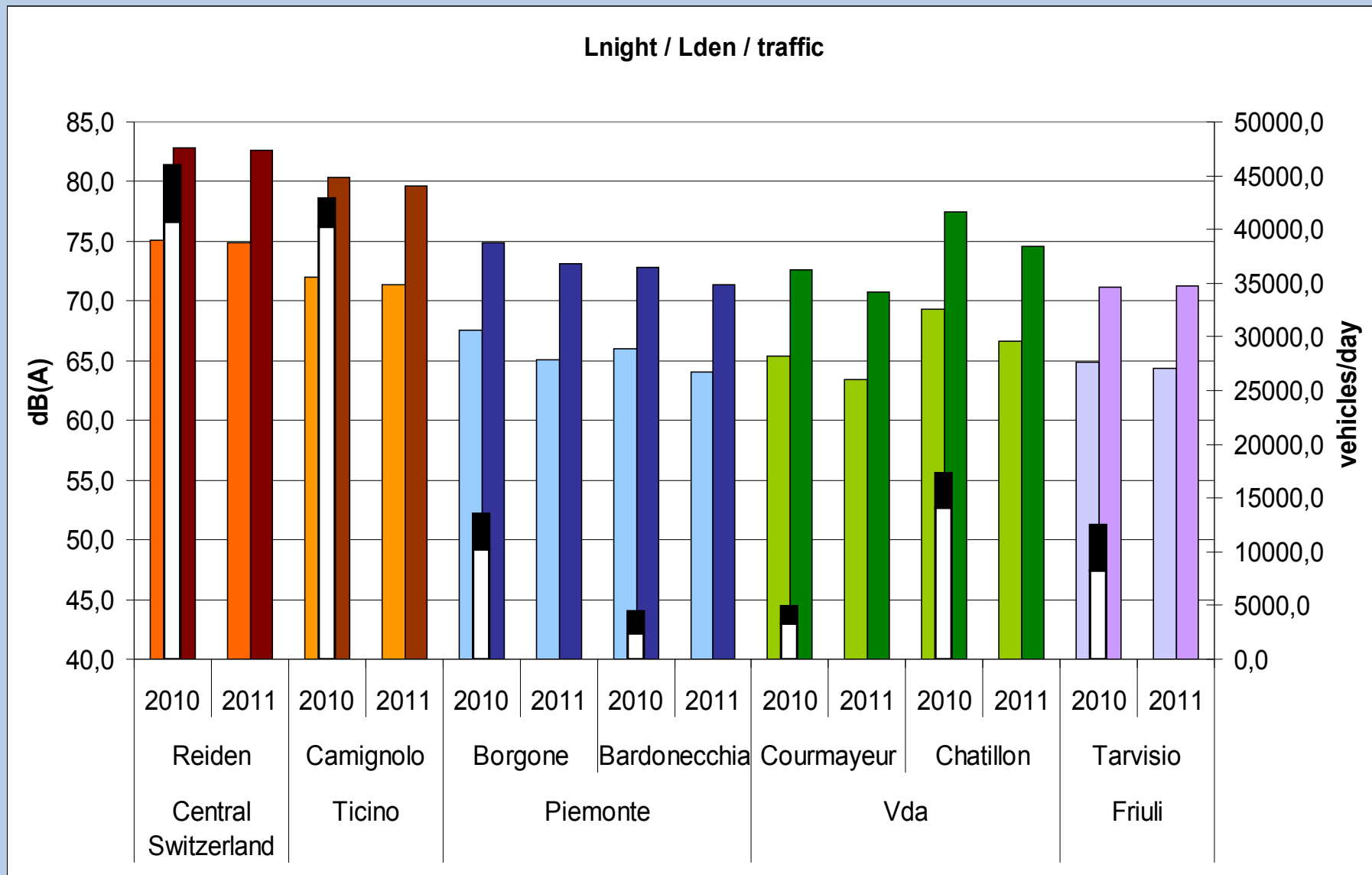
iMONITRAF! INDICATOR 1

Traffic Fluxes



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Noise levels and Traffic Fluxes



Air quality Measurements

- Air Quality measurements highly affected by meteorological variables
- Transport emissions are essentially released at ground level and at ambient temperature
- Air Quality campaigns collect measurements affected essentially by transport emissions but at different distances from roads
- Values are rescaled for distance with a gaussian dispersion model

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Air quality monitoring



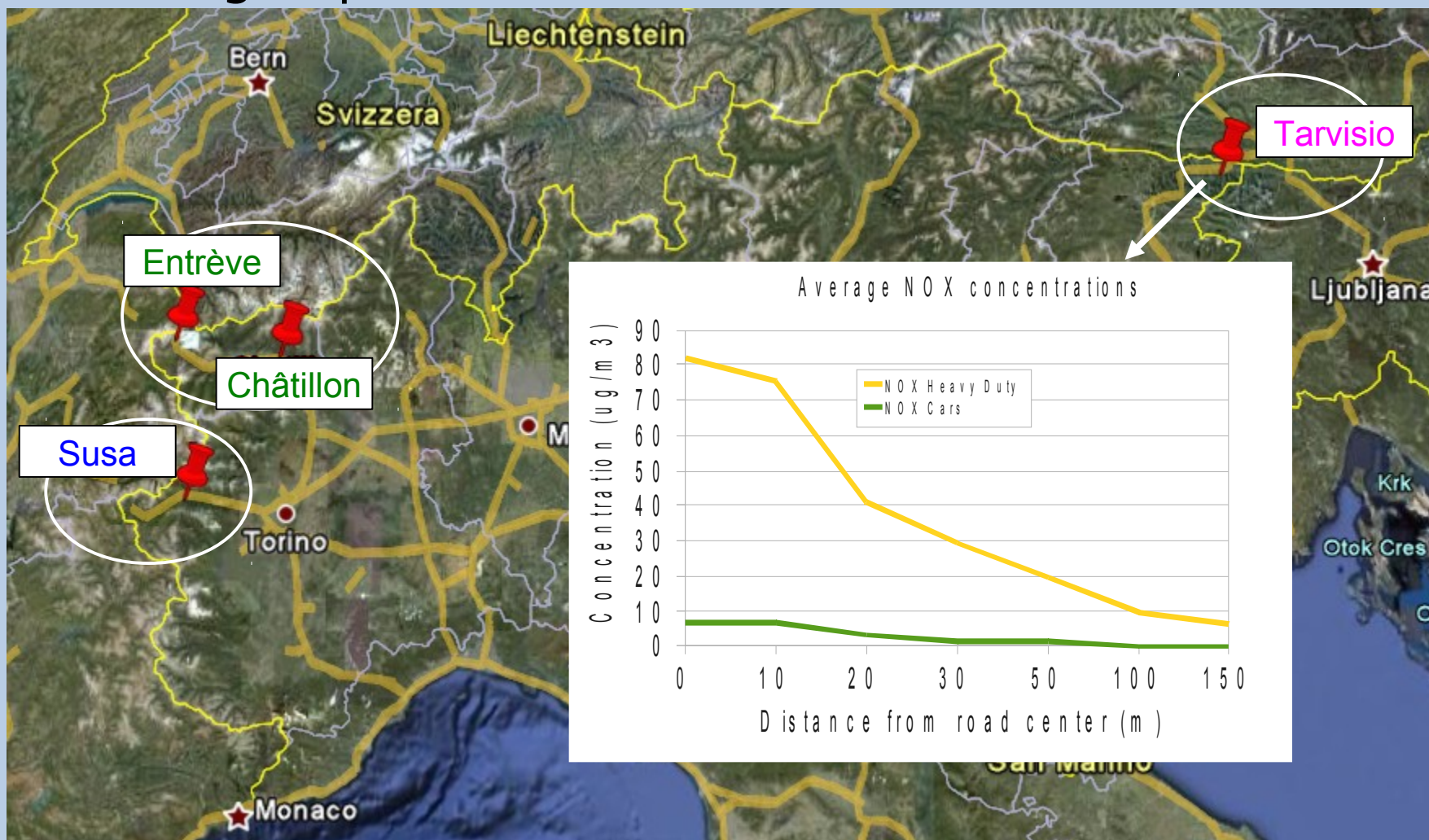
Pilot studies: look for similarities among differences



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Distance from the source (road) is a key issue for the rescaling of pollution level.

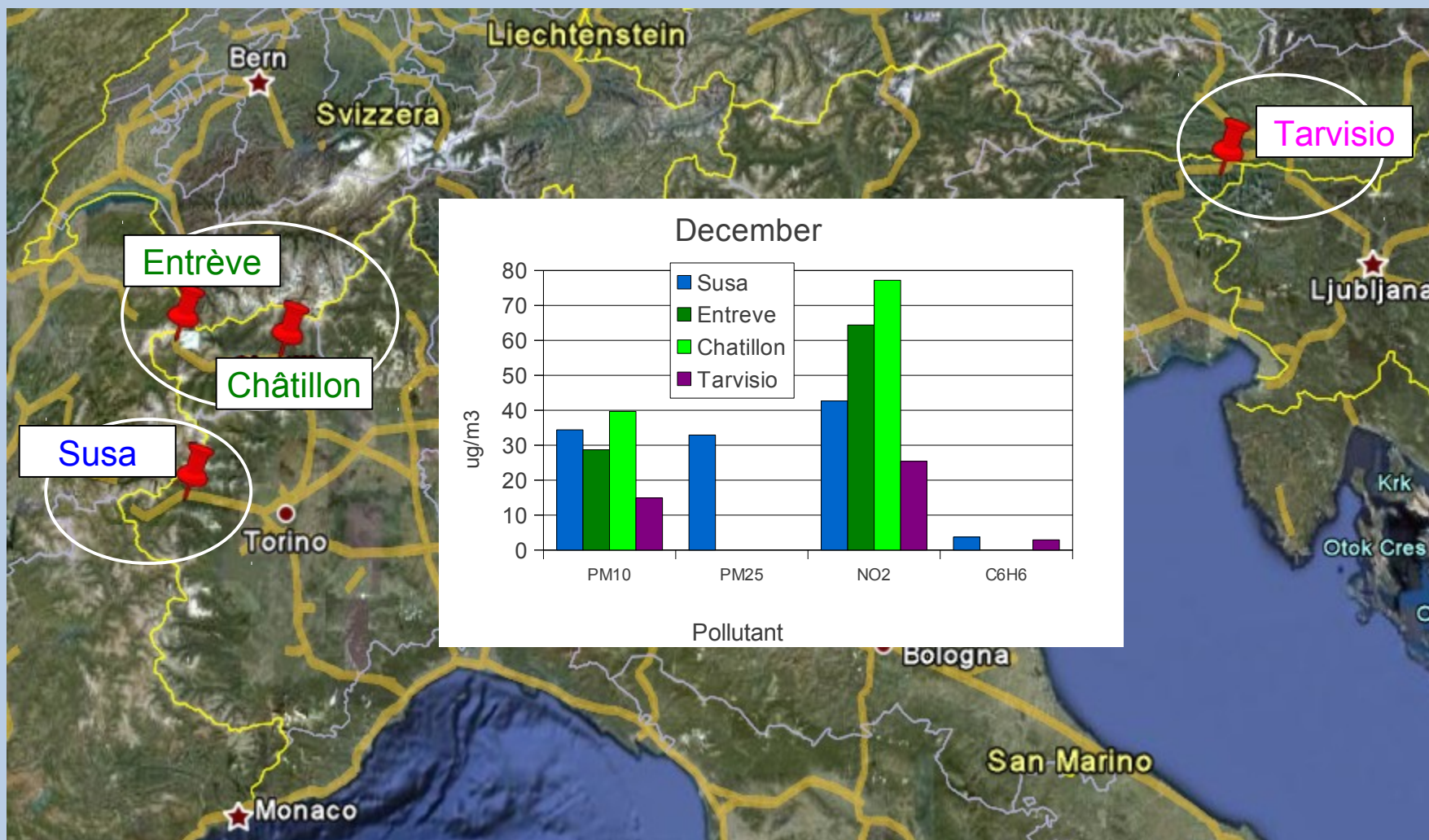


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Air quality monitoring



Current impact for a winter month (December)

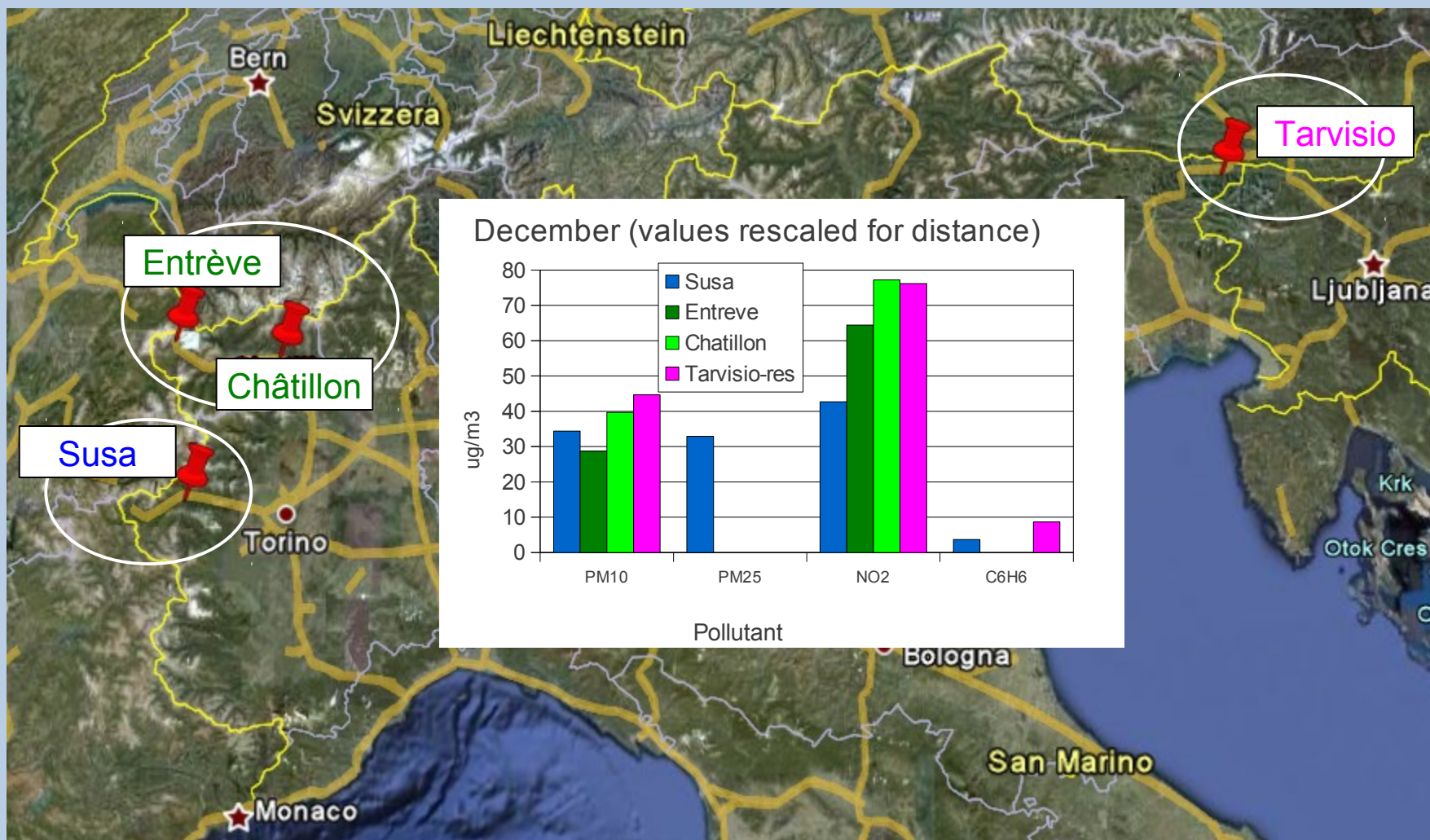


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Rescaled impact for a winter month (December)

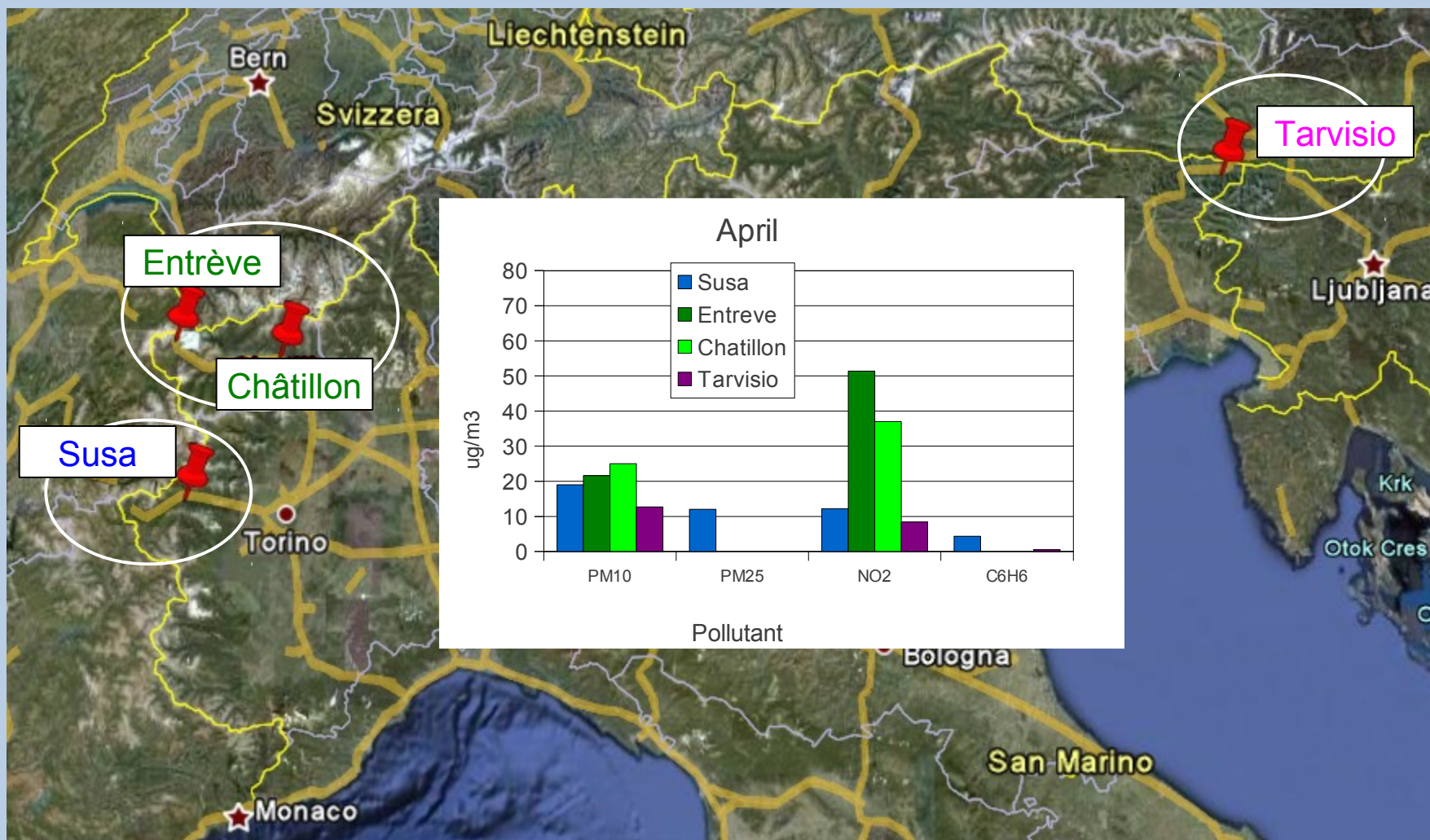


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Current impact for a spring month (April)

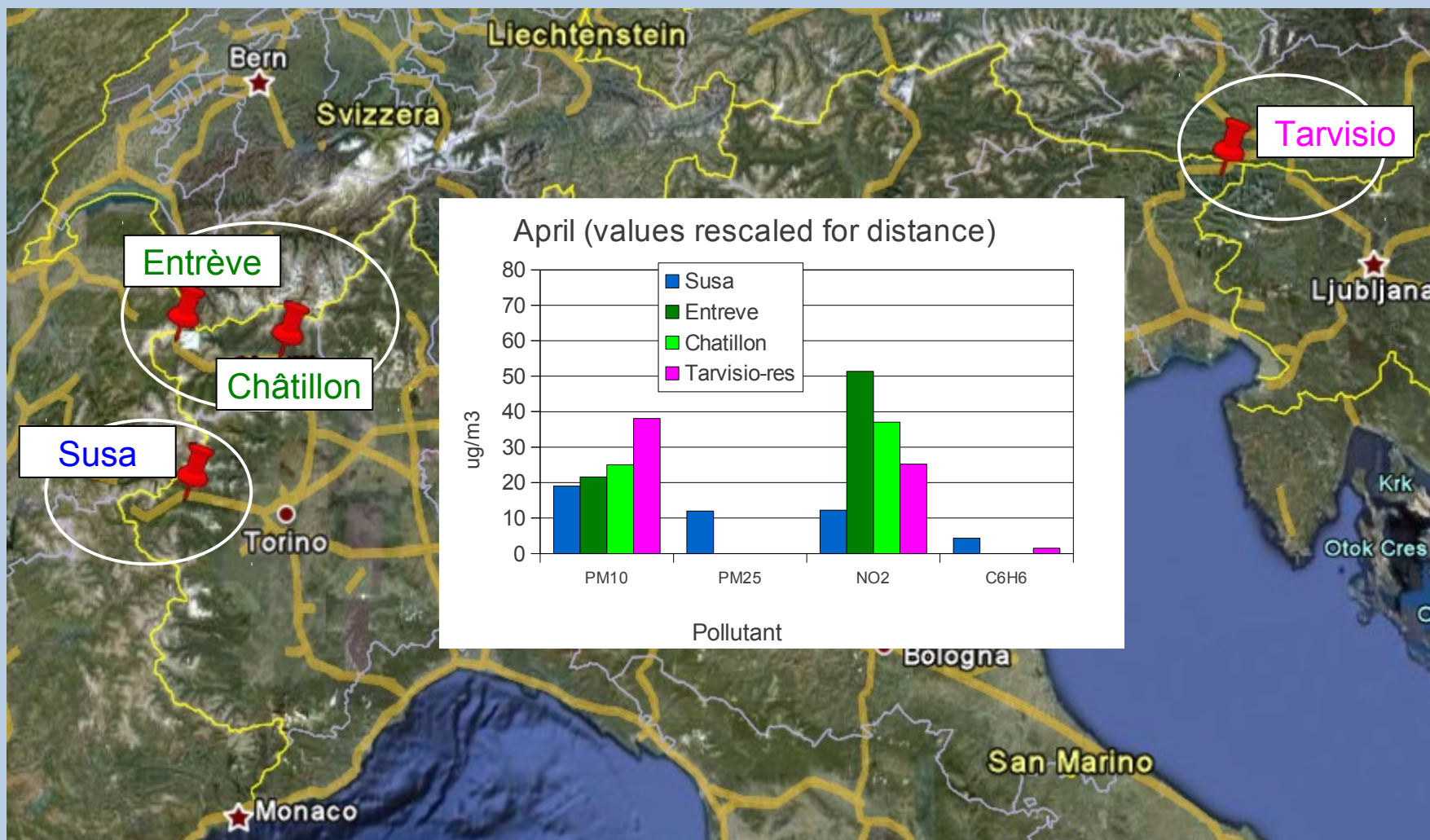


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Air quality monitoring



Rescaled impact for a spring month (April)

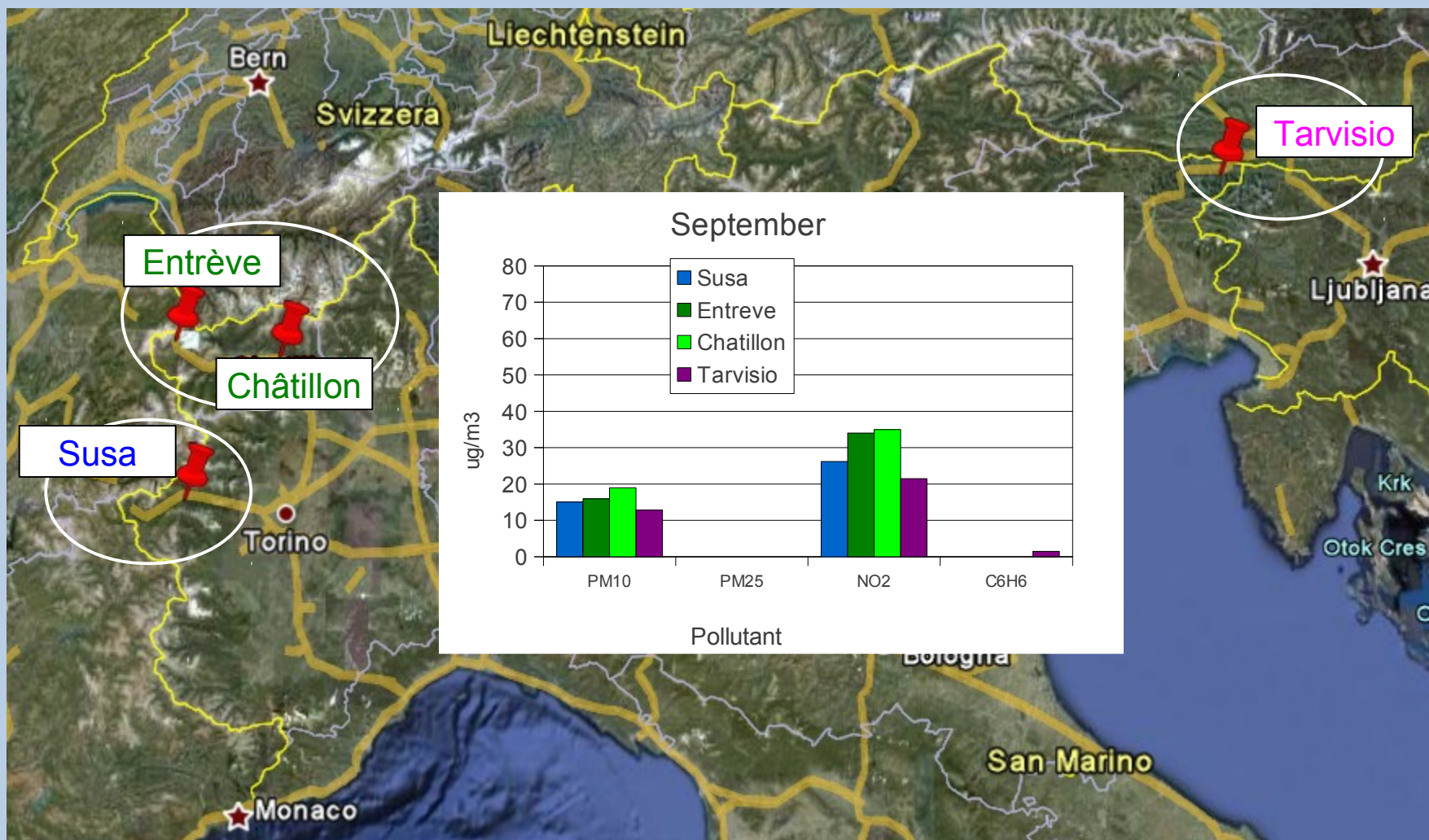


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Current impact for a fall month (September)

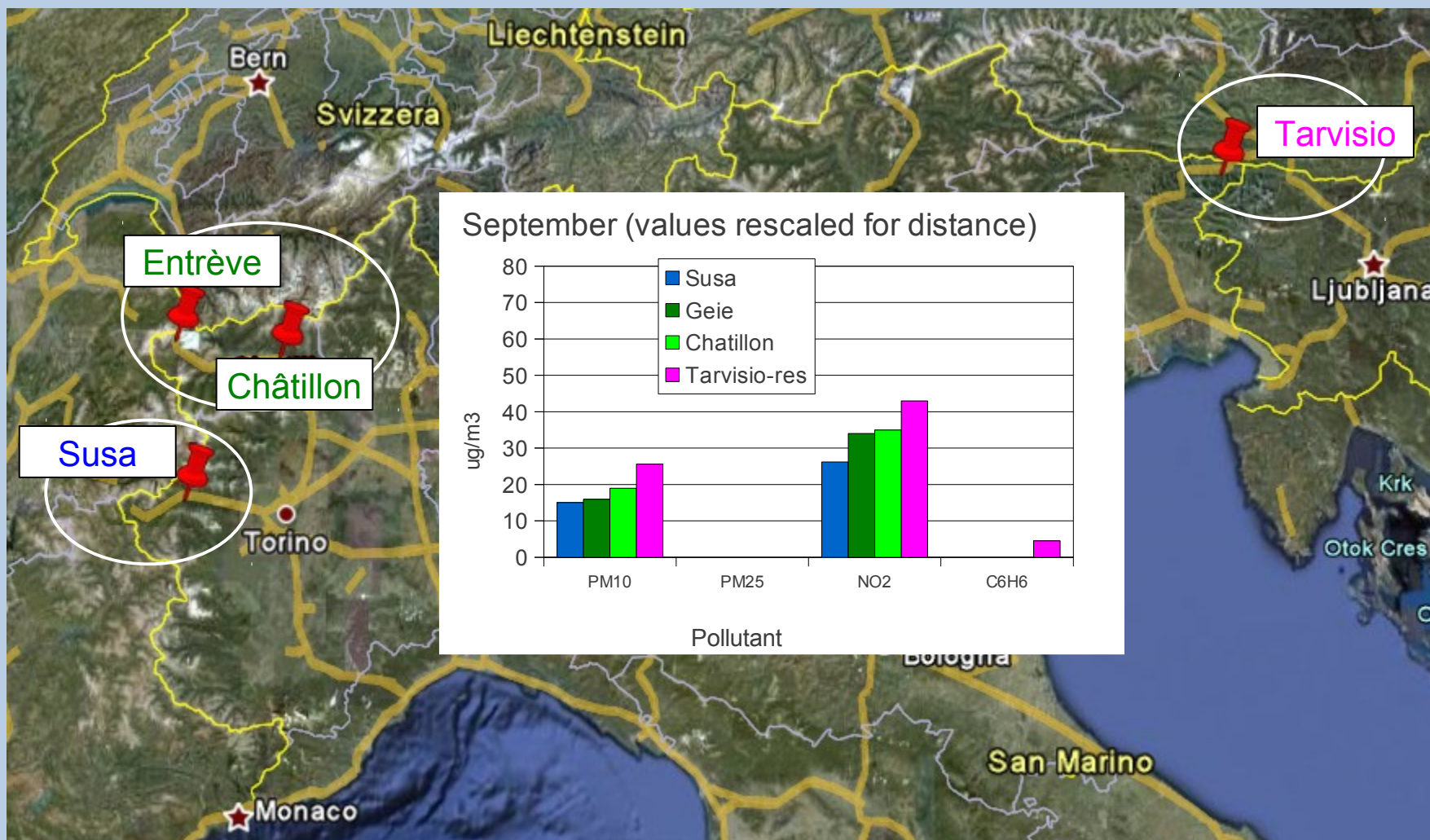


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Air quality monitoring



Rescaled impact for a fall month (September)



Conclusions (preliminary)

Even if the monitoring campaigns (both for noise and air quality) can not be immediately used for a cross-corridor comparison it is possible to overcome this trouble with analytical techniques

Monitoring campaign supply even useful information for the evaluation environmental assessment on different corridors (see posters)

That's all for now... thank you for your attention

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Air quality and noise monitoring



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