

# Impact of Air Force Training Flights Over Taos and Northern New Mexico



New Mexico

**Final Report**  
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**132**  
**Taos High School**

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## Final Report

**Overall summary:**

When we started the Supercomputing challenge, we were lost. We have come quite a ways since the start. It brought a couple of us into the world of block programming. The problem that we researched was if low-altitude Air Force training flights would pose a problem when it came to damaging buildings,

particularly the Taos Pueblo. Using StarLogo we have made a model of a Fighter plane flying over a few buildings. The fighter plane is creating “sound waves” to show the reflective properties of the buildings to sound. We found that there would be no real problems when it comes to sound waves damaging buildings, the flyovers would be high enough to terminate this concern. Problems that we did find would be the disruption of sleep to residents in areas close to where the Air Force would be conducting these flyovers due to loud noises when the planes fly over. There could be a very slight possibility of windows breaking, but the flyovers would have to be very close together and extremely close to the ground.

## **Problem:**

Our project focuses on the effects of military aircraft sound waves on both urban and rural communities. We needed to find out whether or not sound waves can be strong enough to not only disrupt daily lives, but also destroy our community’s buildings.

## **Methodical Procedure:**

By using Sound Pressure Level Calculations (from the following site:

[http://ww.ccohs.ca/oshanswers/phys\\_agents/noise\\_basic.html](http://ww.ccohs.ca/oshanswers/phys_agents/noise_basic.html) ) we have been able

to conclude that the low altitude flights from the suggested military aircraft cannot and will not destroy any community buildings including the cherished pueblo buildings.

## **Result:**

The Sound Pressure Level and Sound Power Level calculations  $\{(db=20\log(\text{sound pressure}/0.00002))\}$  we used were able to concur that both the V-22 Osprey and the MC-130J will not have any significant effect on the rural and urban communities at 200 ft. altitude, with the exception of some slight noise pollution.

## **Conclusion:**

The “roar” of the engines on these planes cannot create sonic booms. From 200 ft. in the air the “roar” should sound only as loud as a lawn mower at 50-100 ft distance. The “noise pollution” that occurs should not last more than 1 minute.

## **Our Biggest Achievement:**

In all honesty, catching up on and finishing this report along with the model and presentation was our biggest achievement. By “our” I mean 1 or 2 members out of the original 4 members have contributed faithfully. We all have learned from our mentors that came here but we (1 or 2 members) put their lessons to use. All in all, getting incorporated into Supercomputing was... FUN!!!

## **Special Thanks to:**

Janet Penenolpe

John Paul Gonzales

Tracy Galligan

Rodney Litke

## Cite Page

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Thursday, September 16, 2010 12:00 am

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November 2010

[a]

[a]Rodolfo Garcia:

lets use both reports in side-by-side view so we can look at both reports simultaneously for faster editing. just put each document in its own window.