

# AMCLIM

Synthetic fertilizers:  
 $\text{NH}_4^+$ ,  $\text{NH}_3$ , urea

Manure: urea, uric acid,  
organic N

N input

Hydrolysis  
Decomposition

$\text{NH}_3$  emission

Plant  
uptake

Runoff

TAN  $\rightleftharpoons$   $\text{NH}_3$

Emission

$\text{NO}$ ,  $\text{N}_2\text{O}$ ,  $\text{N}_2$

Ammonification

Nitrification

$\text{NO}_3^-/\text{NO}_2^-$

Denitrification

Physical

Biological

Chemical

Leaching &  
Diffusion to deep soils

