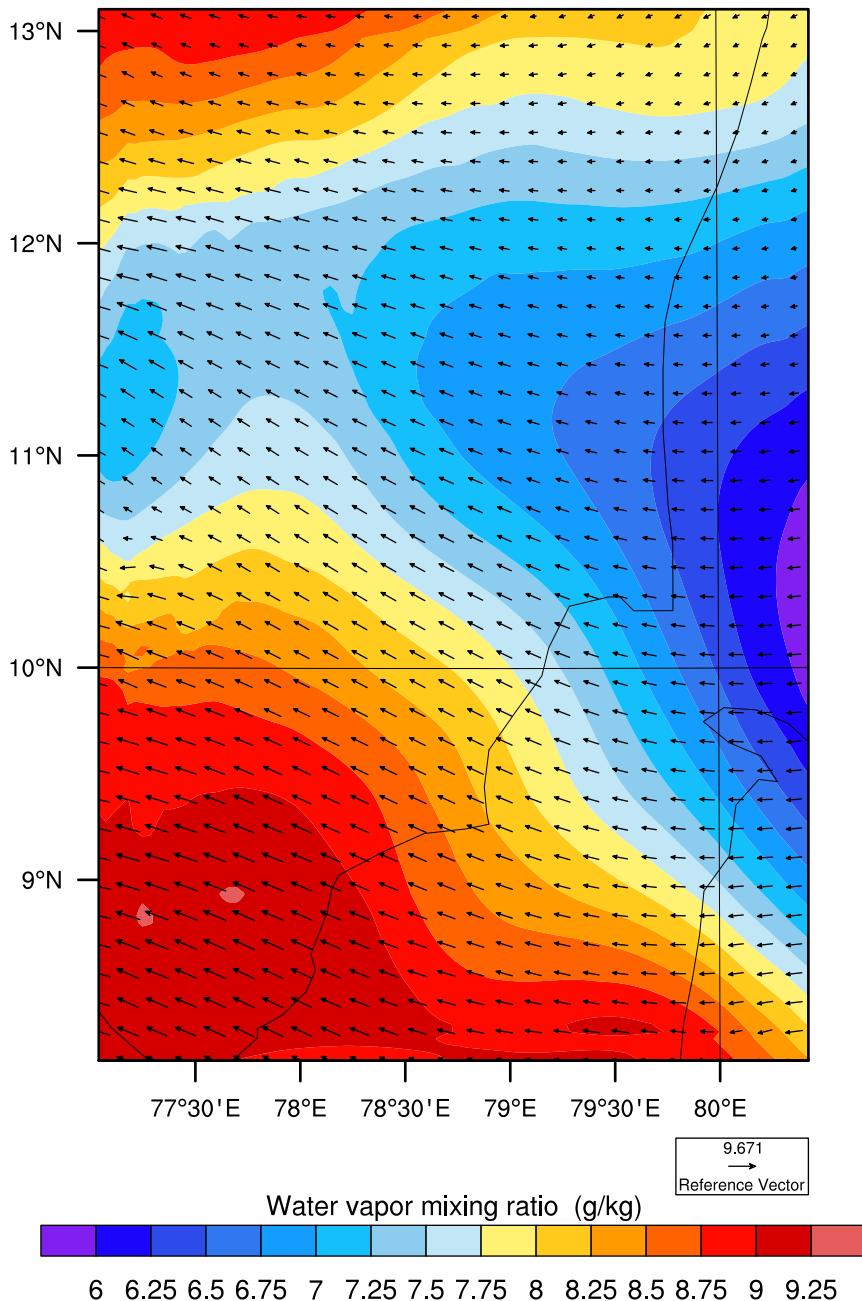


# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_13:00:00

Water vapor mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

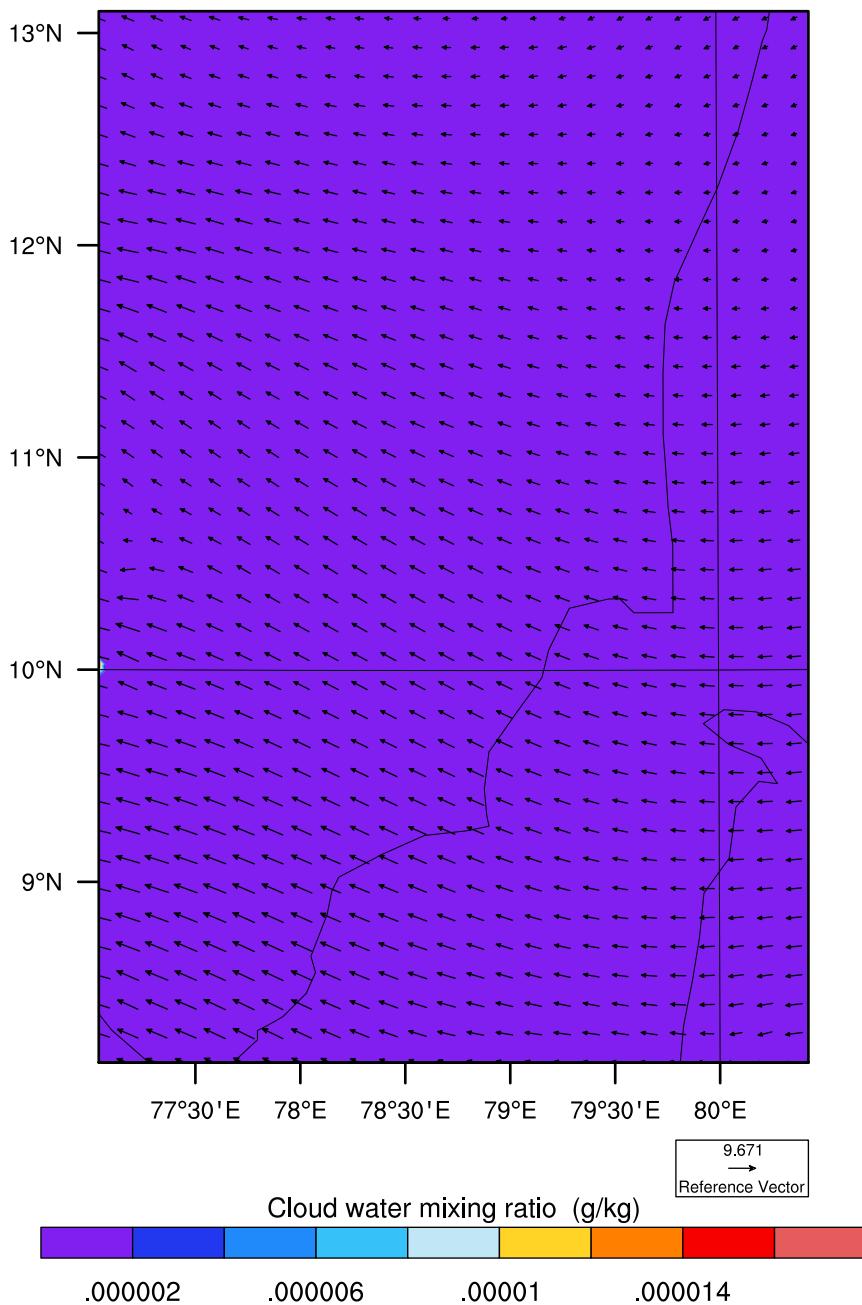


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_13:00:00

Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

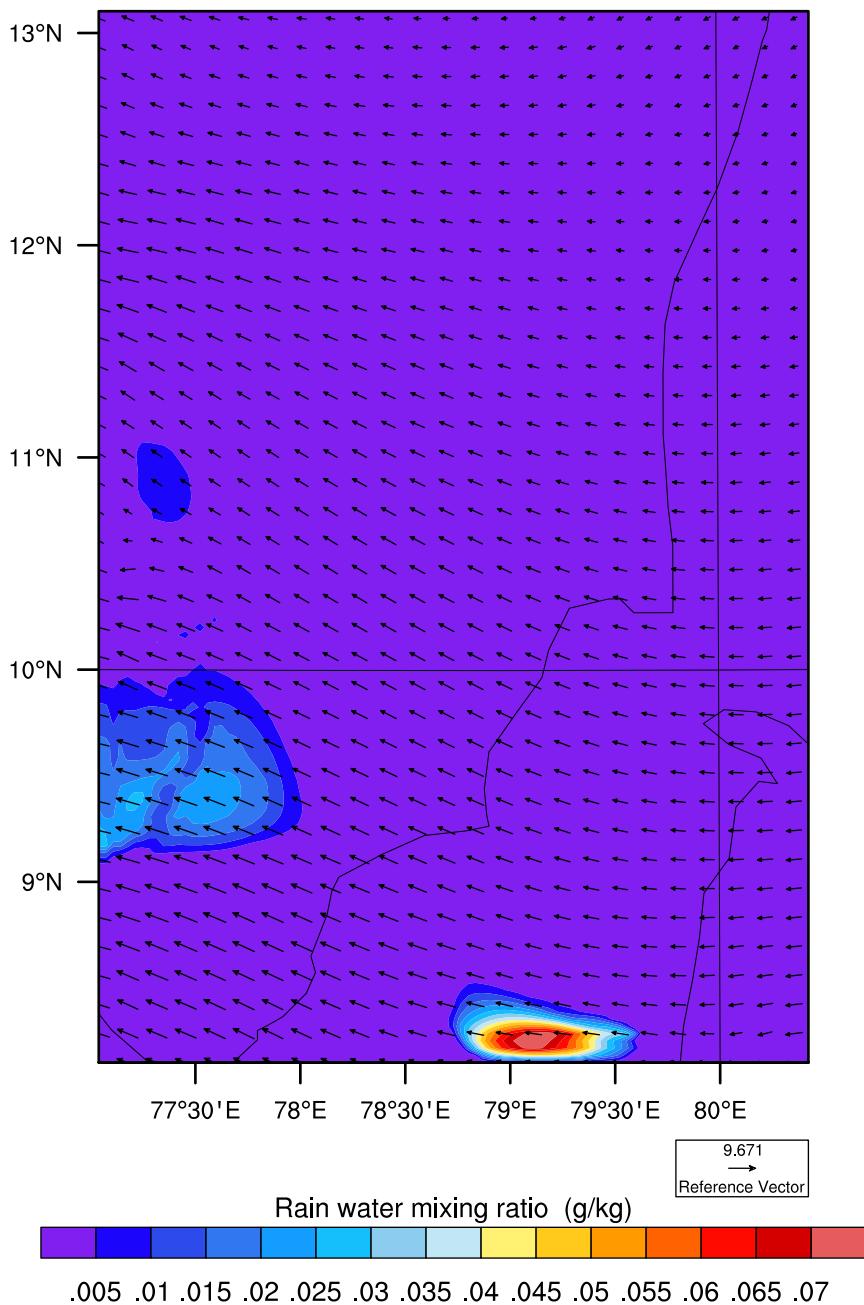


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_13:00:00

Rain water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

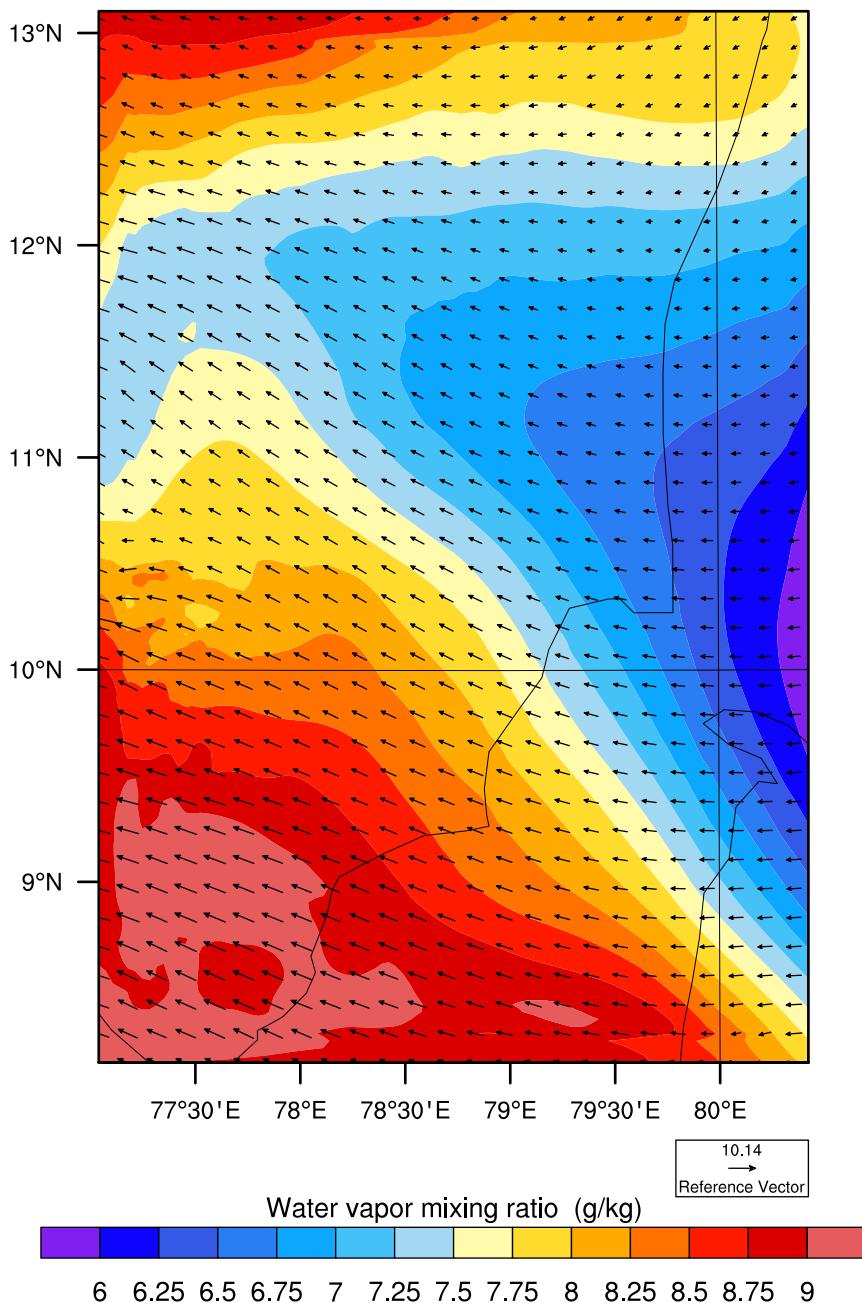


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_14:00:00

Water vapor mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

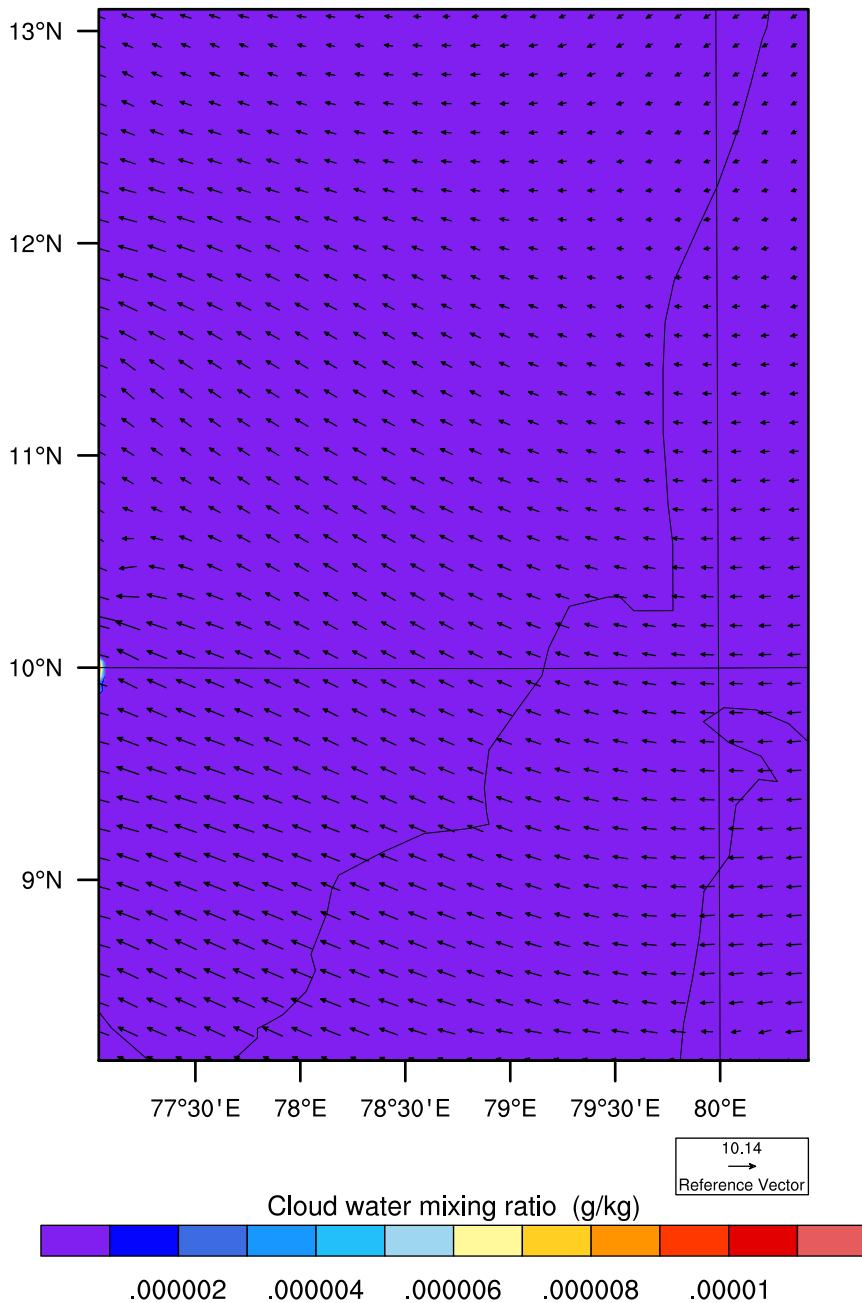


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_14:00:00

Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

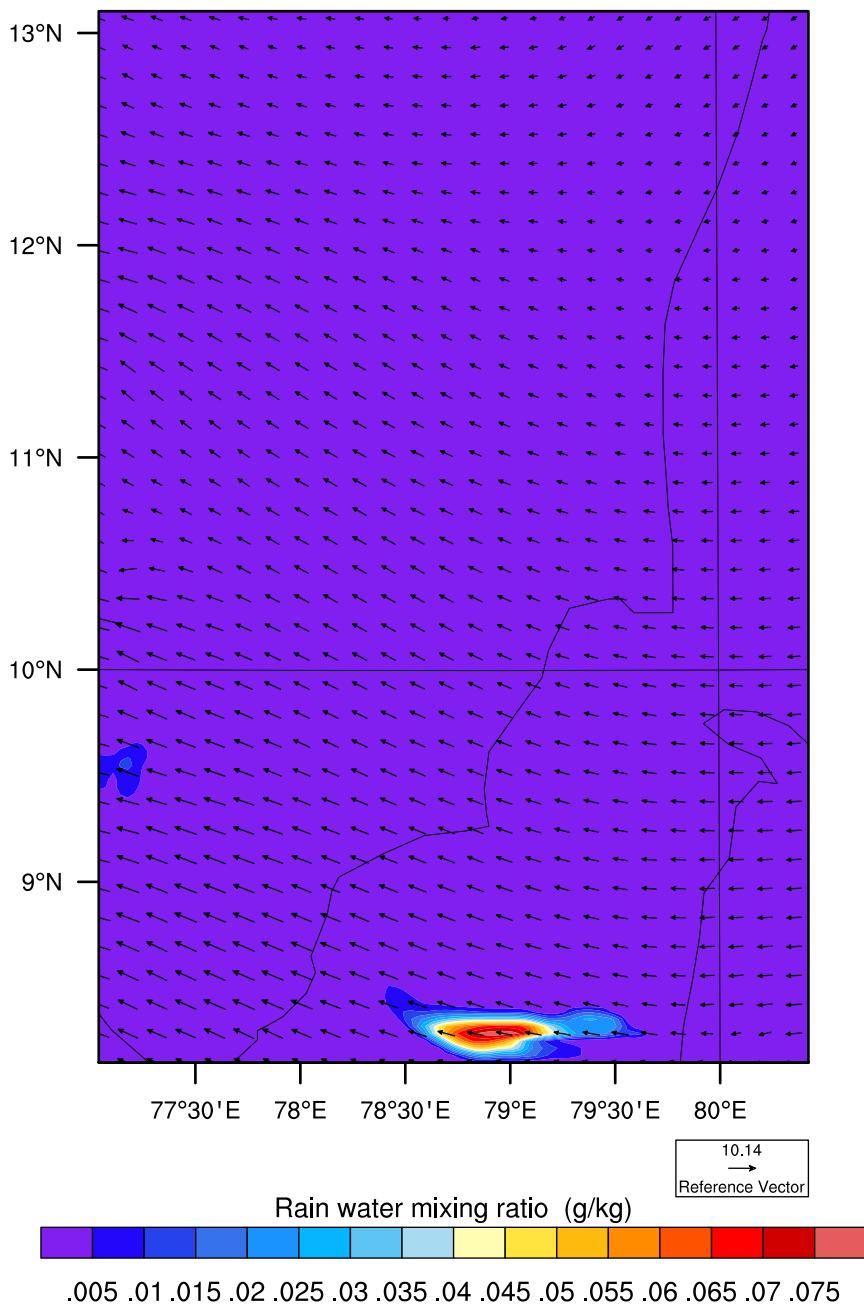


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_14:00:00

Rain water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km



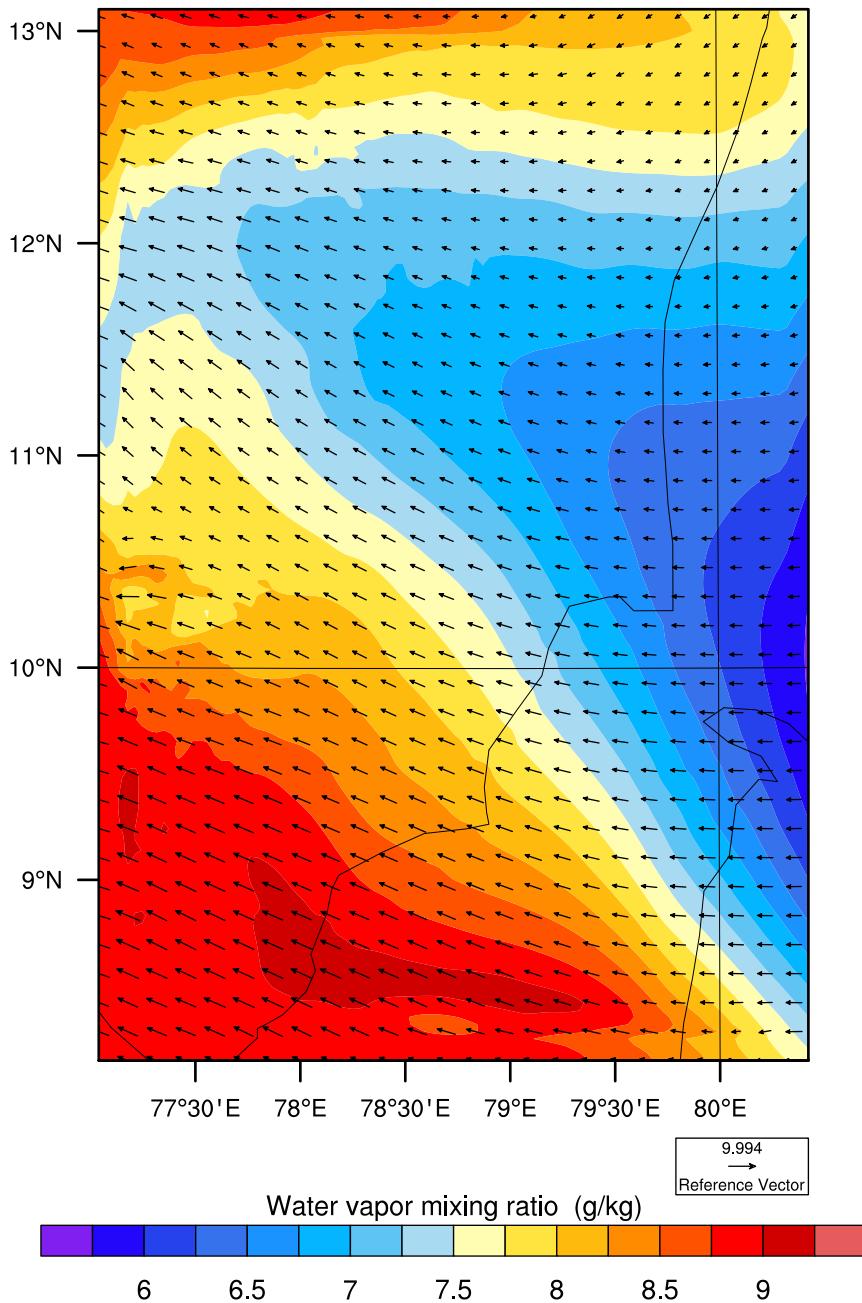
OUTPUT FROM WRF V3.4.1 MODEL

WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_15:00:00

Water vapor mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

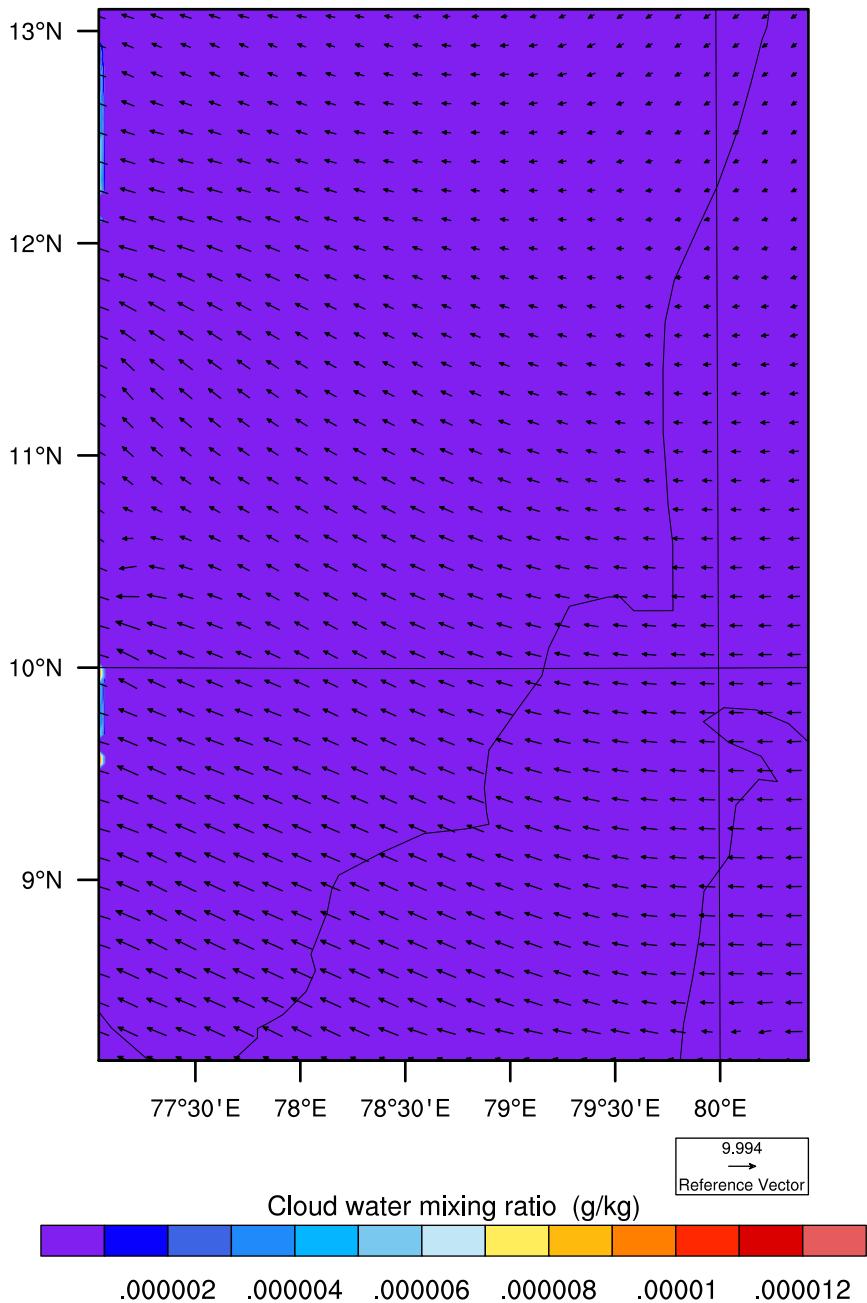


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_15:00:00

Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

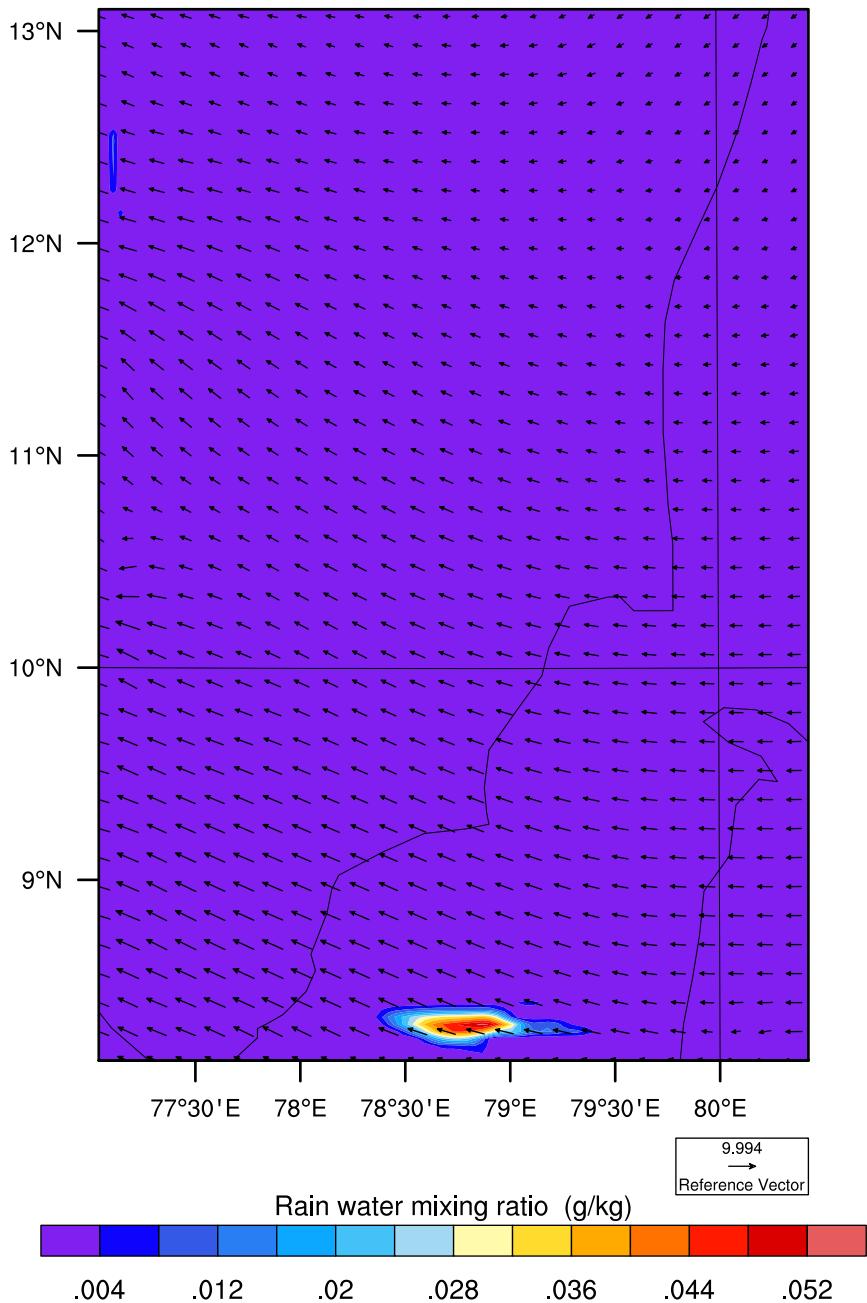


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_15:00:00

Rain water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

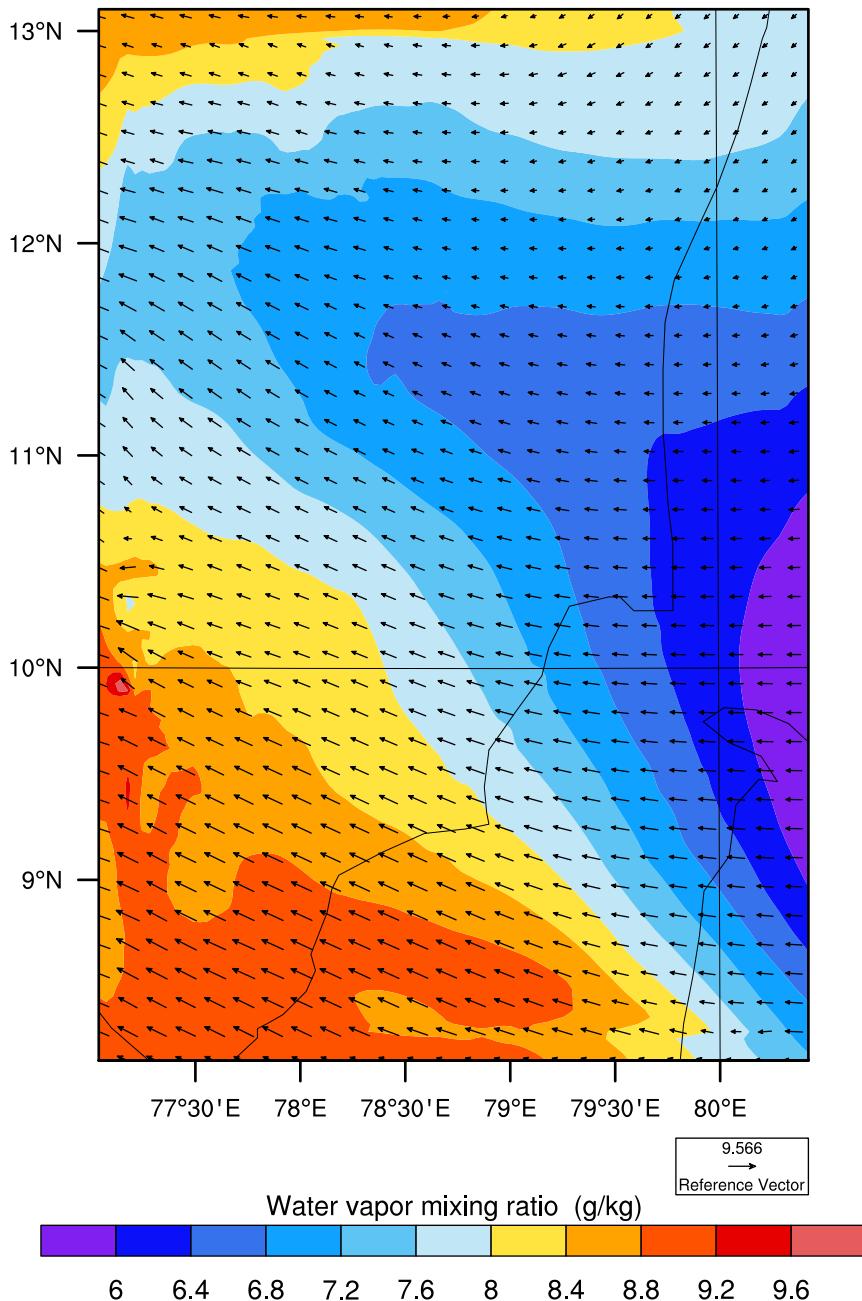


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_16:00:00

Water vapor mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

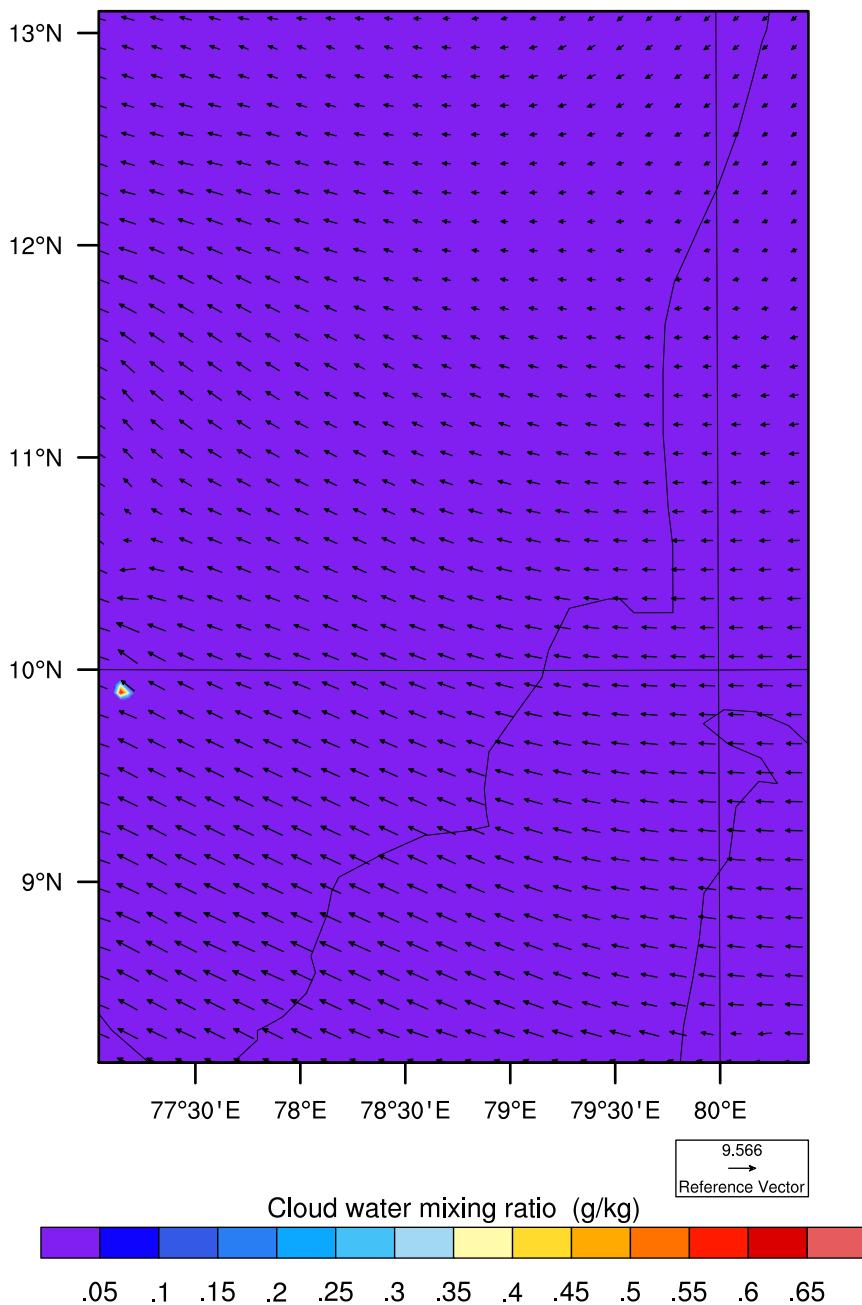


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_16:00:00

Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

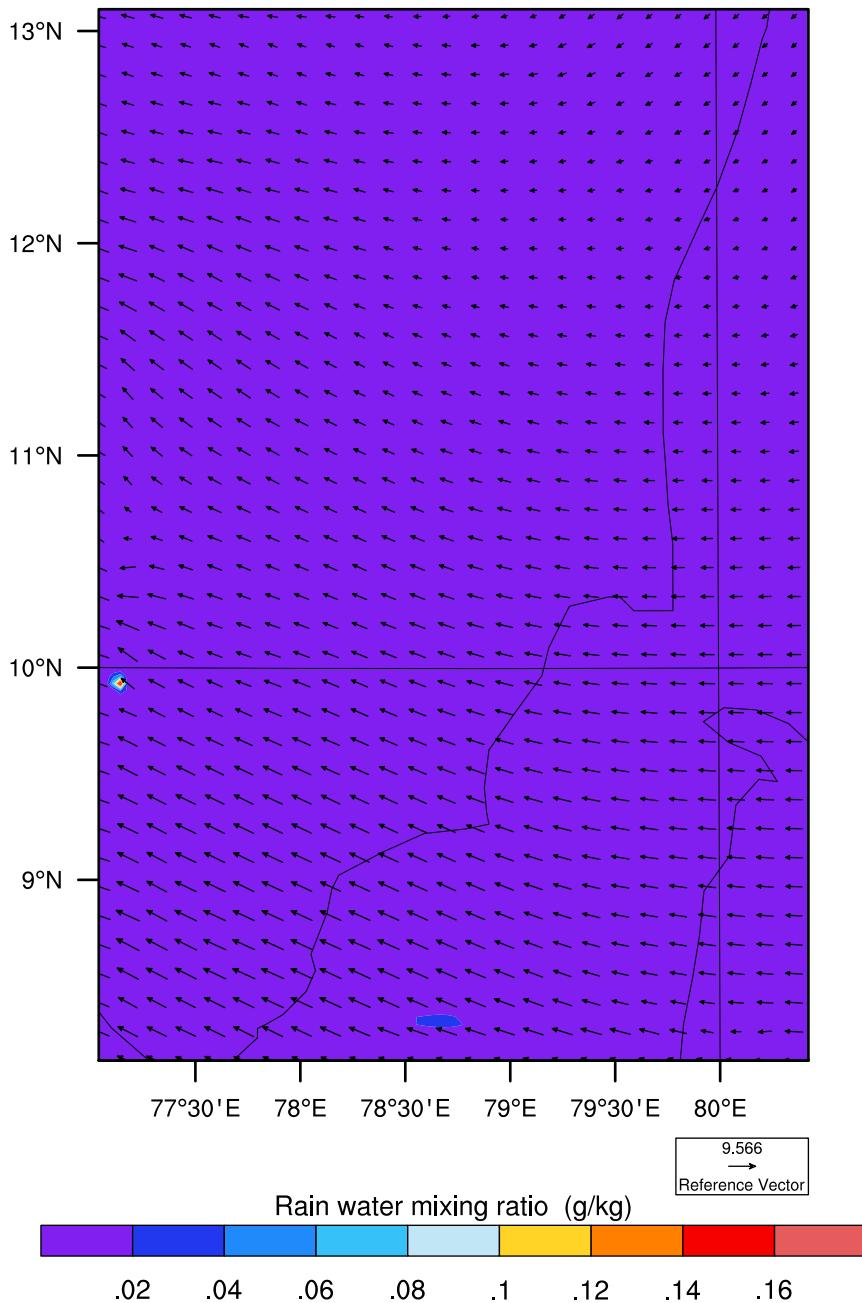


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_16:00:00

Rain water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

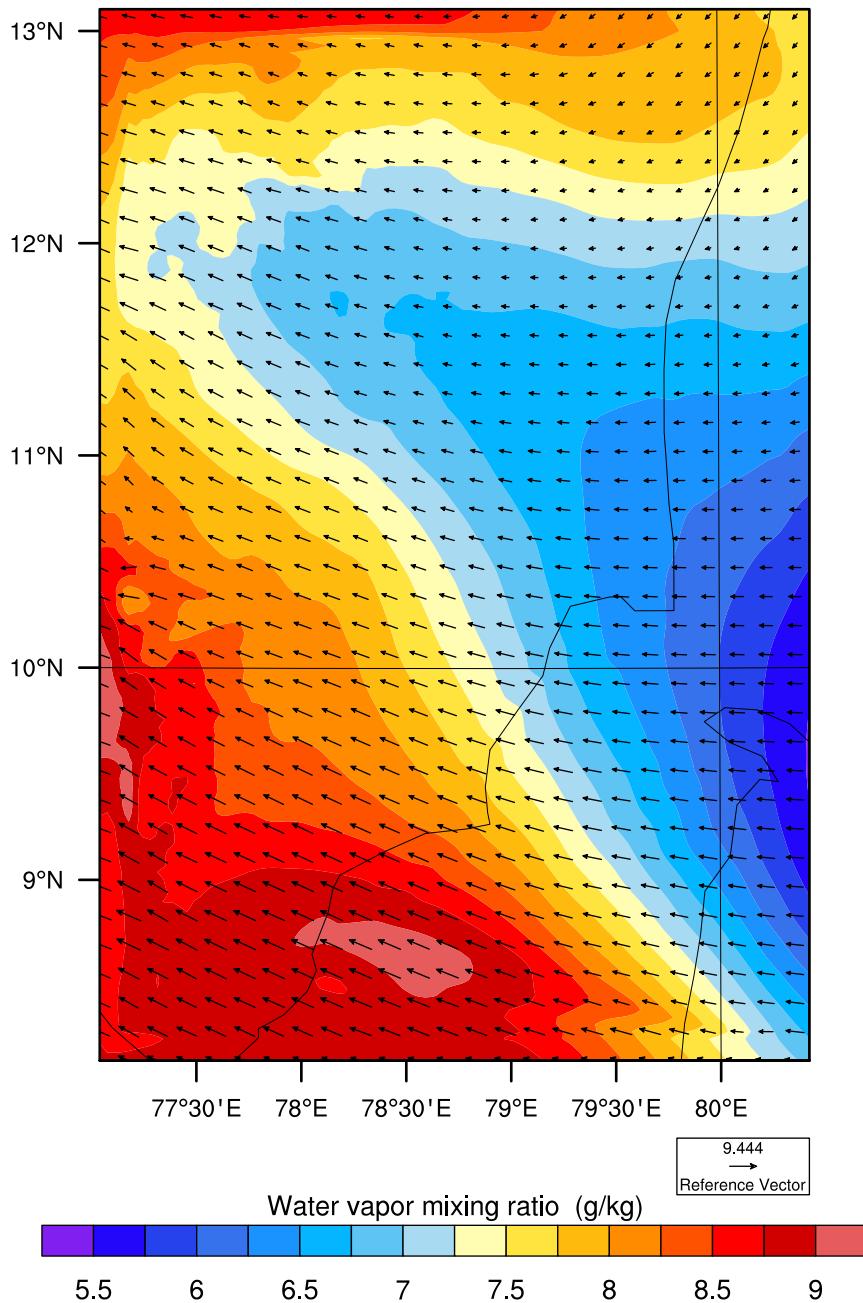


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_17:00:00

Water vapor mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km



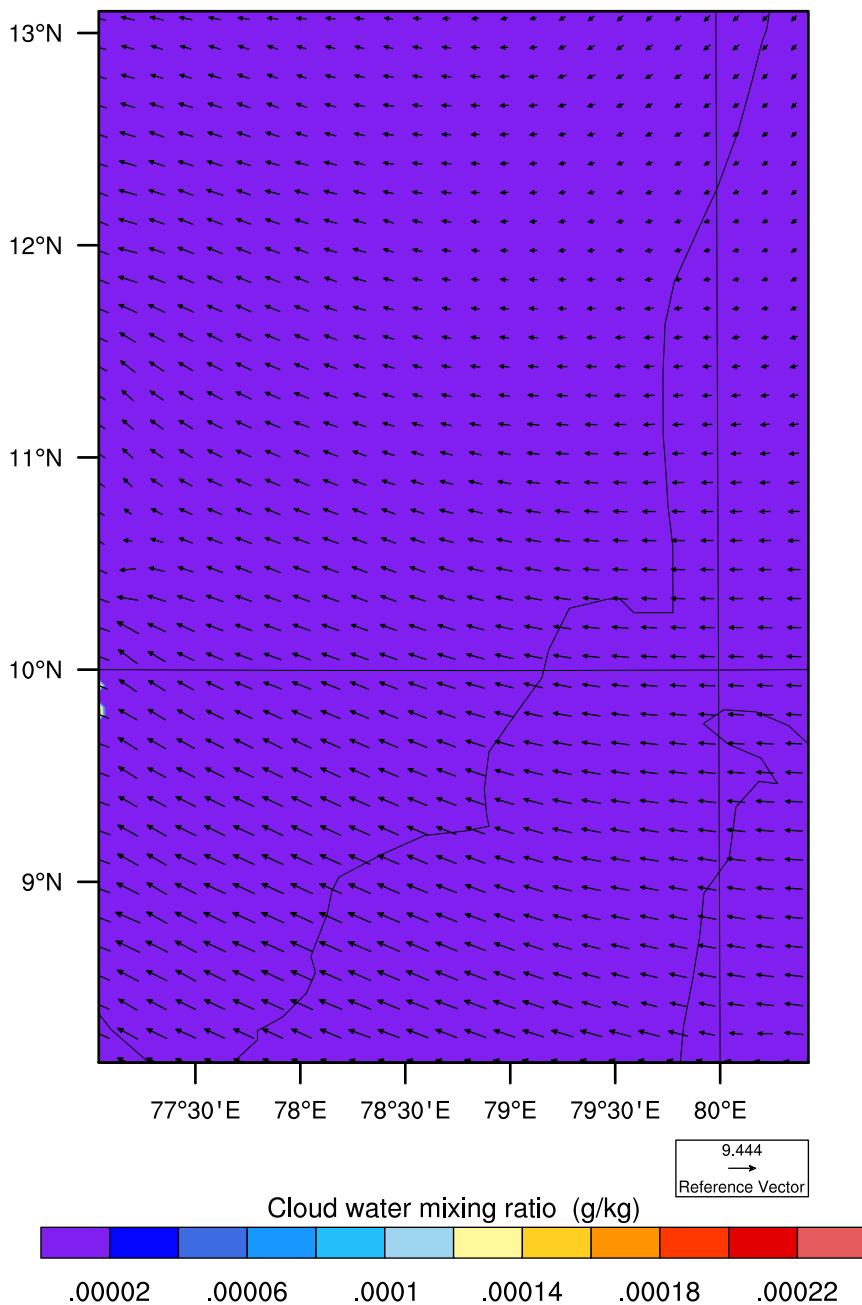
OUTPUT FROM WRF V3.4.1 MODEL

WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_17:00:00

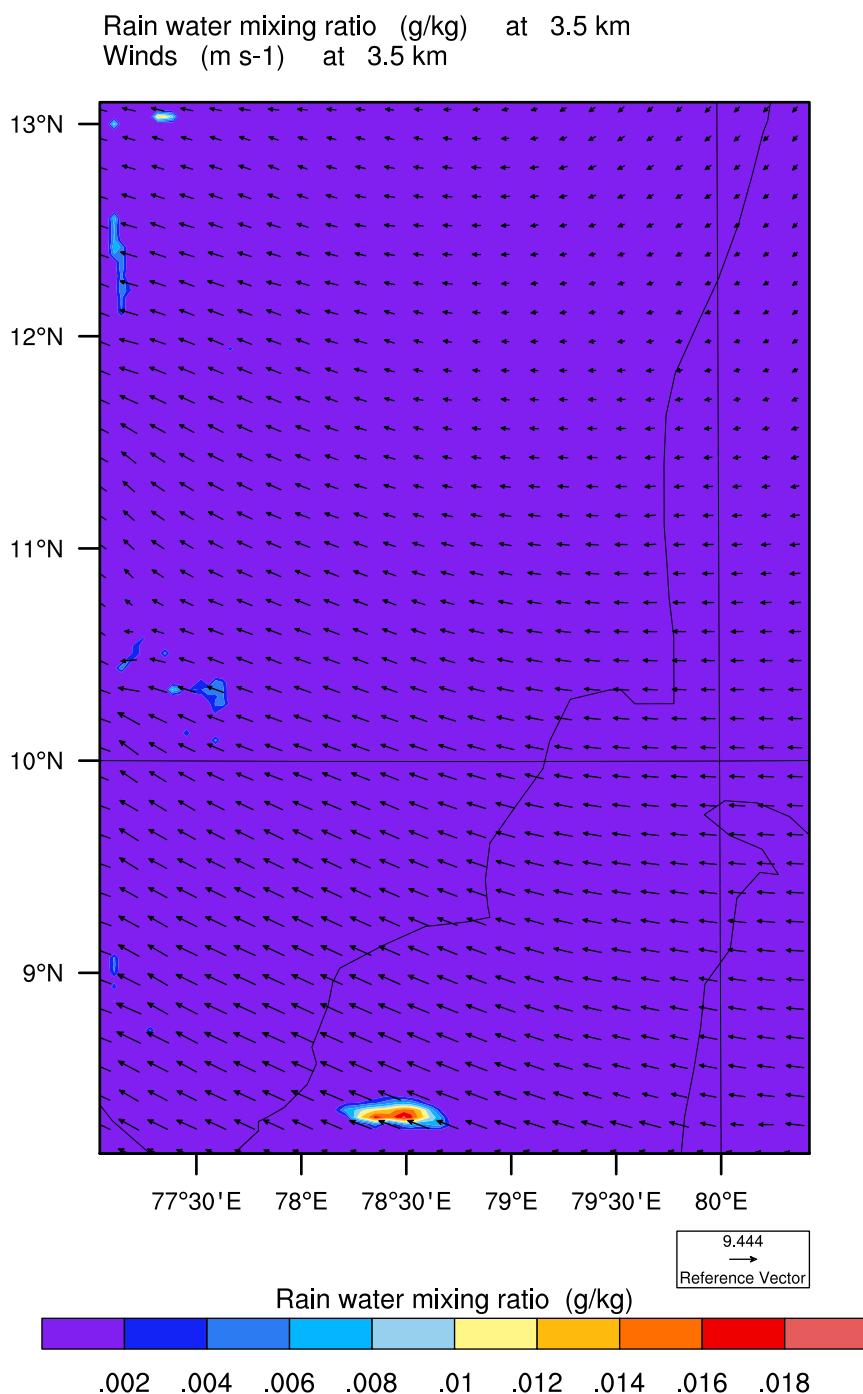
Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km



OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

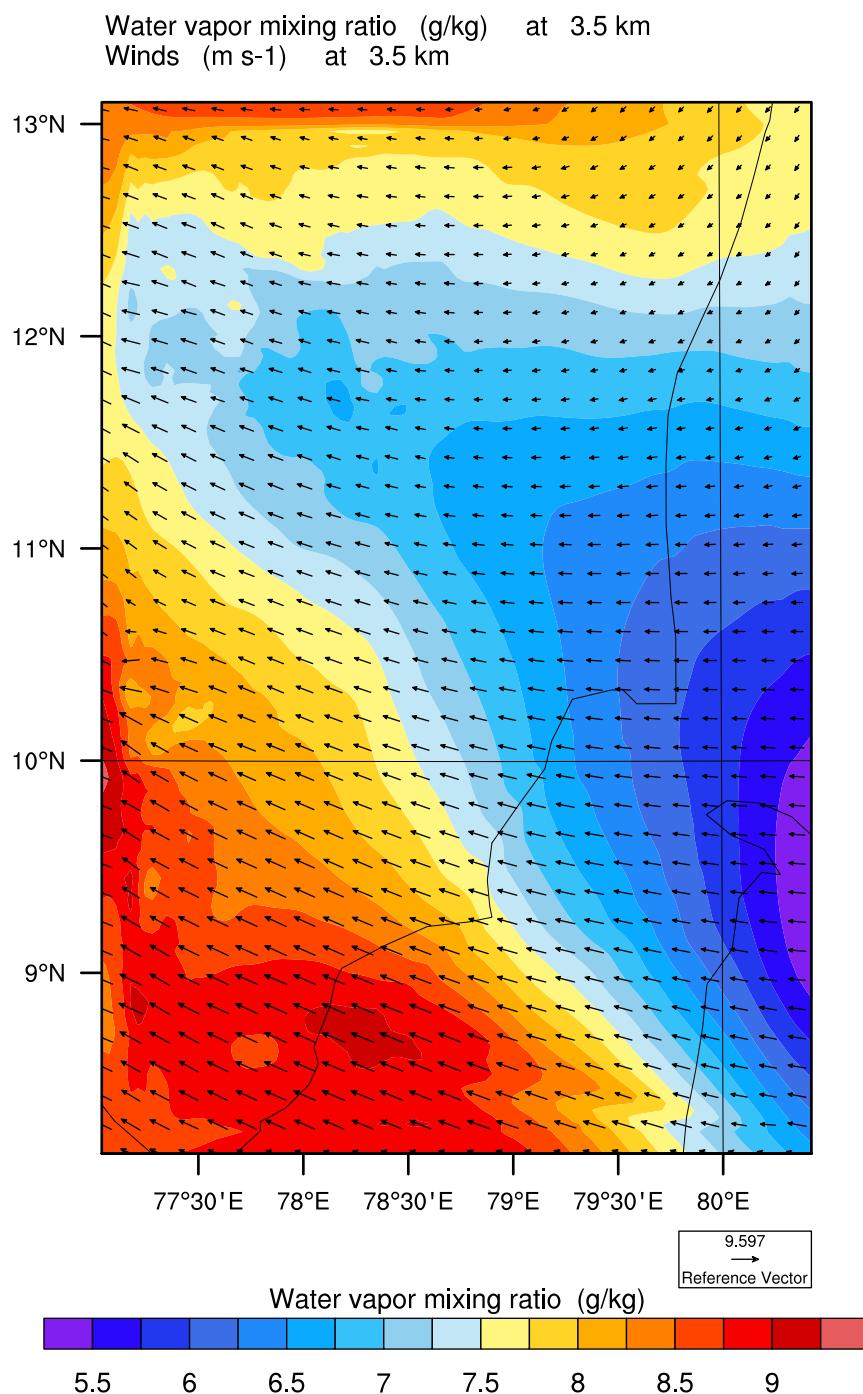
Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_17:00:00



OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_18:00:00

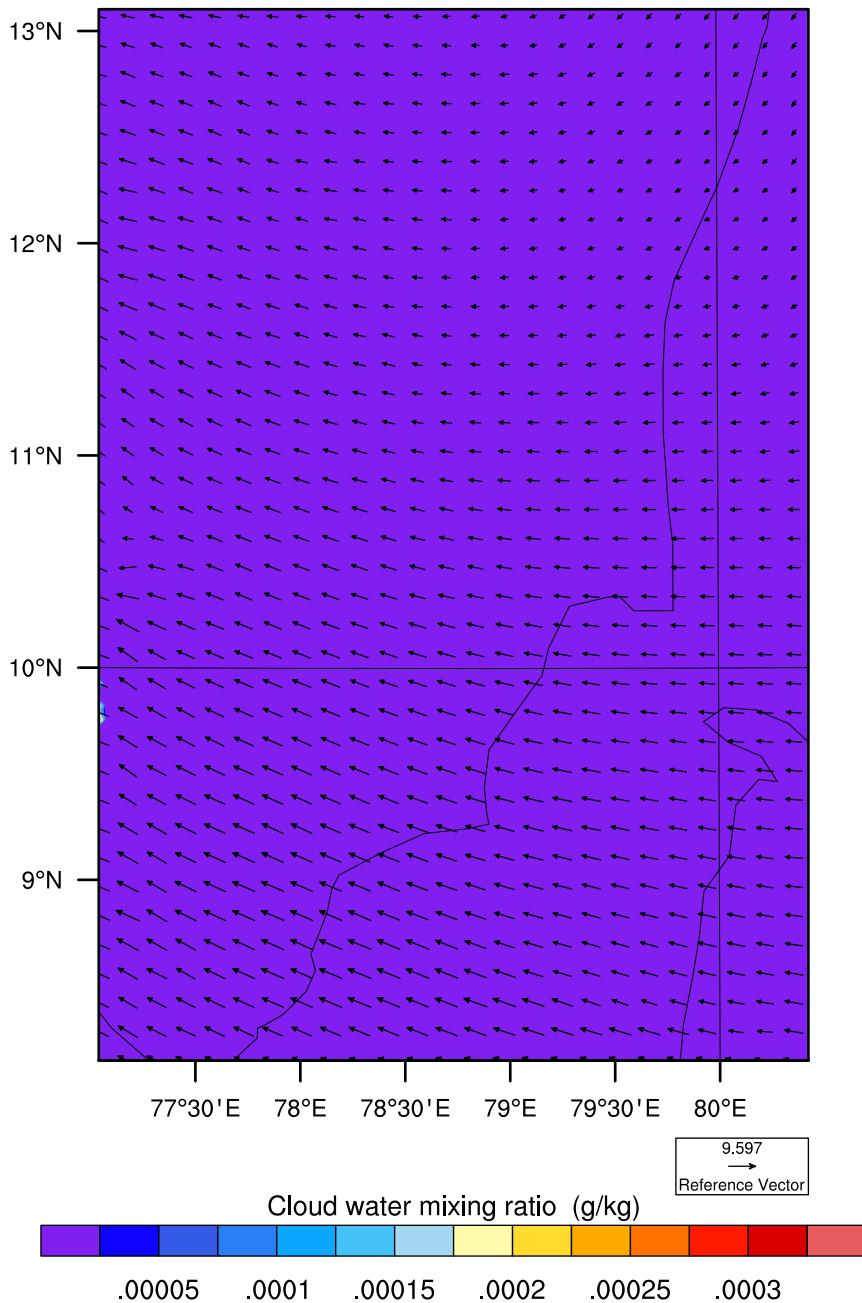


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_18:00:00

Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

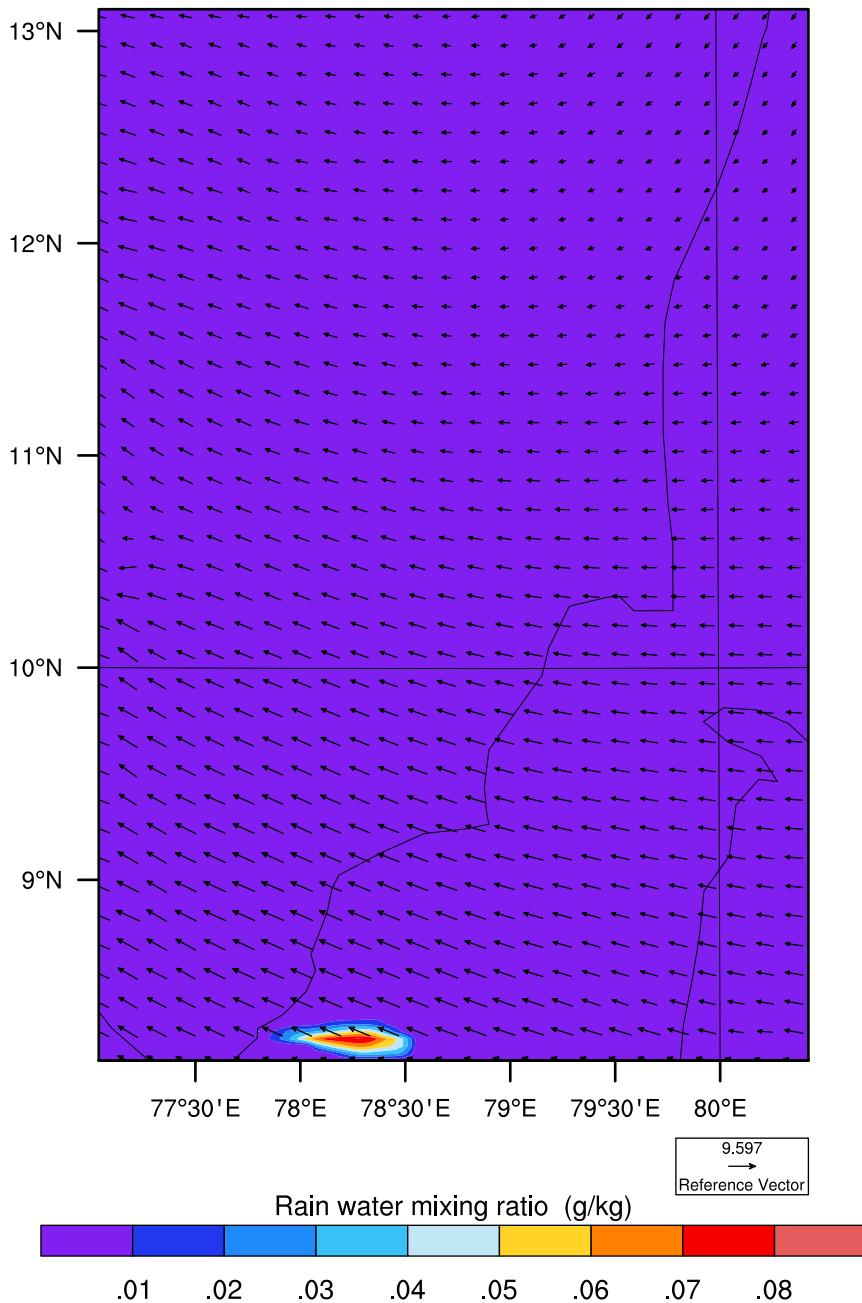


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_18:00:00

Rain water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km



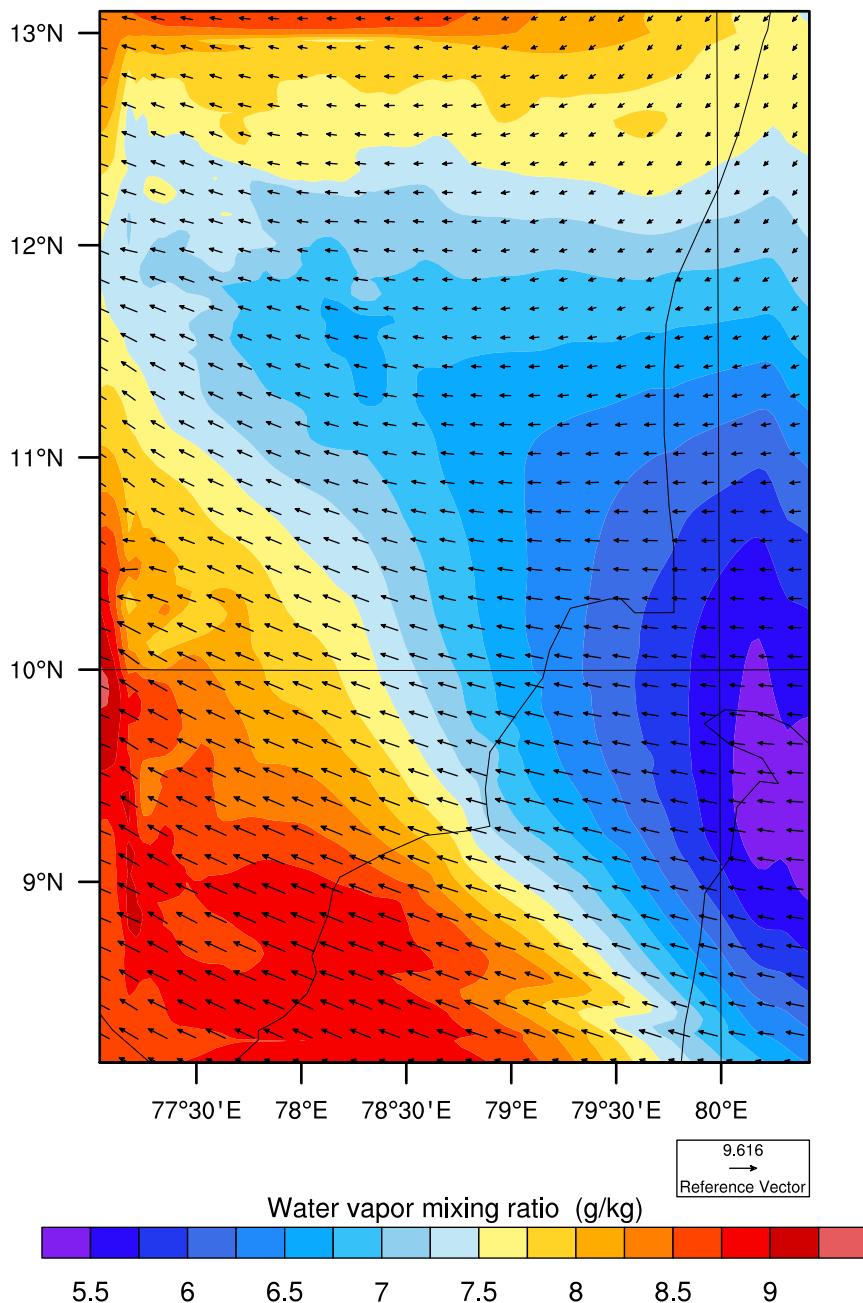
OUTPUT FROM WRF V3.4.1 MODEL

WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_19:00:00

Water vapor mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km



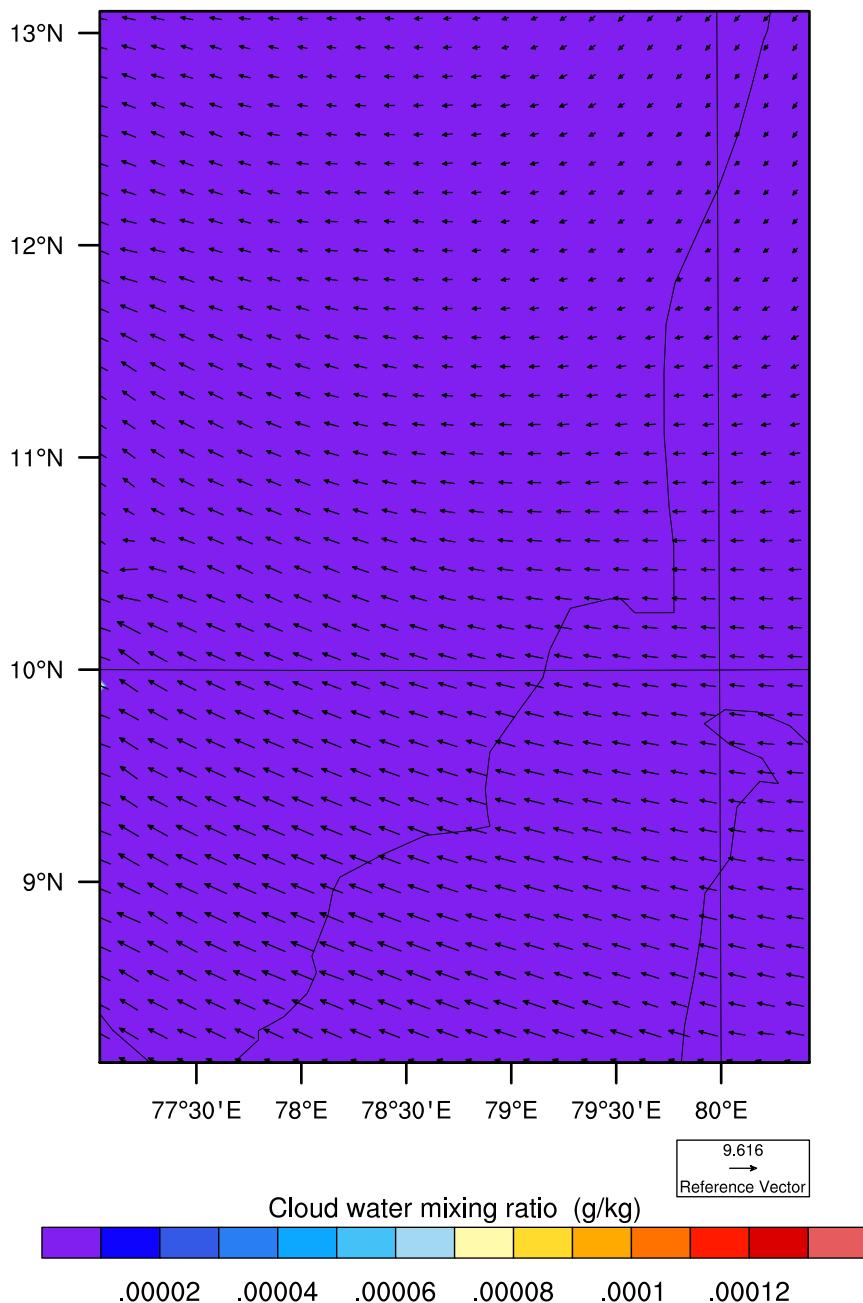
OUTPUT FROM WRF V3.4.1 MODEL

WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_19:00:00

Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

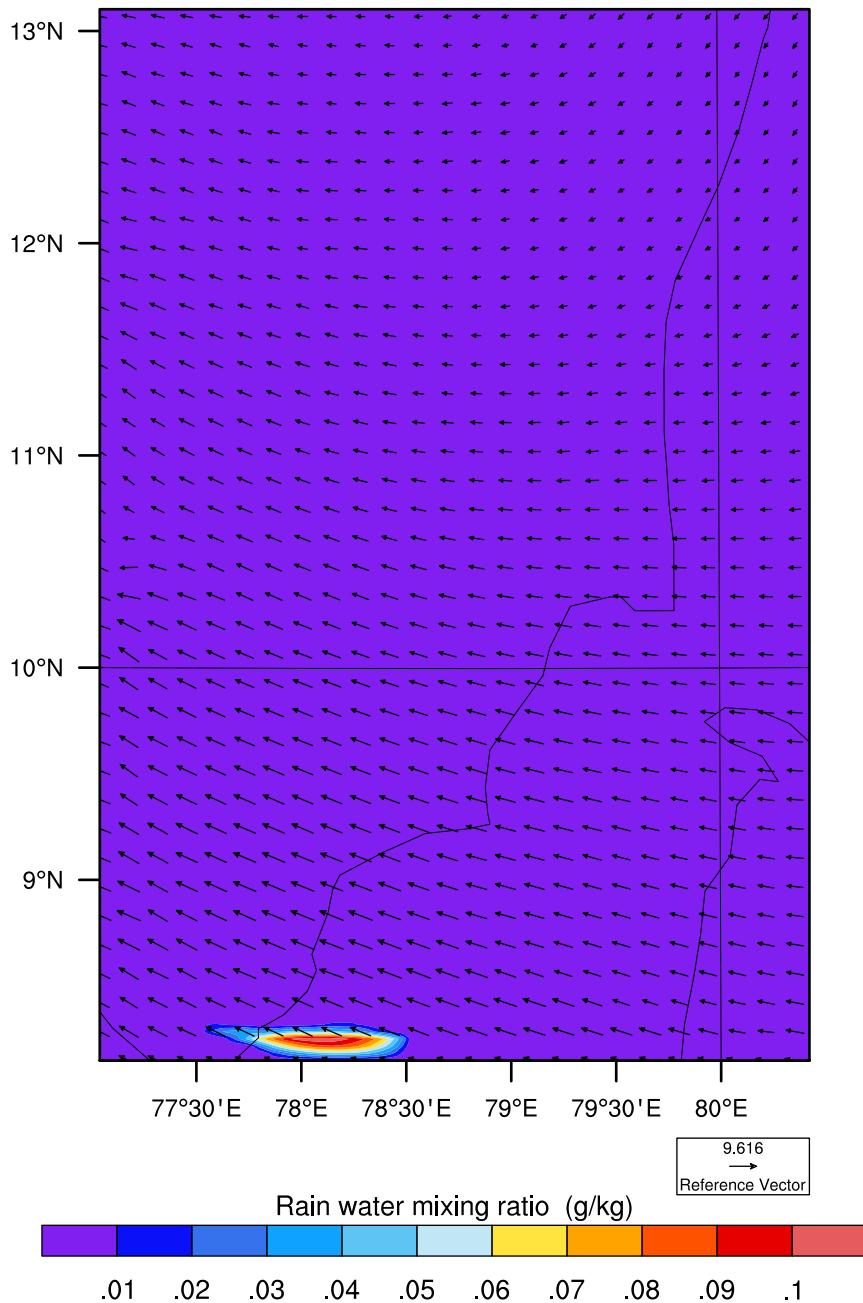


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_19:00:00

Rain water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

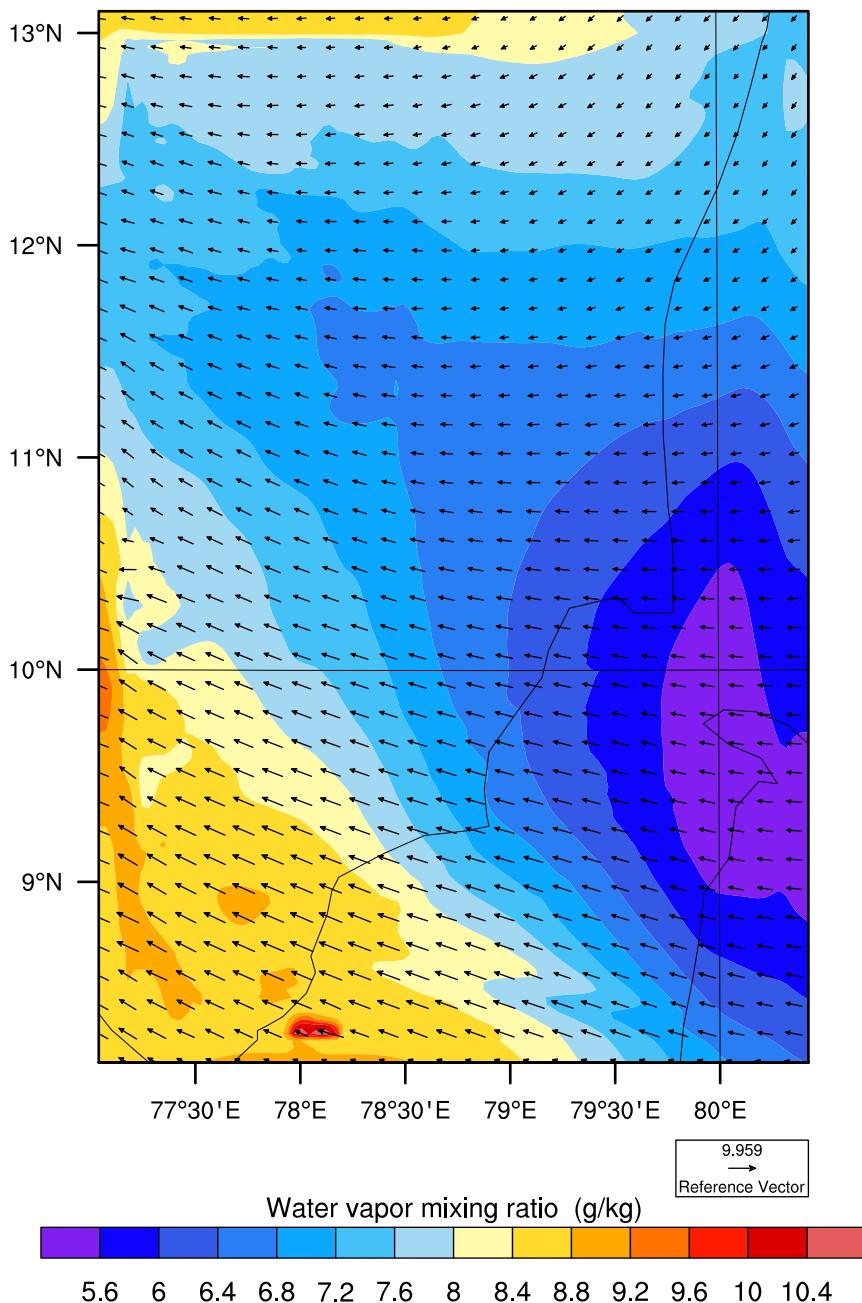


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_20:00:00

Water vapor mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

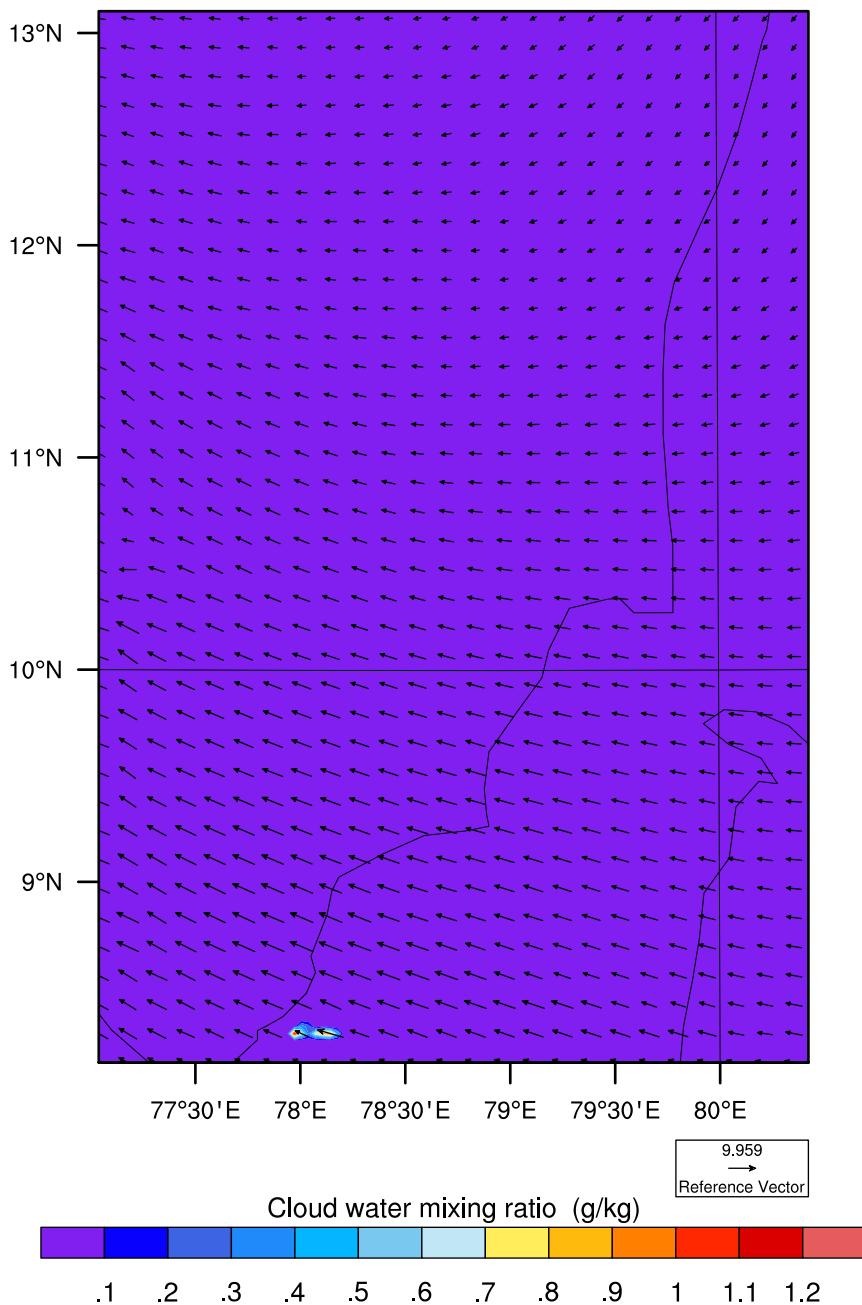


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_20:00:00

Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

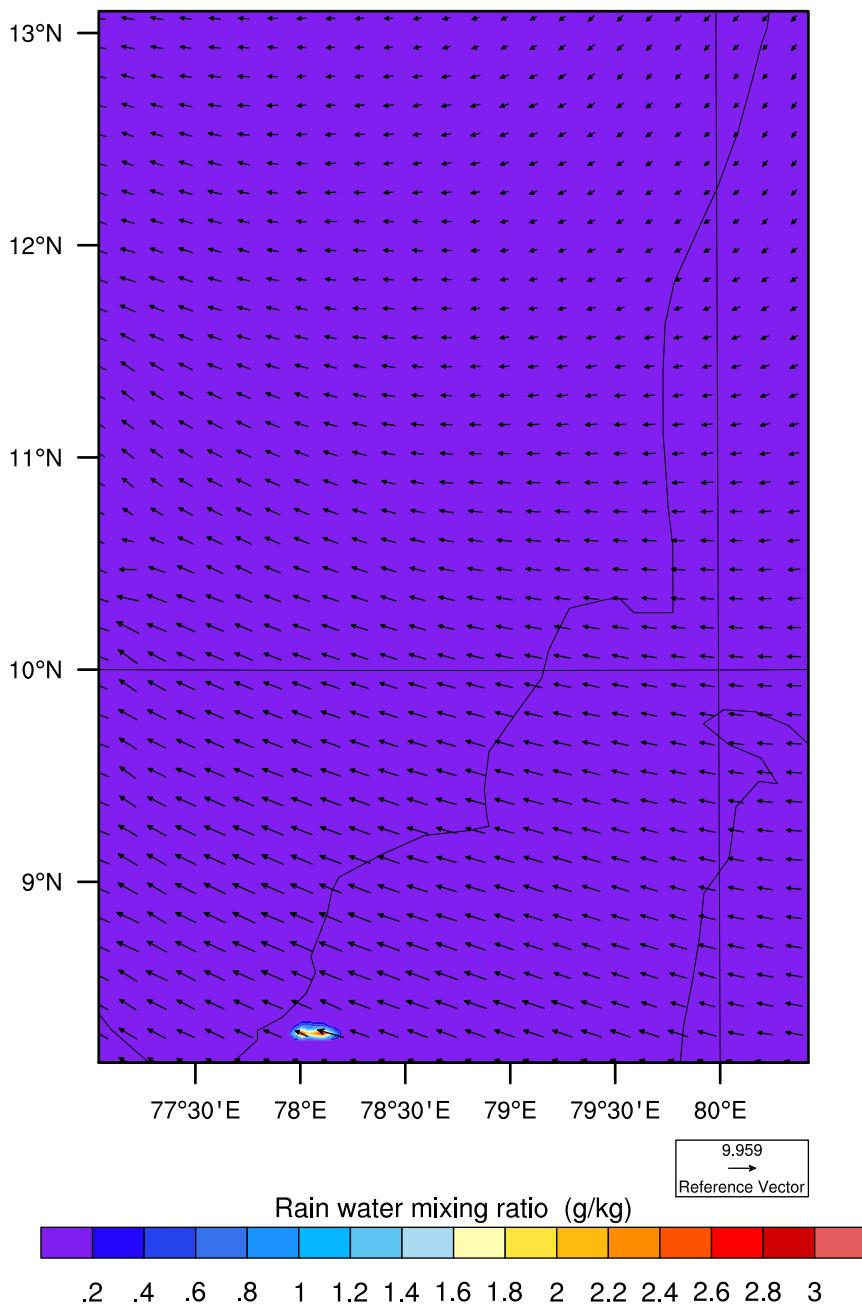


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_20:00:00

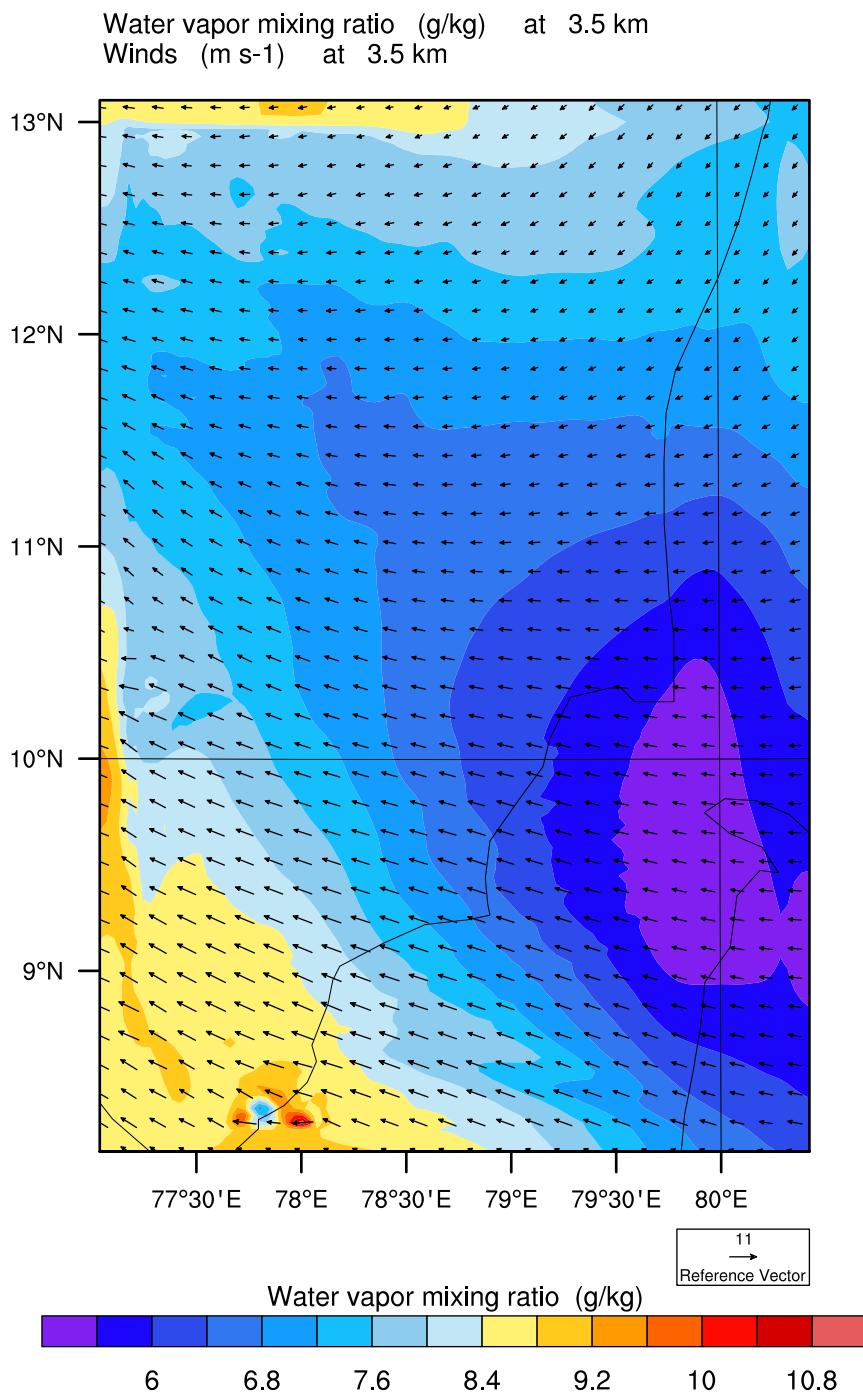
Rain water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km



OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_21:00:00

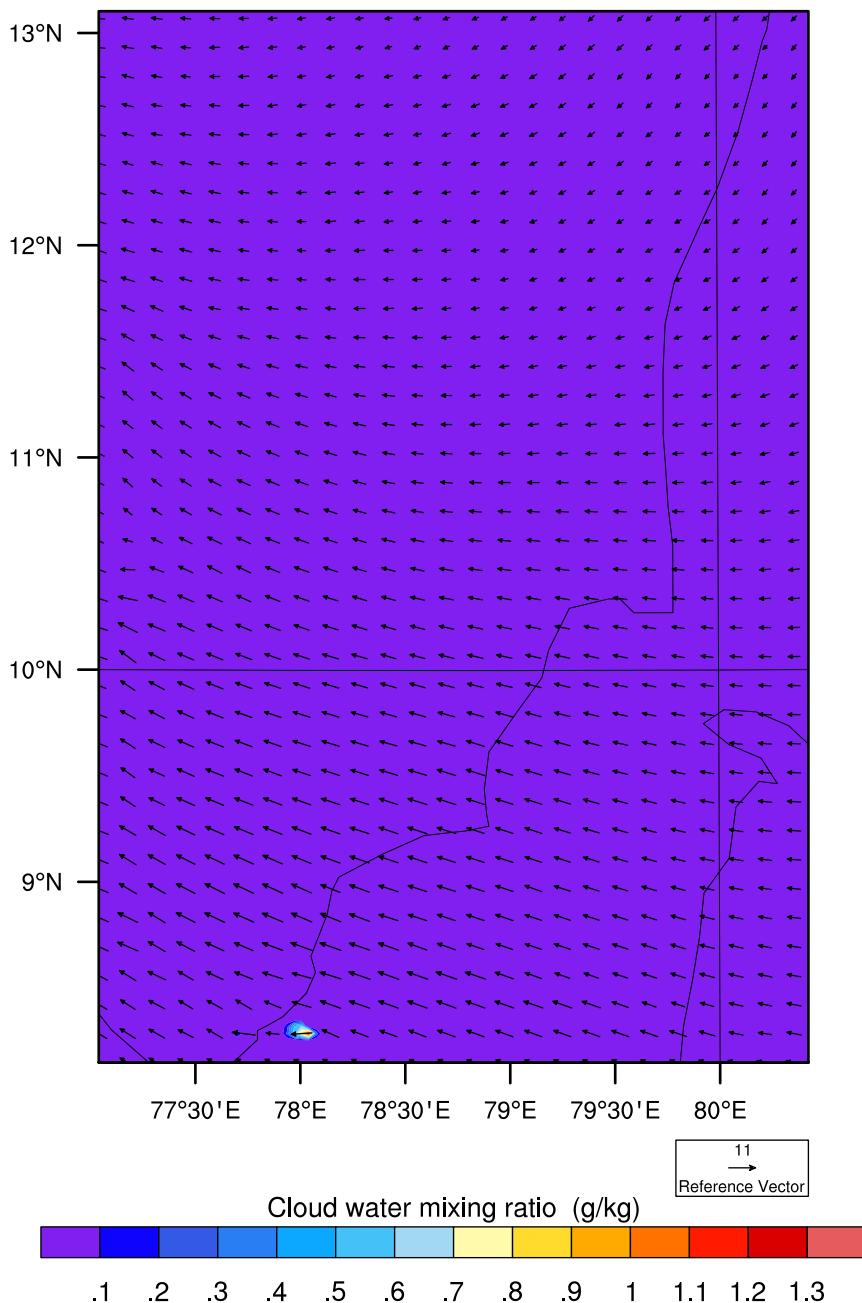


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_21:00:00

Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

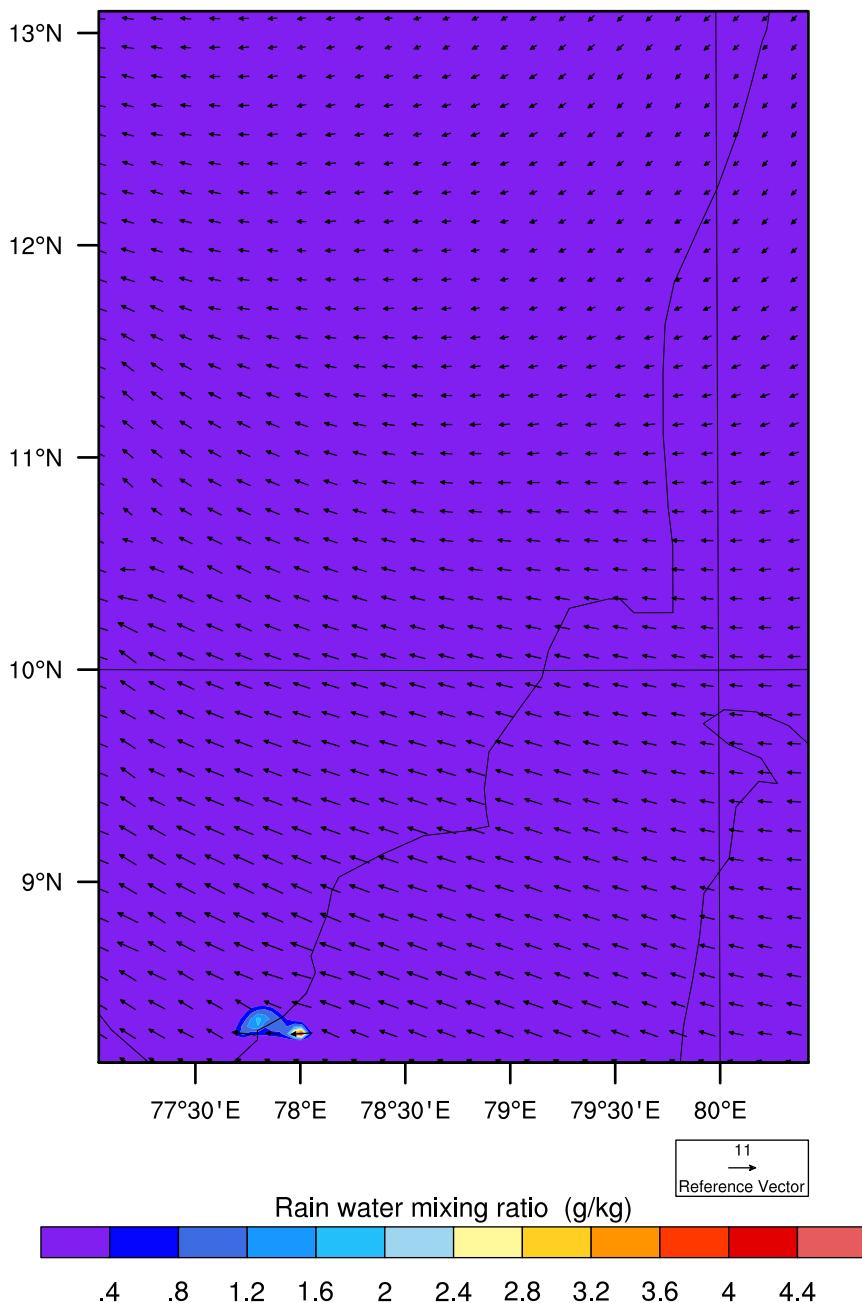


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_21:00:00

Rain water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

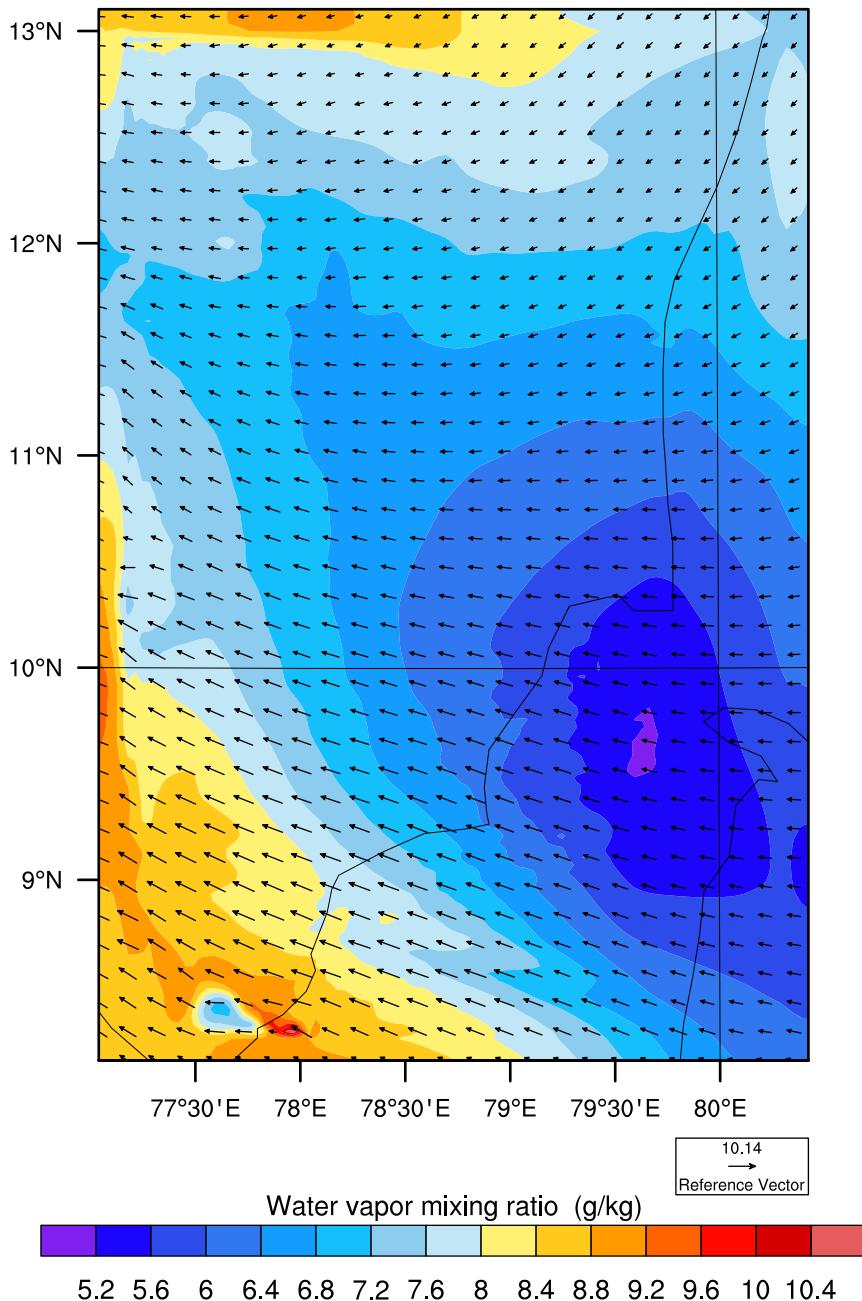


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_22:00:00

Water vapor mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km



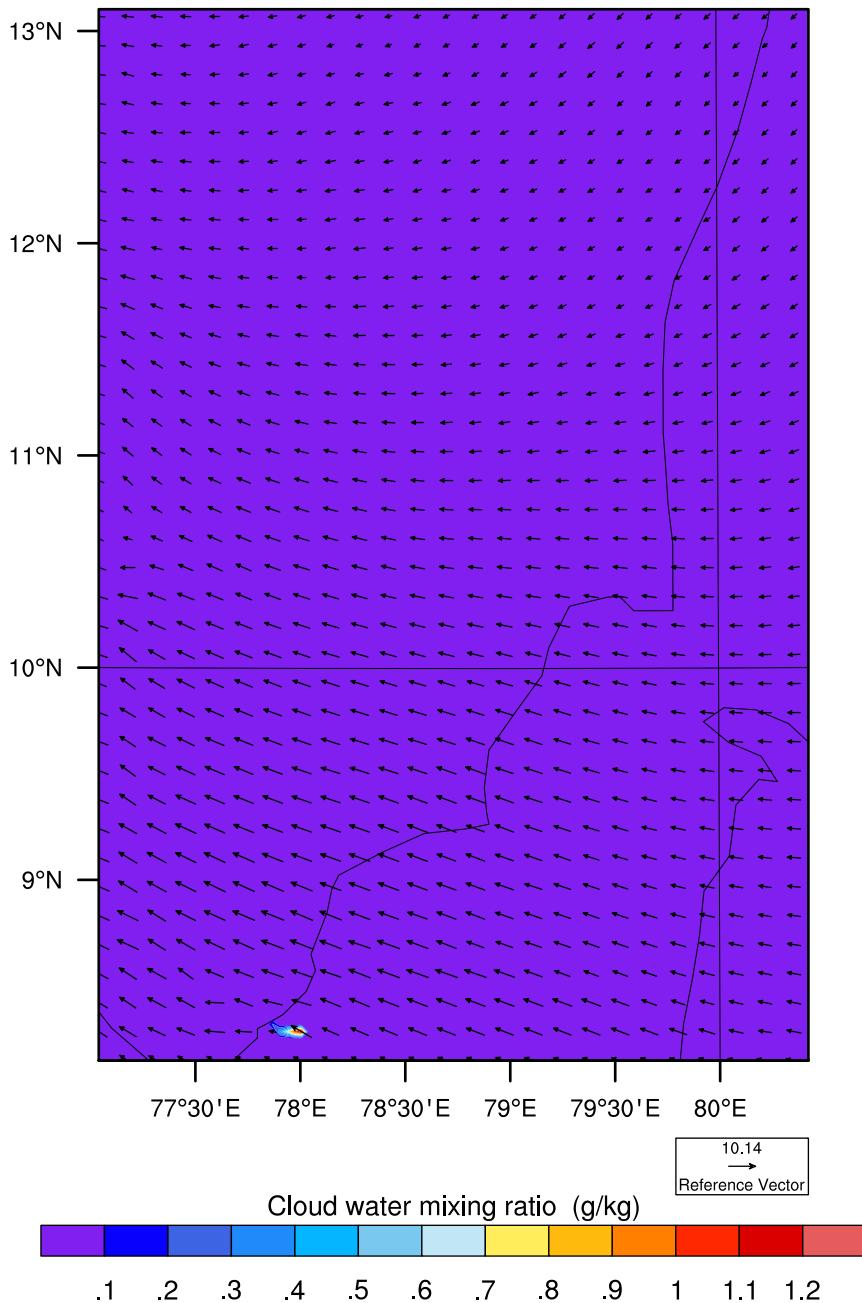
OUTPUT FROM WRF V3.4.1 MODEL

WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_22:00:00

Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

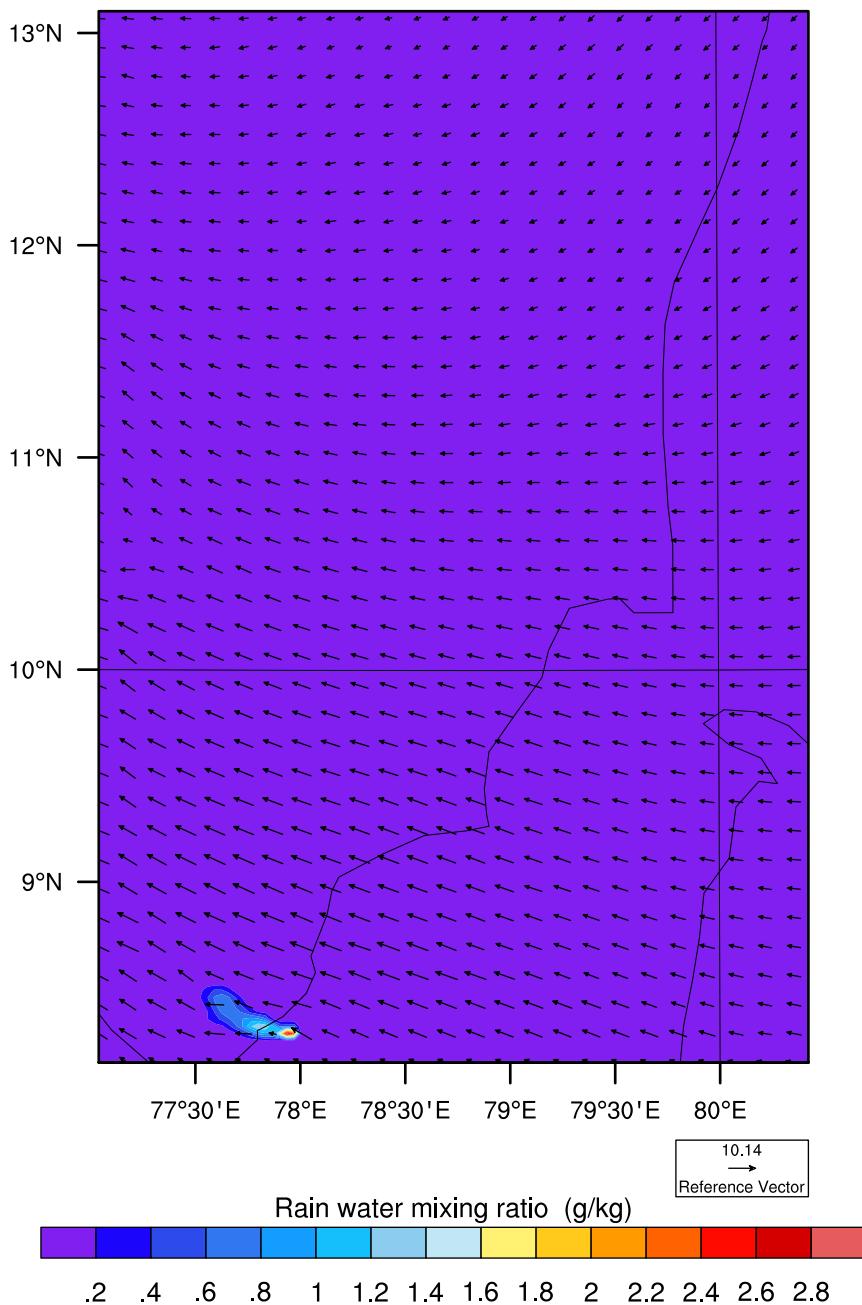


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_22:00:00

Rain water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

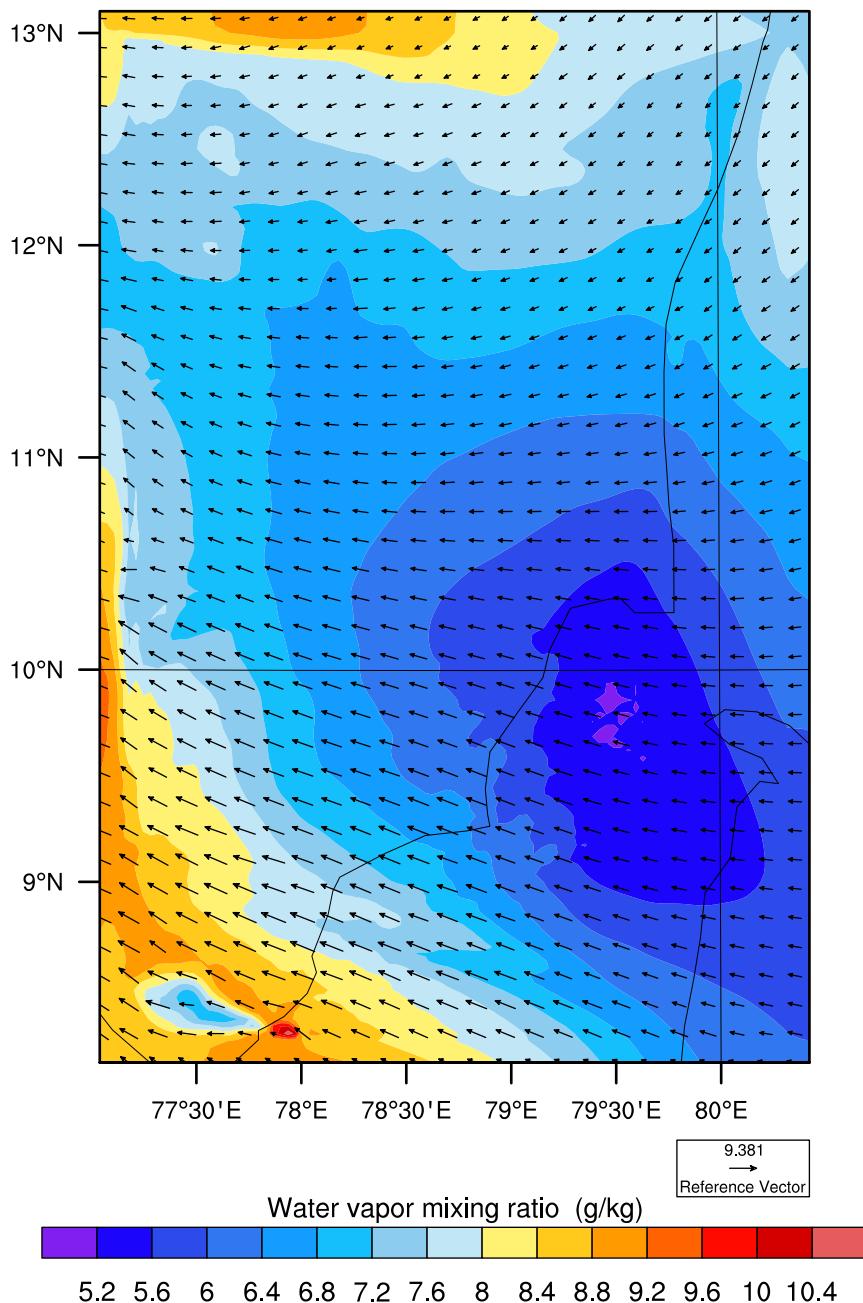


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_23:00:00

Water vapor mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km



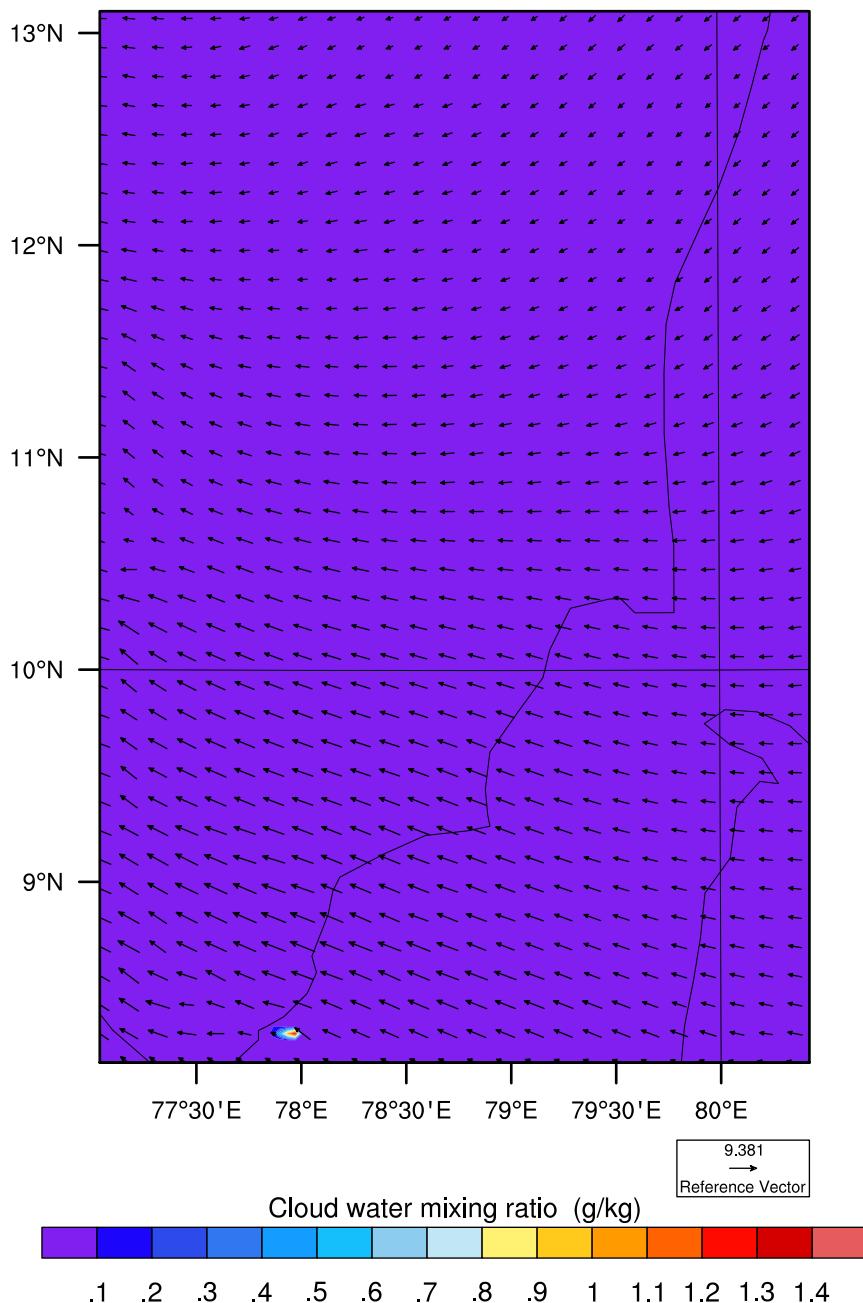
OUTPUT FROM WRF V3.4.1 MODEL

WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_23:00:00

Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

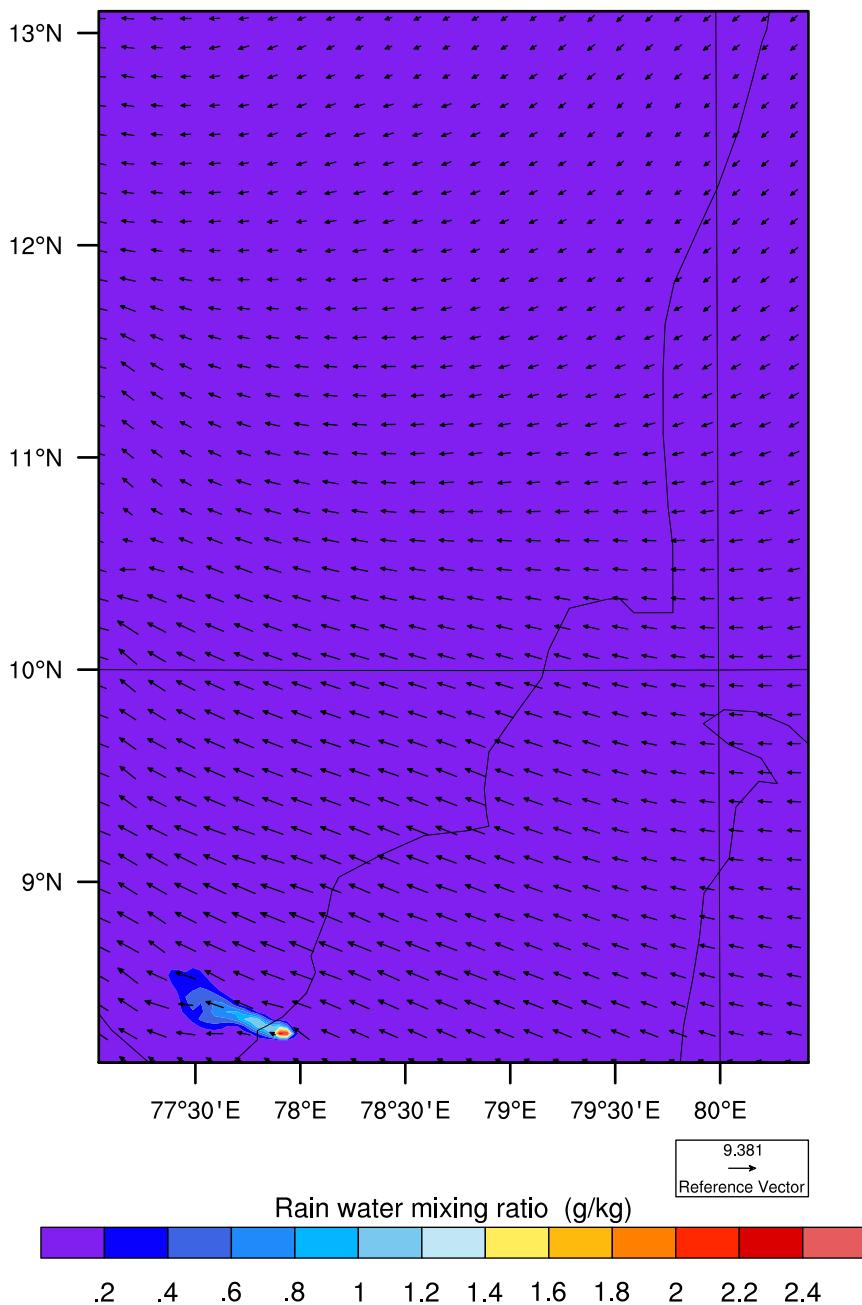


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-24\_23:00:00

Rain water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km



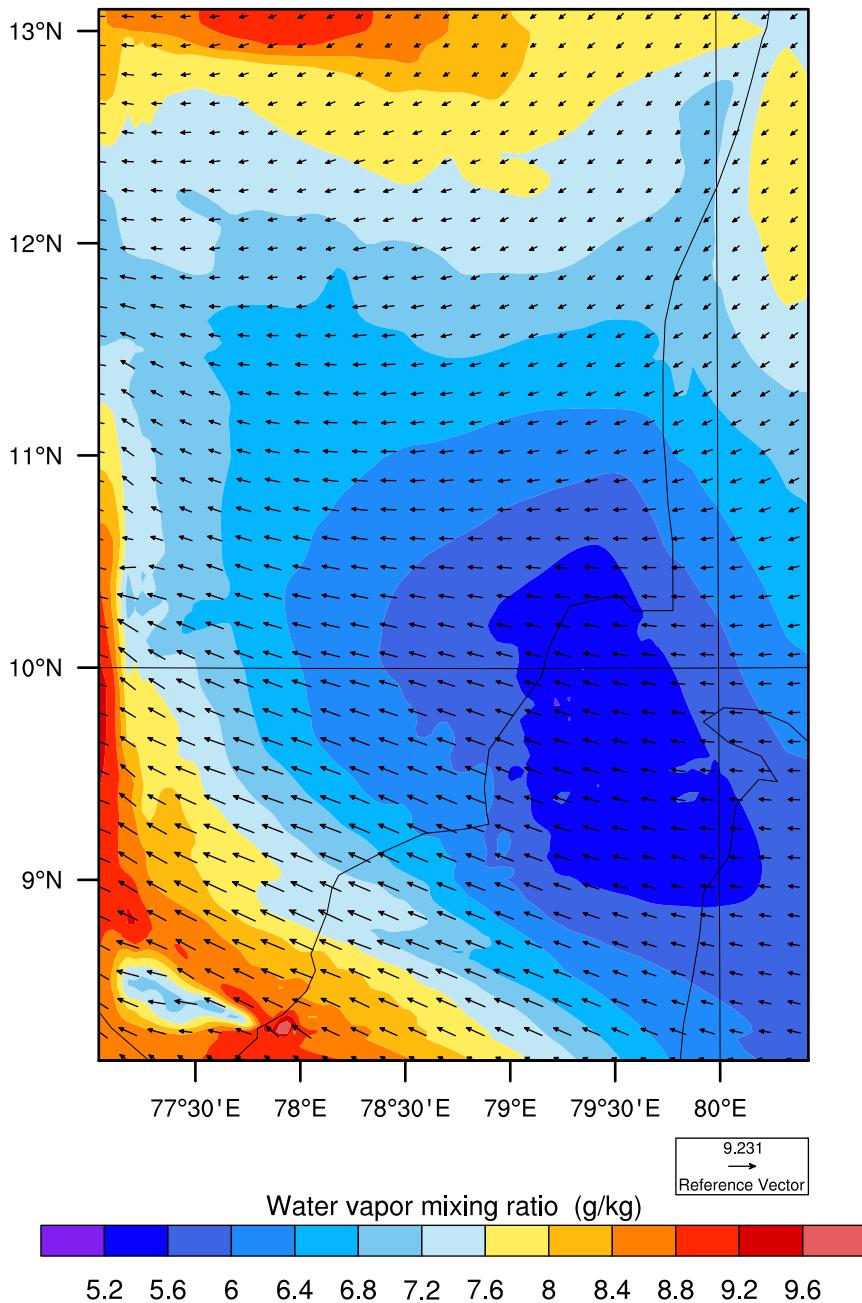
OUTPUT FROM WRF V3.4.1 MODEL

WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-25\_00:00:00

Water vapor mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km



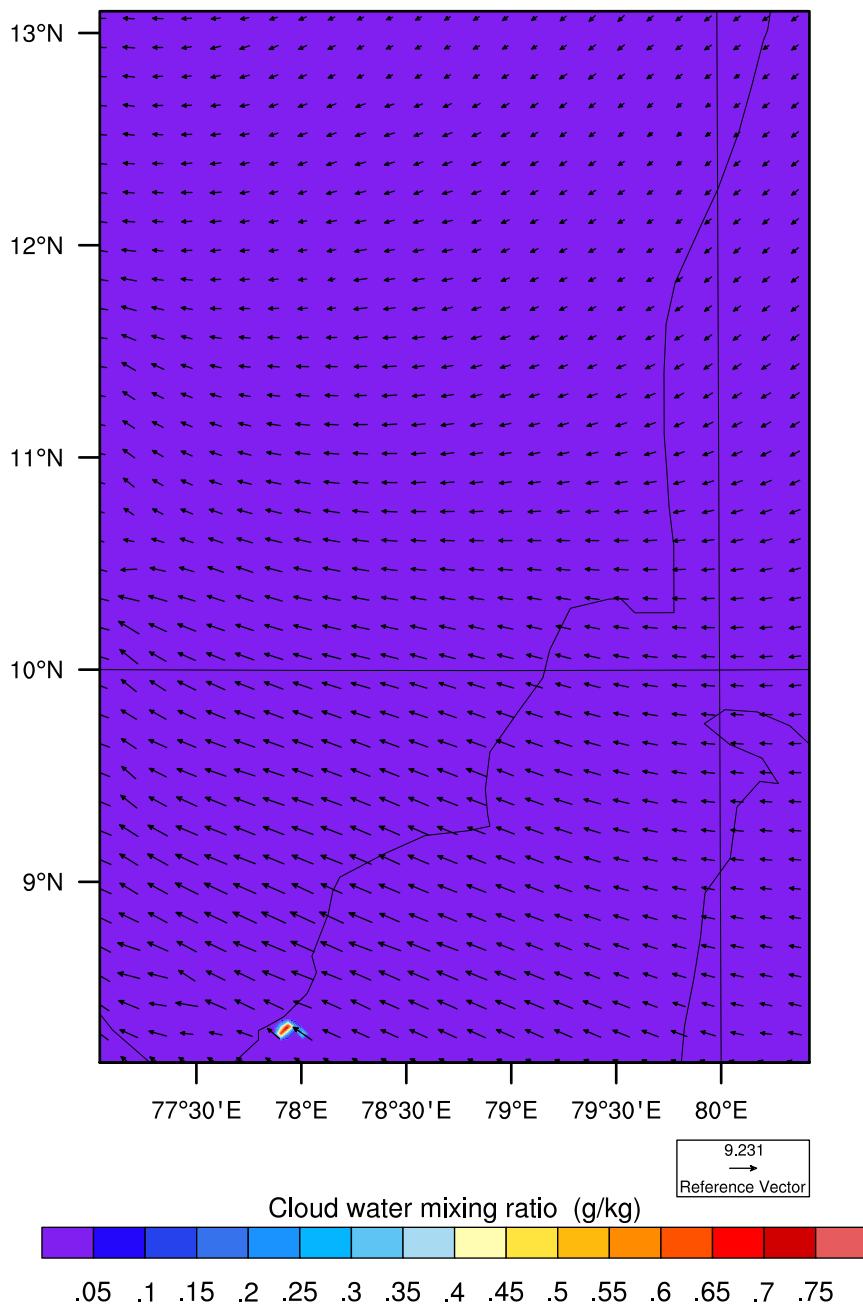
OUTPUT FROM WRF V3.4.1 MODEL

WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-25\_00:00:00

Cloud water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km

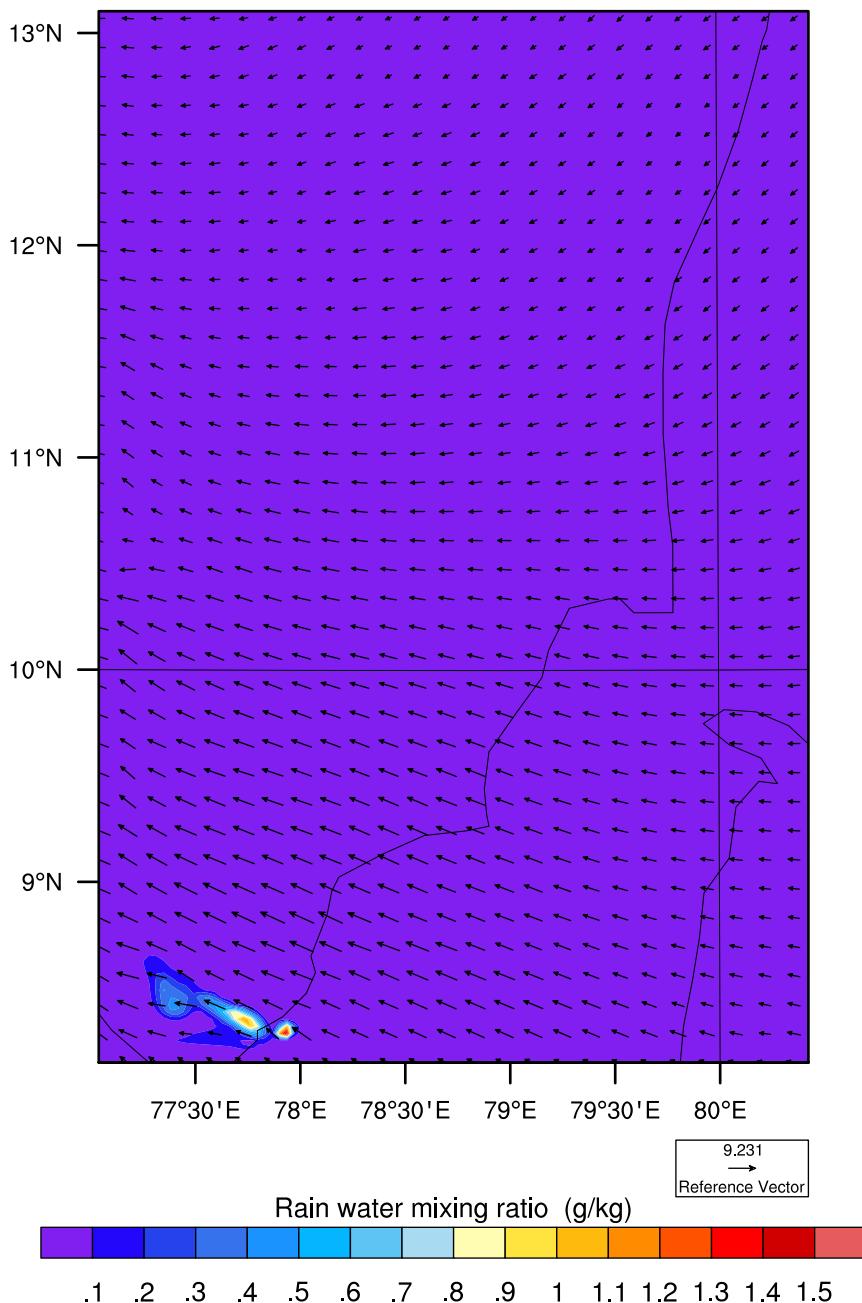


OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1

# REAL-TIME WRF

Init: 2012-10-24\_12:00:00  
Valid: 2012-10-25\_00:00:00

Rain water mixing ratio (g/kg) at 3.5 km  
Winds (m s<sup>-1</sup>) at 3.5 km



OUTPUT FROM WRF V3.4.1 MODEL  
WE = 100 ; SN = 147 ; Levels = 35 ; Dis = 3.8km ; Phys Opt = 3 ; PBL Opt = 1 ; Cu Opt = 1