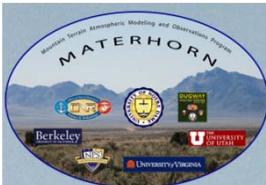


March 1st 2013

University of Utah Campus– Room 2051 MCE



# MATERHORN-X-II: Preparatory Meeting



# AGENDA

## 9:30 - 10:00 – ND Team

Data collection status and further actions

## 10:00 – 10:30

Short overview from current status relevant to MATERHORN-X-II

- **Z. Pu** : Modelling requirements and “wishes”
- **S. Hoch** : Overview of collected data from UoU (status) and relevant matters

## 10:30 - 11:00 – J. Steenburgh

Expected weather patterns for MATERHORN-X-II

## 11:00 – 11:15 - *Break*

# AGENDA

**11:15 - 12:30**

## **Round-table discussion on research focuses for MATERHORN-X-II during synoptically-driven conditions:**

- Interaction of synoptic flows and mountains (lee waves, hydraulic jump & rotors, internal waves, etc.) – Stratified cases
- Flow separations, eddy shedding & relevant scales
- Synoptic flow and diurnal mountain circulation (interaction between synoptic and thermal circulation)
- Gap flows
- Progressive waves
- Dividing streamline and Coriolis effects
- Effect of humidity (e.g. fog, radiative cooling, “dynamics” of post rain events, etc.)

**12:30 – 13:30 - *Lunch***

# AGENDA

**13:30 - 15:00**

Strategy for instrumentation deployment

**15:00 – 15:15- Break**

**15:15 - 16:00**

IOPs – (structure; special instruments and operation)

**16:00 - 16:30**

List of participants & interaction among groups – logistics and related matters

**16:30 – 17:00**

Immediate actions

(*i.e. home work & wish list before MATERHORN-X-II*)

# Surface maps from the synoptic days during May 2007-2011

- Occurrence of cold front passage (prevalently from NW)
- Few occurrences of warm fronts from South
  - 2007 May (3,13,28)
  - 2008 May (7,9,12,21)
  - 2009 May (20)
  - 2010 May (4-5,9,28)
  - 2011 May (8,16)

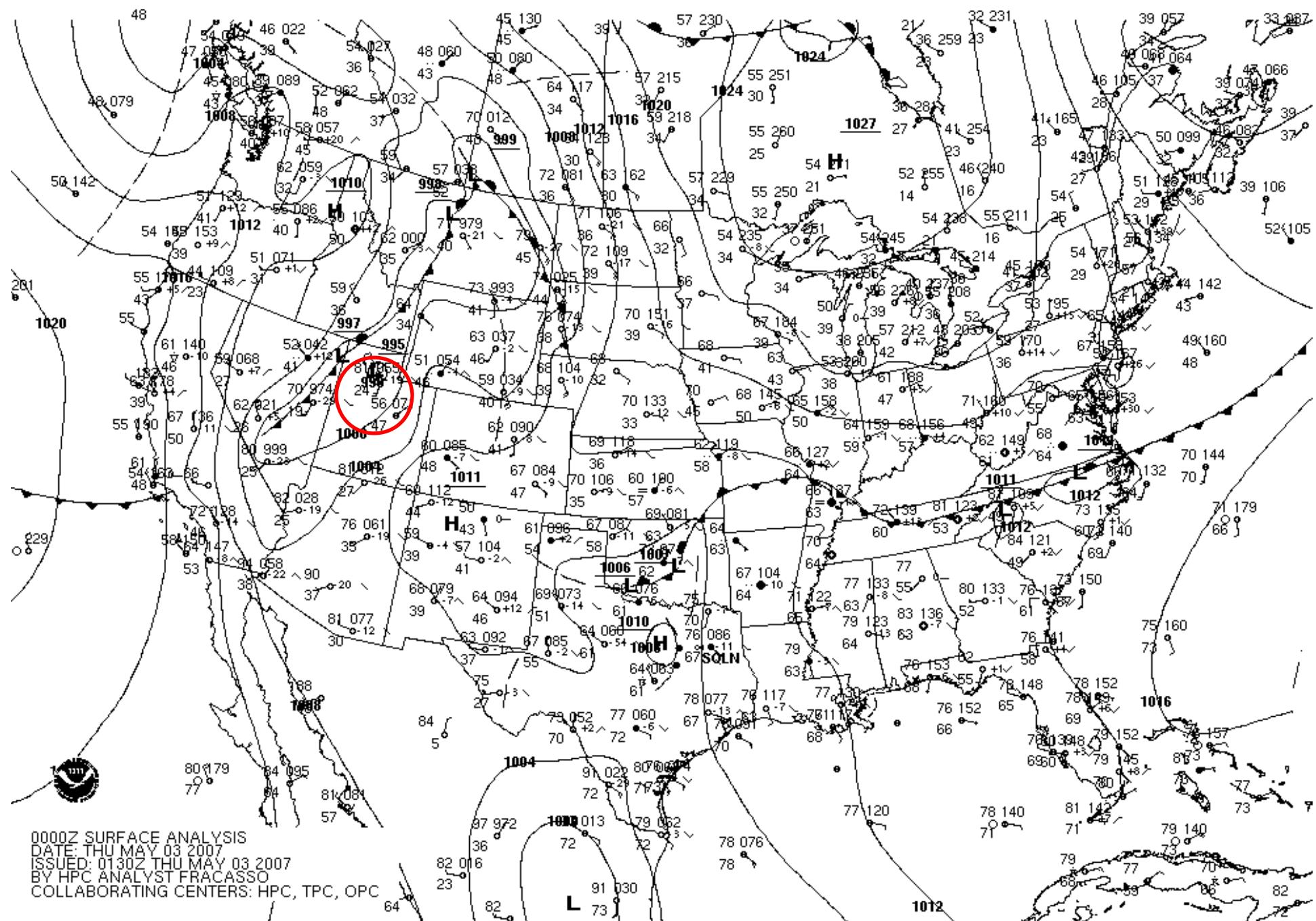
# Wind Roses May 2007-2010

*Strong winds*

Prevalent wind directions are NW, NE and  
South in some cases



May 3rd Synoptic Days (2007)

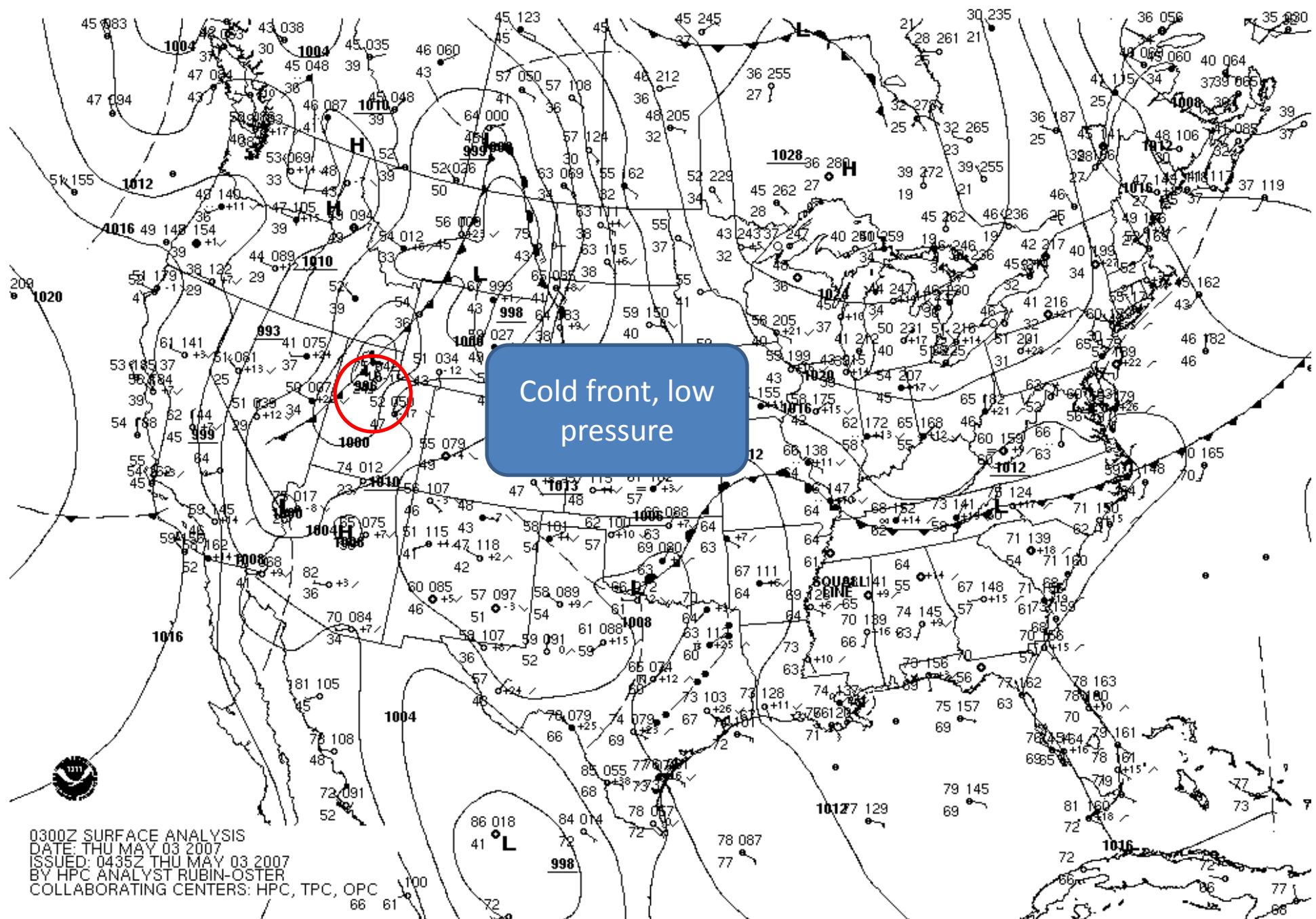


0000Z SURFACE ANALYSIS  
DATE: THU MAY 03 2007

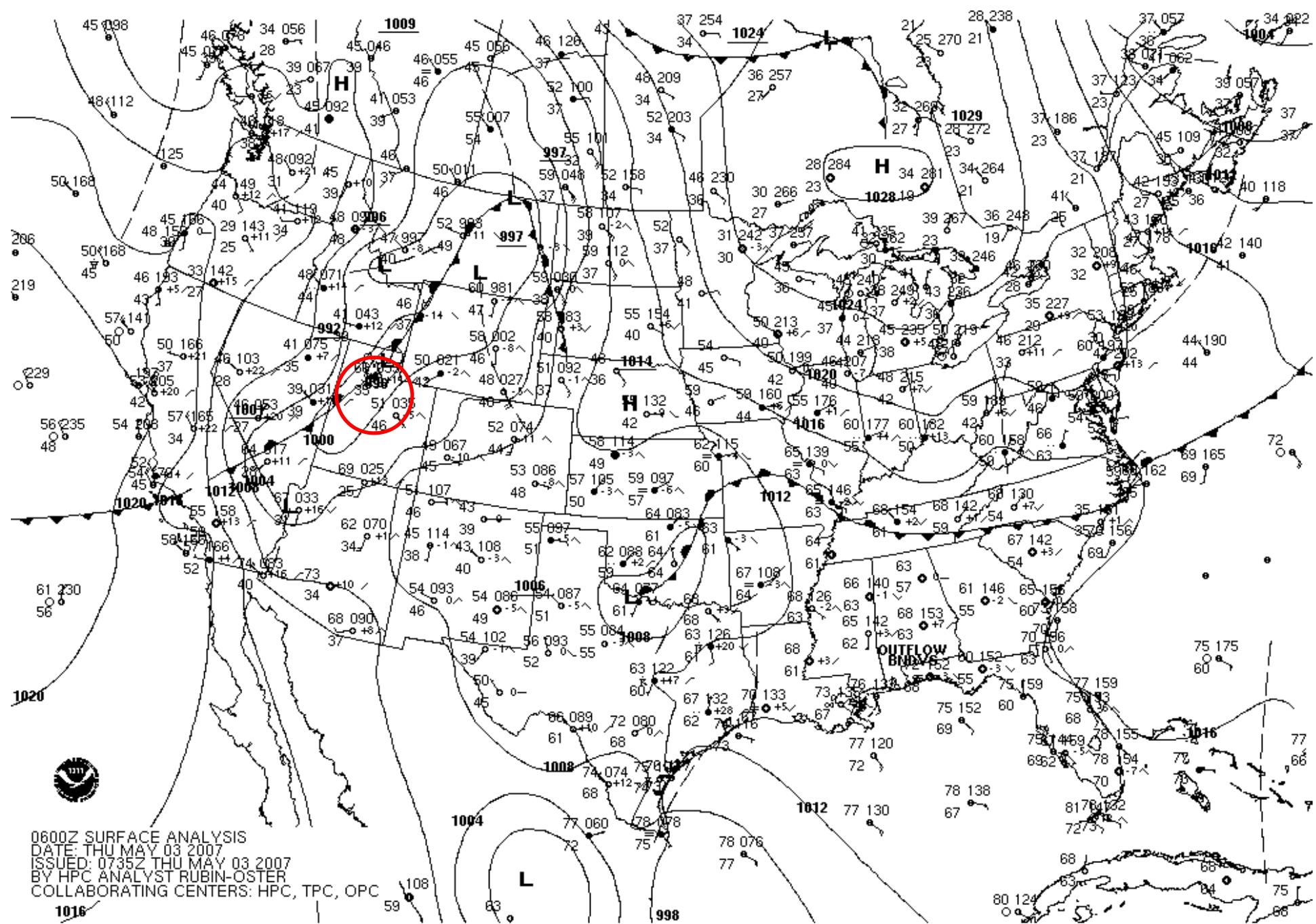
ISSUED: 0130Z THU MAY 03 2007

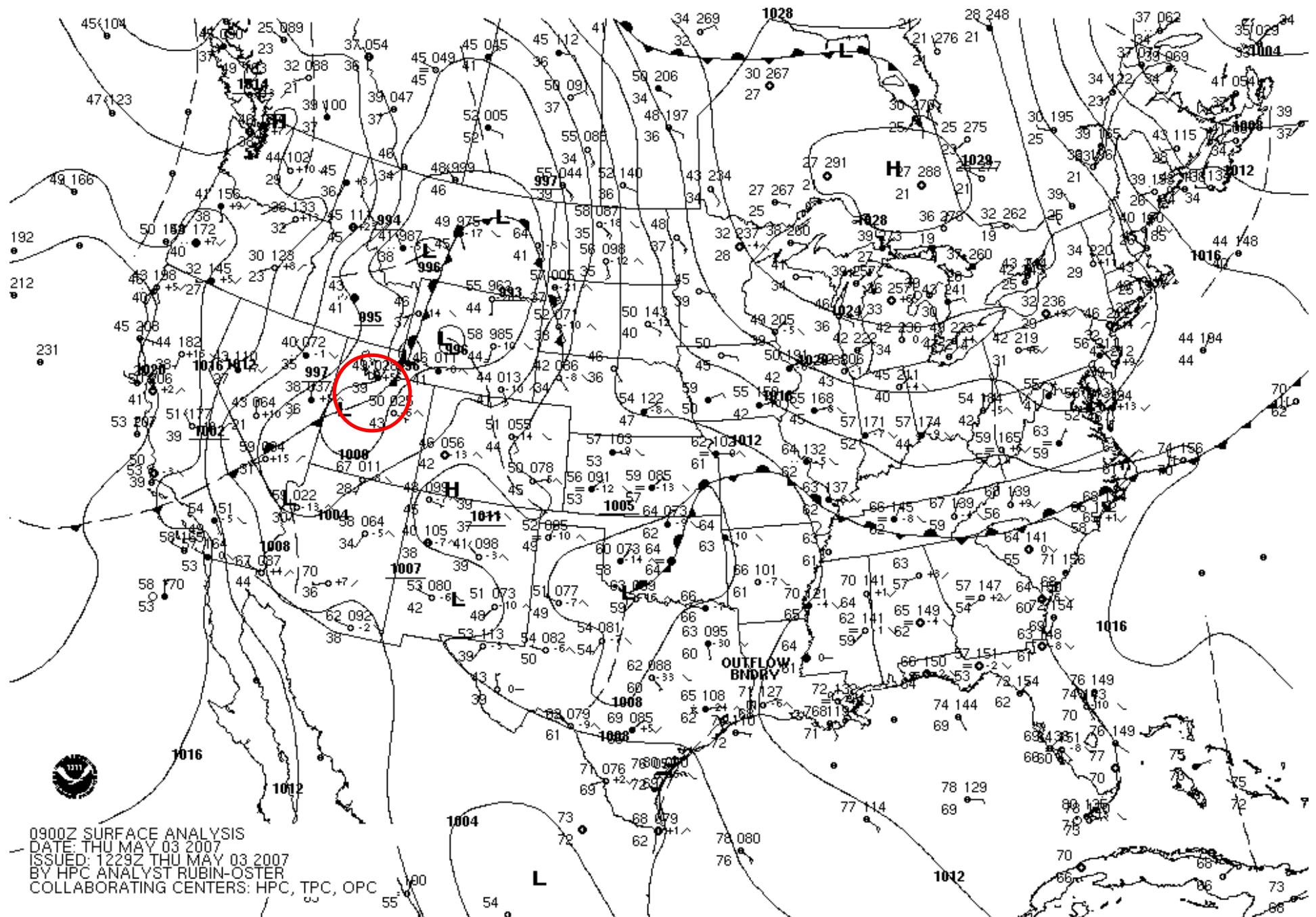
BY HPC ANALYST FRACASSO

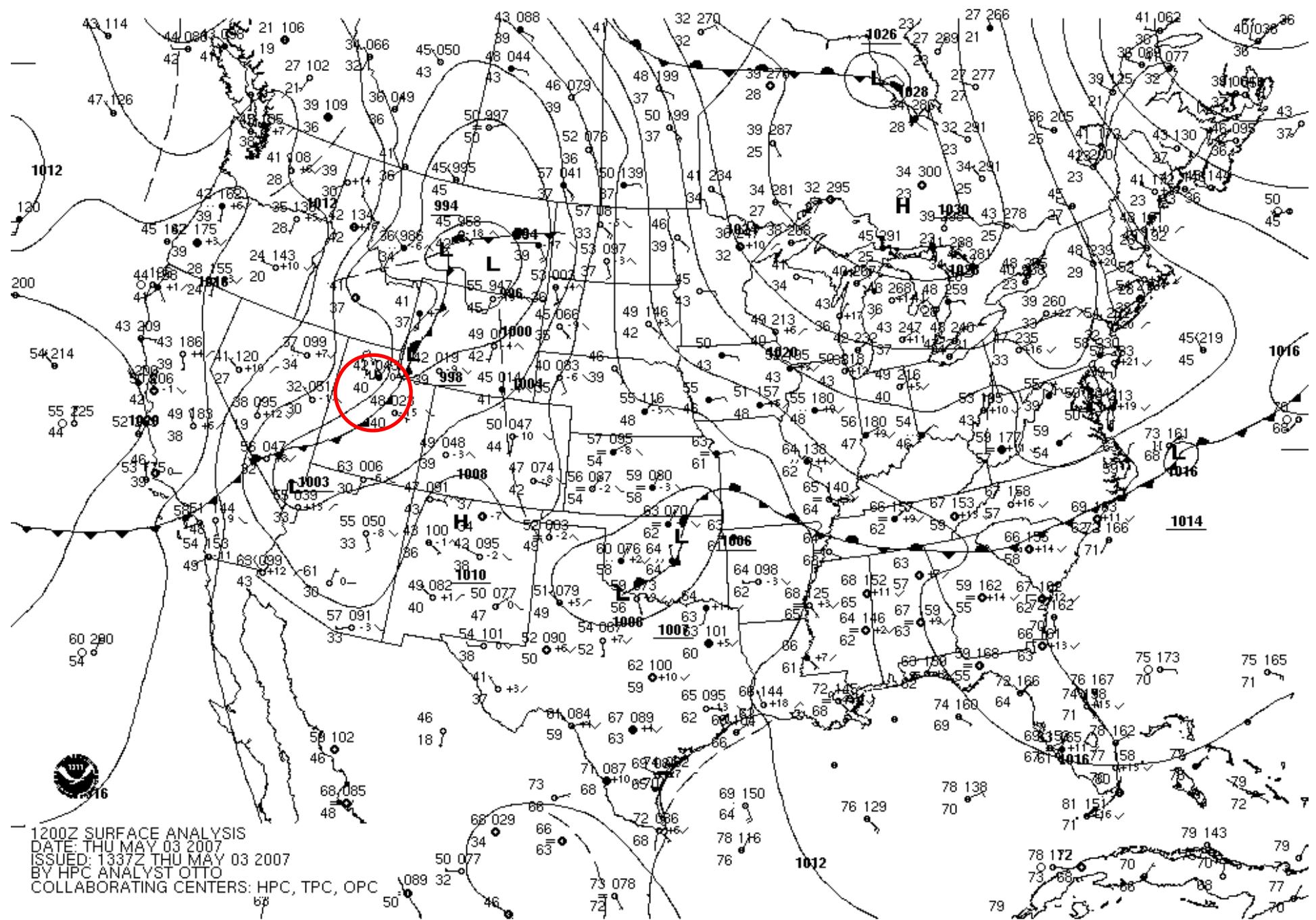
COLLABORATING CENTERS: HPC, TPC, OPC

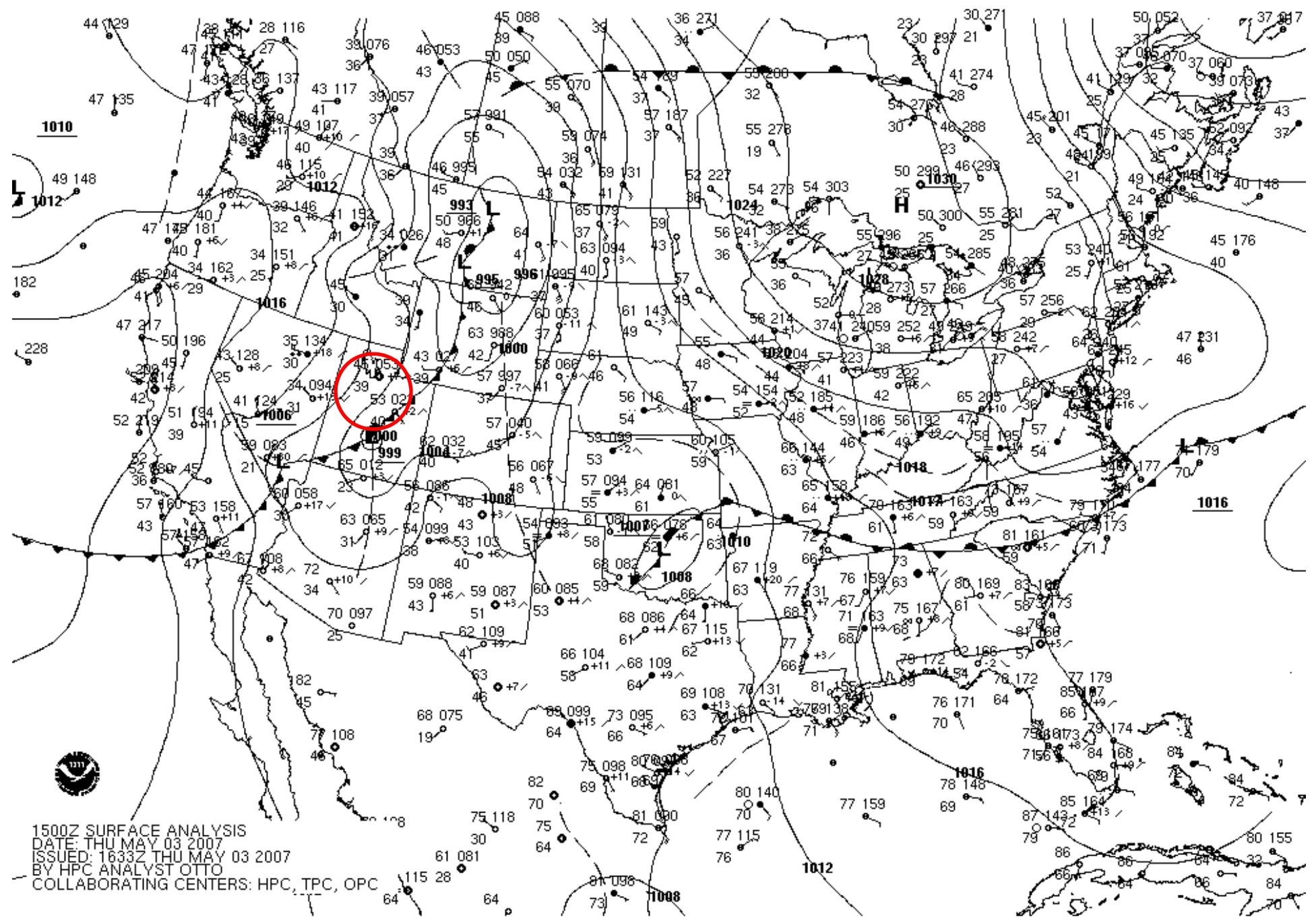


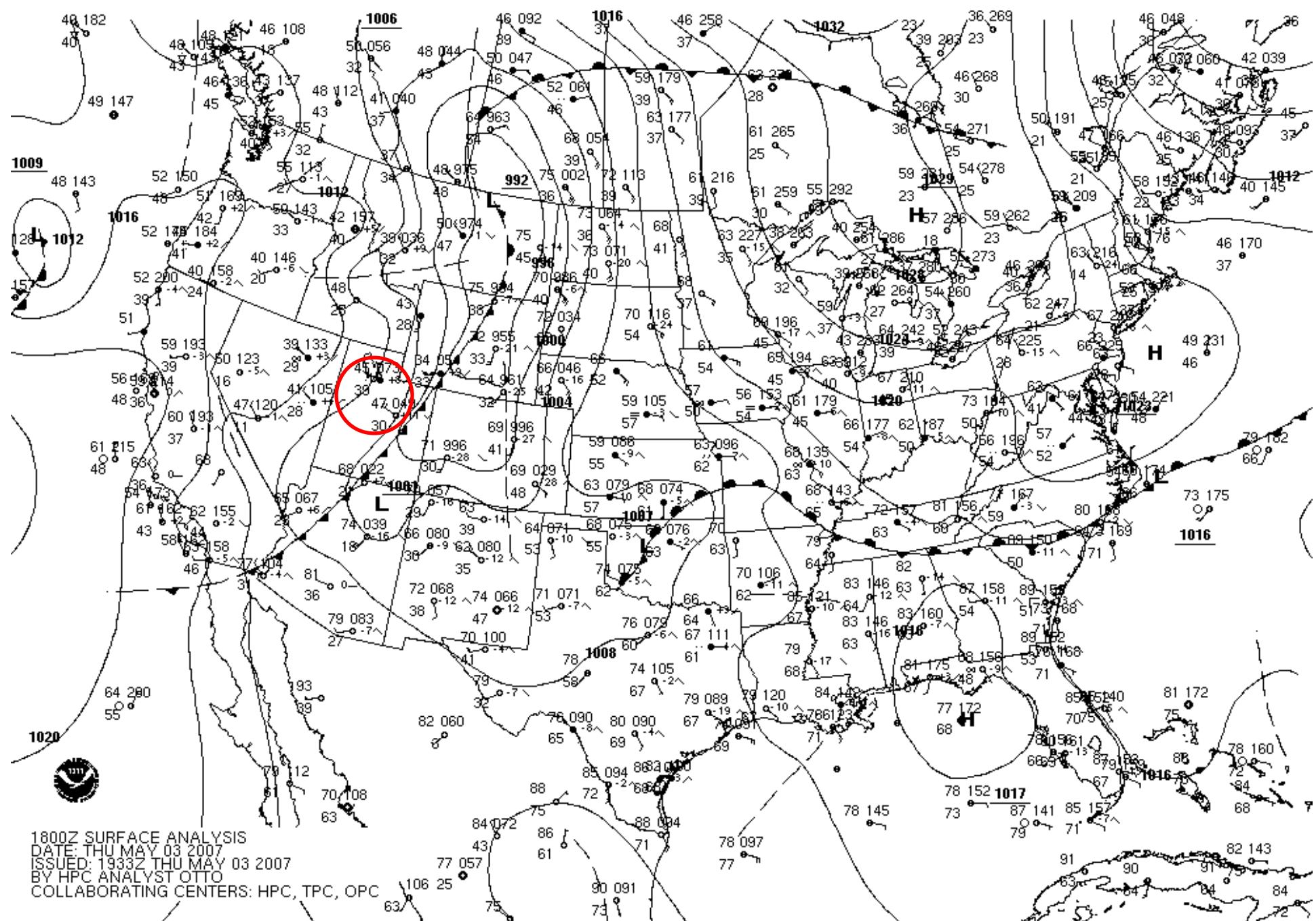
0300Z SURFACE ANALYSIS  
DATE: THU MAY 03 2007  
ISSUED: 0435Z THU MAY 03 2007  
BY HPC ANALYST RUBIN-OSTER  
COLLABORATING CENTERS: HPC, TPC, OPC

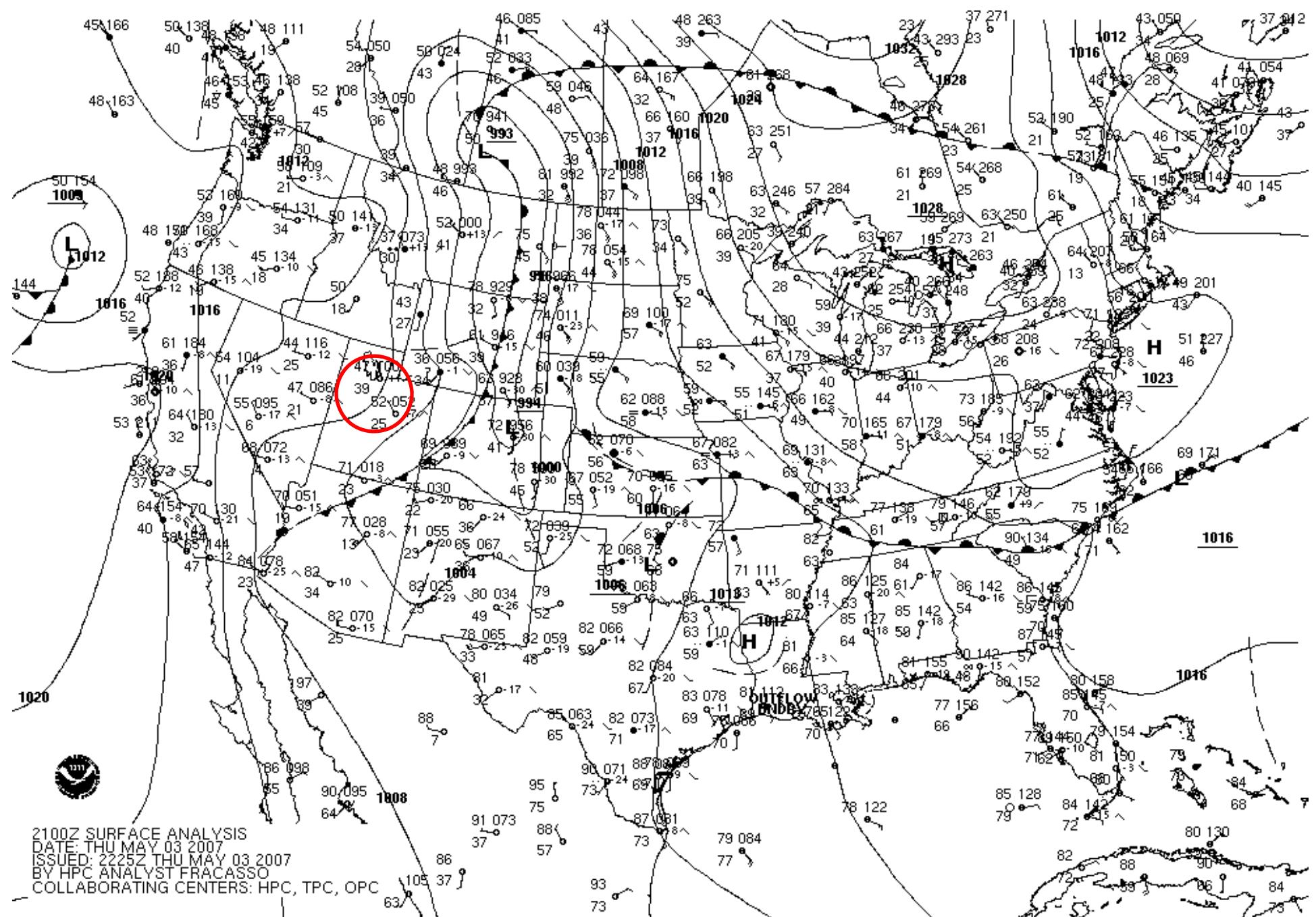




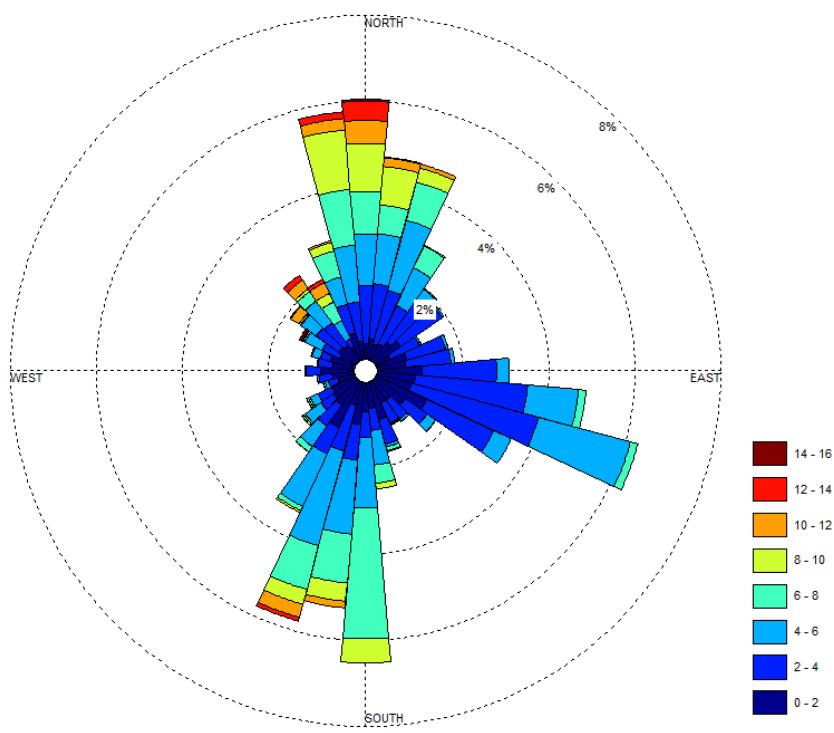




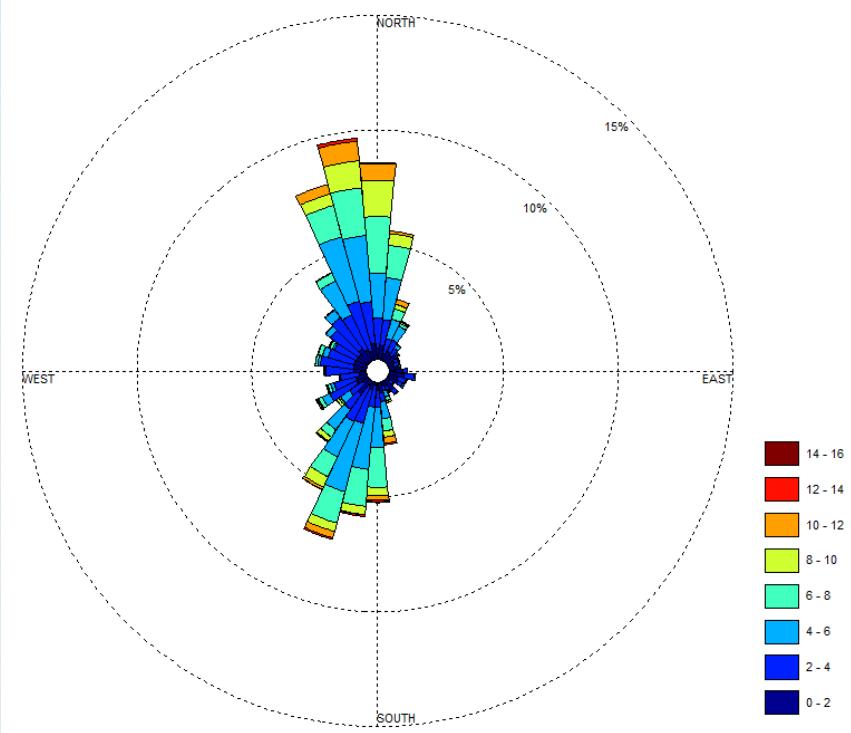




Nighttime (7 pm through 6 am) Wind Rose for Station 3 May 2007

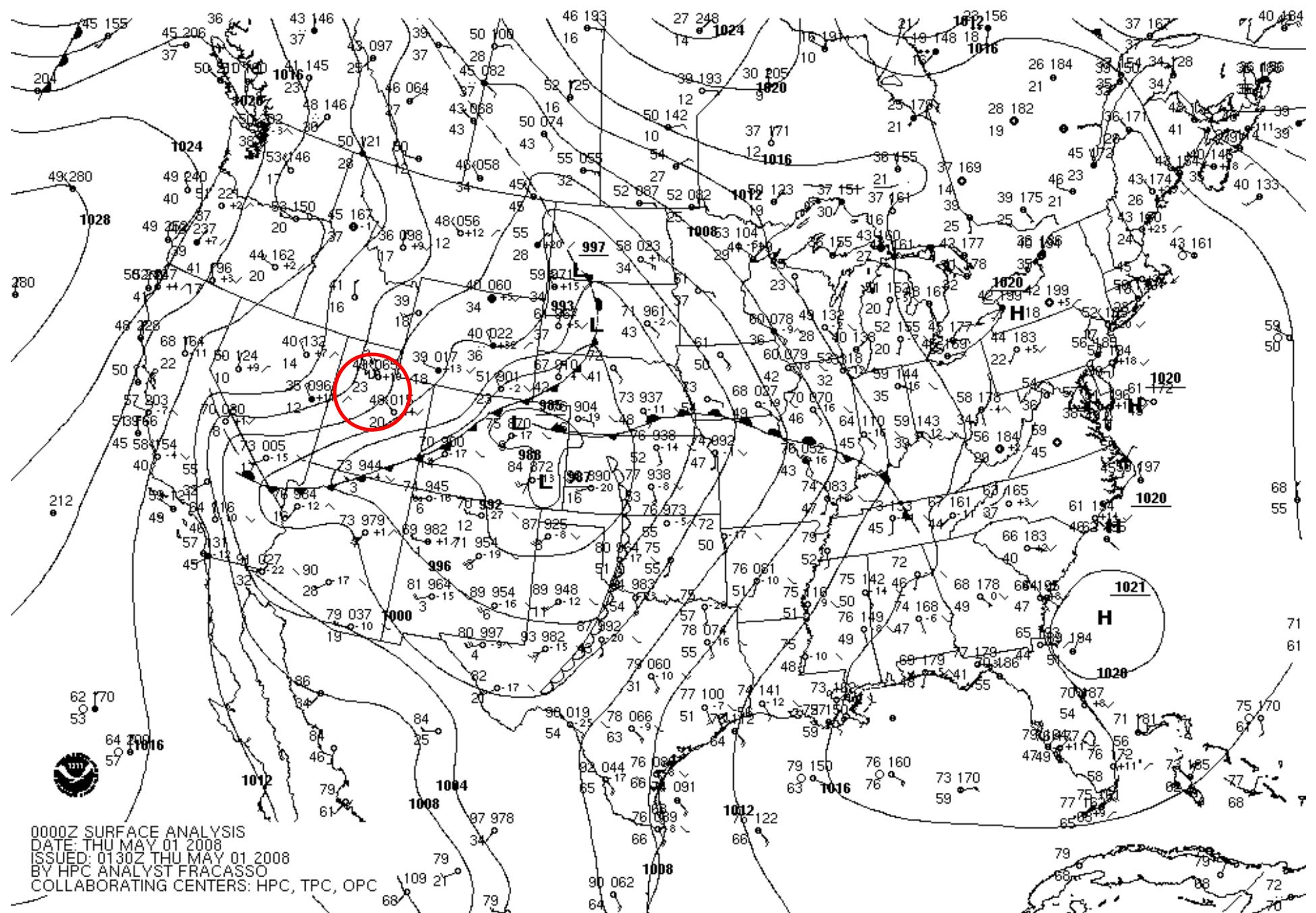


Daytime (7 am through 6 pm) Wind Rose for Station 3 May 2007

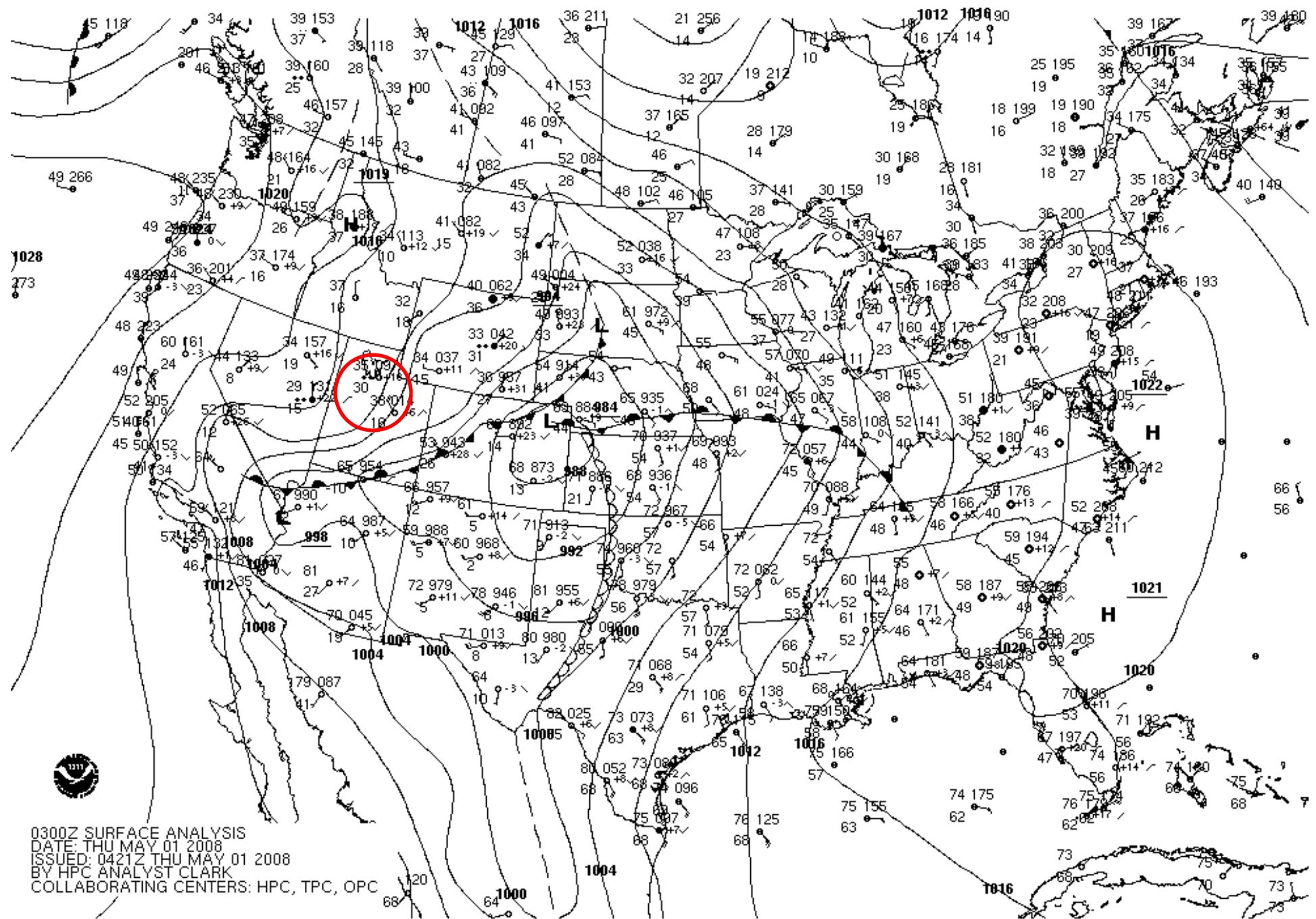




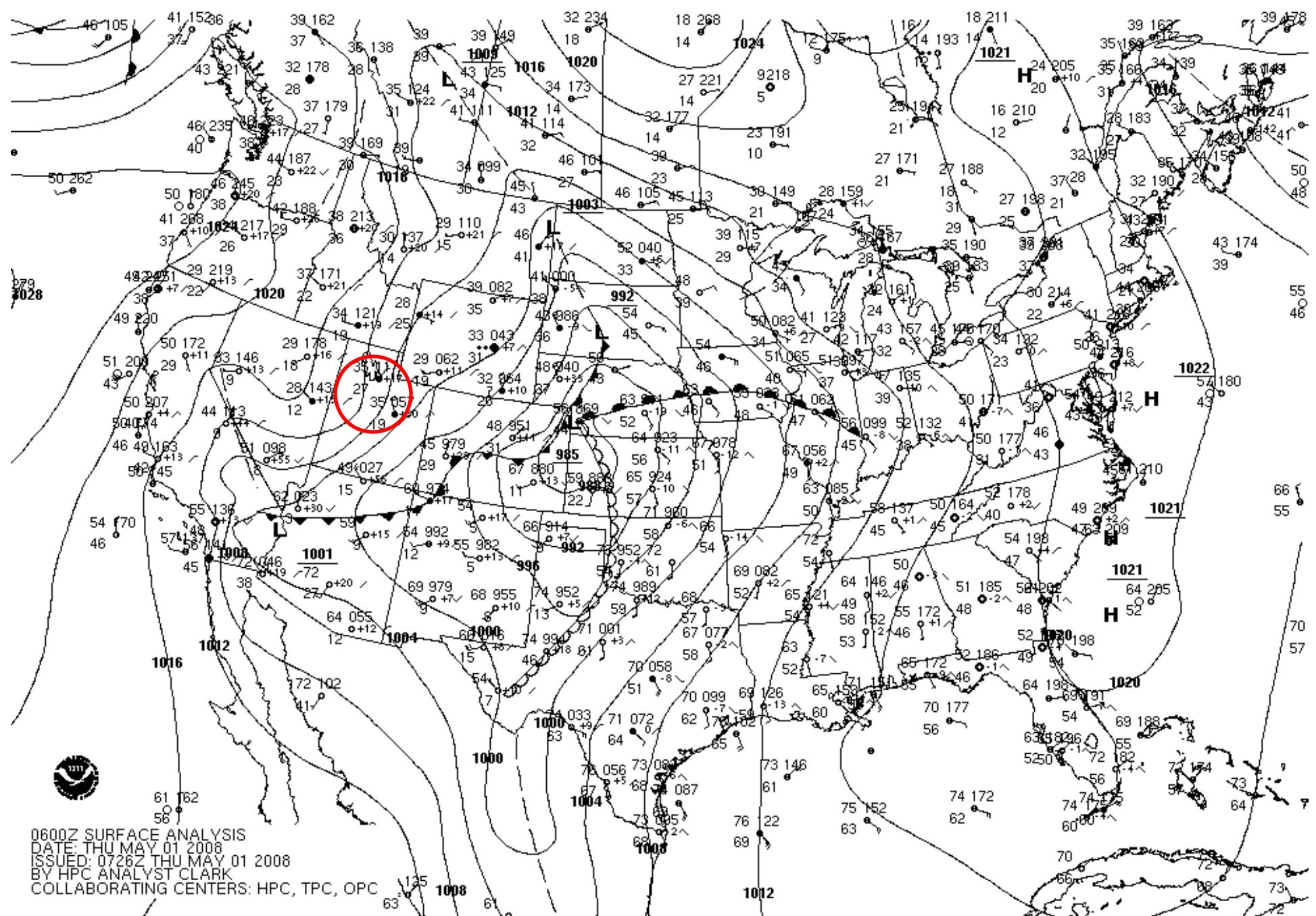
May 7th Synoptic Days (2008)



0000Z SURFACE ANALYSIS  
DATE: THU MAY 01 2008  
ISSUED: 0130Z THU MAY 01 2008  
BY HPC ANALYST FRACASSO  
COLLABORATING CENTERS: HPC, TPC, OPC



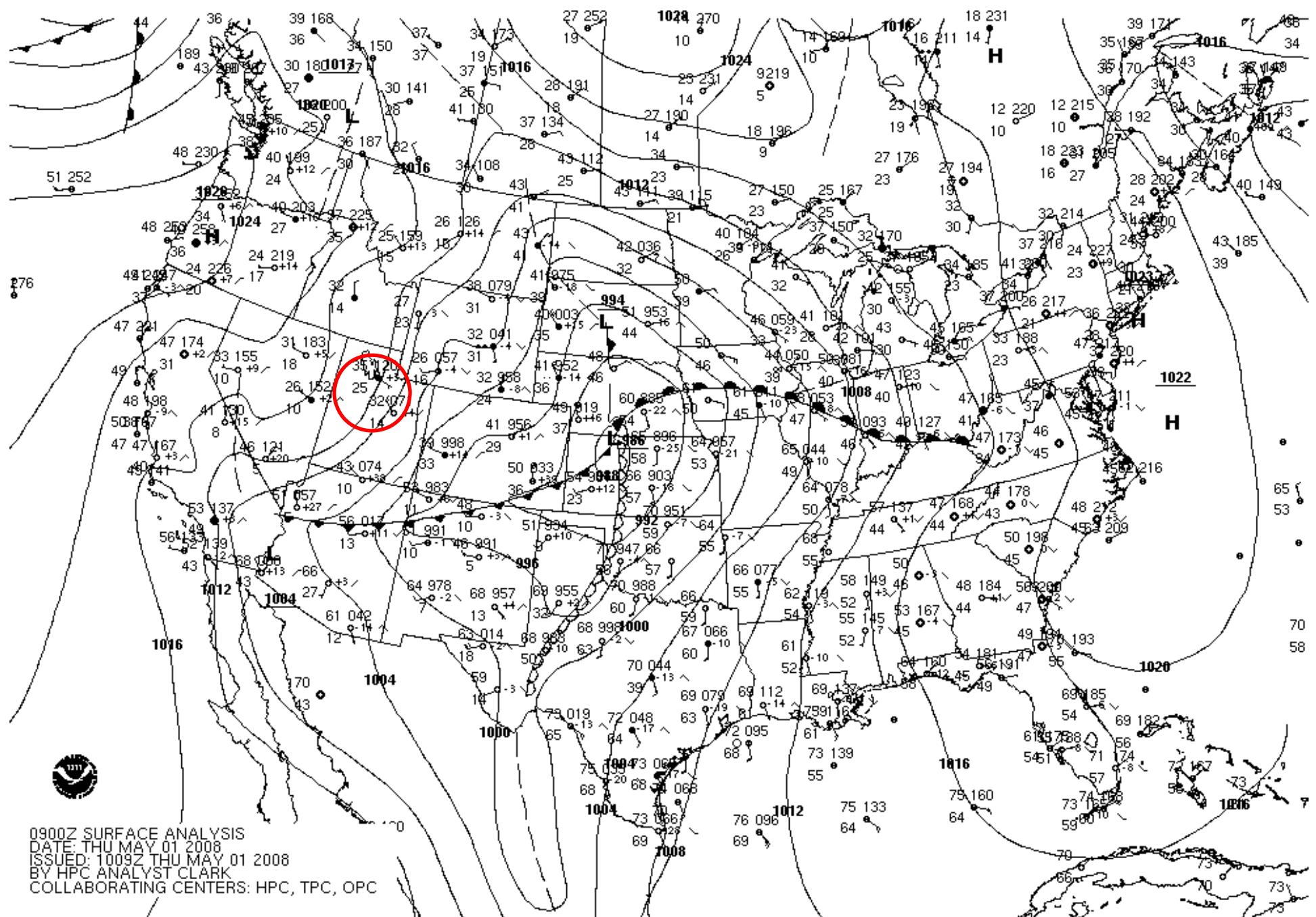
0300Z SURFACE ANALYSIS  
DATE: THU MAY 01 2008  
ISSUED: 0421Z THU MAY 01 2008  
BY HPC ANALYST CLARK  
COLLABORATING CENTERS: HPC, TPC, OPC

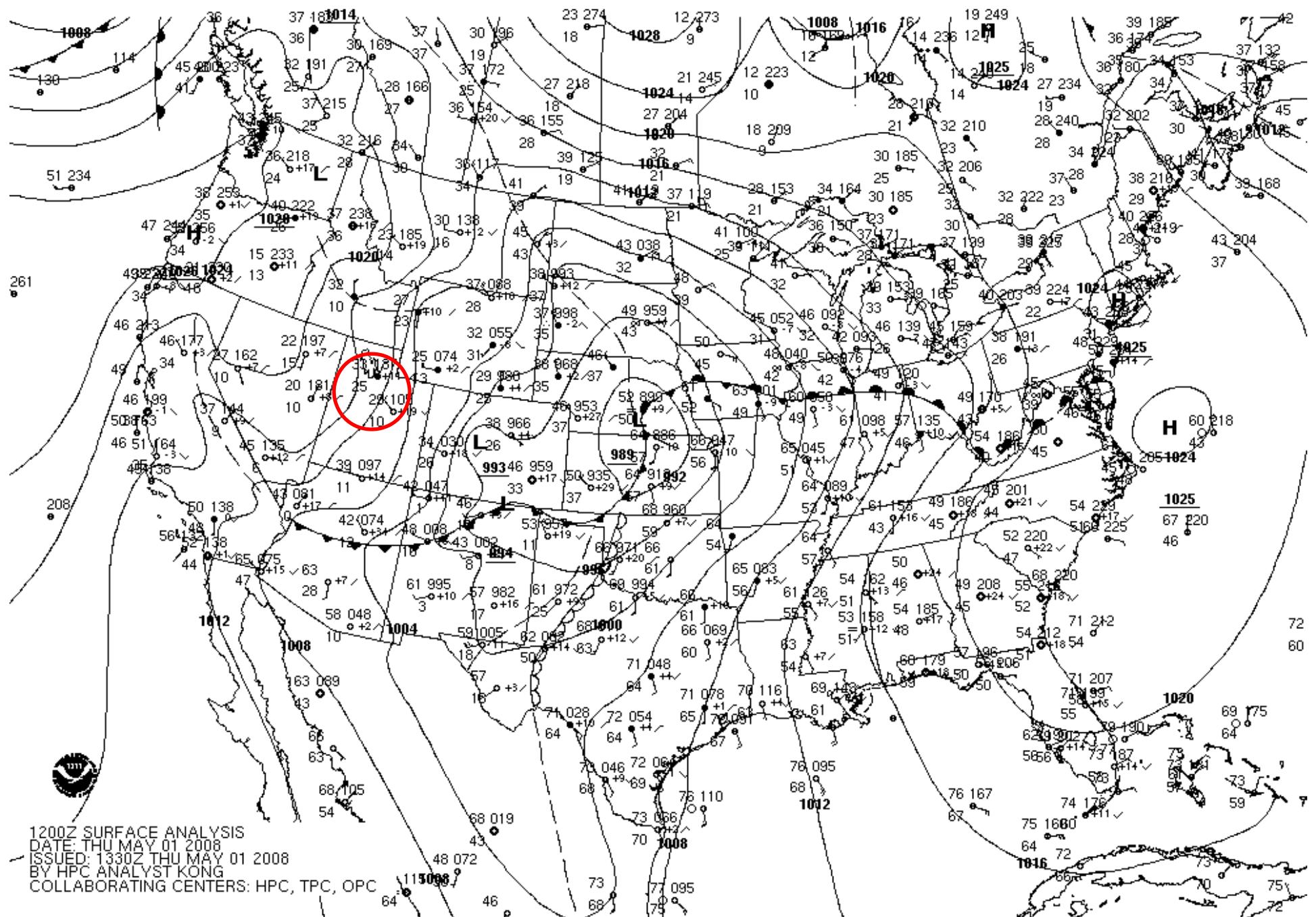


0600Z SURFACE ANALYSIS  
DATE: THU MAY 01 2008  
ISSUED: 0726Z THU MAY 01 2008

BY HPC ANALYST CLARK

COLLABORATING CENTERS: HPC, TPC, OPC

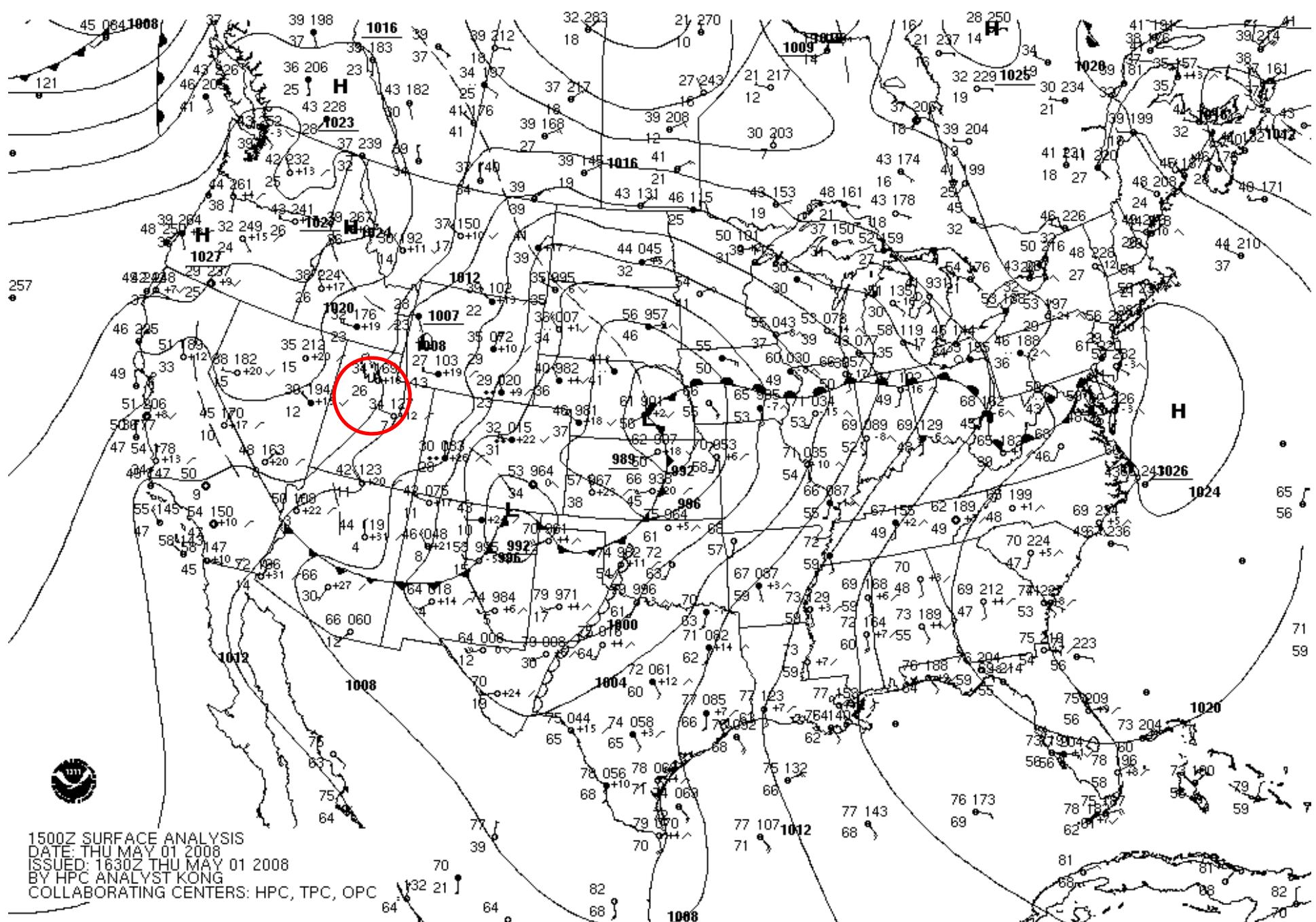


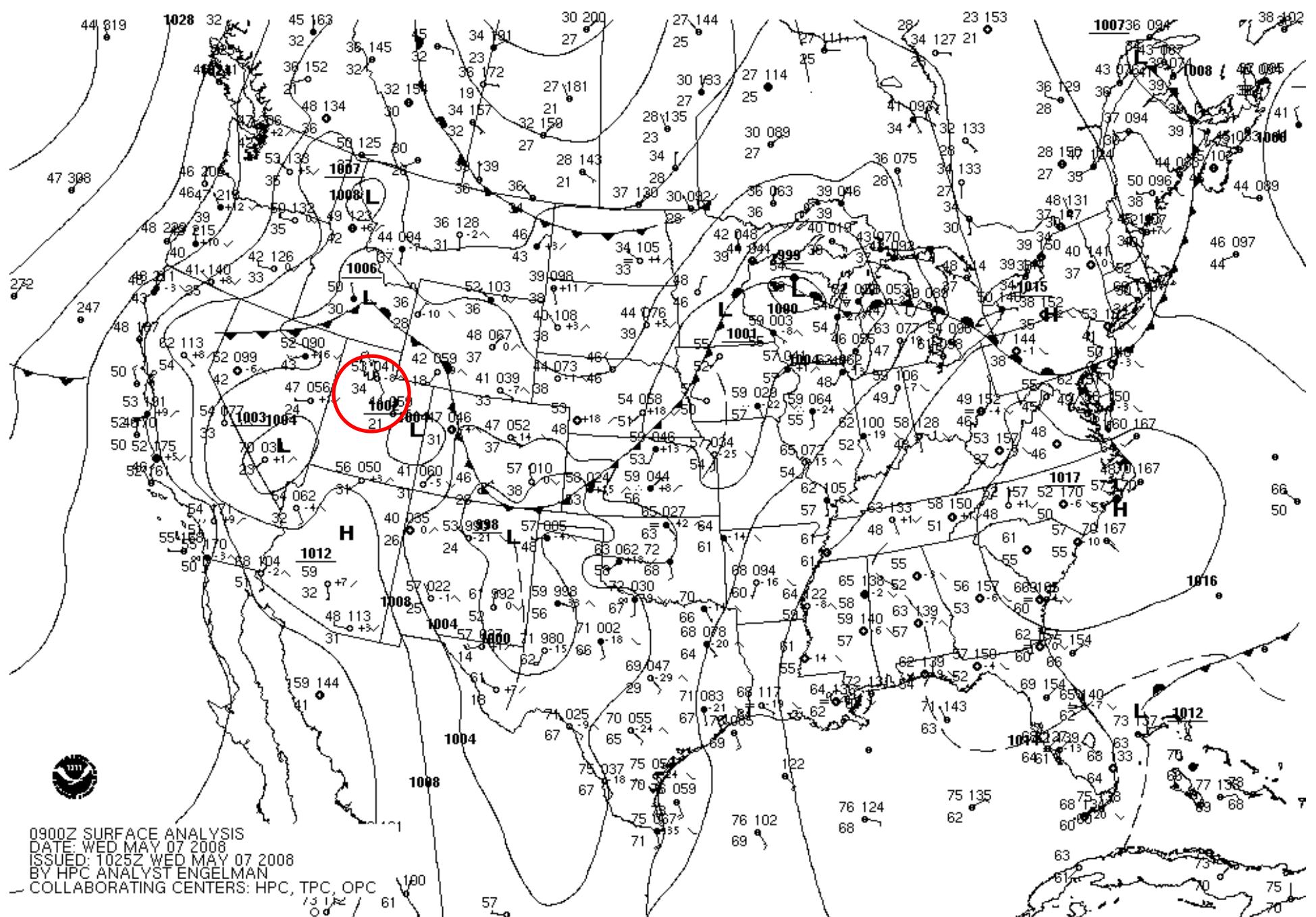


1200Z SURFACE ANALYSIS  
DATE: THU MAY 01 2008  
ISSUED: 1330Z THU MAY 01 2008

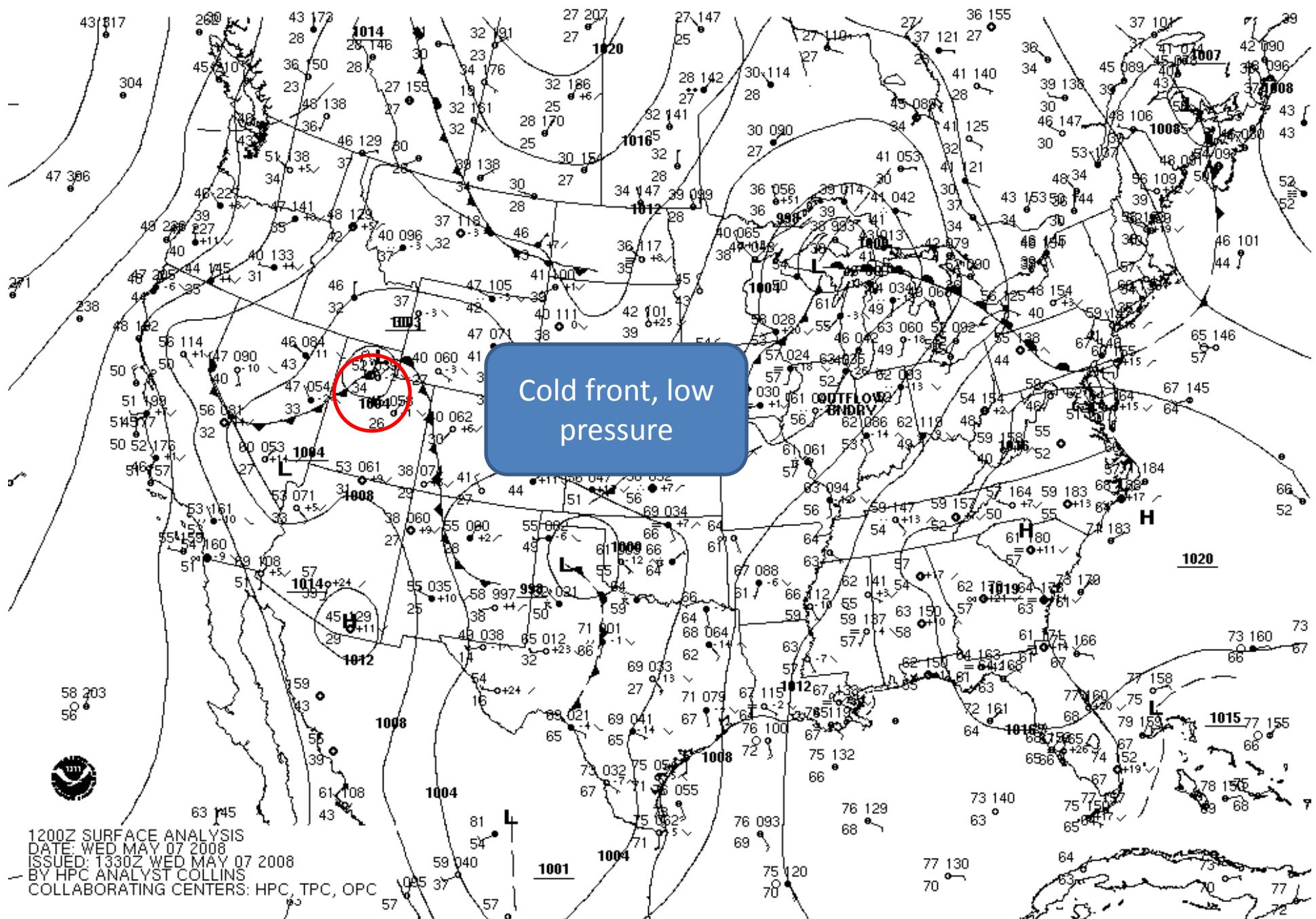
BY HPC ANALYST KONG

COLLABORATING CENTERS: HPC, TPC, OPC



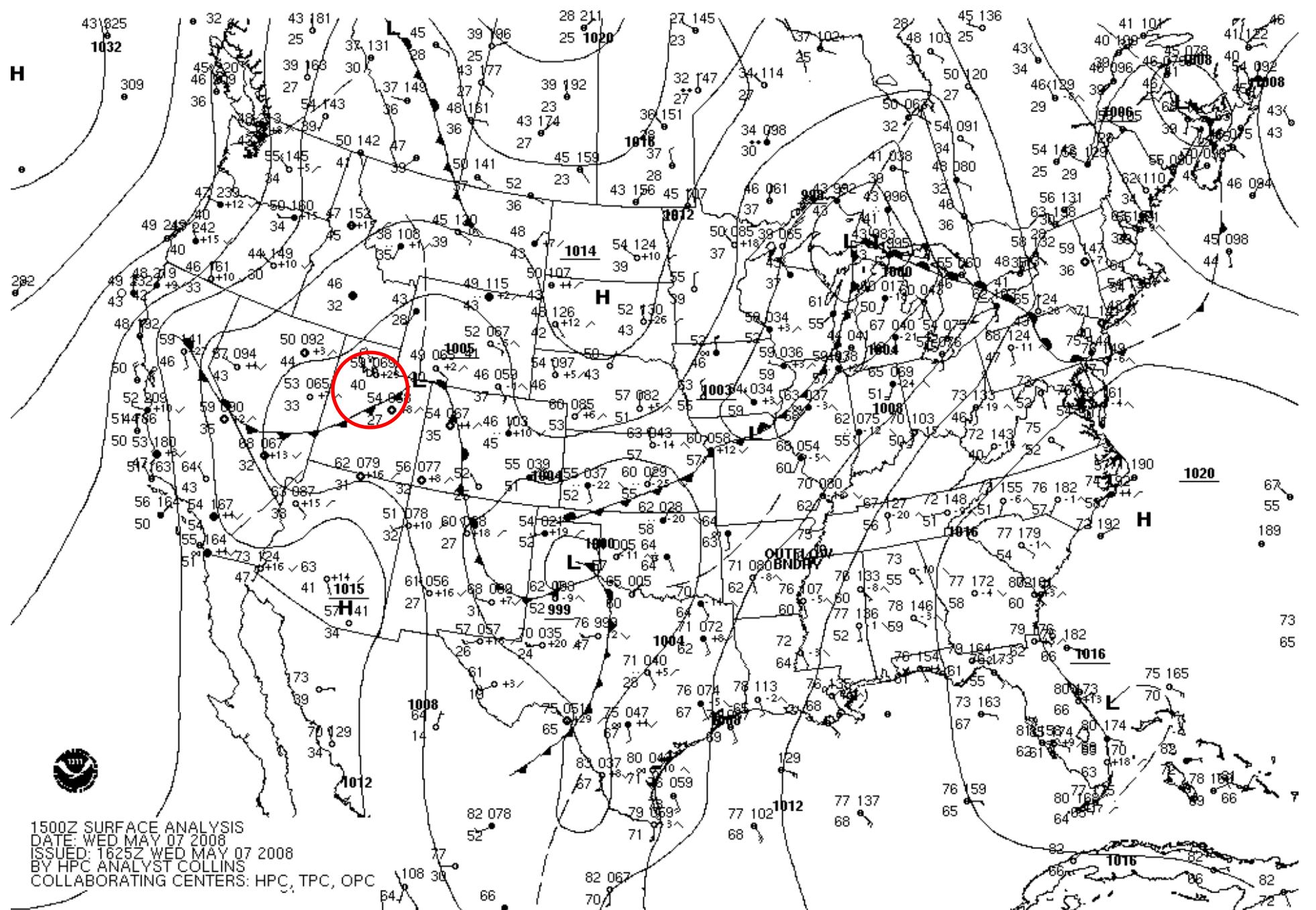


Cold front, low pressure

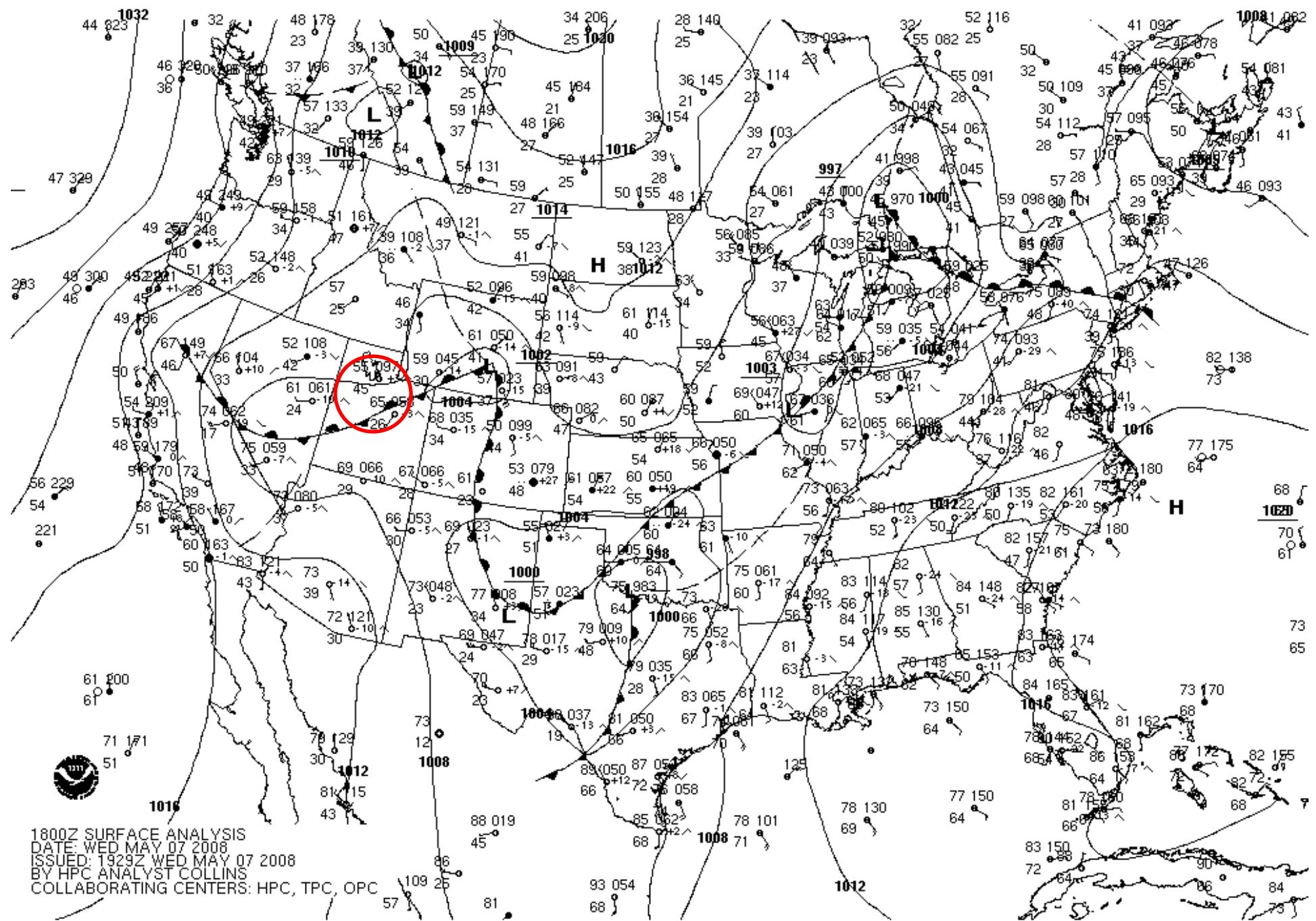


1200Z SURFACE ANALYSIS  
DATE: WED MAY 07 2008  
ISSUED: 1330Z WED MAY 07 2008

BY HPC ANALYST COLLINS  
COLLABORATING CENTERS: HPC, TPC, OPC

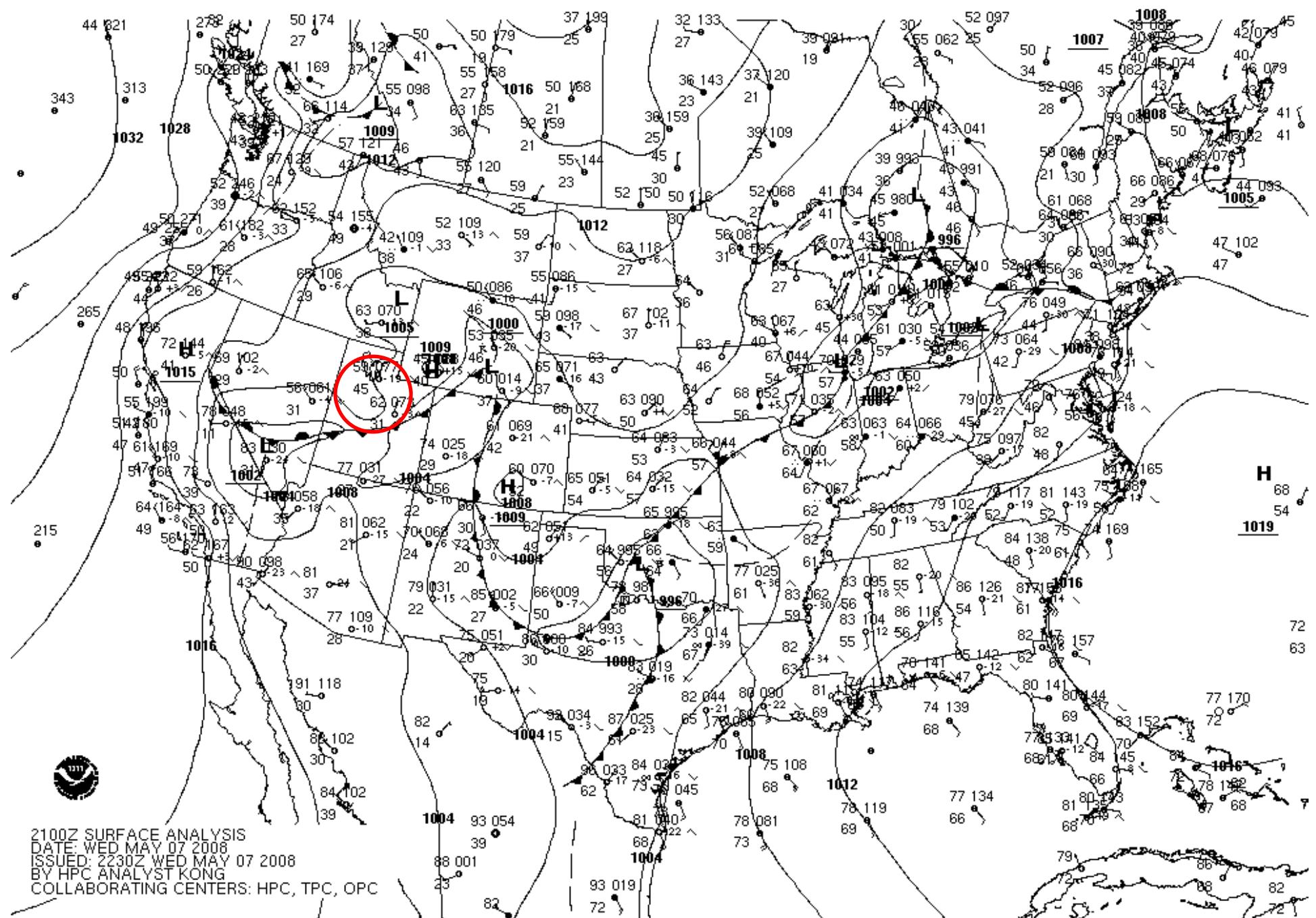


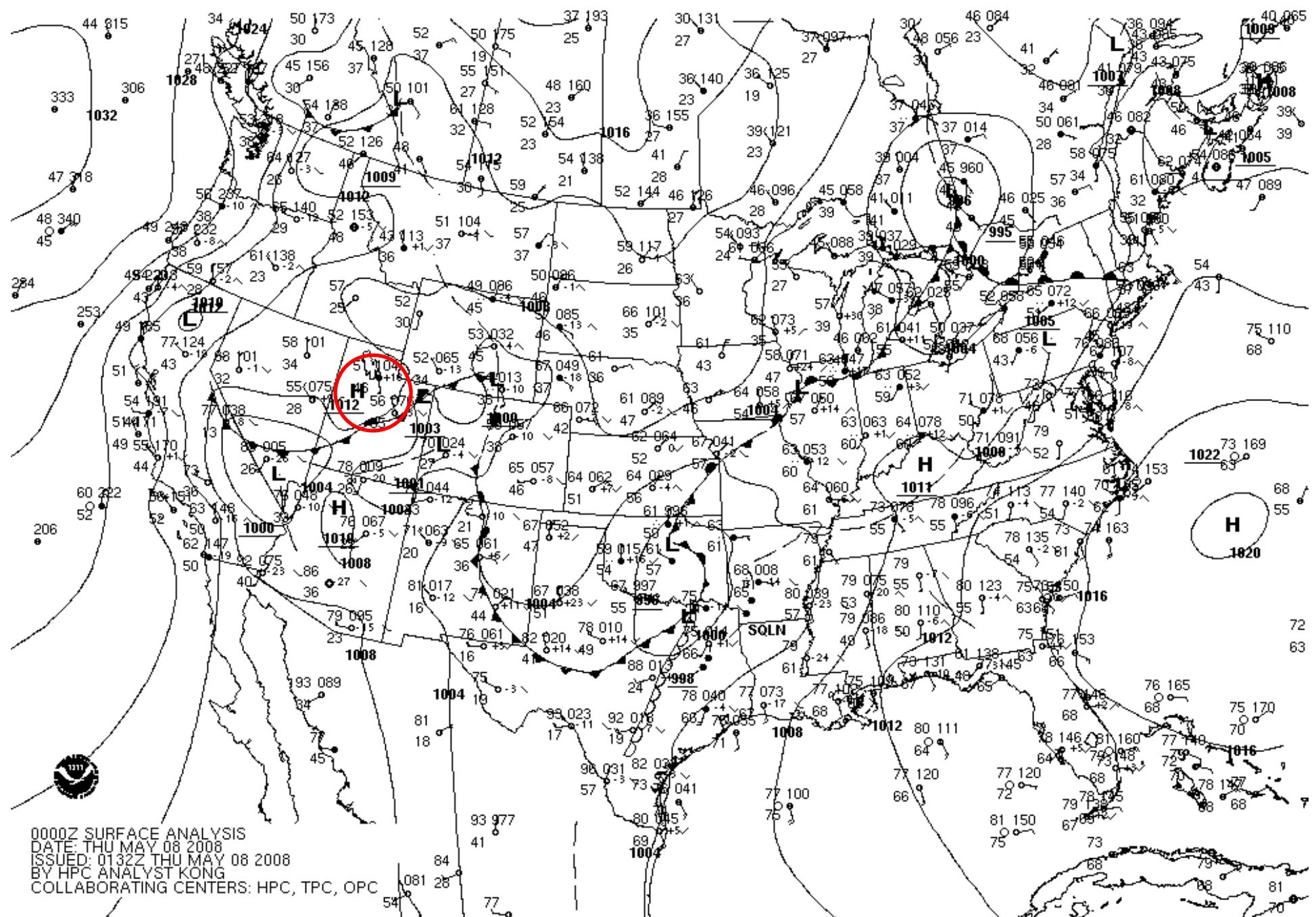
1500Z SURFACE ANALYSIS  
DATE: WED MAY 07 2008  
ISSUED: 1625Z WED MAY 07 2008  
BY HPC ANALYST COLLINS  
COLLABORATING CENTERS: HPC, TPC, OPC



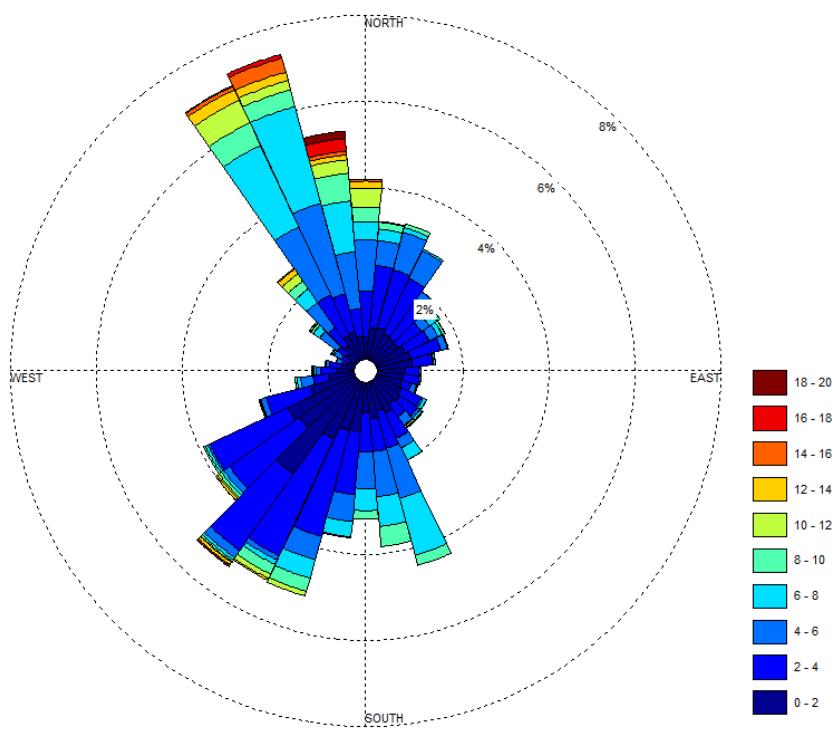
1800Z SURFACE ANALYSIS  
DATE: WED MAY 07 2008  
ISSUED: 1929Z WED MAY 07 2008  
BY HPC ANALYST COLLINS

COLLABORATING CENTERS: HPC, TPC, OPC

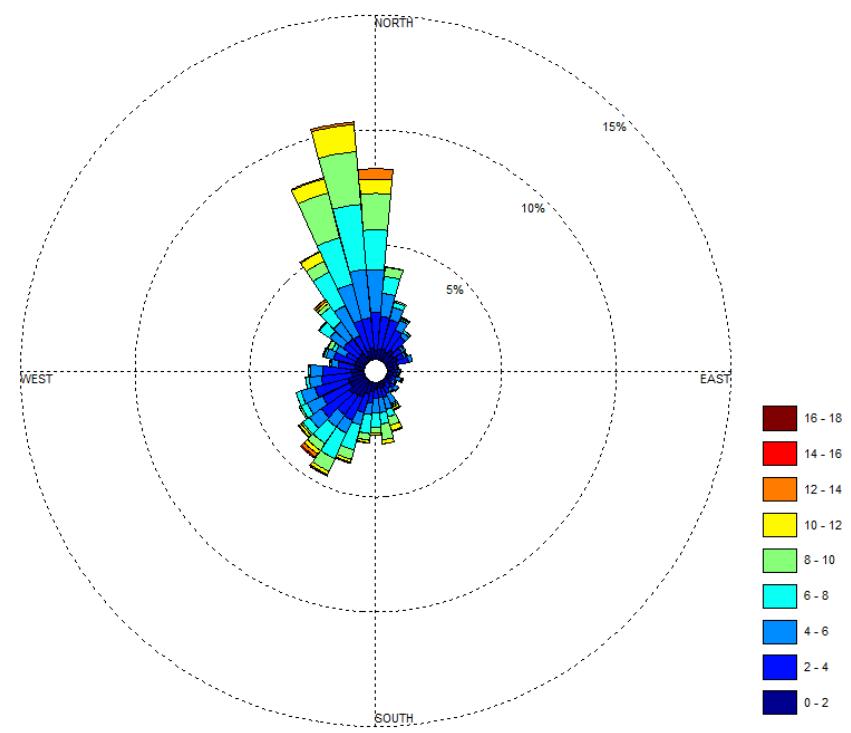




Nighttime (7 pm through 6 am) Wind Rose for Station 7 May 2008



Daytime (7 am through 6 pm) Wind Rose for Station 7 May 2008



# Strategy for instrumentation deployment

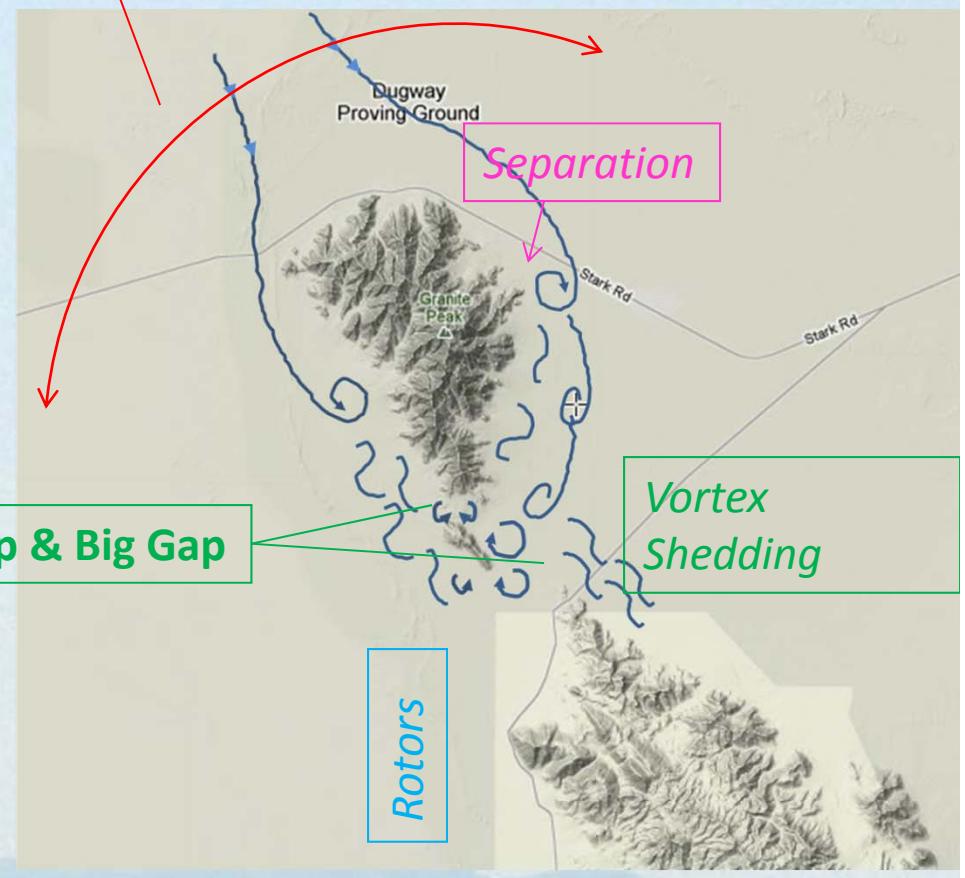
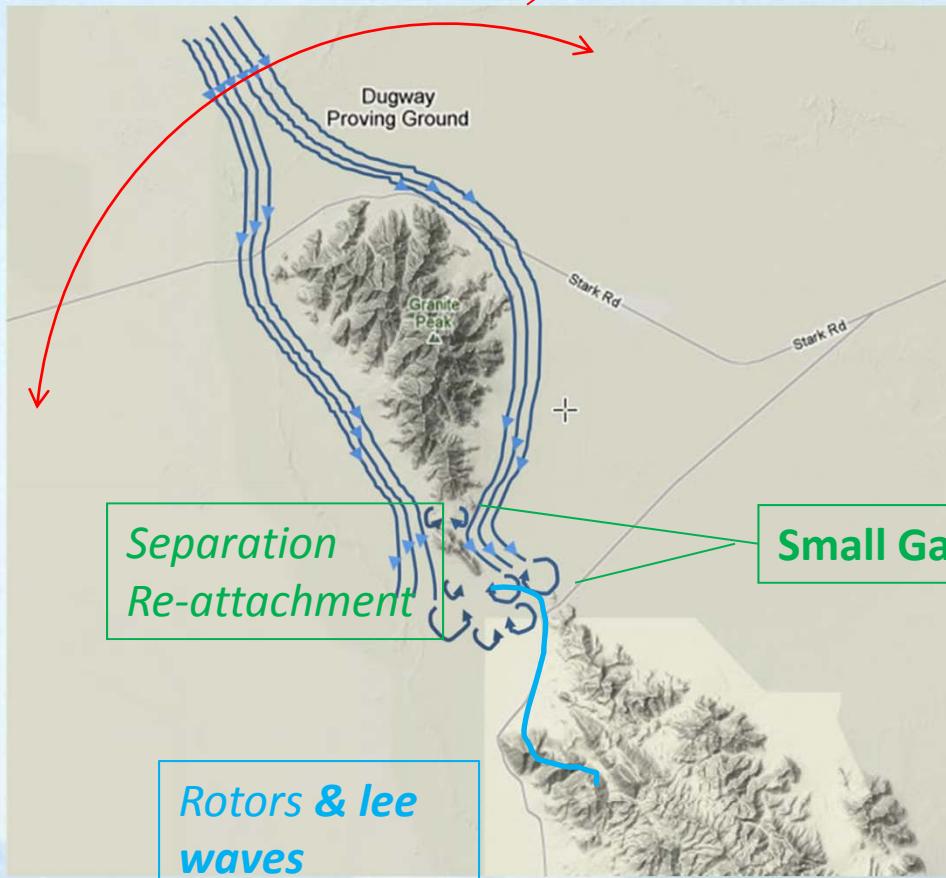
## PLAUSIBLE SCENARIO: UPSTREAM STRATIFIED FLOW (NW)

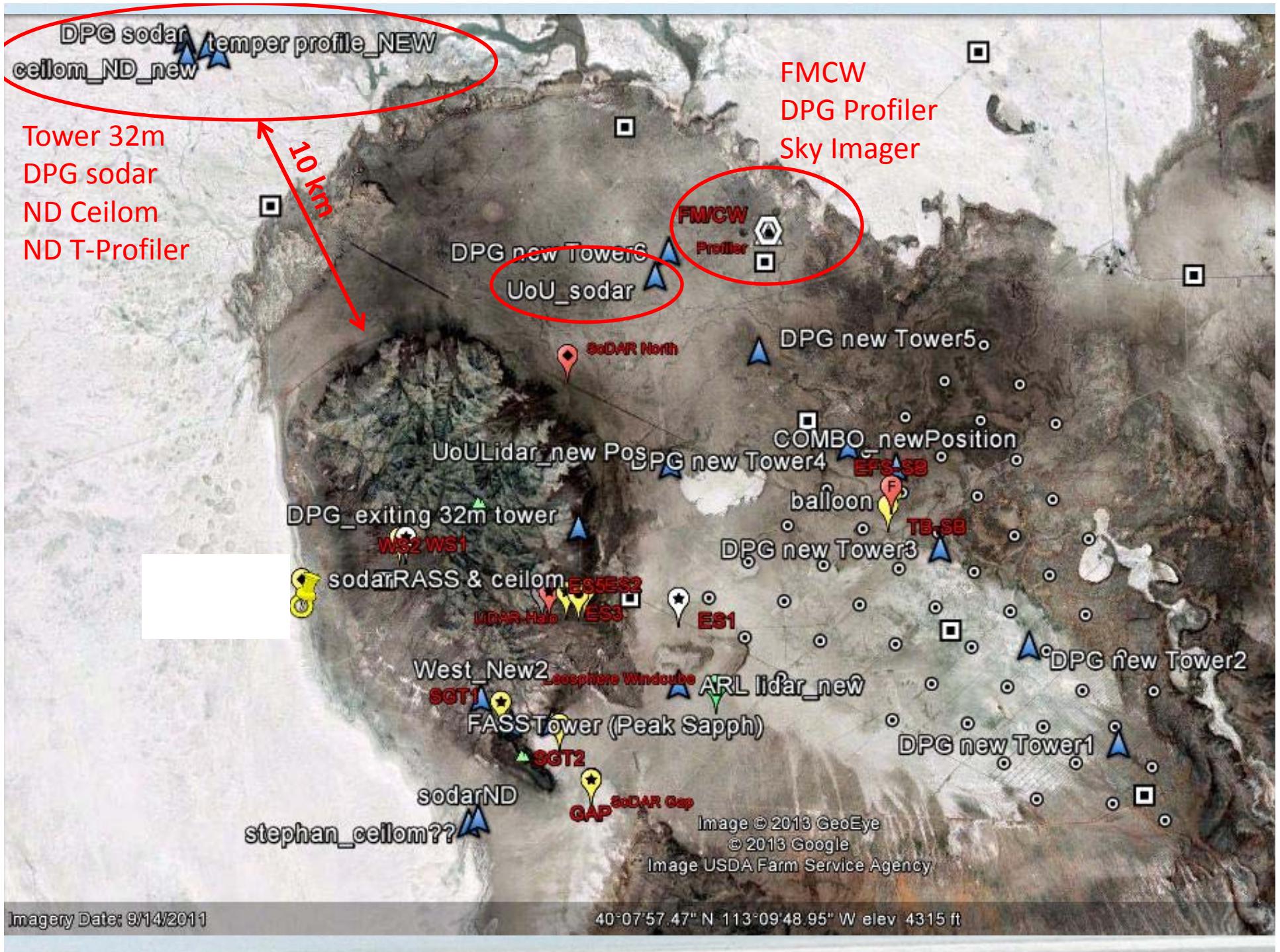


## PLAUSIBLE SCENARIO: UPSTREAM NOT STRATIFIED FLOW (NW)



## UPSTREAM CONDITION





# EAST OF GRANITE



# SMALL & BIG GAP

