Aplicación de la Metodología Pronósticos Cuantitativos de Precipitación

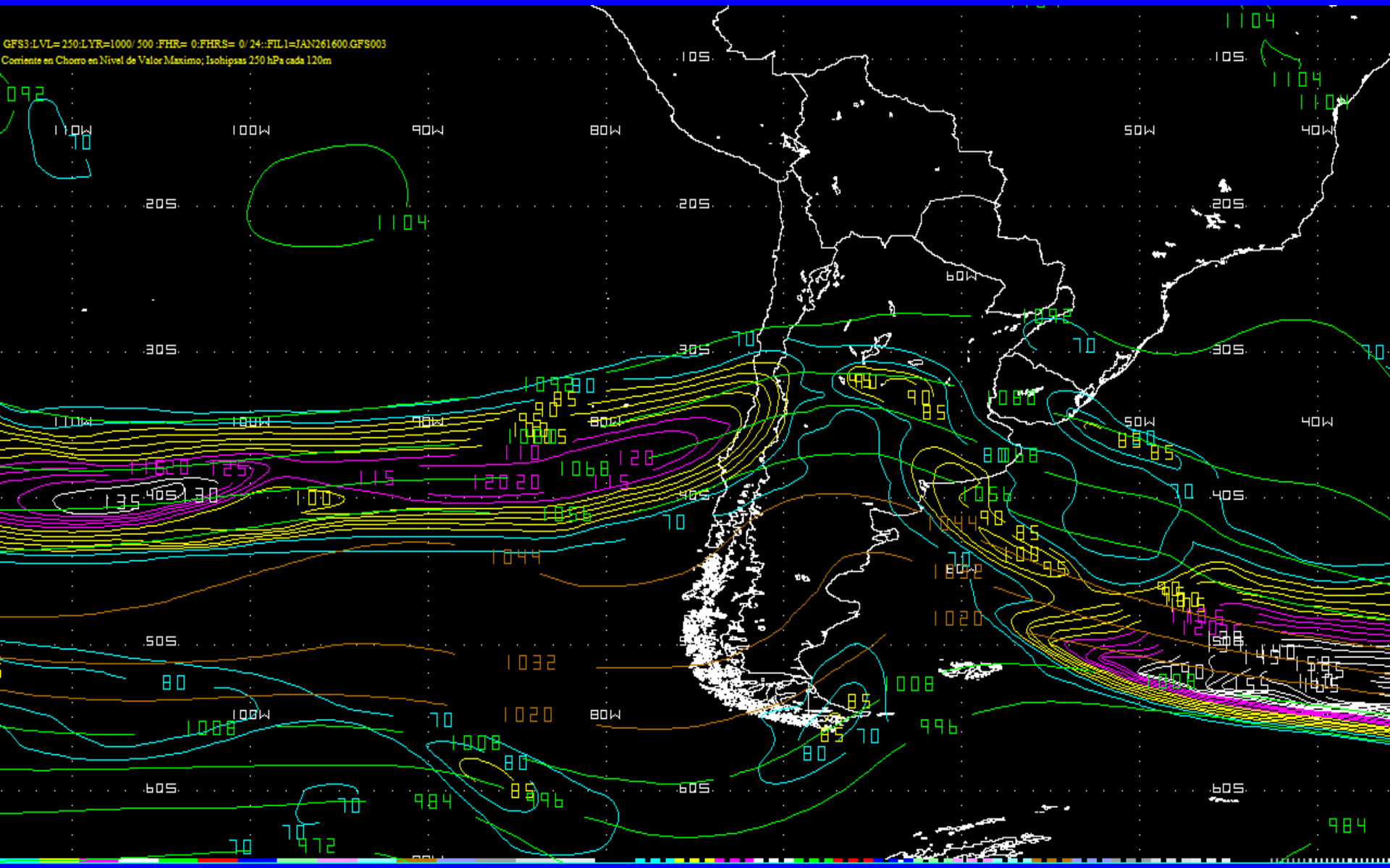
Evento de Enero 26, 2016

Herramientas para Minimizar la Incertidumbre

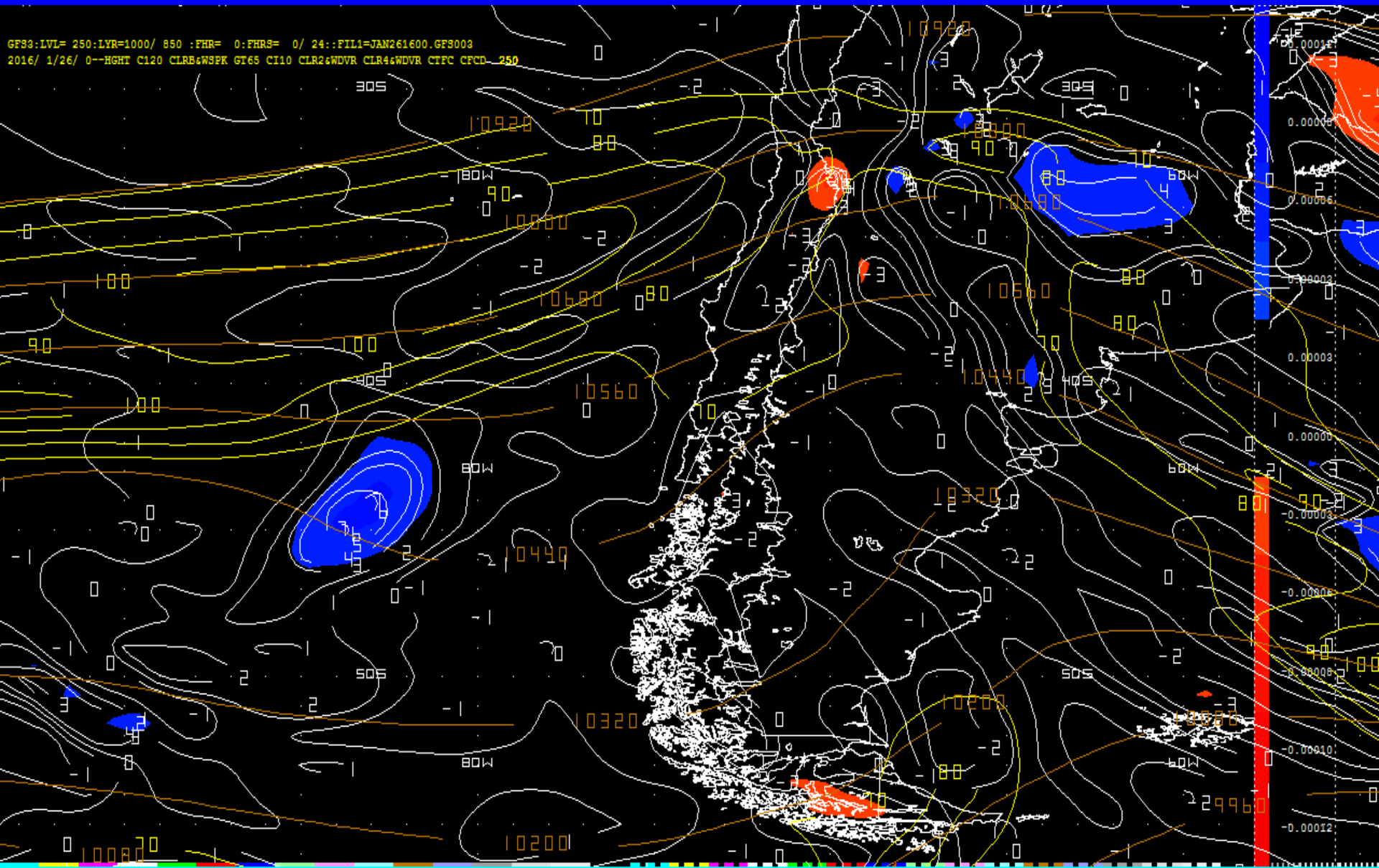
- El Embudo de Pronostico
  - *Evaluar dinámicas*
- Ensamblaje de Modelos
  - *Establecer confianza en el pronostico*
- Herramientas Climatológicas
  - *TSM, Madden-Julian Oscillations*
  - *Deviaciones de los patrones normales*
- Hidro-Estimadores

El Embudo

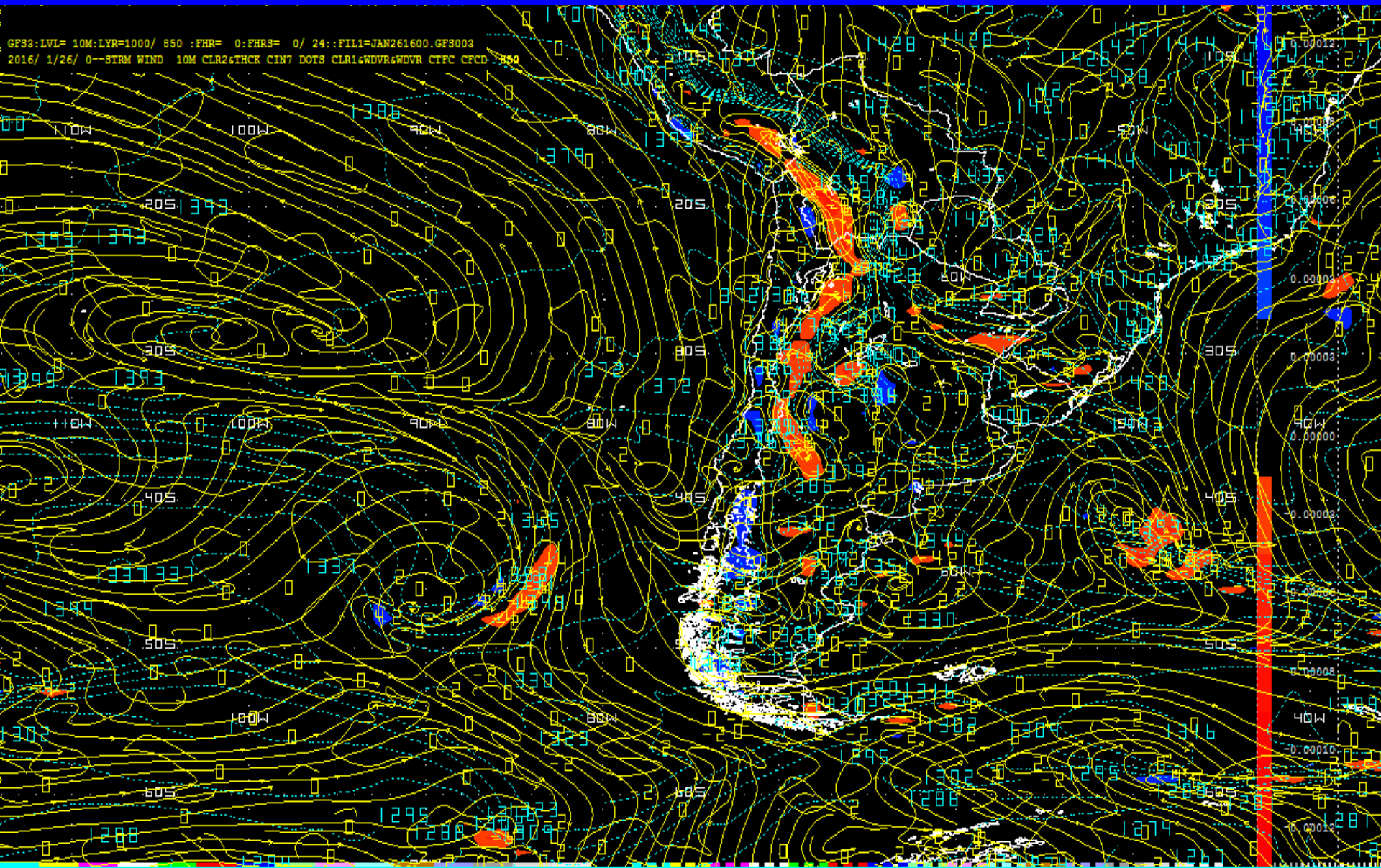
Corriente en Chorro



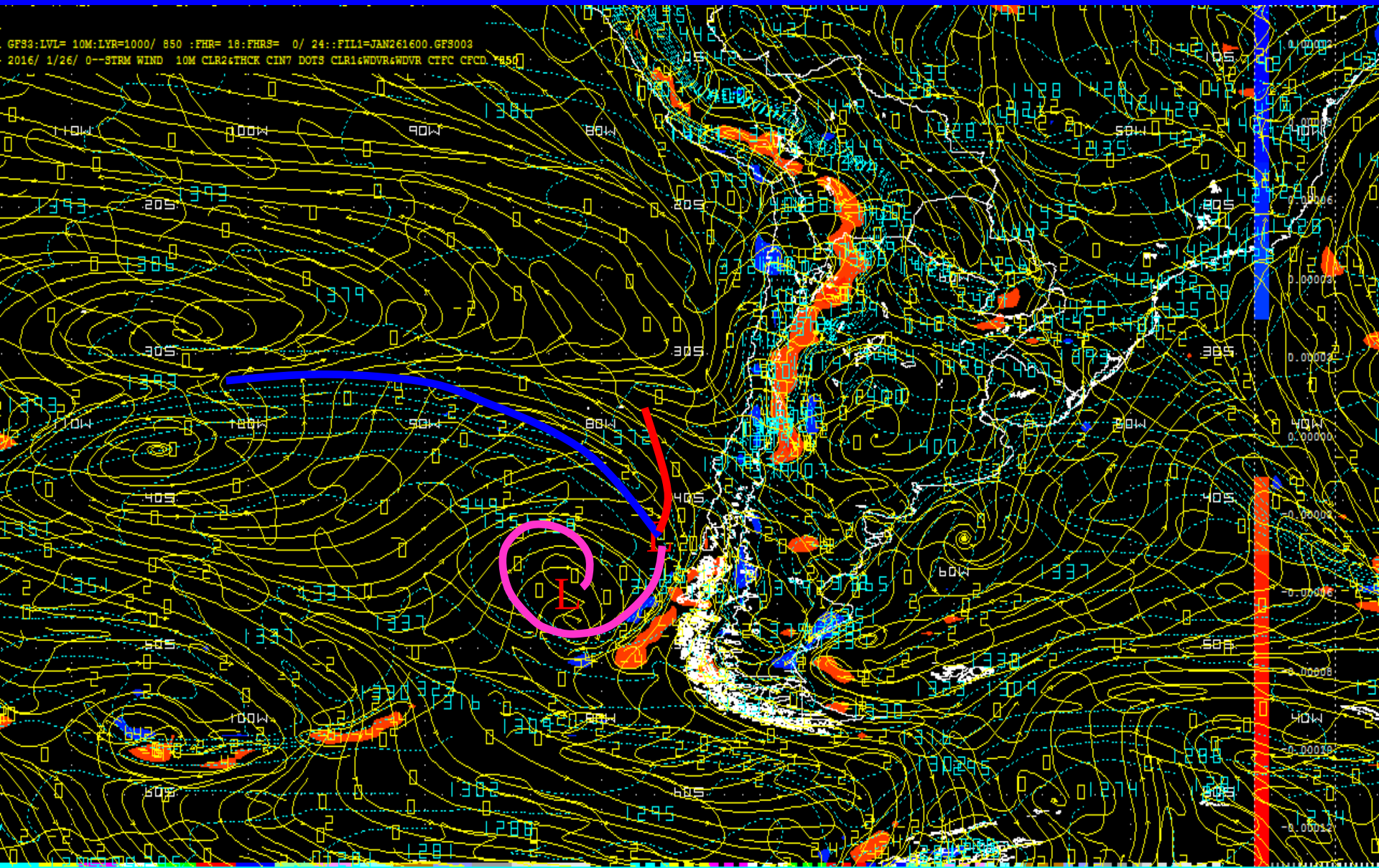
Jets y Divergencia en 250 hPa



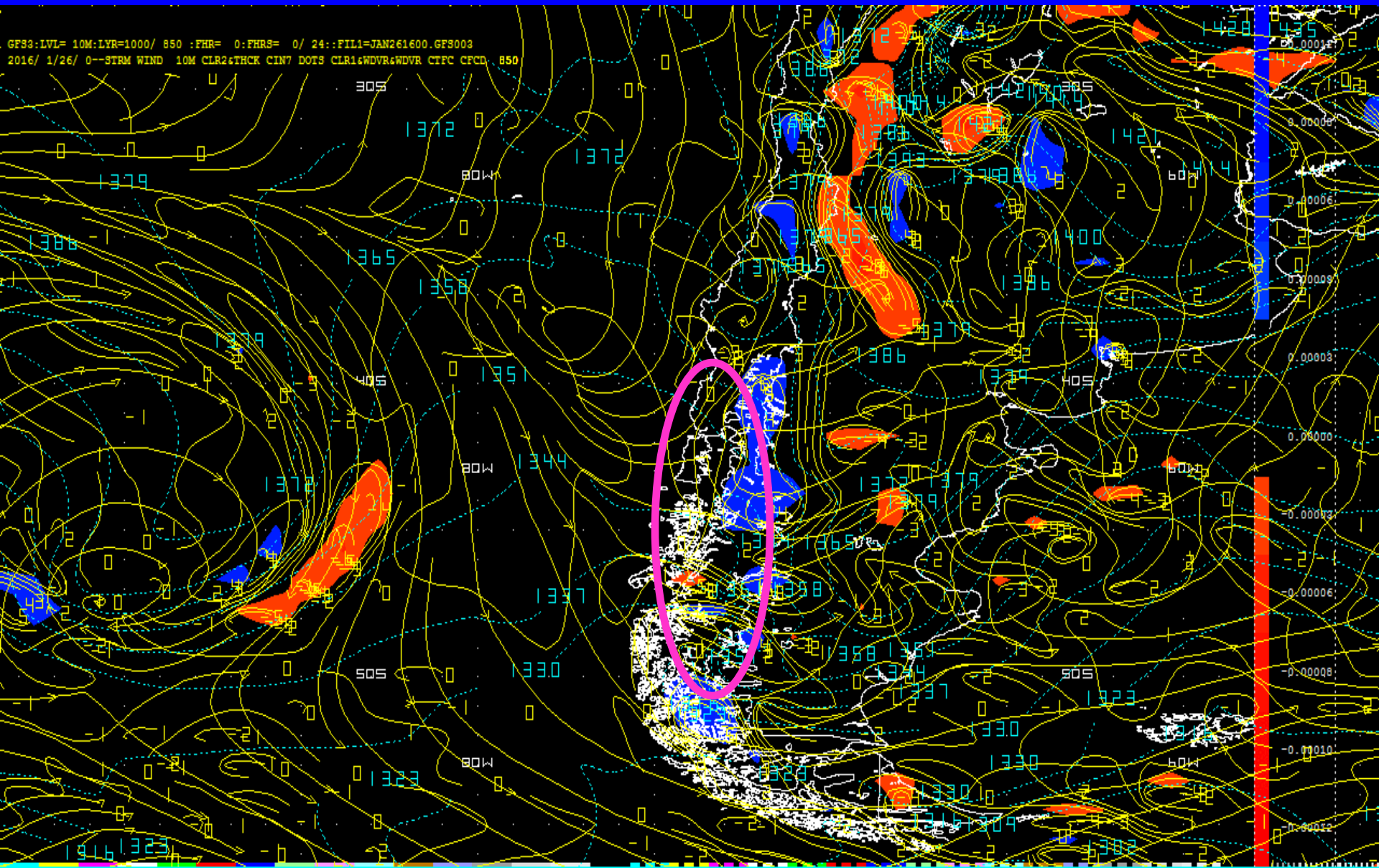
Espesor y Flujo en 10m/Con.-Div. 850 hPa



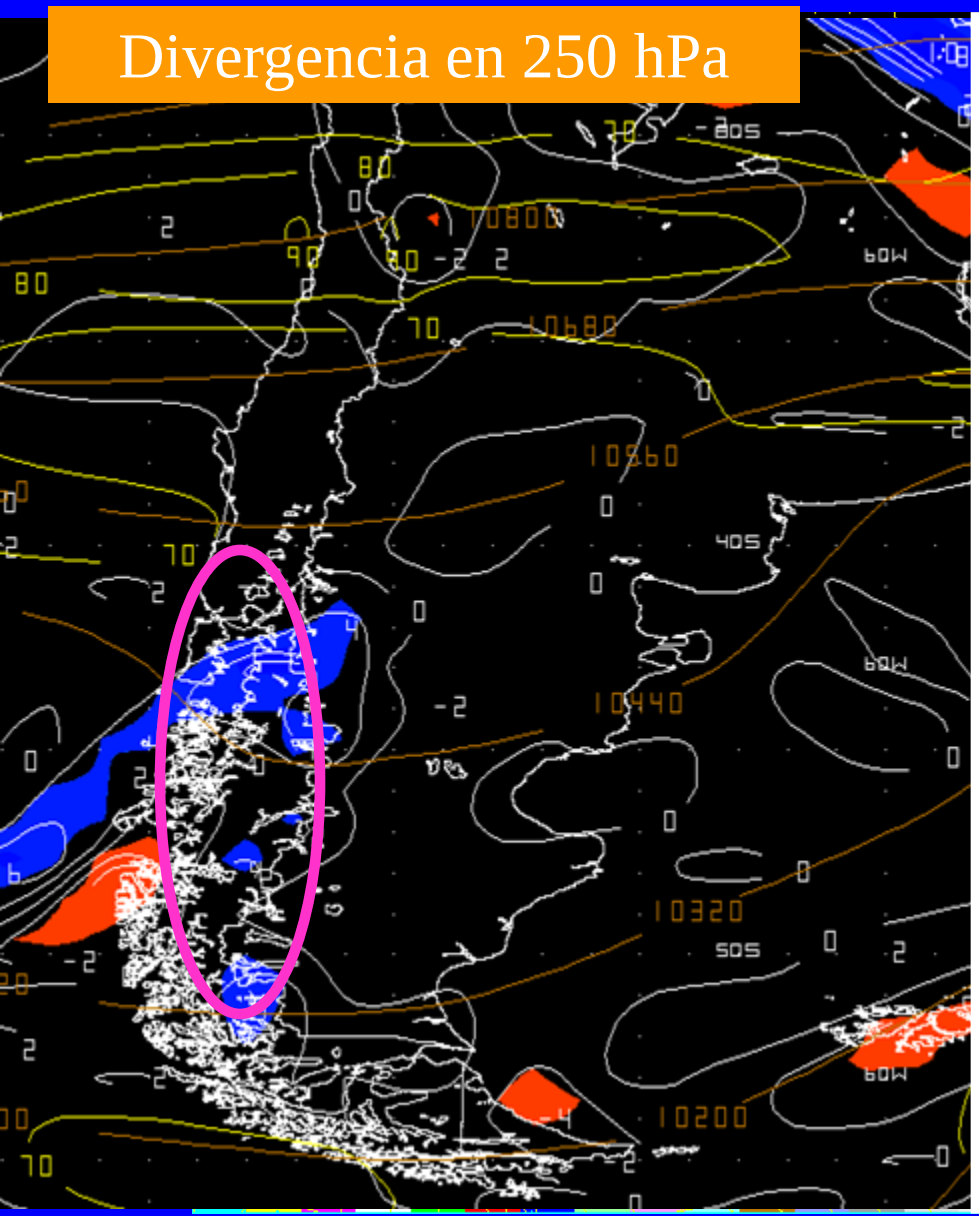
Espesor y Flujo en 10m/Con.-Div

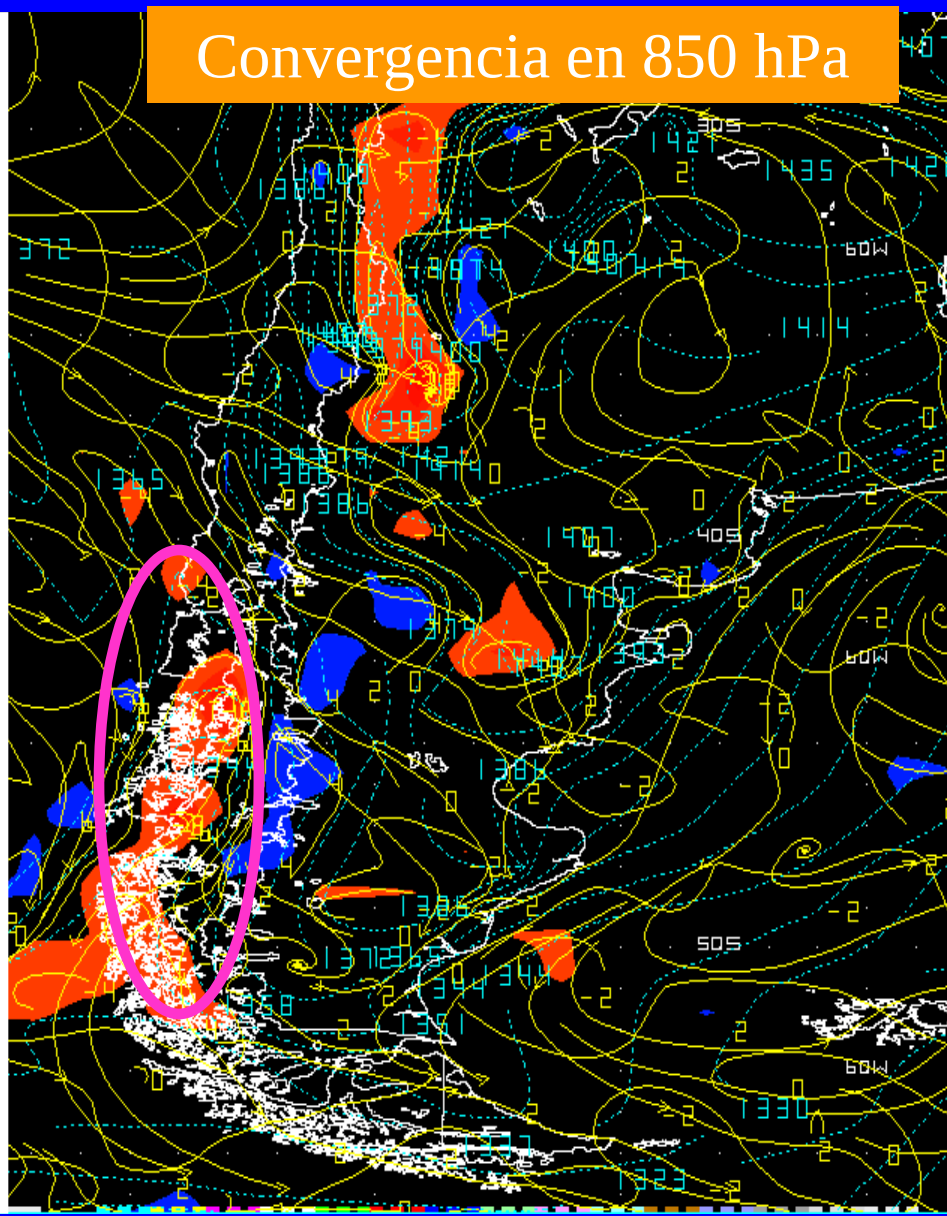


Convergencia de Bajo Nivel (Zoom)

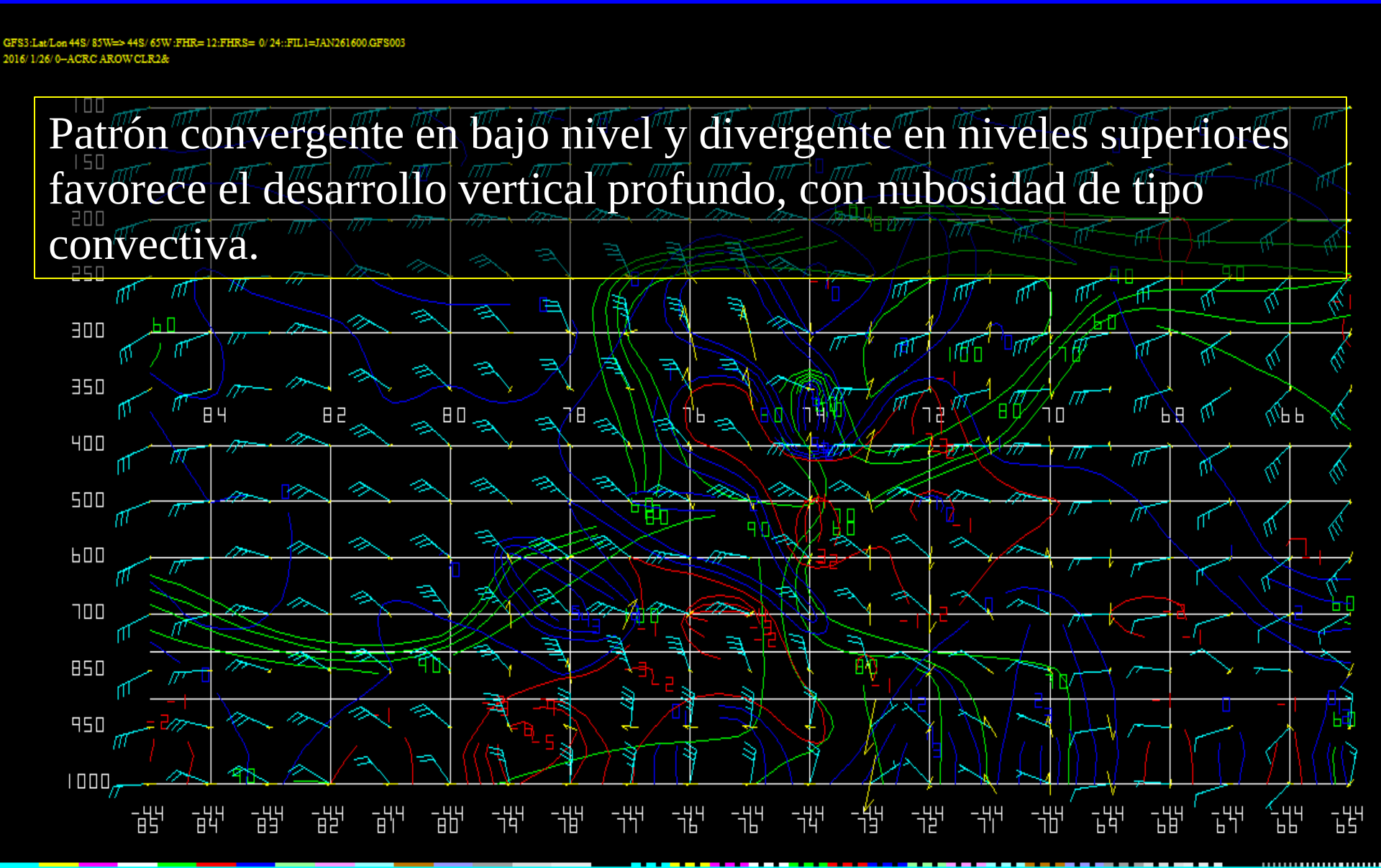


Acoplamiento de Div./Con.



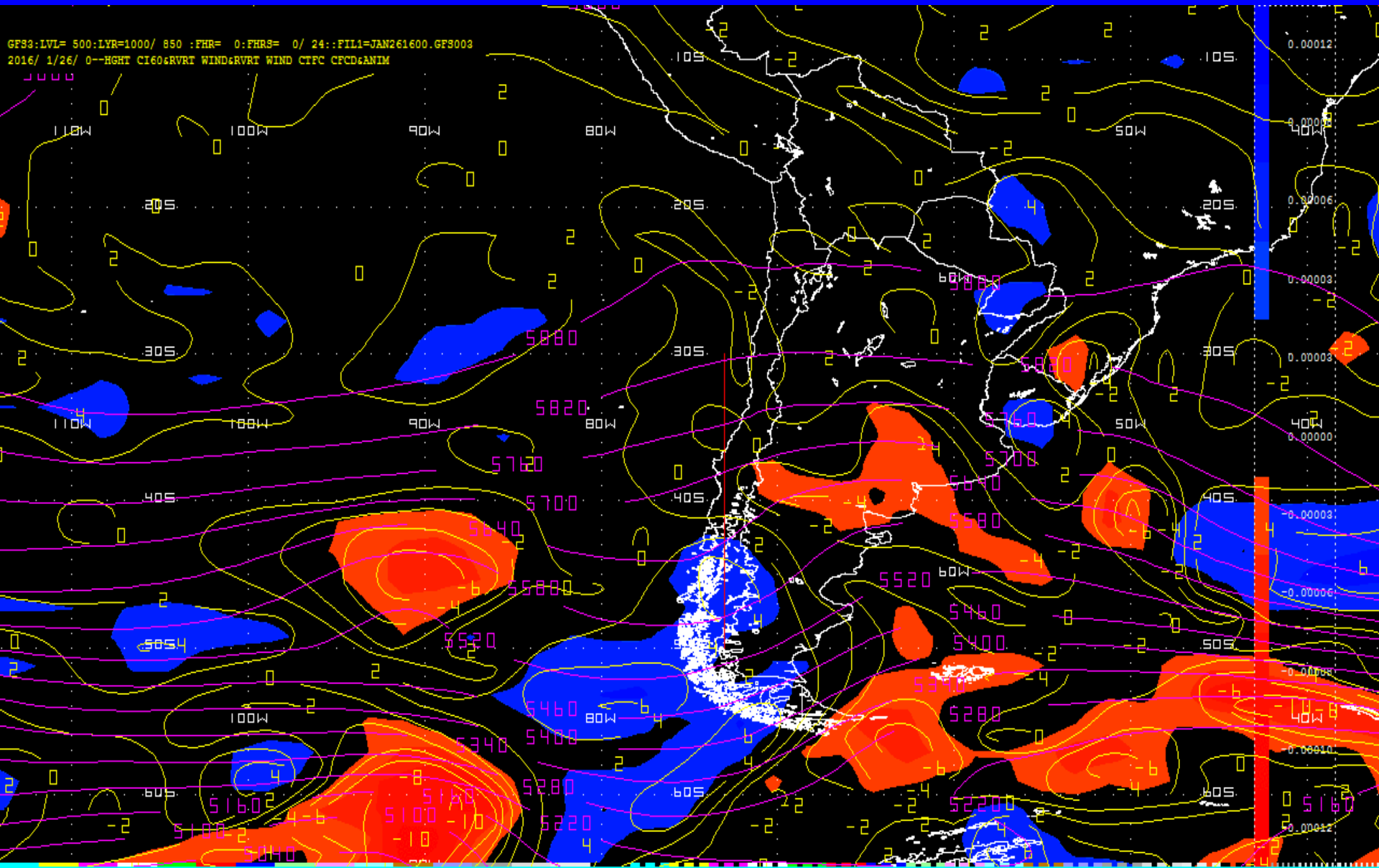


Corte Transversal – Con./Div.

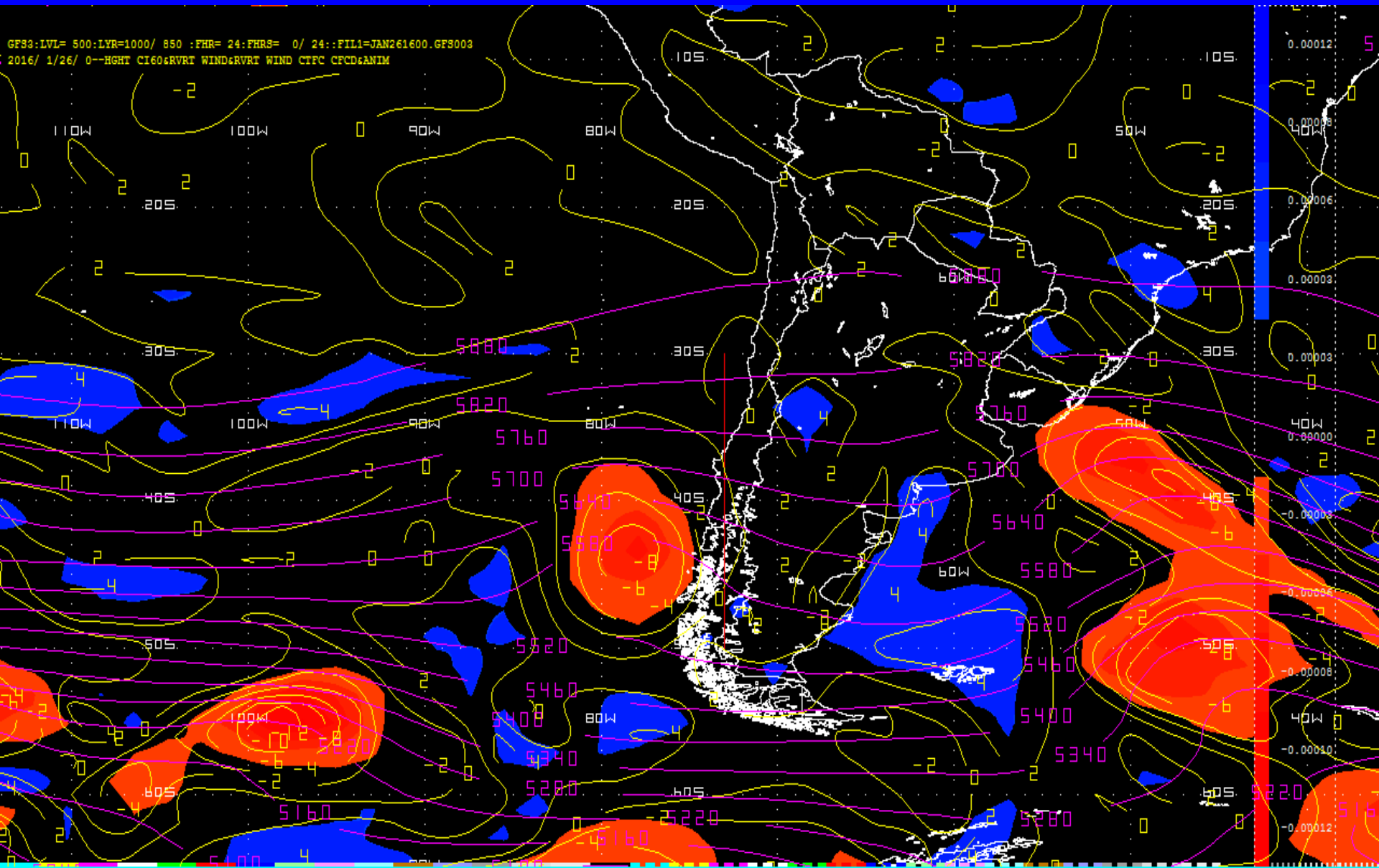


Patrón convergente en bajo nivel y divergente en niveles superiores favorece el desarrollo vertical profundo, con nubosidad de tipo convectiva.

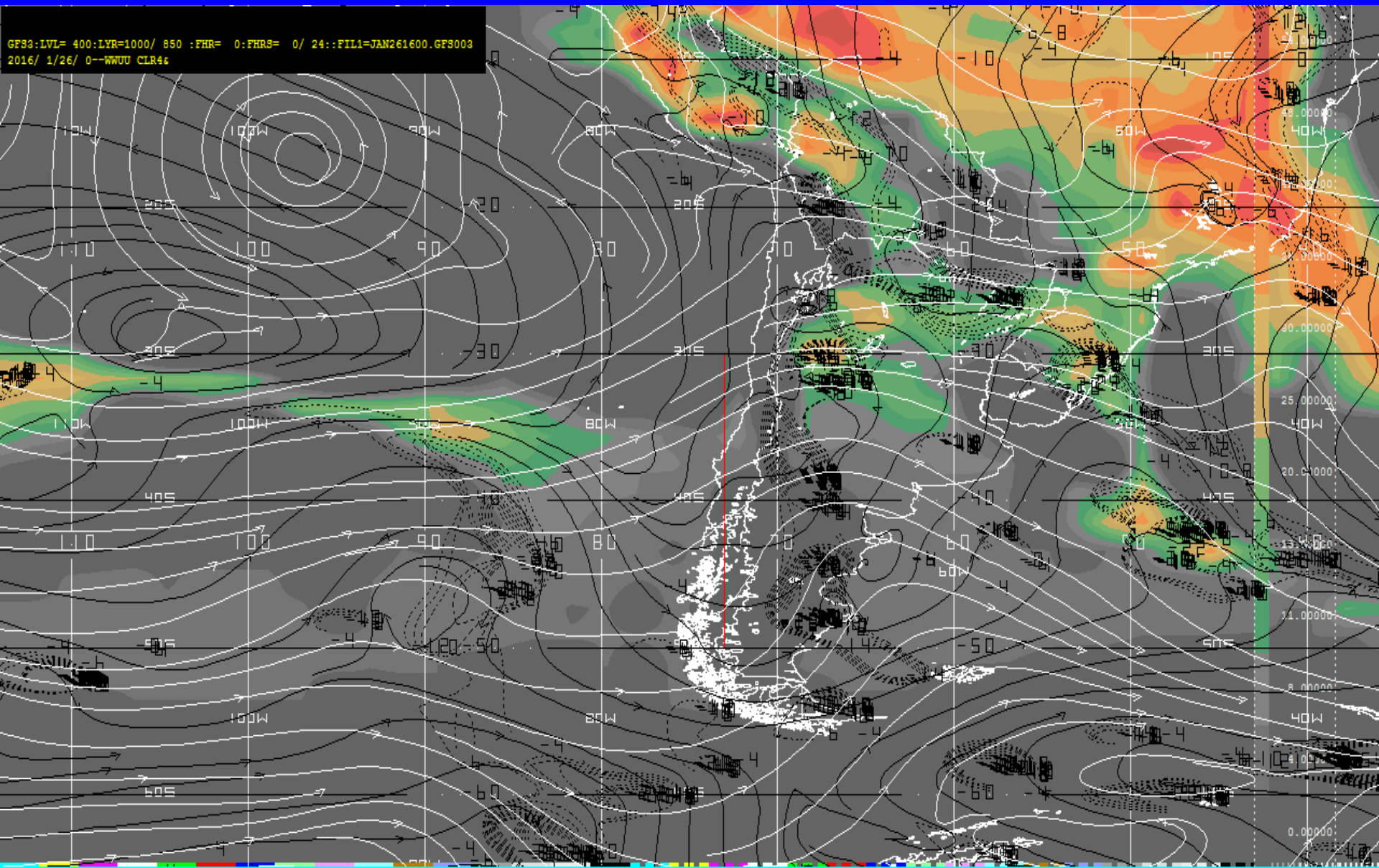
Gatillador – Vorticidad Relativa en 500 hPa



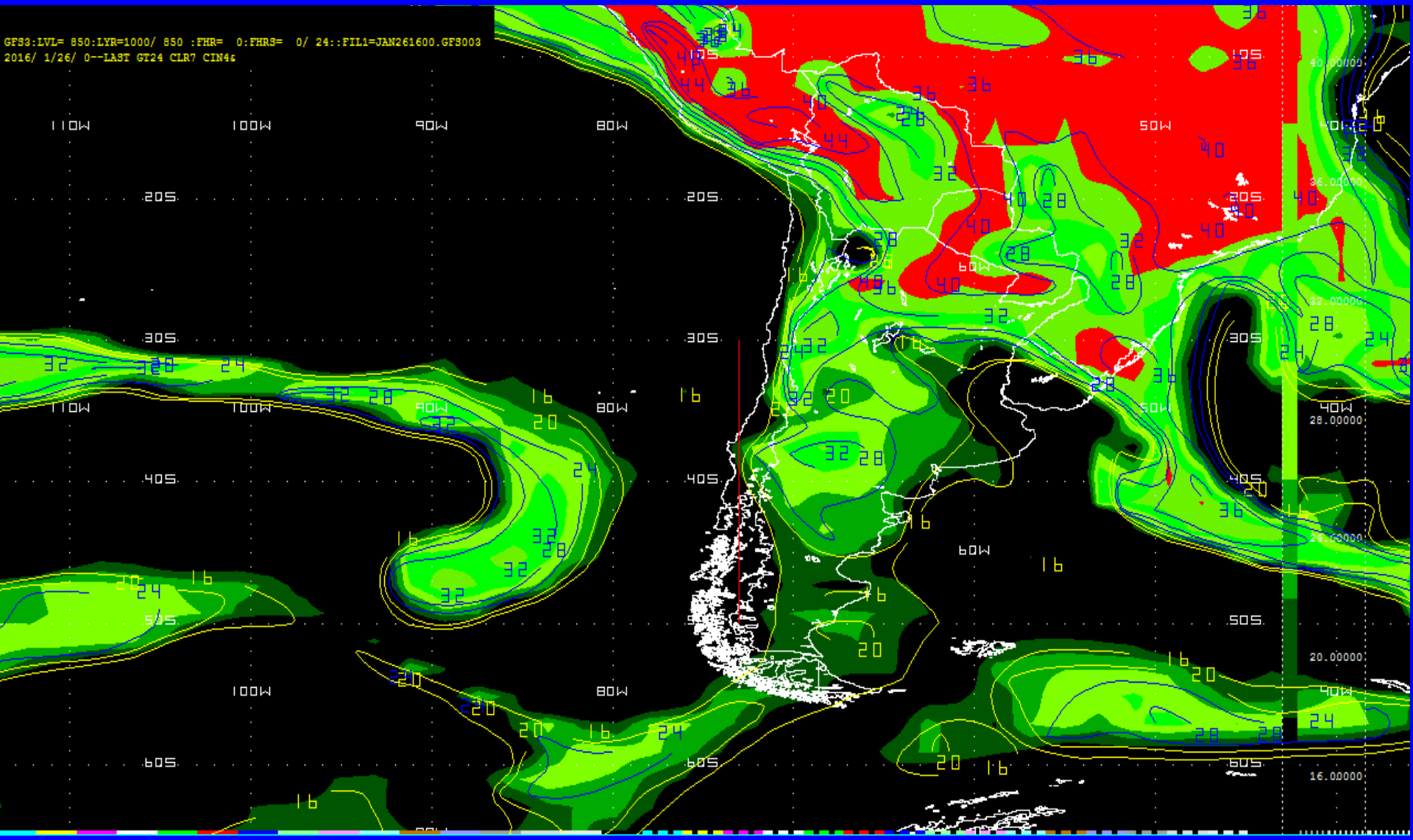
Gatillador – Vorticidad Relativa en 500 hPa



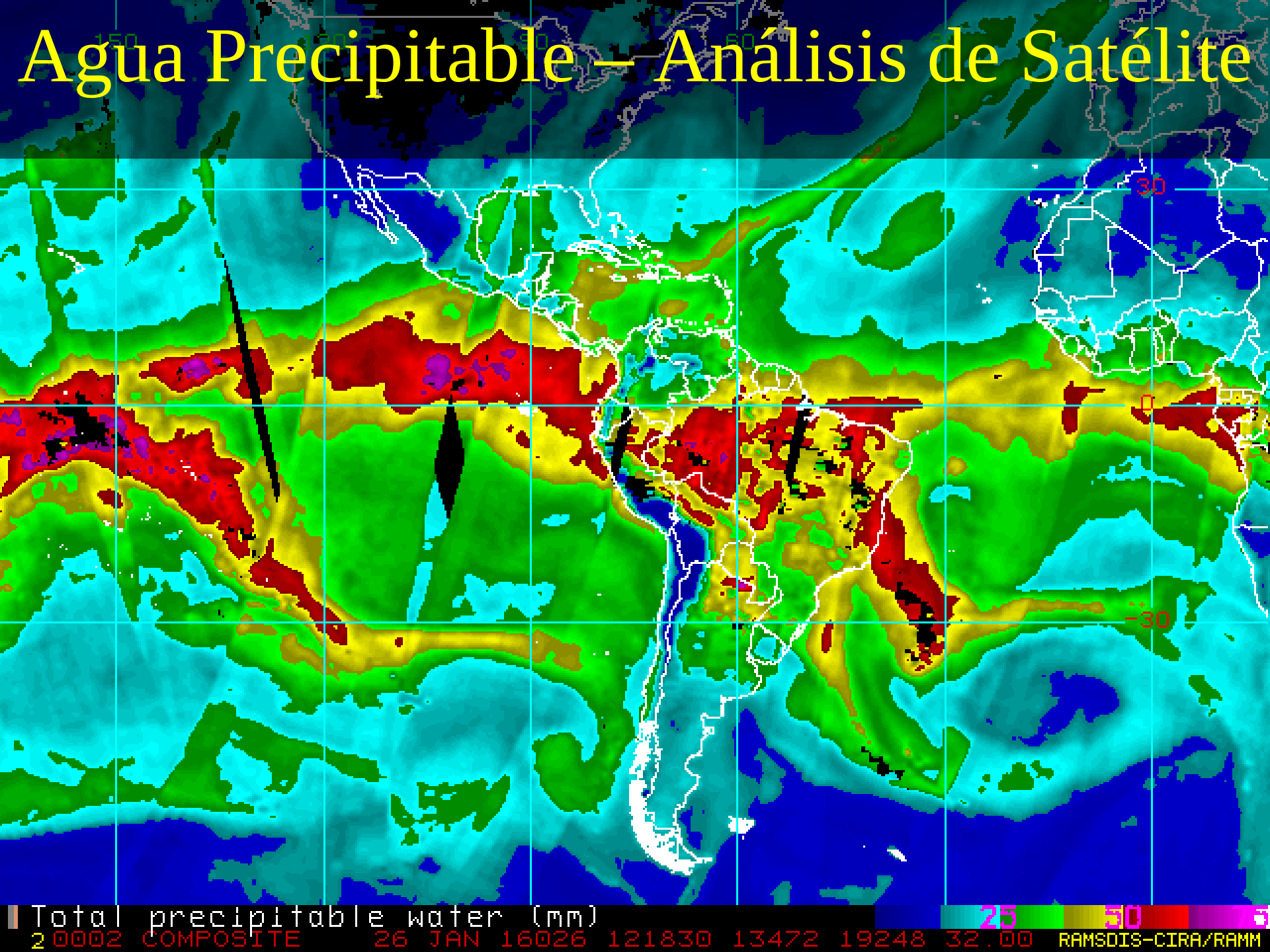
Estabilidad – GDI



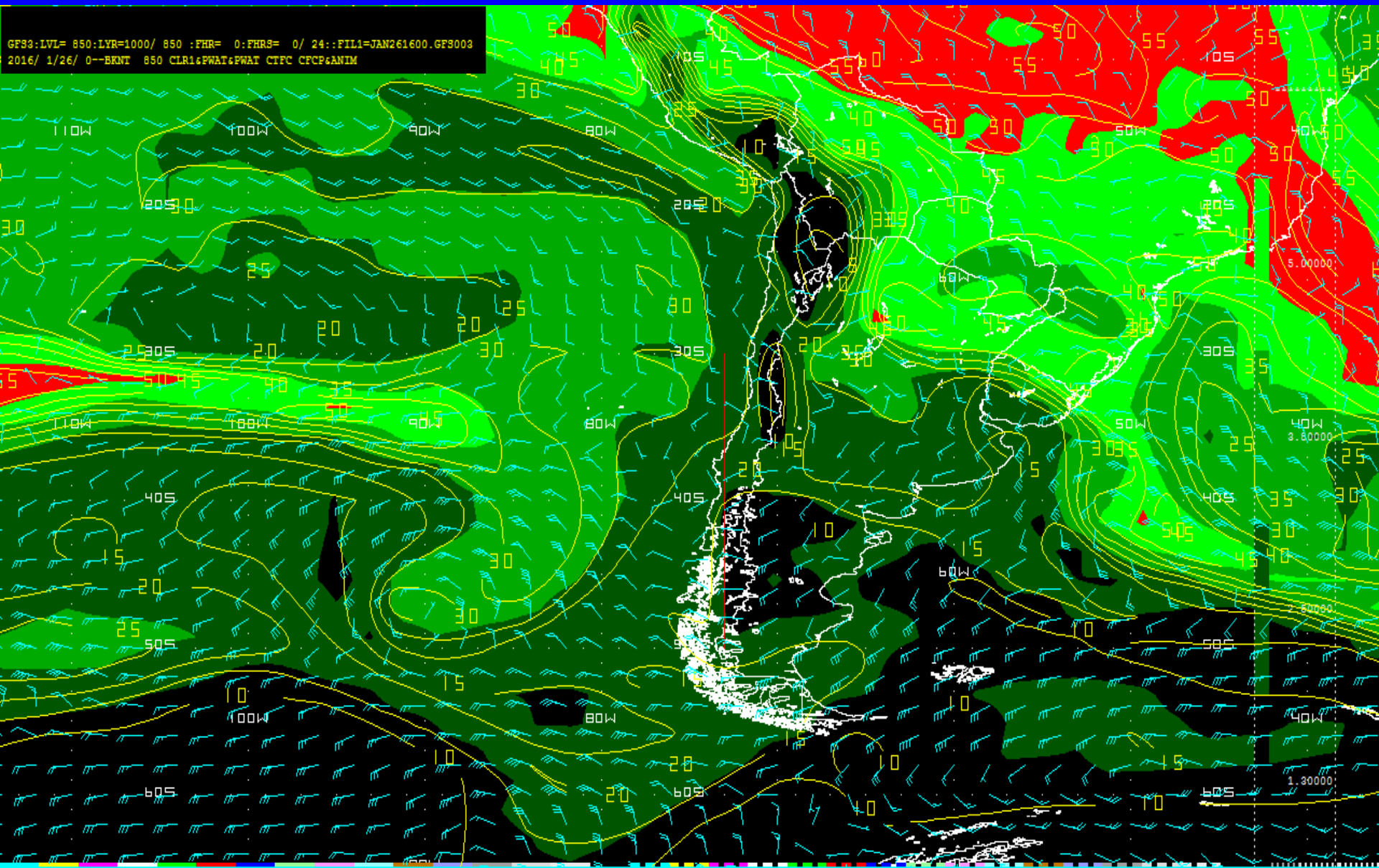
Estabilidad – Índice K



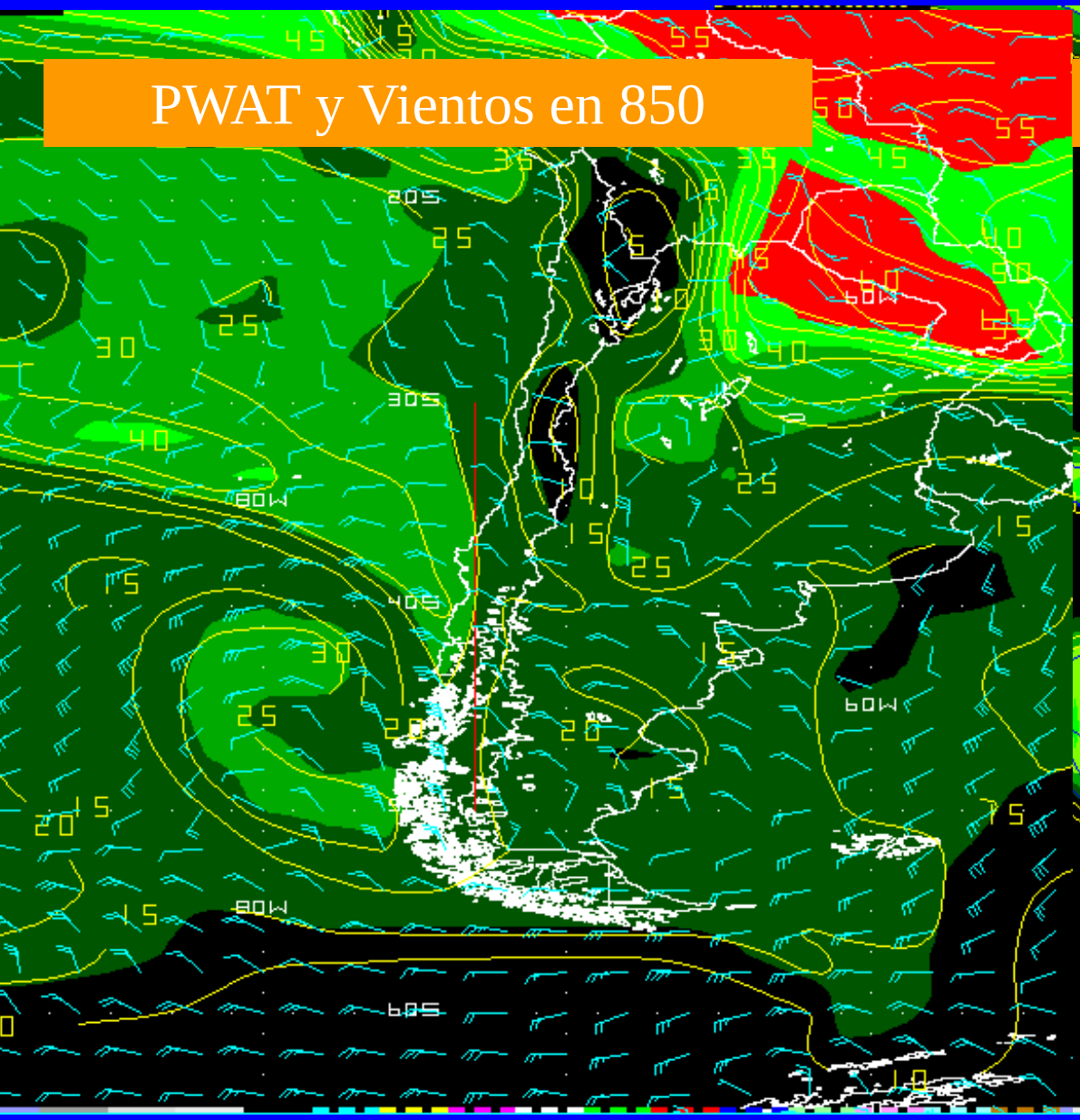
Agua Precipitable – Análisis de Satélite

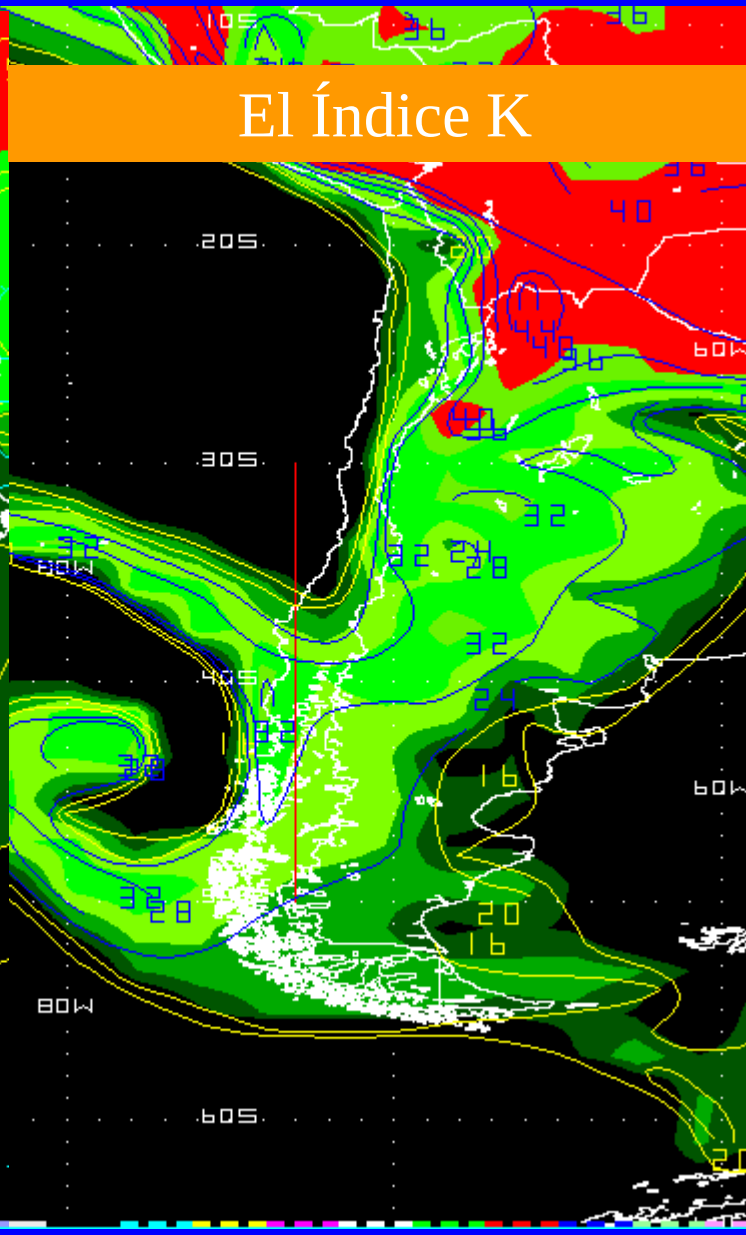


Agua Precipitable

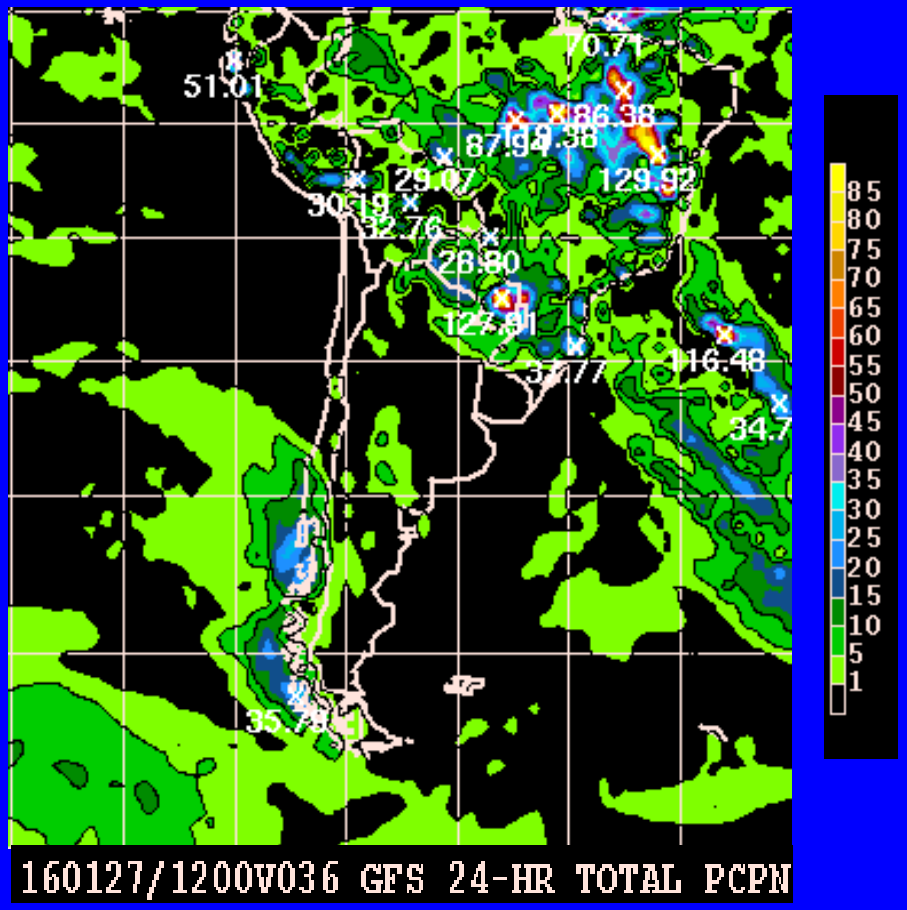


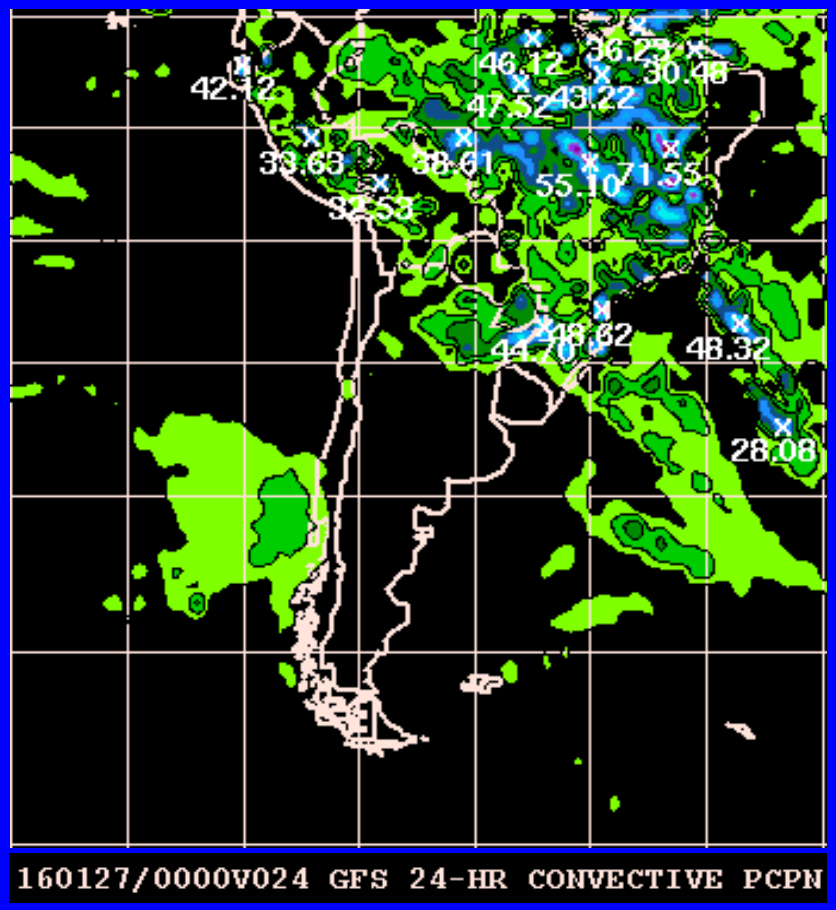
PWAT y el Índice K





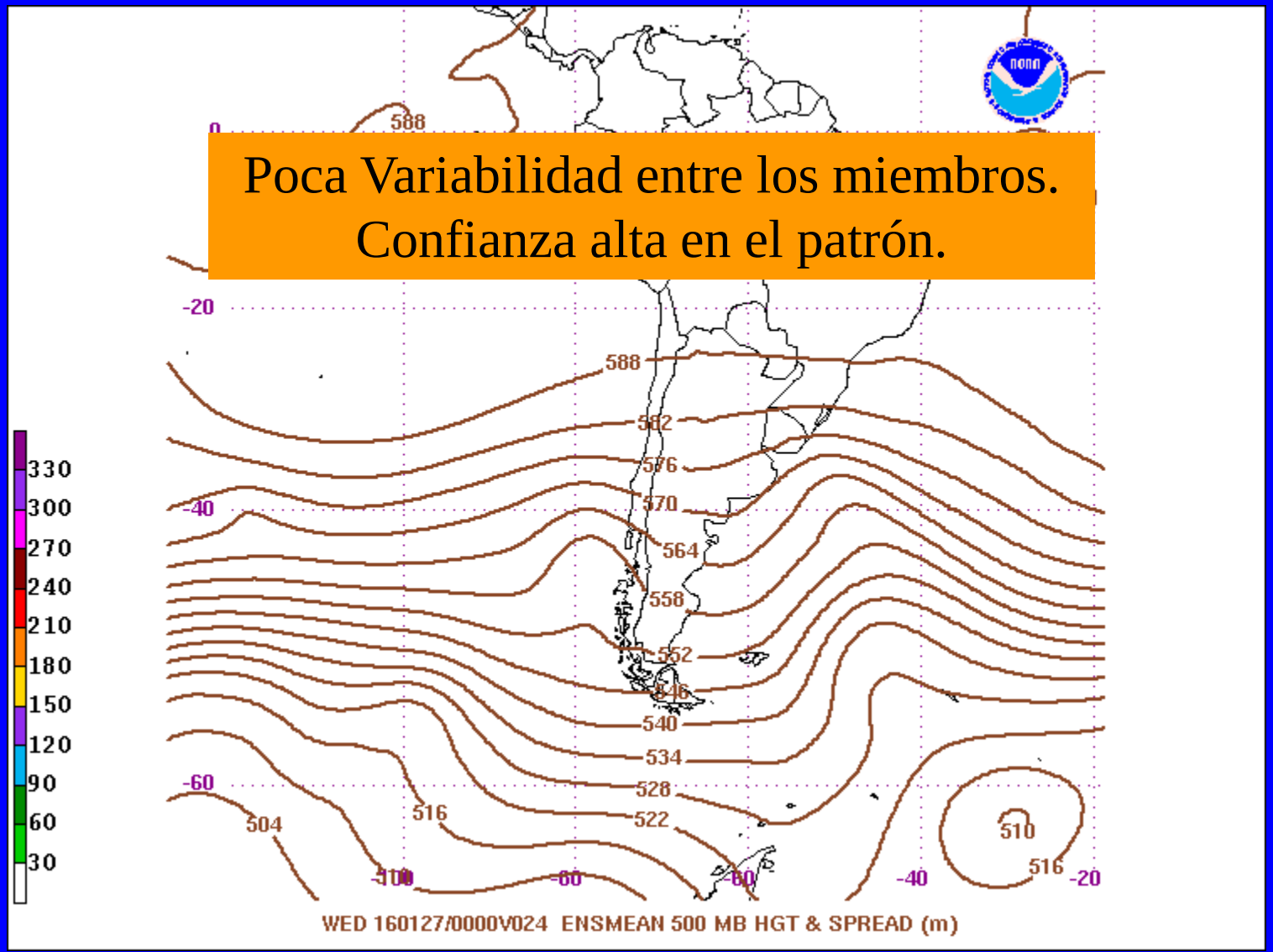
Pronostico Determinístico – Precipitación Total vs. Convectiva



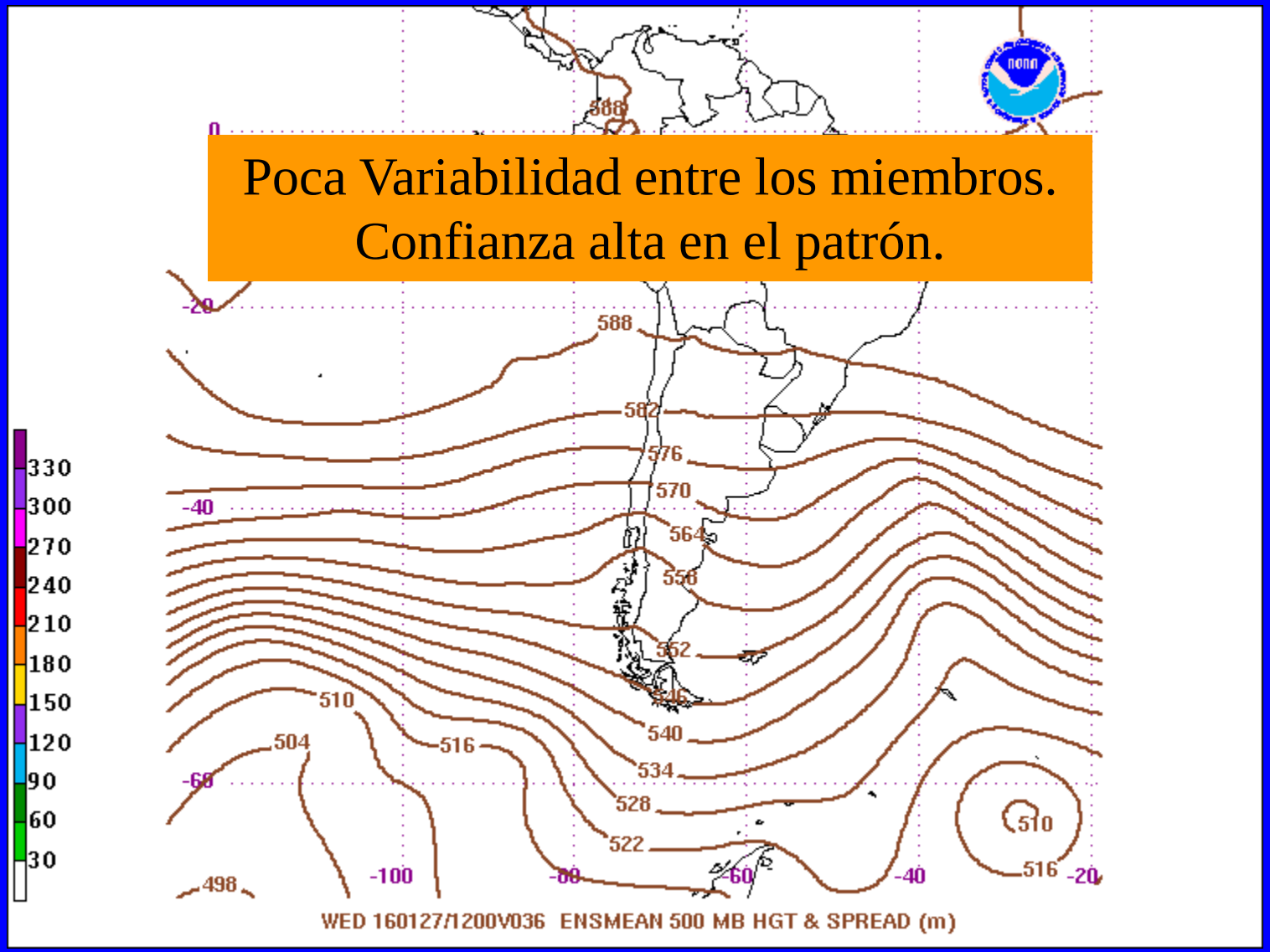


Ensamblaje de Modelos

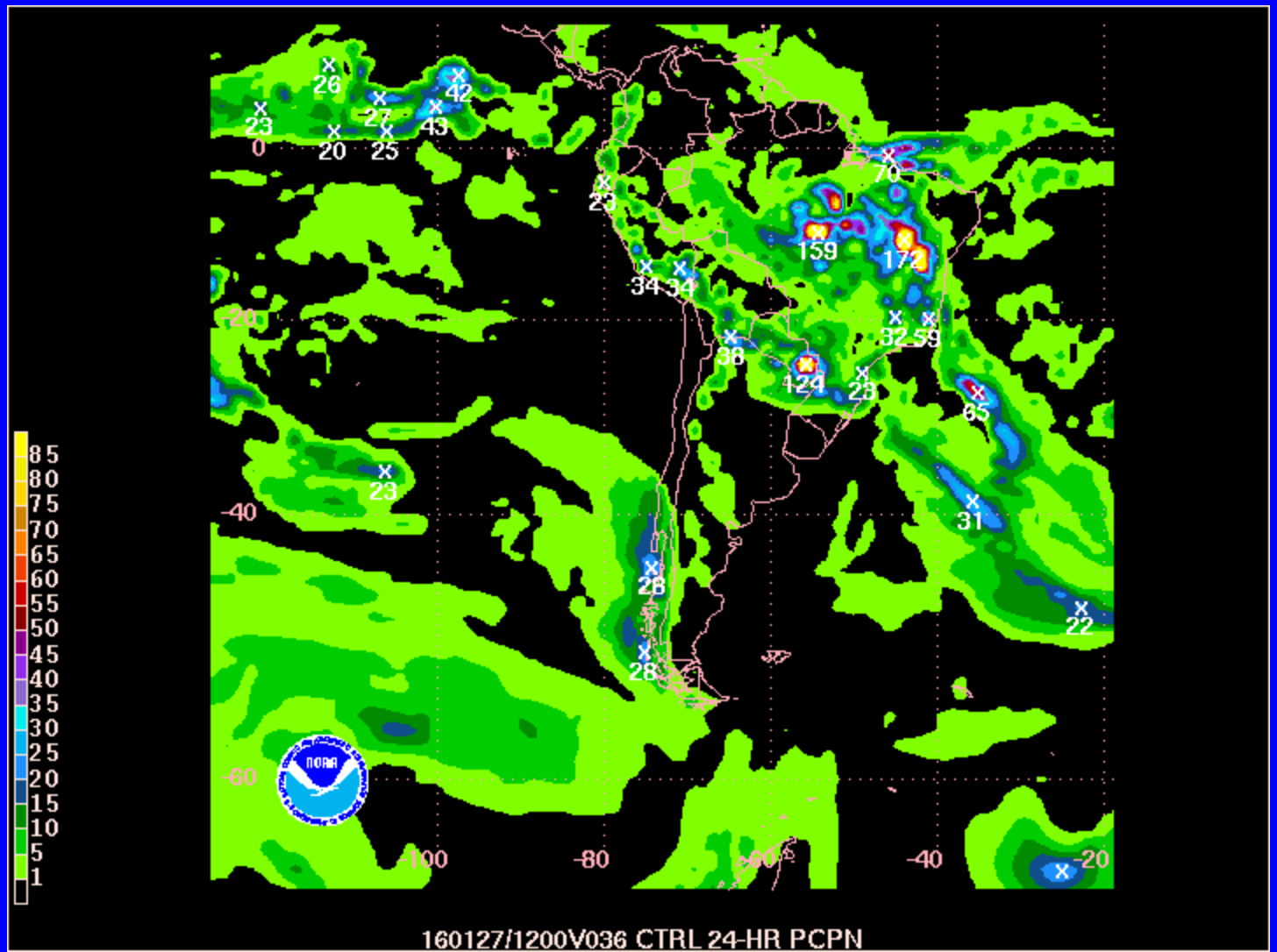
Ensamblaje de Modelos F24



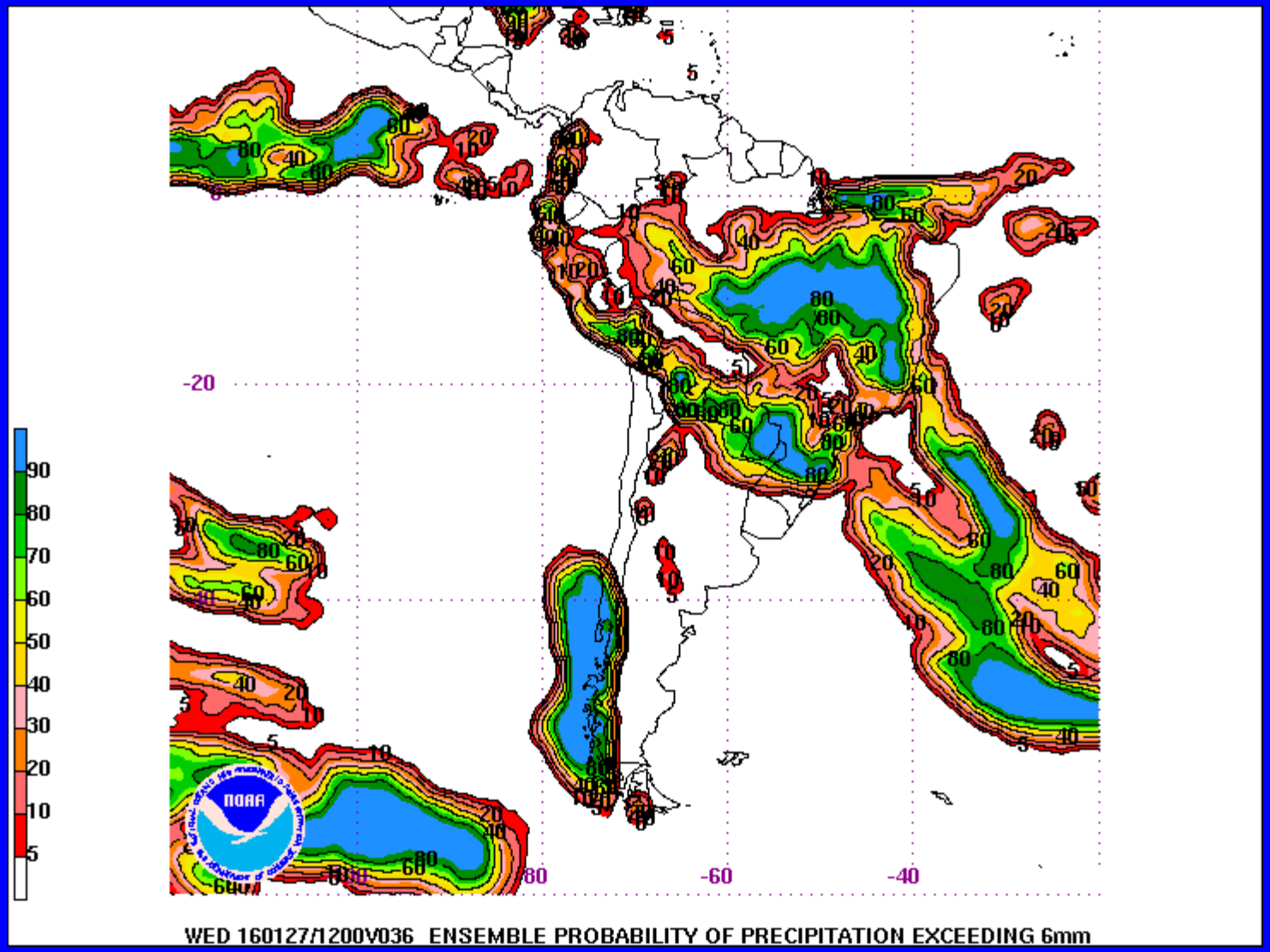
Ensamblaje de Modelos F36



Ensamblaje de Precipitación



PQPF > 6mm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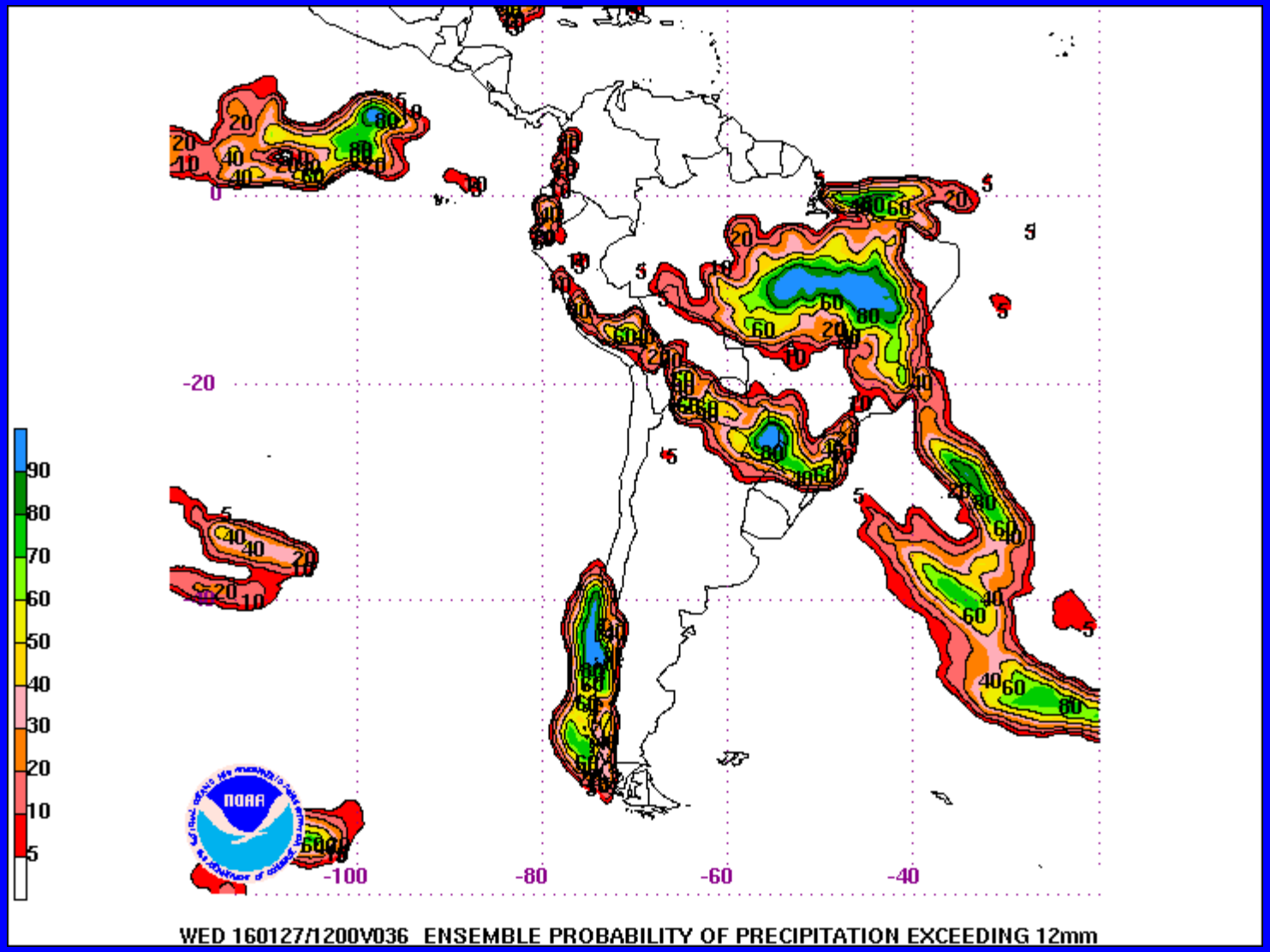
NOAA
WED 160127/1200V036 ENSEMBLE PROBABILITY OF PRECIPITATION EXCEEDING 6mm

PQPF > 12mm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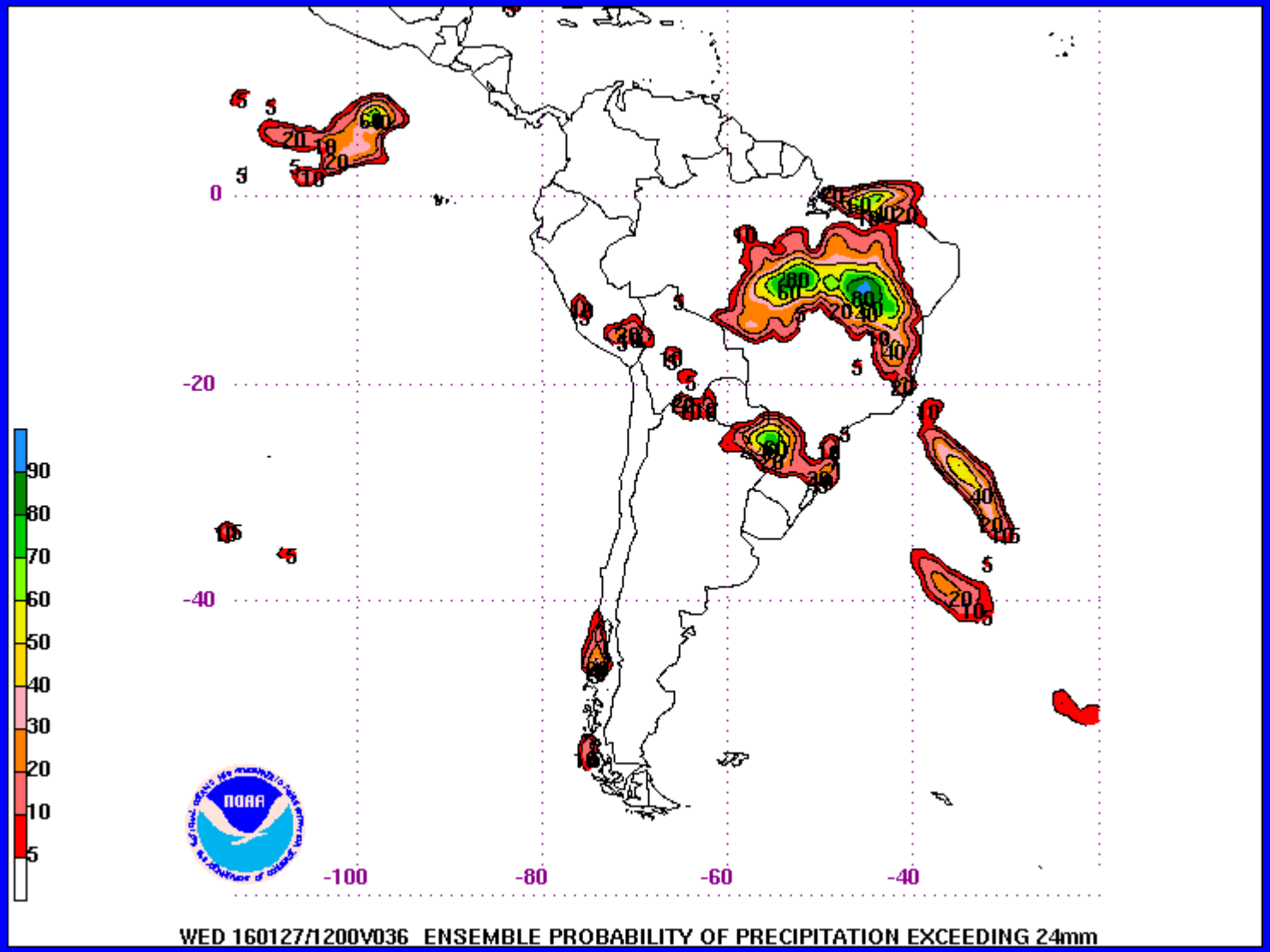
PQPF > 24mm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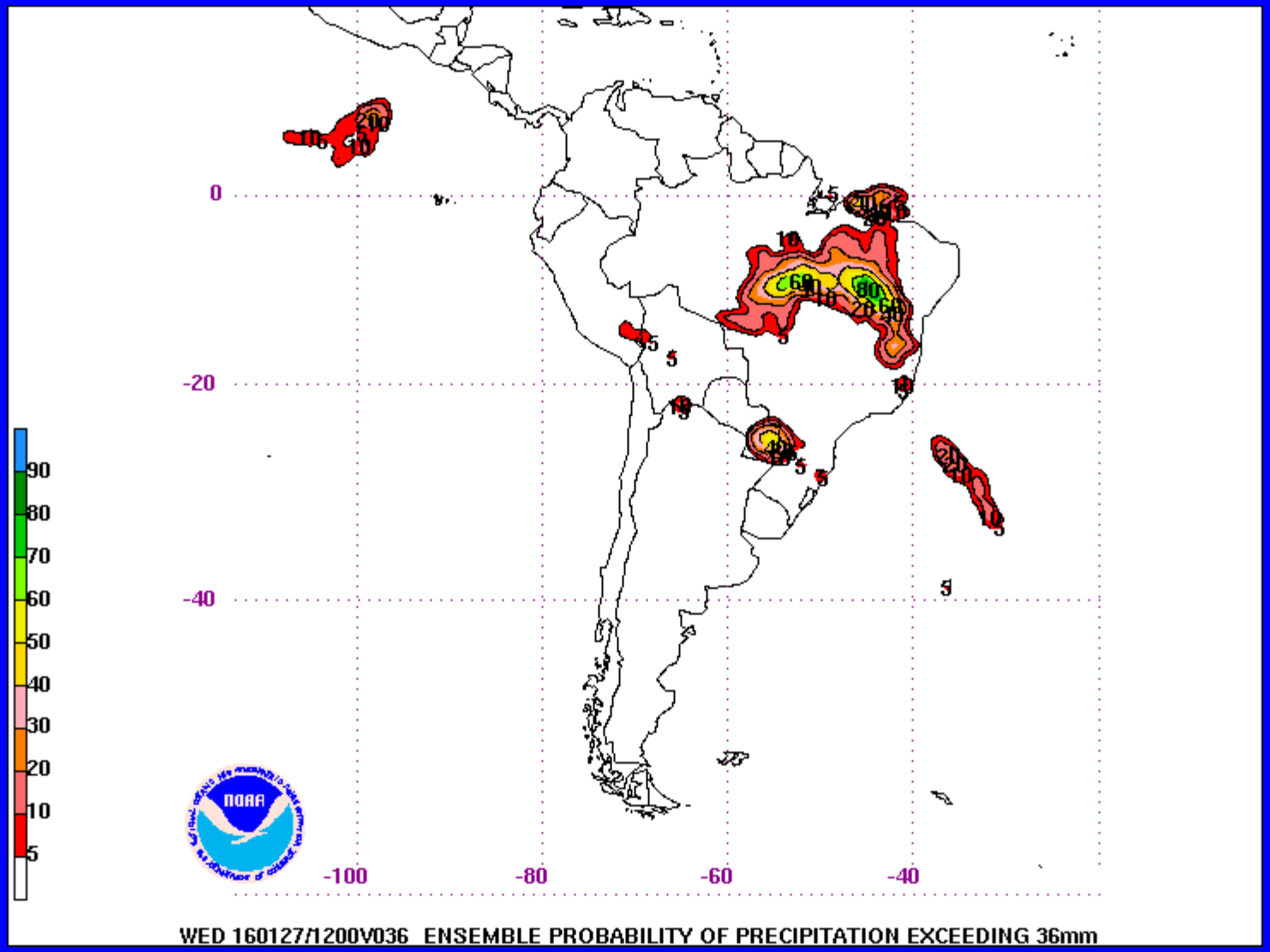
WED 160127/1200V036 ENSEMBLE PROBABILITY OF PRECIPITATION EXCEEDING 24mm

PQPF > 36mm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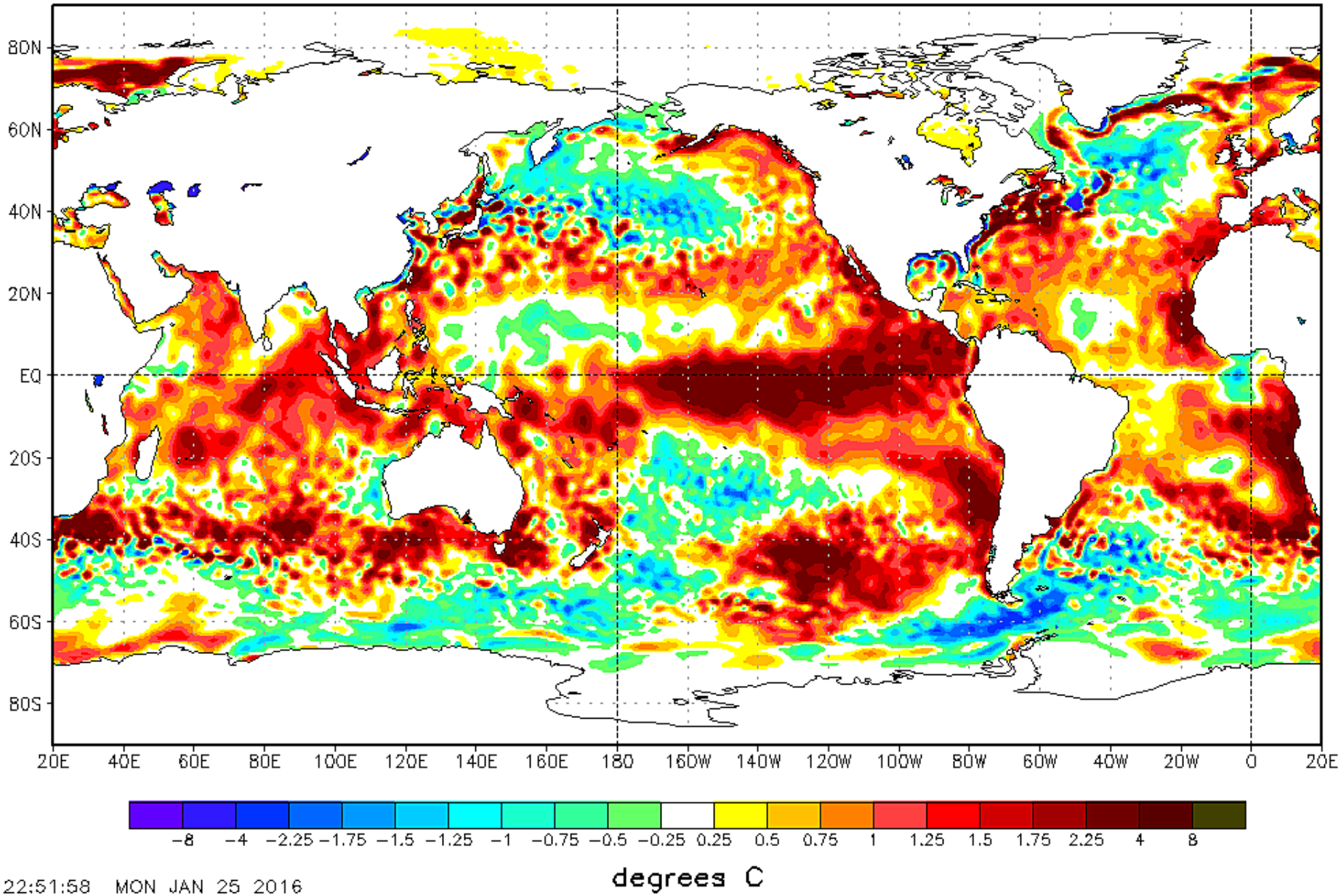
WED 160127/1200V036 ENSEMBLE PROBABILITY OF PRECIPITATION EXCEEDING 36mm

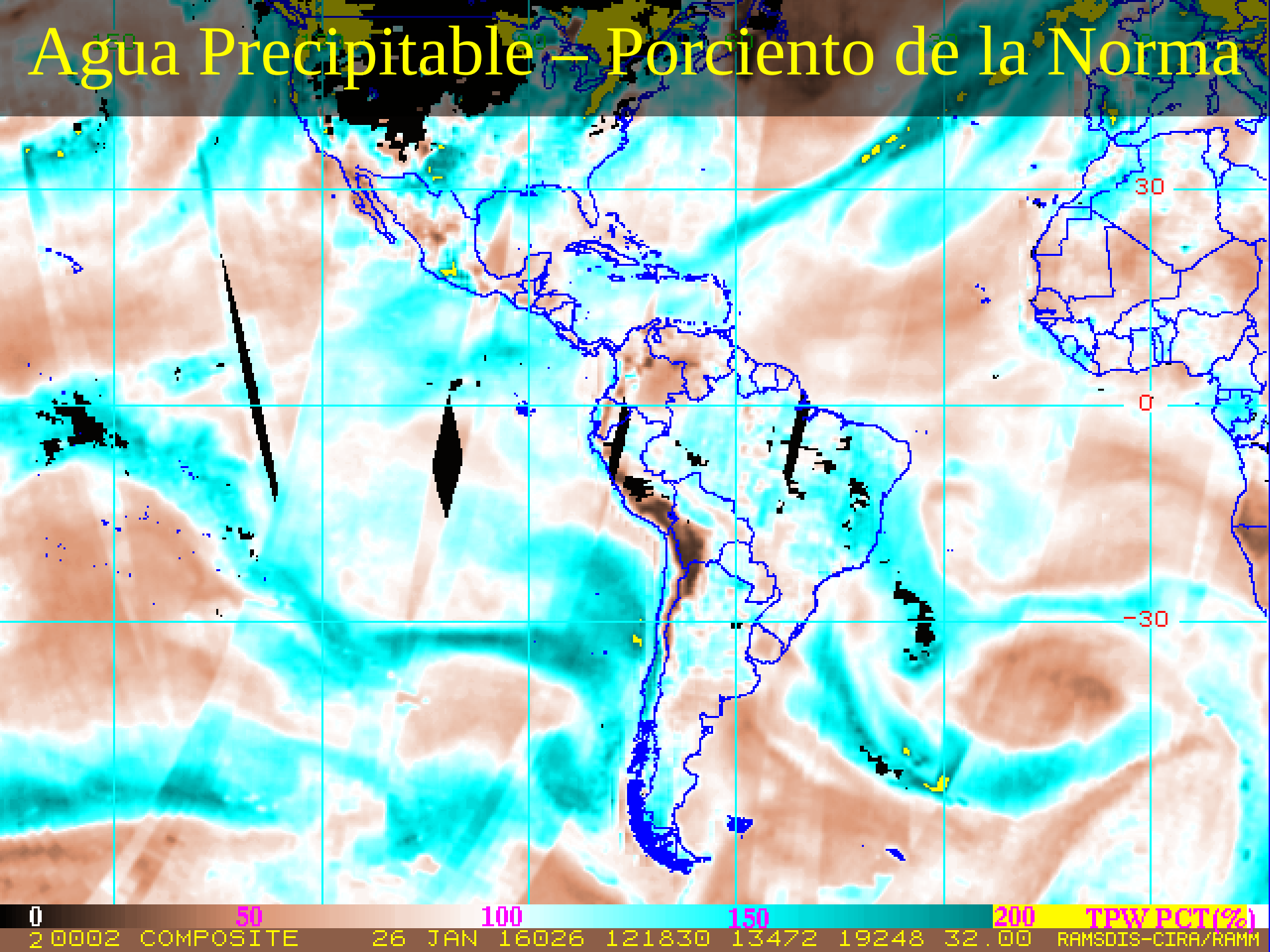
Herramientas Climatologicas

NOAA/NWS/NCEP/EMC Marine Modeling and Analysis Branch

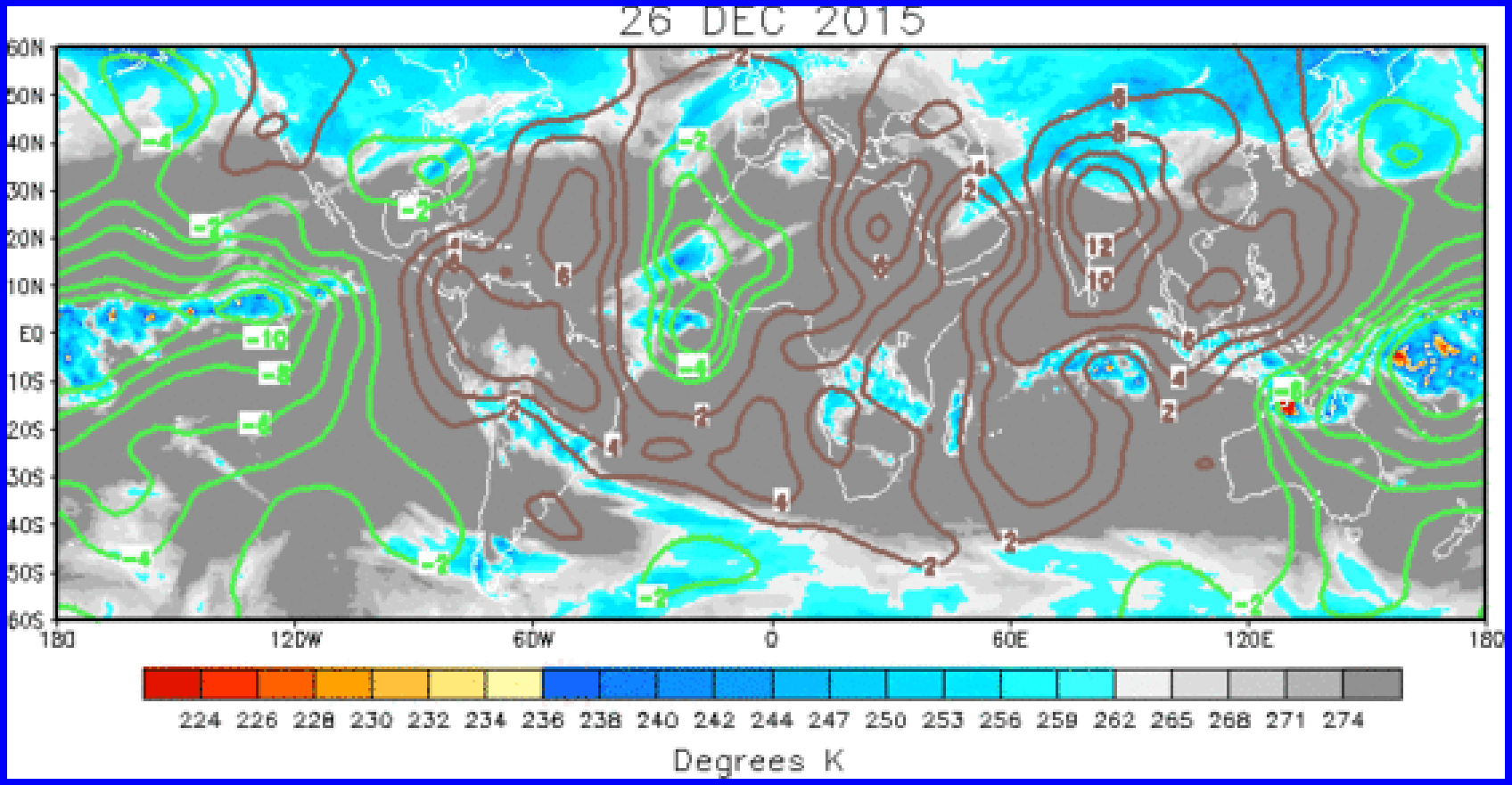
RTG_SST Anomaly (0.5 deg X 0.5 deg) for 25 Jan 2016



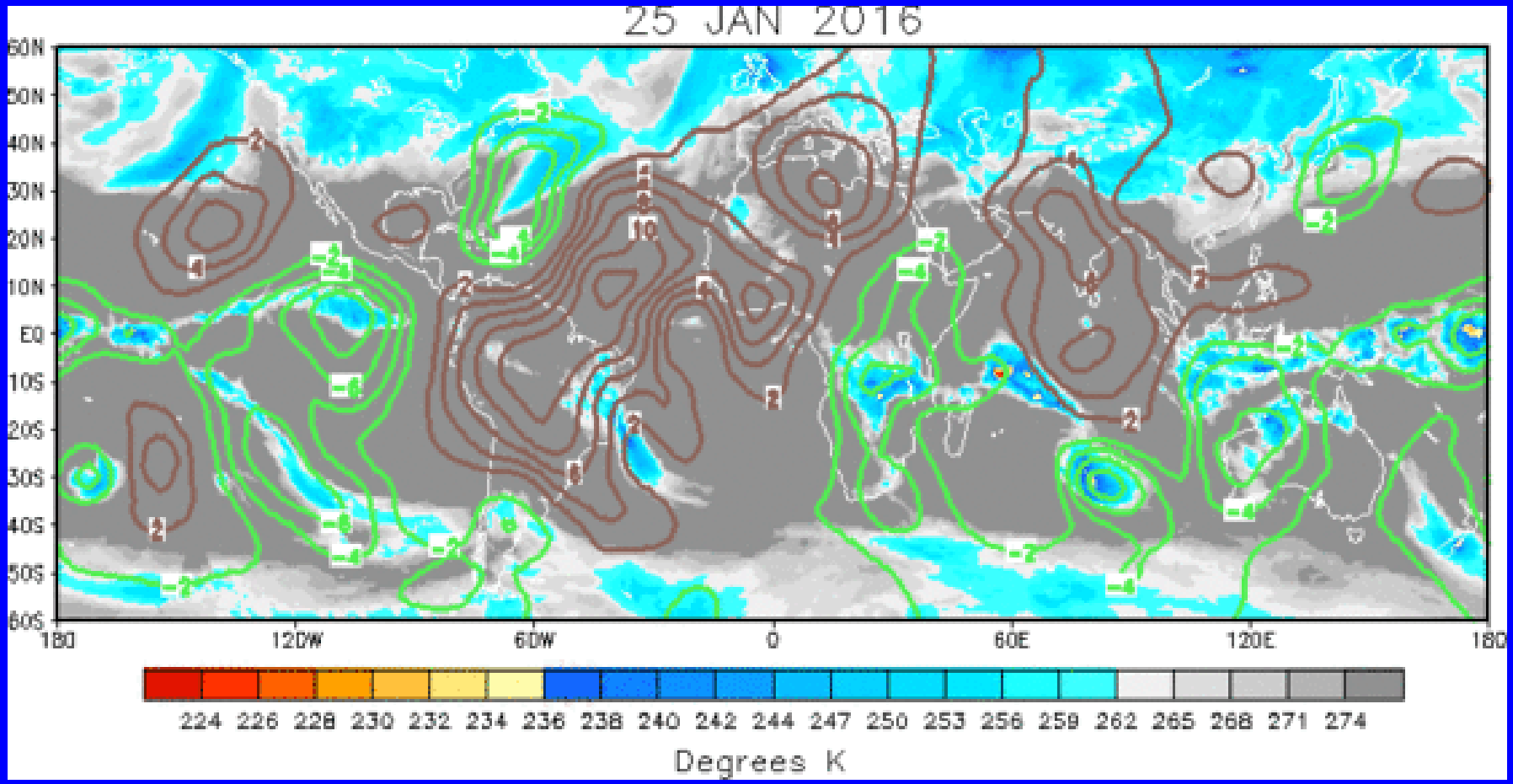
Agua Precipitable – Porciento de la Norma



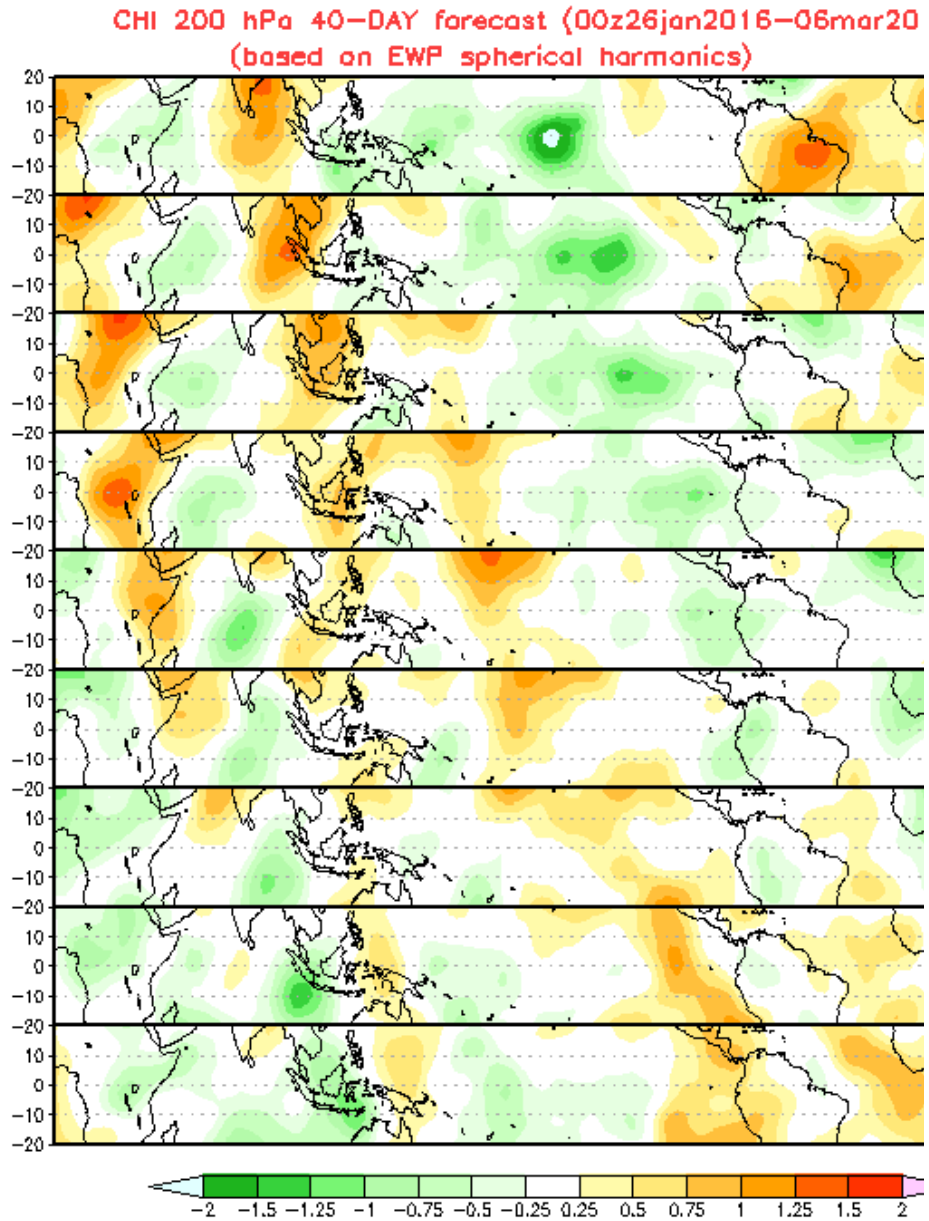
MJO – Velocity Potential Anomalies

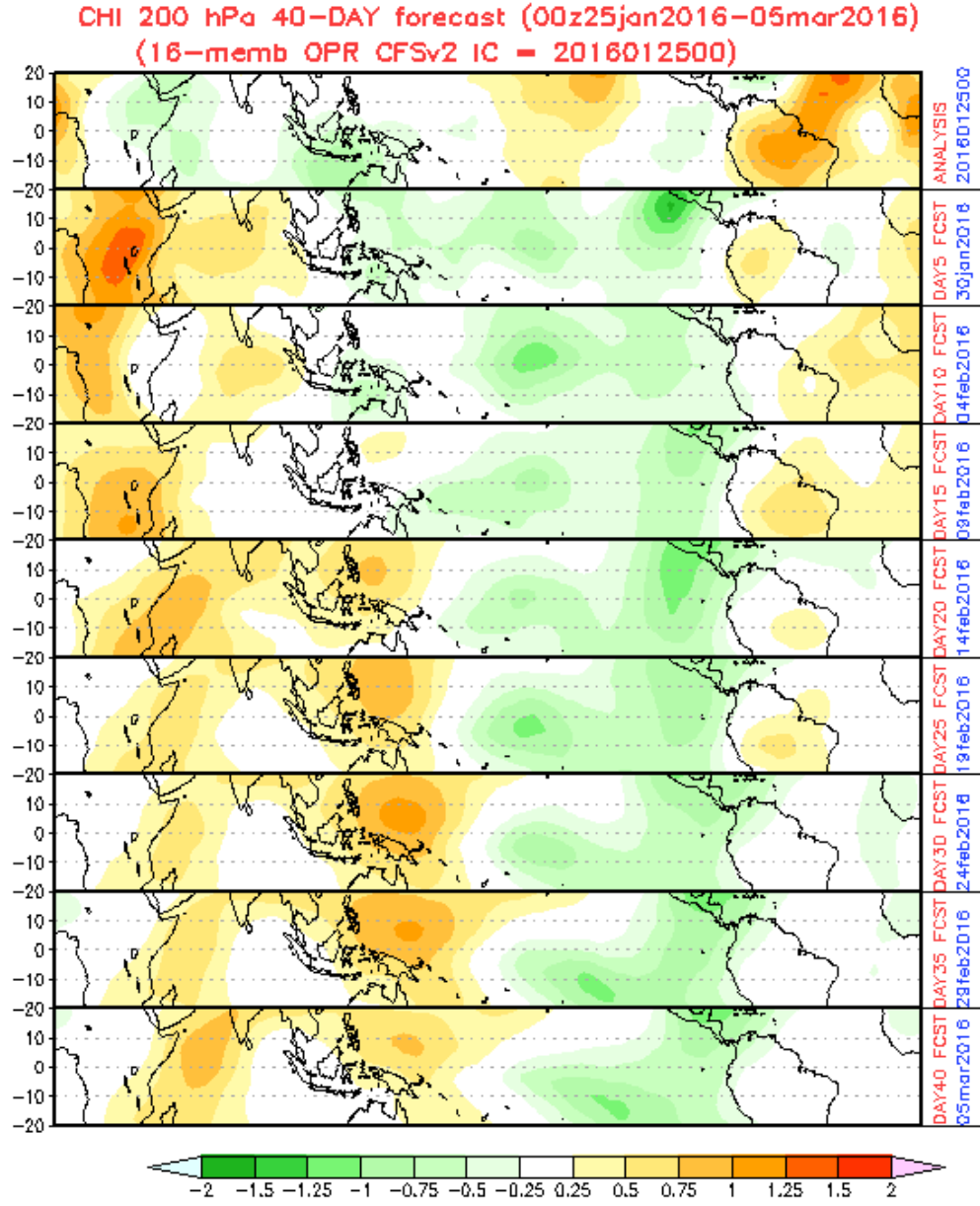


MJO – Enero 25, 2016



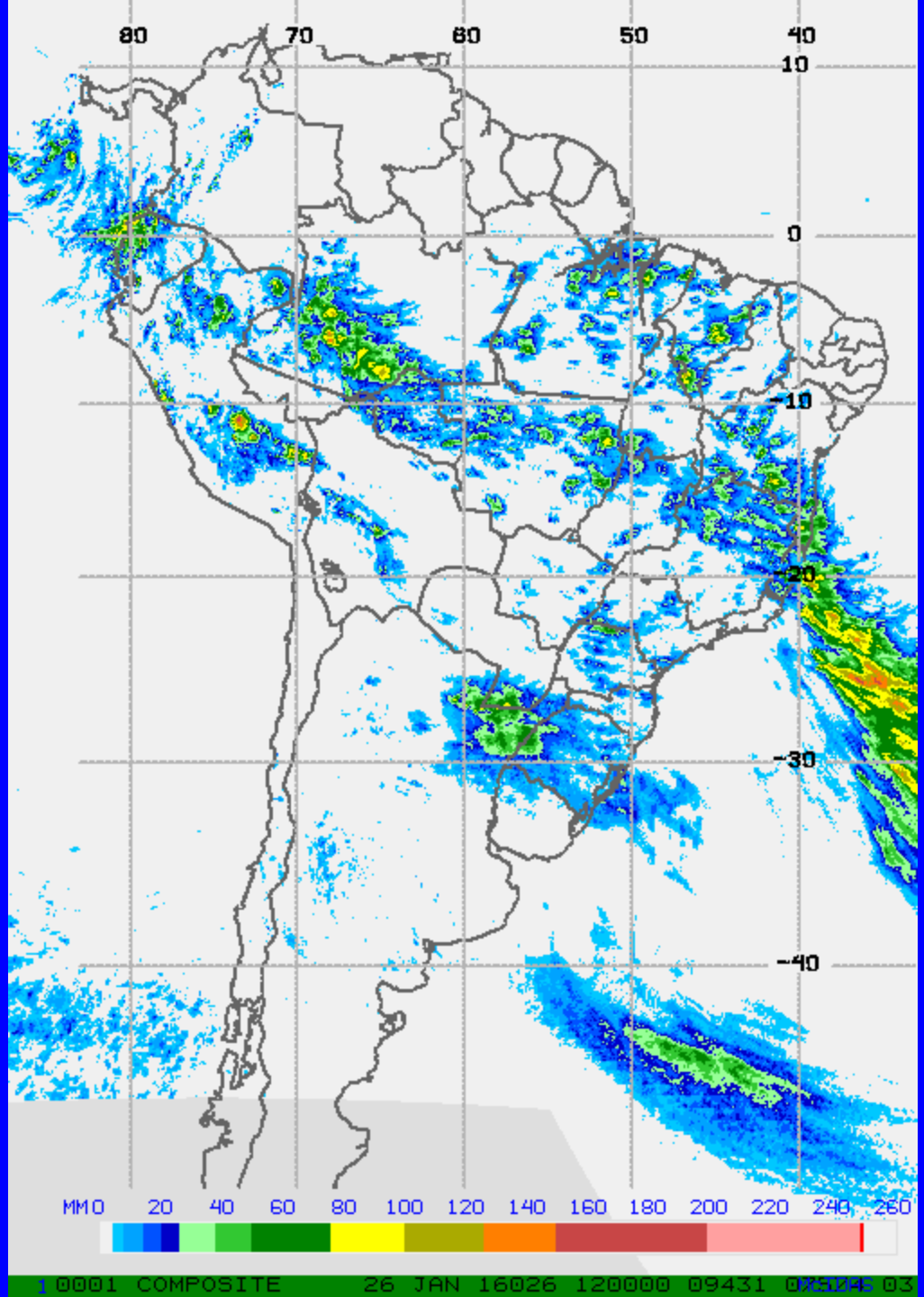
Pronósticos – EWP/CFS





Hidro Estimador

Hidro Estimador de la NOAA VT: 26012016/12Z



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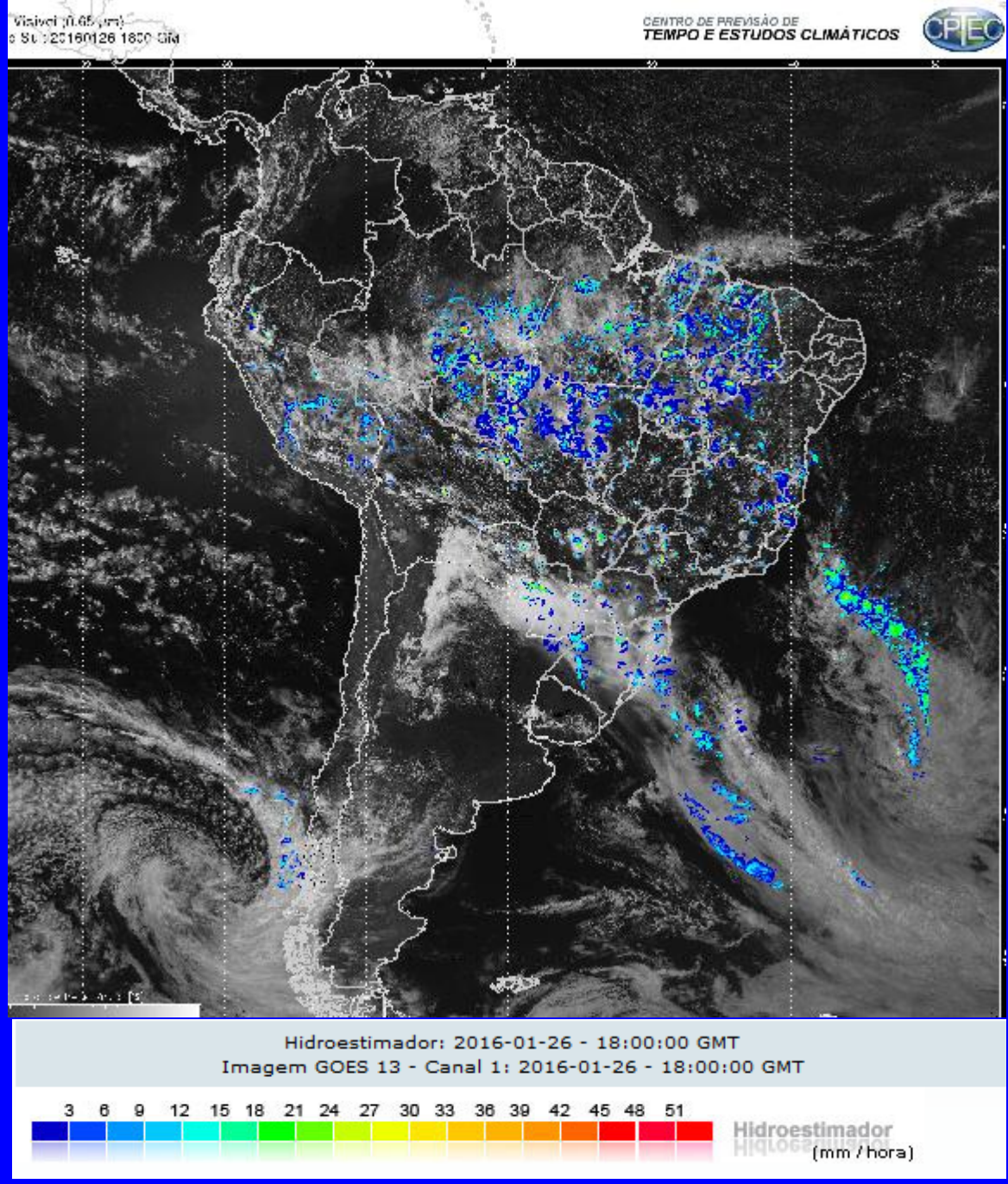
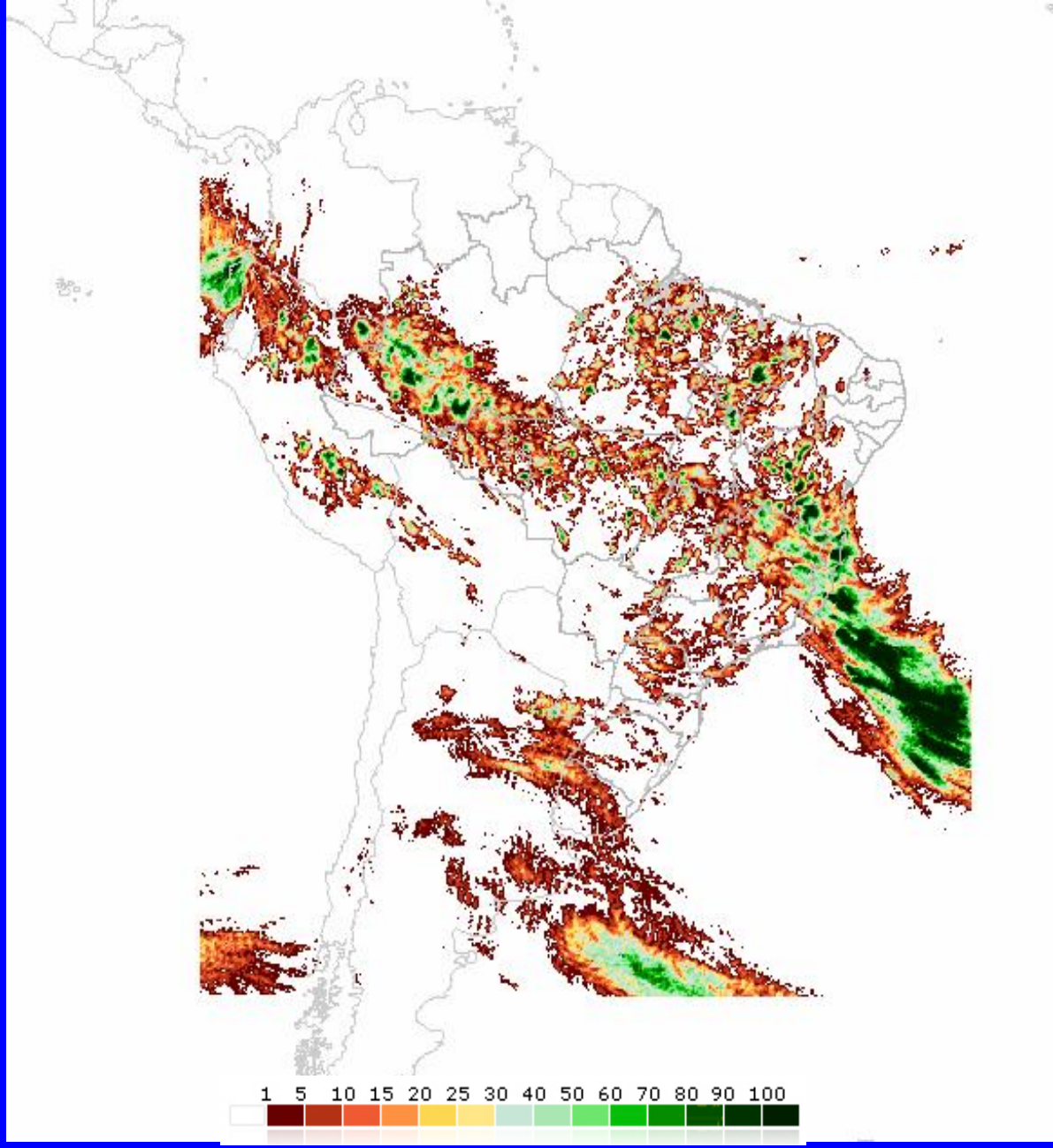
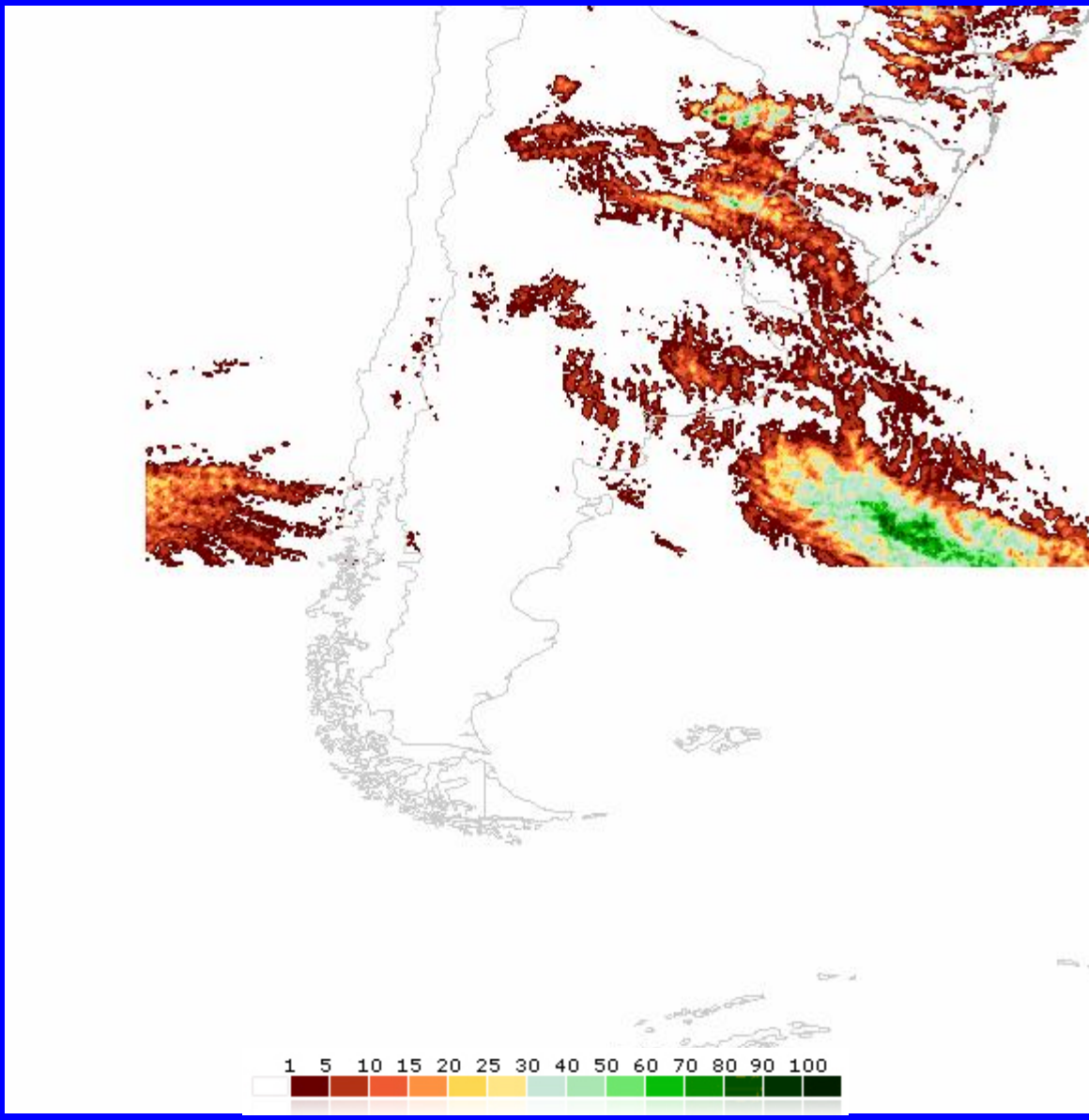


Hidro Estimador del CPTEC 24 hrs VT Jan 25/12z



Hidro Estimador del CPTEC 24 hrs VT Jan 25/12z



Diagnostico

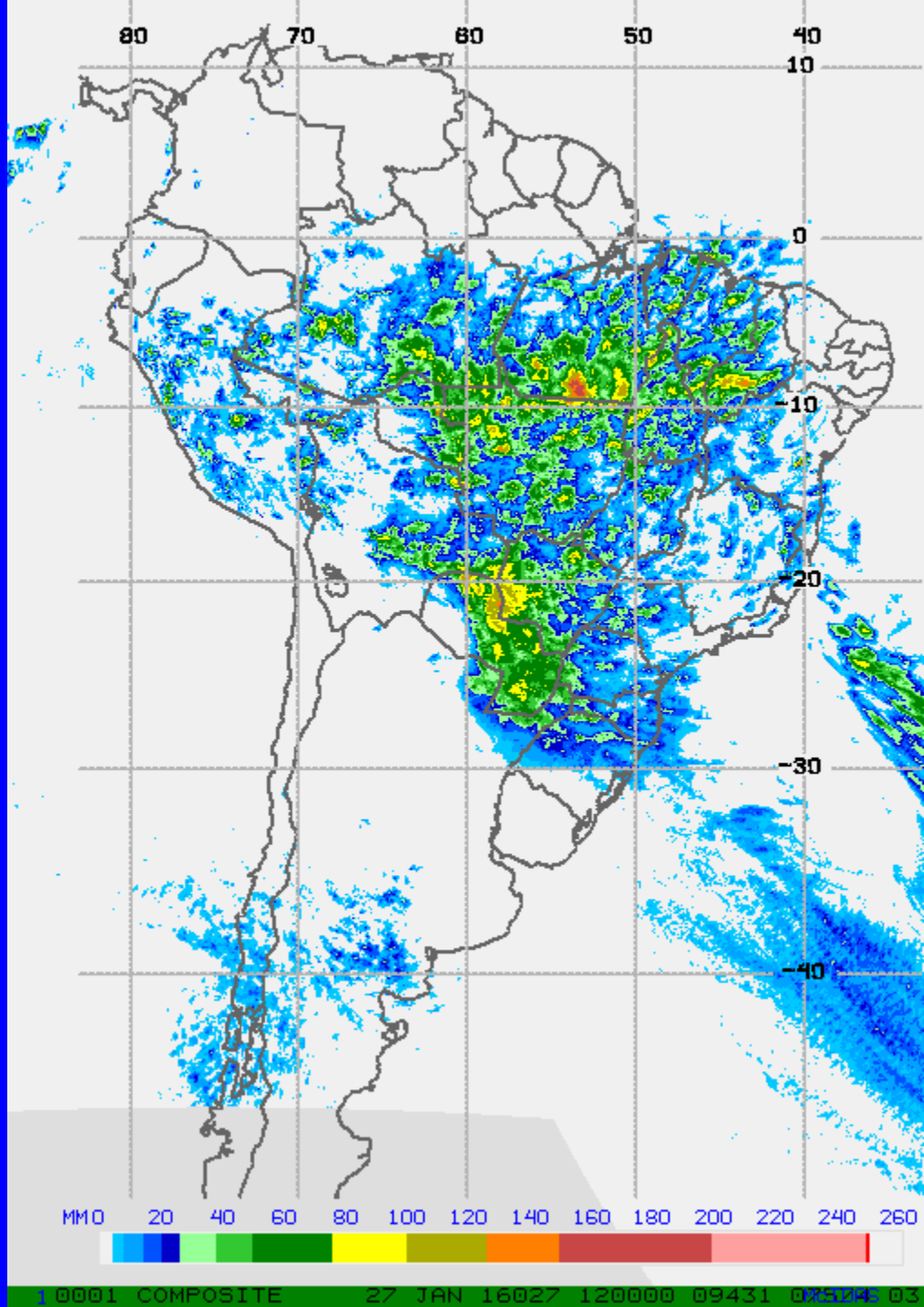
- El Embudo de pronostico nos muestra un sistema polar entrando a Chile con buen apoyo dinámico en todos los niveles
  - Precipitación Convectiva: 05-10mm
  - Precipitación Total: 20-25mm
- Ensamblaje: Buen agrupamiento de los miembros y poca variabilidad sugiere pronostico de alta confianza
  - Miembros muestran montos de unos 20-30mm, con probabilidad alta de montos en exceso de 12mm pero menos de 24 entre Chiloé y Temuco

Diagnostico

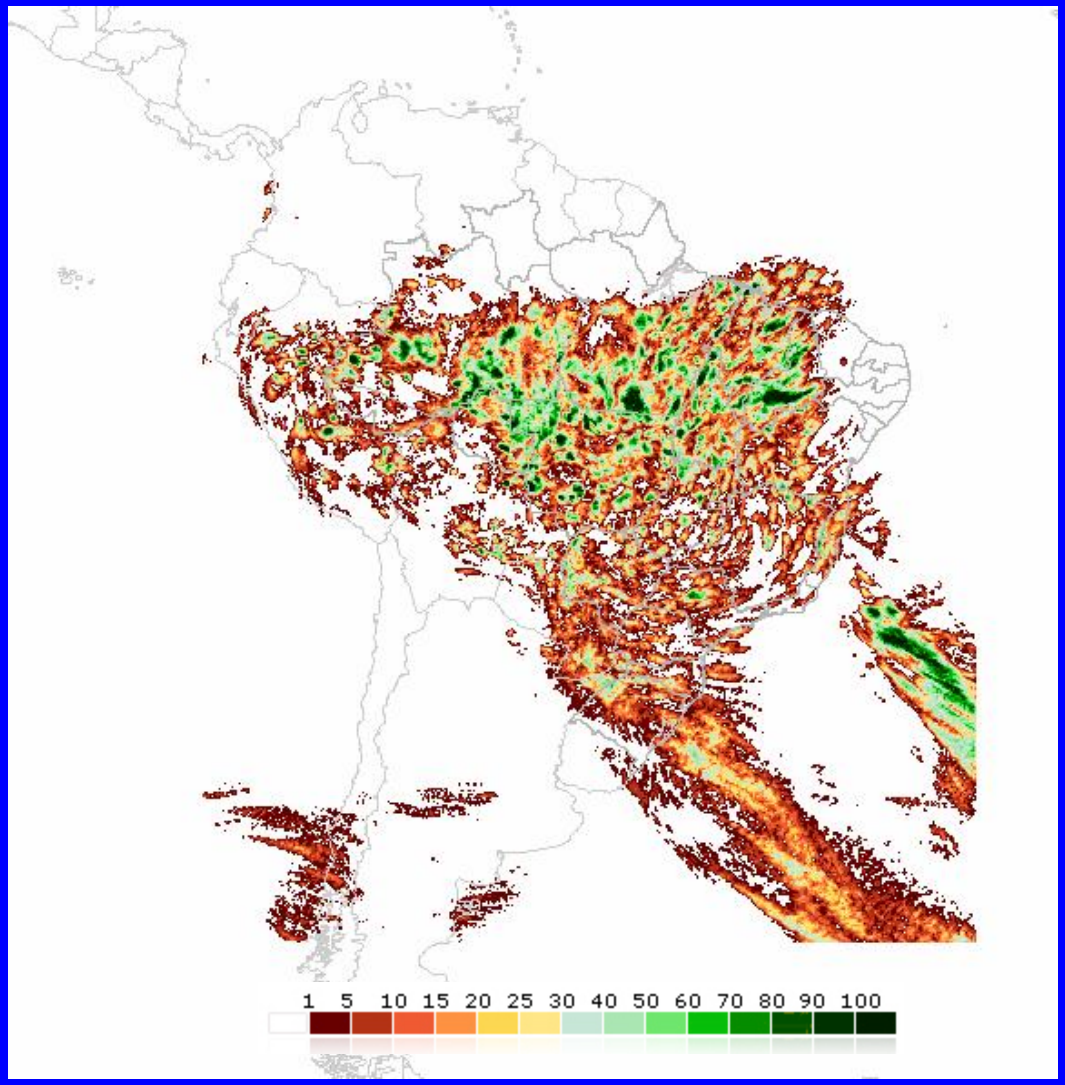
- Climatología: Anomalías cálidas de TSM, resulta en alto contenido de agua disponible.
  - El MJO esta favorable para el periodo
- H-E: Ambos, CPTEC y NOAA, muestran montos de unos 20-25mm/día en el Pacifico Oriental
  - Apoyo dinámico en los modelos sugiere que es un evento convectivo, por lo cual confianza en el hidro estimador es alta.
- **Pronostico de Precipitación**:
  - Montos de 05-10mm con máximos aislados de 20-25mm

Hidro Estimador de la NOAA VT: 27012016/12Z

El H-E muestra montos acumulados de unos 15-20mm

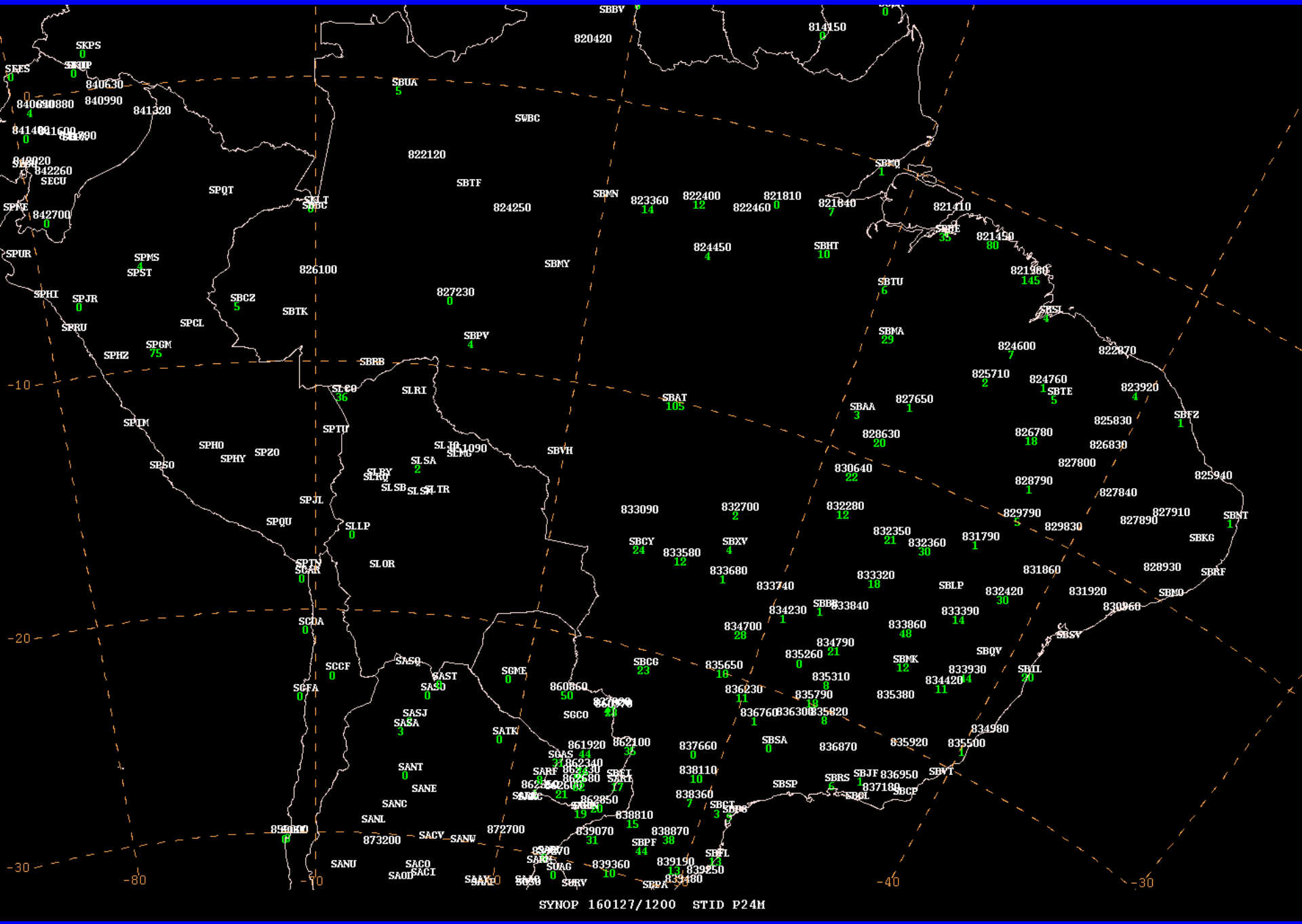


Hidro Estimador del CPTEC 24 hrs VT Jan 25/12z



El H-E del CPTEC muestra montos acumulados de unos 15-20mm

Montos Acumulados: Enero 27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