

Sea Surface Temperatures for 2005

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SST Anomalies

Top: 2004 Anomaly
Bottom: 2005 Anomaly
Base Period: 1971-2000

• Differences

- Slight change in weak ENSO
- Shift in Tropical North Atlantic positive anomalies

• Similarities

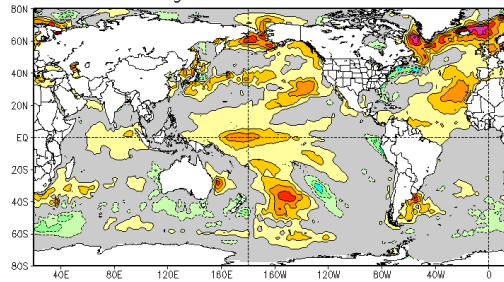
- Northern high latitude positive anomalies ~ 60°N



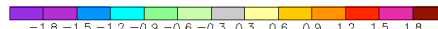
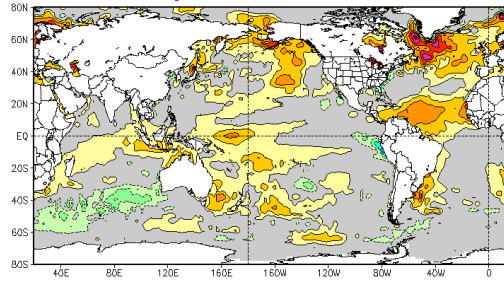
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SST Anomaly (°C)

Average: JAN2004 to DEC2004



Average: JAN2005 to DEC2005



Zonal SST Anomalies

Period: Jan '97 - Apr '06

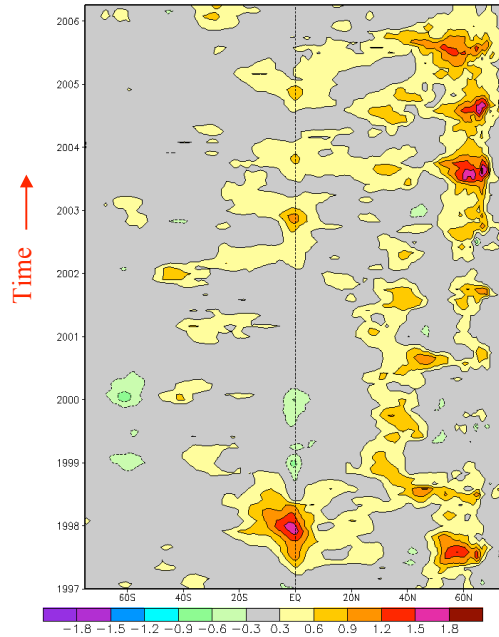
NOTE:

- 1997-98 El Niño
 - Peak Jan 1998
- Strong northern high latitude positive SST anomalies in Boreal Summers: '03 - '05
 - Peak anomaly similar to ENSO but surface area smaller
 - '05 less intense than '03 and '04
- Persistent modest northern middle latitude positive SST anomalies for record



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All Longitudes Used
Zonal Anomaly: JAN1997 to APR2006



Zonal SST Anomalies

Period: Jan '82 - Apr '06

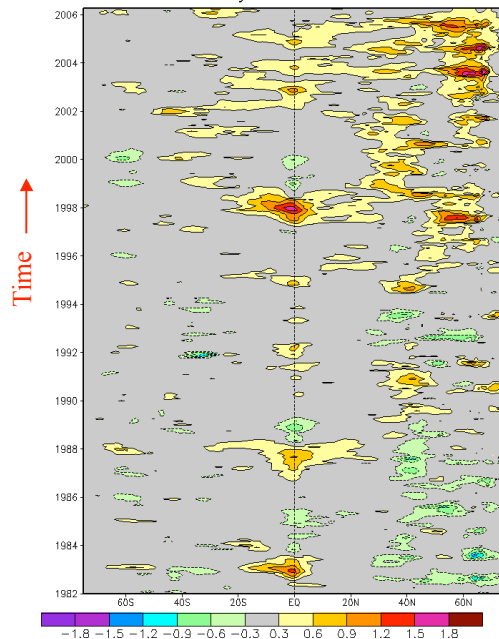
NOTE:

- 1982-83, 1987-88, 1997-98, major El Niño events
- Northern high latitude positive SST anomalies
 - not evident before ~ 1997
- Persistent northern middle latitude positive SST anomalies
 - not evident before ~ 1998
- Clear evidence of warming trend with time between 20°S and 80°N



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All Longitudes Used
Zonal Anomaly: JAN1982 to APR2006



Monthly SST

Left: July - Sept '04

Right: July - Sept '05

Anomalies shaded

Isotherms: 26-28°C

NOTE:

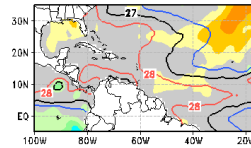
- SSTs needed for hurricane formation: roughly $> 26.5^{\circ}\text{C}$
- Areas above 28°C larger in 2005 than 2004
 - Warmer anomalies tend to lie in these areas in 2005



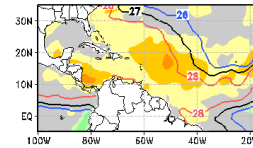
5

Monthly SST Anomaly ($^{\circ}\text{C}$)

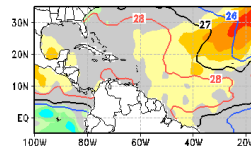
JUL2004



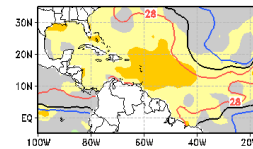
JUL2005



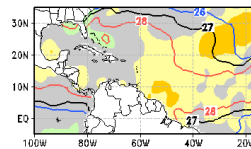
AUG2004



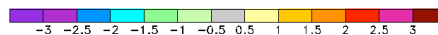
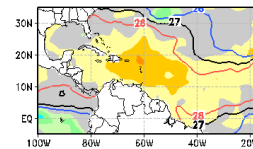
AUG2005



SEP2004



SEP2005



Daily OI SST Anomalies

EOT satellite bias correction

Left: Pathfinder AVHRR OI

Right: Pathfinder AVHRR + AMSR-E OI

- **27 August: Katrina**
 - Weak anomaly in Gulf in Path + AMSR-E
- **28 August: Katrina**
 - Strong anomaly in Path + AMSR-E
- **29 August: Katrina**
 - Strong anomaly in Path + AMSR-E
 - Modest anomaly in Path



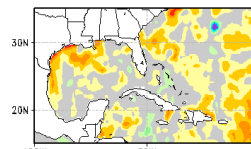
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Daily SST Anomaly ($^{\circ}\text{C}$)

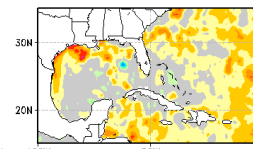
Path EOT Bias

Path+AMSR EOT Bias

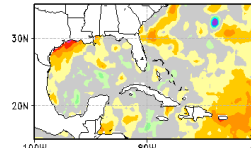
27AUG2005



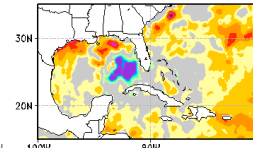
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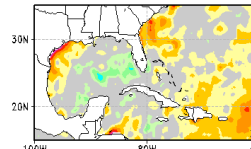
28AUG2005



28AUG2005



29AUG2005



29AUG2005

