Annual Global Analysis for 2015

2015 was by far the warmest year in the record

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2015:
0.87°C / 1.57°F above 1951-80 average

Warmest year of NASA GISTEMP record
NOAA 2015 Global Temperature
0.90°C / 1.62°F above 1901-2000 average; warmest year of record

- USA (CONUS): 2nd warmest year, 3rd wettest year
- Tropical Pacific: El Nino develops
- NE Pacific: The “blob” persists
- Continental Temperatures: records begin 1910
- Asia, S. America: warmest year
- Africa, Europe: 2nd warmest year
- N. America: 5th warmest year
- Oceania: 6th warmest year

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0
El Niño and Global Temperature

Months with La Niña sea-surface temperature conditions in blue
Months with El Niño sea-surface temperature conditions in red
Global Temperature Time Series

2015: 1.62°F warmer than 20th century average
Global Analyses Side by Side

NASA, NOAA, MetOffice: relative to a common 1951 – 80 base period
2015 Versus the Warmest Years
annual temperature departures ranked coolest to warmest
using a common 1951-80 base period

NOAA

2015 (1\textsuperscript{st}) 0.29°F warmer than 2014 (2\textsuperscript{nd})
2014 (2\textsuperscript{nd}) 0.07°F warmer than 2010 (3\textsuperscript{rd})

NASA

2015 (1\textsuperscript{st}) 0.23°F warmer than 2014 (2\textsuperscript{nd})
2014 (2\textsuperscript{nd}) 0.04°F warmer than 2010 (3\textsuperscript{rd})
Ten of 2015’s monthly global temperatures tied or broke existing records.
2015 by the Month
Comparison to 2014, 2010 and previous warmest months on record
Looking at the Atmosphere

- **Middle Troposphere (37 yr record)**
  - UAH: 3rd warmest
  - UW-UAH: 3rd warmest
  - RSS: 4th warmest
  - UW-RSS: 3rd warmest
  - NESDIS STAR: 5th warmest

- **Lower Troposphere (37 yr record)**
  - UAH: 3rd warmest
  - RSS: 3rd warmest

- **Radiosonde data (58 yr record)**
  - ~5,000 ft (850mb): 2nd warmest
  - ~10,000 ft (700mb): 3rd warmest
  - ~18,000 ft (500mb): warmest
  - ~30,000 ft (300mb): 2nd warmest
  - ~40,000 ft (200mb): 14th warmest
Questions?

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