

# New complex terrain results from METCRAX II



**C. David Whiteman**  
**Sebastian W. Hoch**

University of Utah, USA

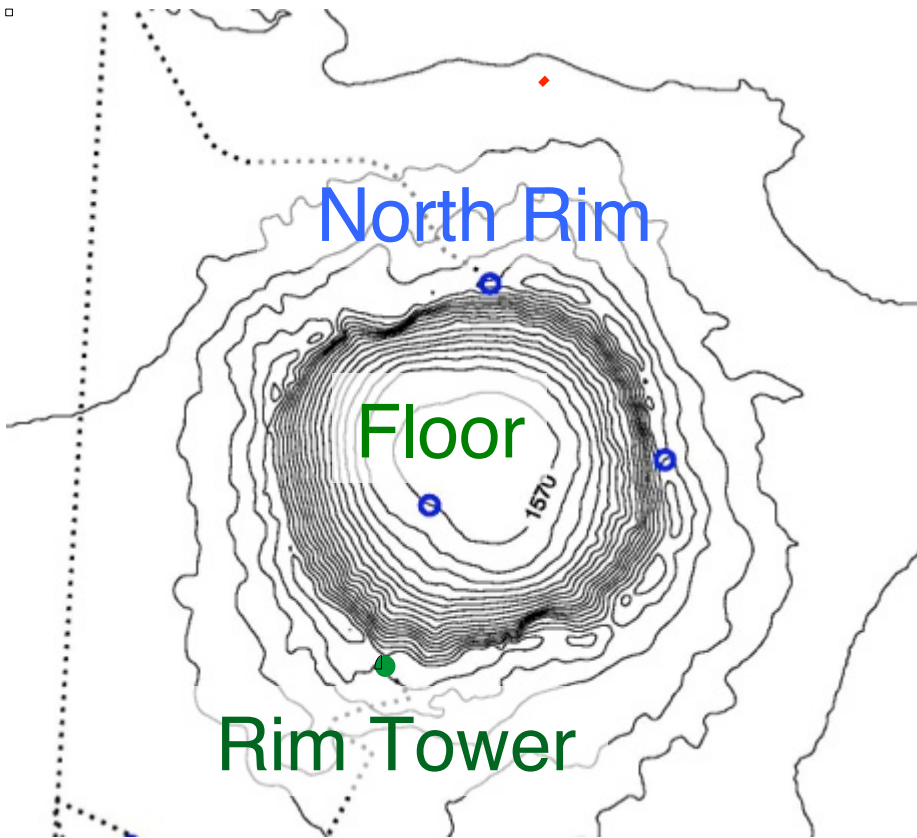
**Martina Grudzielanek**

Ruhr Universität Bochum, Germany

**Roland Vogt**

University of Basel, Switzerland

# Dual-Doppler Retrieval



Scans within a 2-3 min time window are averaged and used in a dual doppler analysis.



Sebastian Hoch  
U. Utah

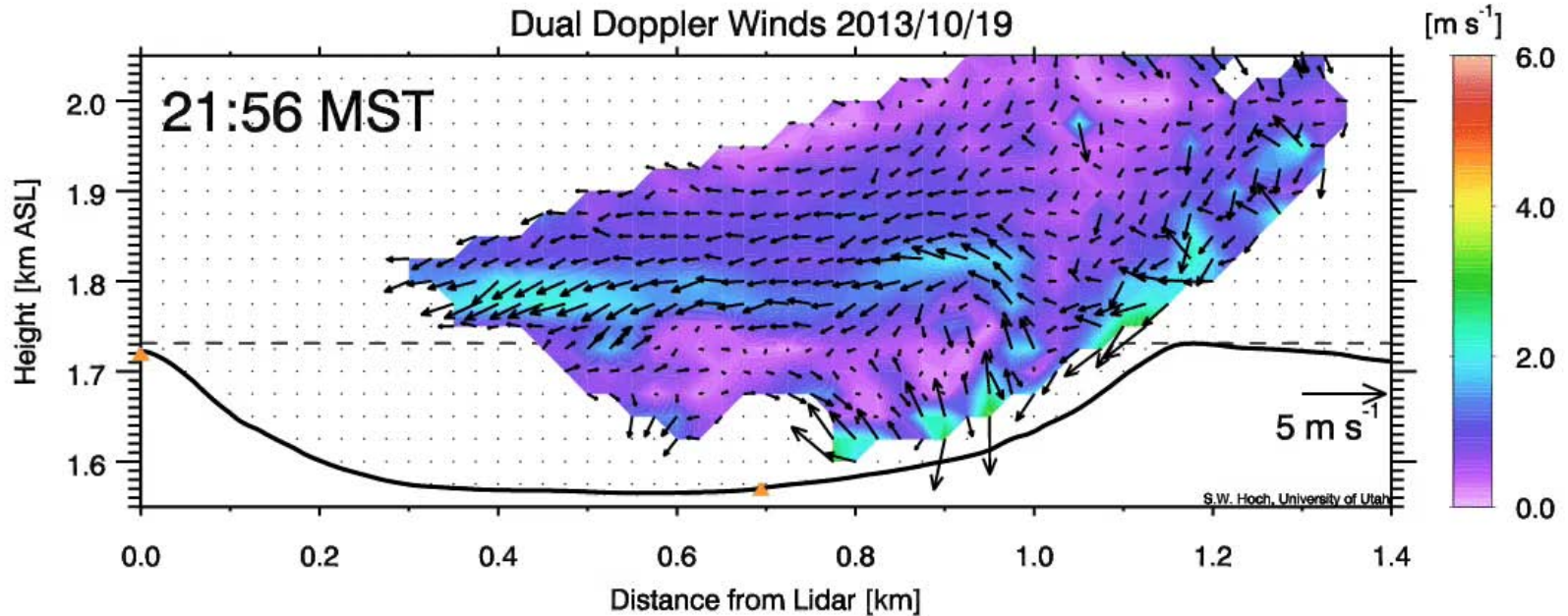


Nihanth Cherukuru  
Arizona State U



Bill Brown  
NCAR

# Hydraulic flow at Meteor Crater, AZ



IOP-4 (19-20 October 2013)

2156-0343 MST

Flow from right to left



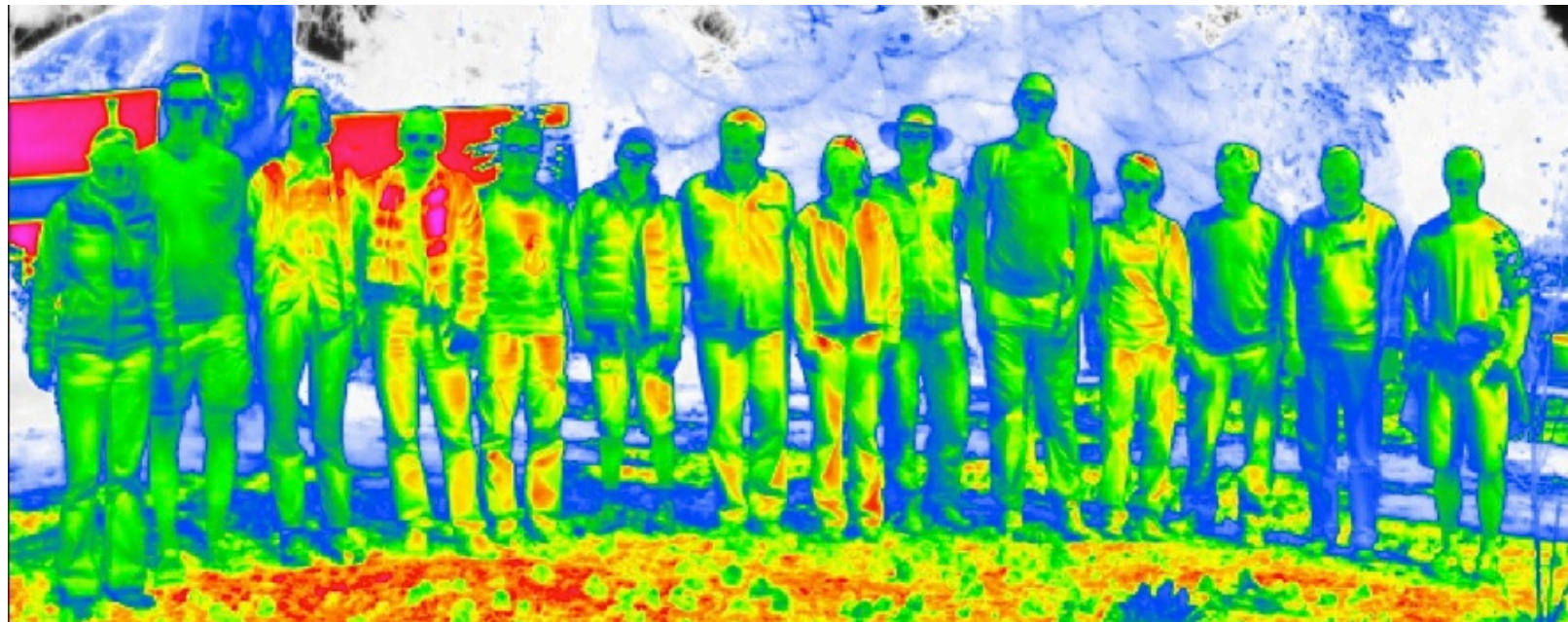
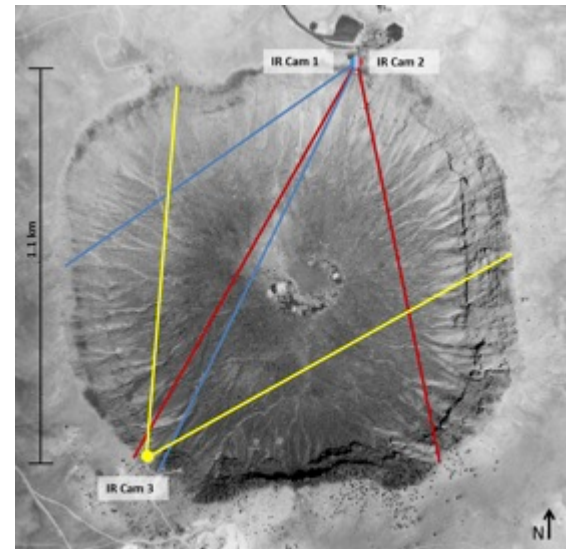
# Thermal IR time lapse



Martina Grudzielanek

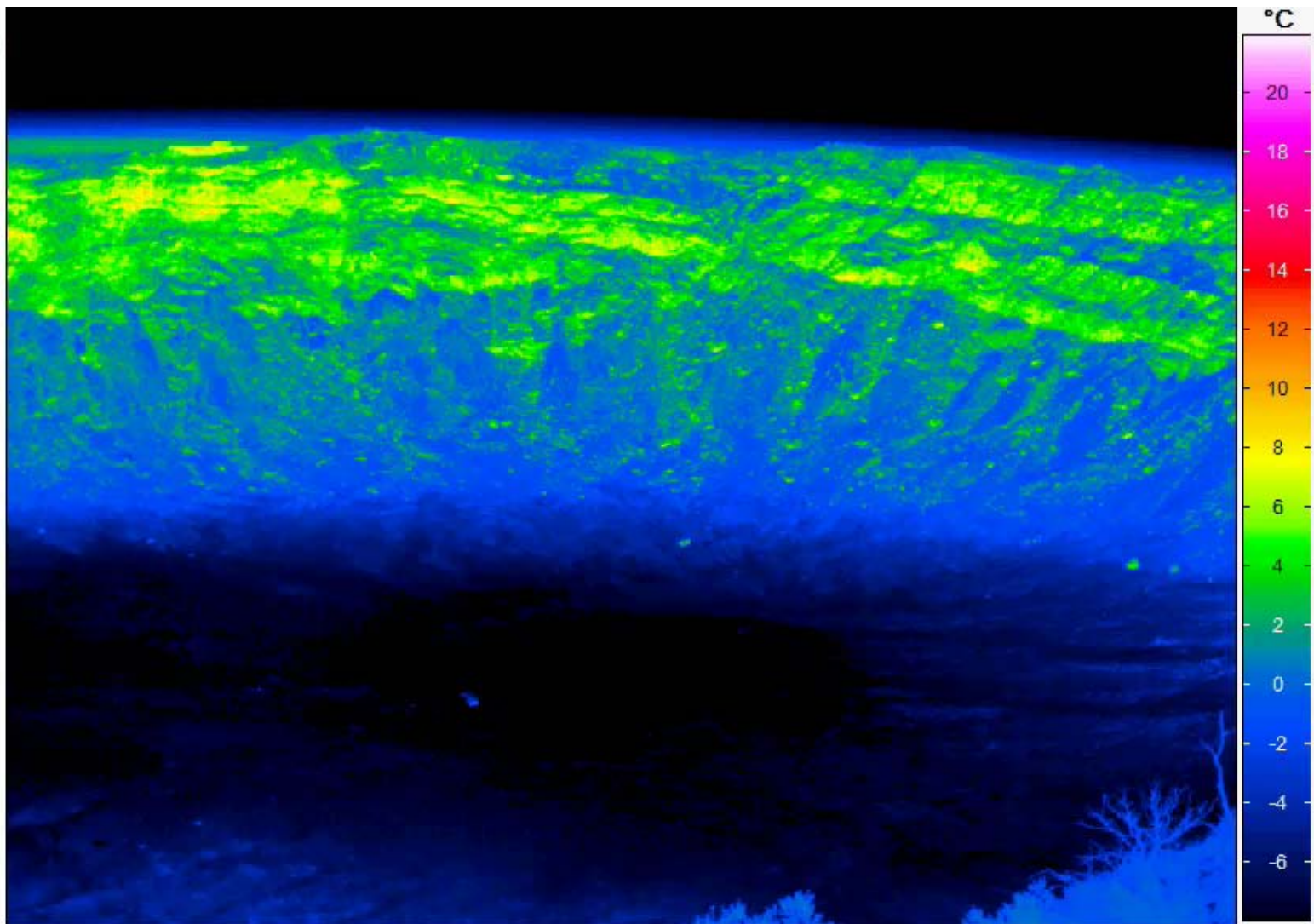


Roland Vogt



# Meteor Crater, 0722-0920 MST 20 OCT 2013

File:  
IRHD\_20131020  
\_142200.irb  
Date:  
20.10.2013  
Time: 14:22:00



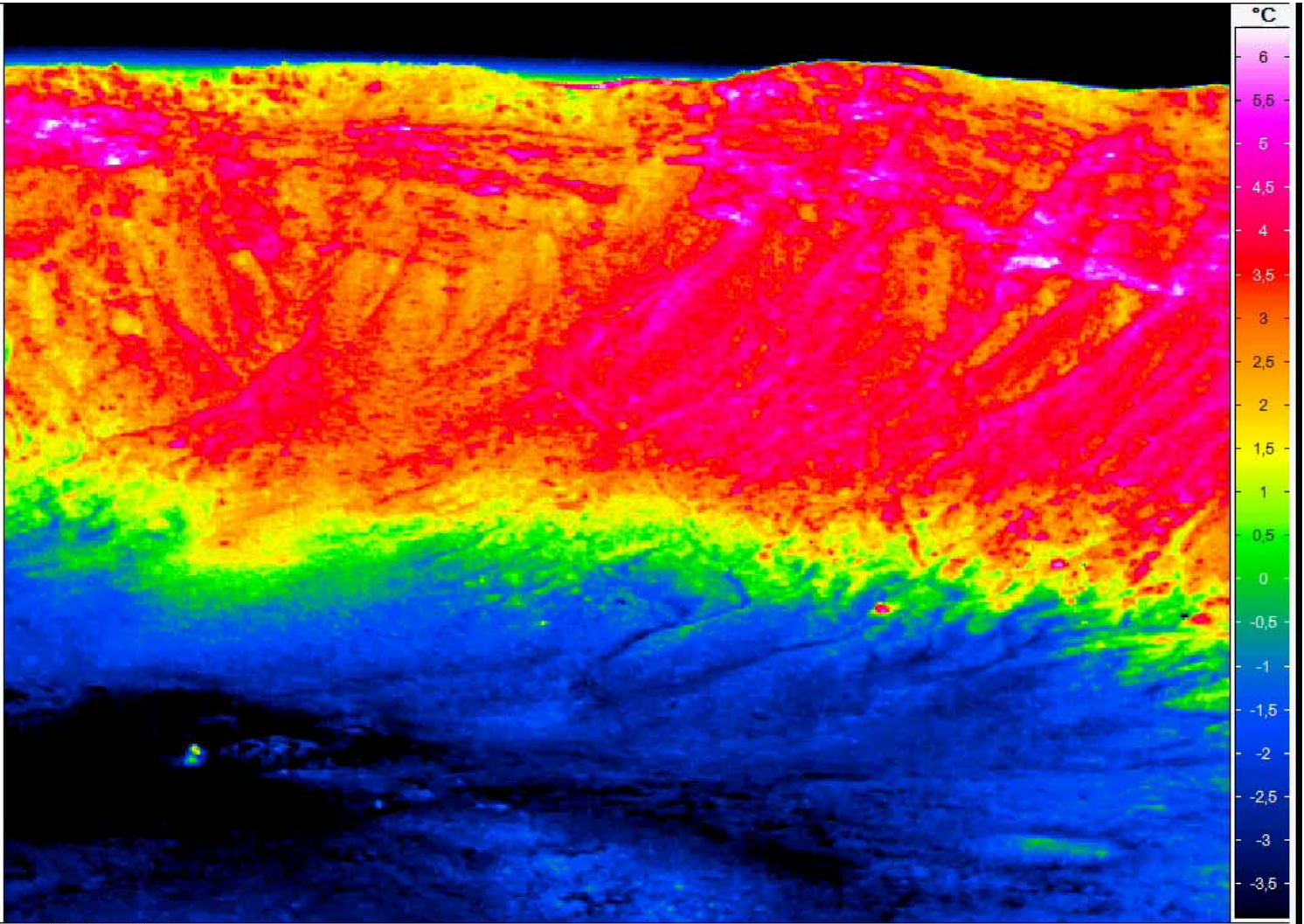
Meteor Crater Experiment II, October 2013  
Time in UTC; IR contact:  
Martina Grudzielanek & Roland Vogt

Looking NNE across crater



# Meteor Crater, 2220-2320 MST 20 OCT 2013

File:  
IRDD\_20131020  
\_052001.irb  
Date:  
20.10.2013  
Time: 05:20:01



Meteor Crater Experiment II, October 2013  
Time in UTC; IR contact:  
Martina Grudzielanek & Roland Vogt

Looking SSW across crater

# Acknowledgments

## **Landowners:**

- The Barringer Crater Company (Drew Barringer)
  - Meteor Crater Enterprises, Inc. (Brad Andes)
- Bar T Bar Ranch; Crater Ranch, LLC (Judy Prosser)

## **Field and equipment assistance:**

- NCAR/EOL staff
- Petra Klein (U. Oklahoma, lidar rental), Eric Pardyjak (U. Utah, tetheronde loan)
- Thermal IR camera loans: Jan Cermak (Ruhr U. Bochum), Matthias Krausz (Infratec, Inc.), Christian Bernhofer (Tech. U. Dresden), Andrea Pitacco (U. Padova)

## **Funding agencies:**

National Science Foundation AGS-1160730 (Whiteman) & 1160737 (Calhoun)  
International Bureau of BMBF under grant 01 DM 13002 (Kalthoff)

## **Volunteers:**

Steve Krueger, Samantha Couper, Brad Hunsaker, Nola Lucke, Alexander Jacques, Melissa Maestas, Chris Galli, Judy Pechmann, Johanna Whiteman, James Guard, Struthi Narayanreddy, Trent Hoffman, Nils Fonteyn