

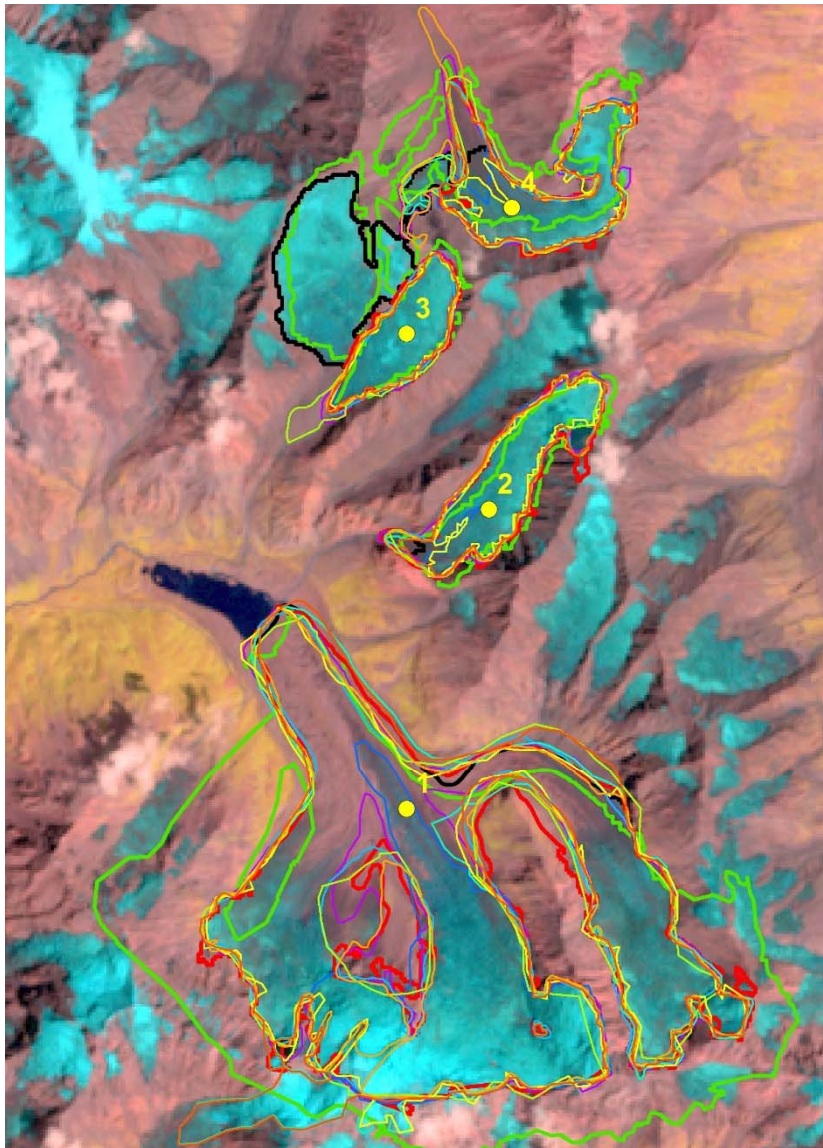


# Glacier mapping: accuracy

Andreas Linsbauer

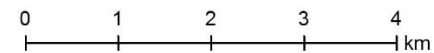


# Comparison of mapped outlines



## glacier mapping

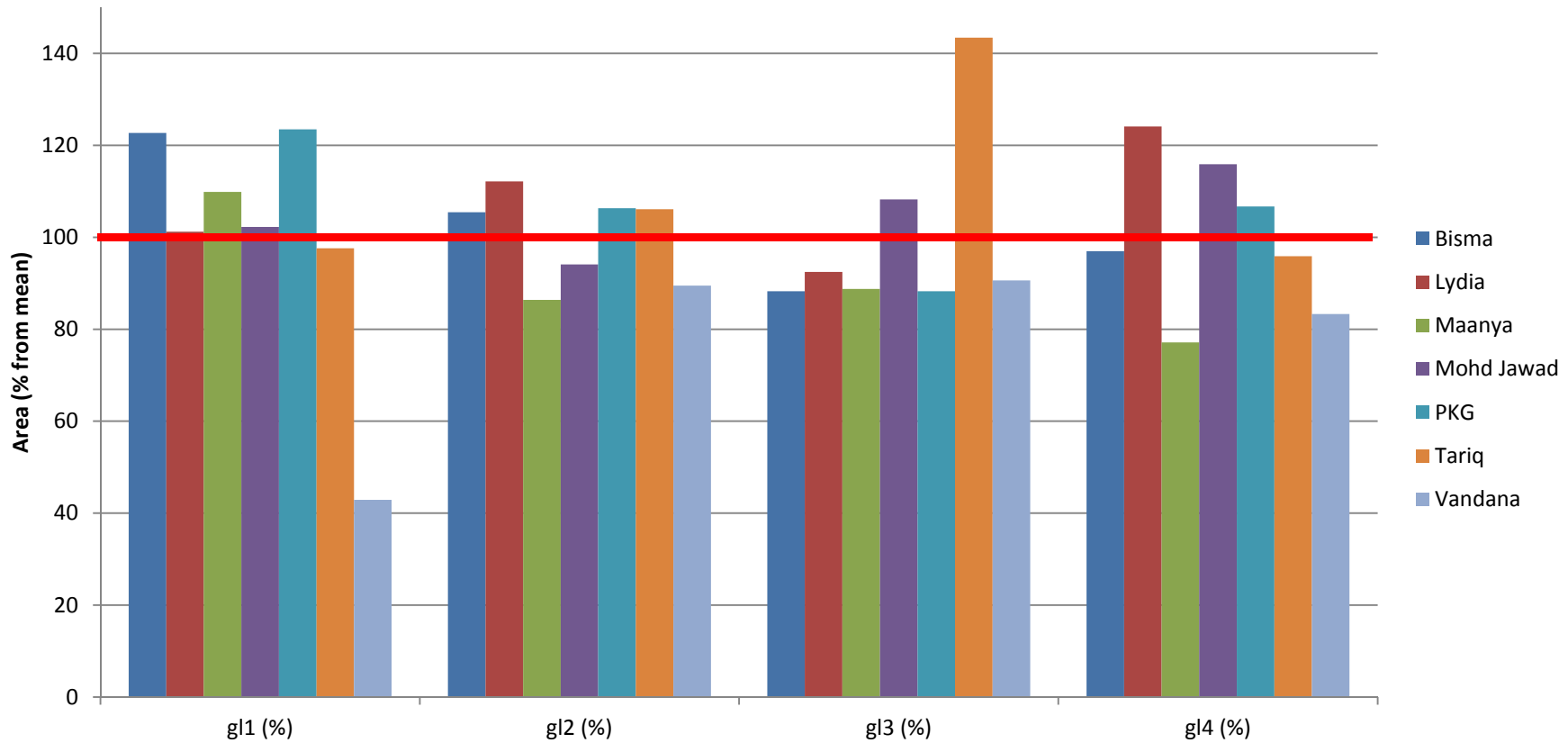
-  glacier\_outlines\_bisma
-  glacier\_outlines\_LYDIA
-  glacier\_outlines\_maanya
-  glacier\_outlines\_mohd\_jawad
-  glacier\_outlines\_PKG
-  glacier\_outlines\_Tariq
-  glacier\_outlines\_vandana
-  glacier\_outlines\_ZUBAIR
-  inv\_globgl\_clip\_4gl
-  inv\_RGI32\_clip\_4gl
-  inv\_icimod\_clip\_4gl



Glacier mapping - accuracy

A. Linsbauer, 19.01.2015

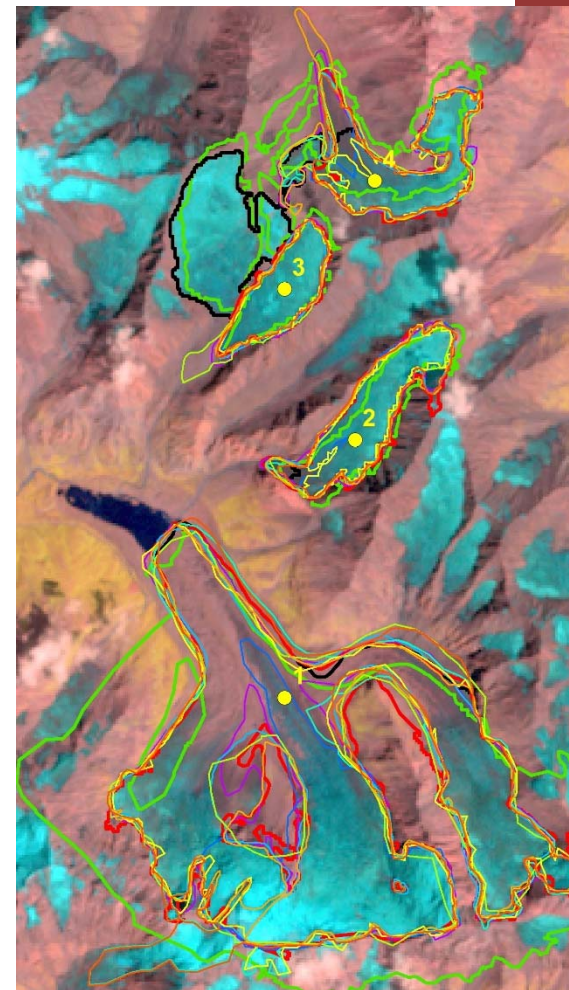
# Comparison of glacier areas



<b>Area</b>	<b>gl1 (km2)</b>	<b>gl2 (km2)</b>	<b>gl3 (km2)</b>	<b>gl4 (km2)</b>
<i>mean</i>	12.53	1.48	1.10	1.75
<b>inv_globGlacier</b>	<b>14.01</b>	<b>1.70</b>	<b>1.09</b>	<b>1.80</b>
<b>inv_RGI</b>	<b>13.92</b>	<b>1.61</b>	<b>2.97</b>	<b>1.80</b>

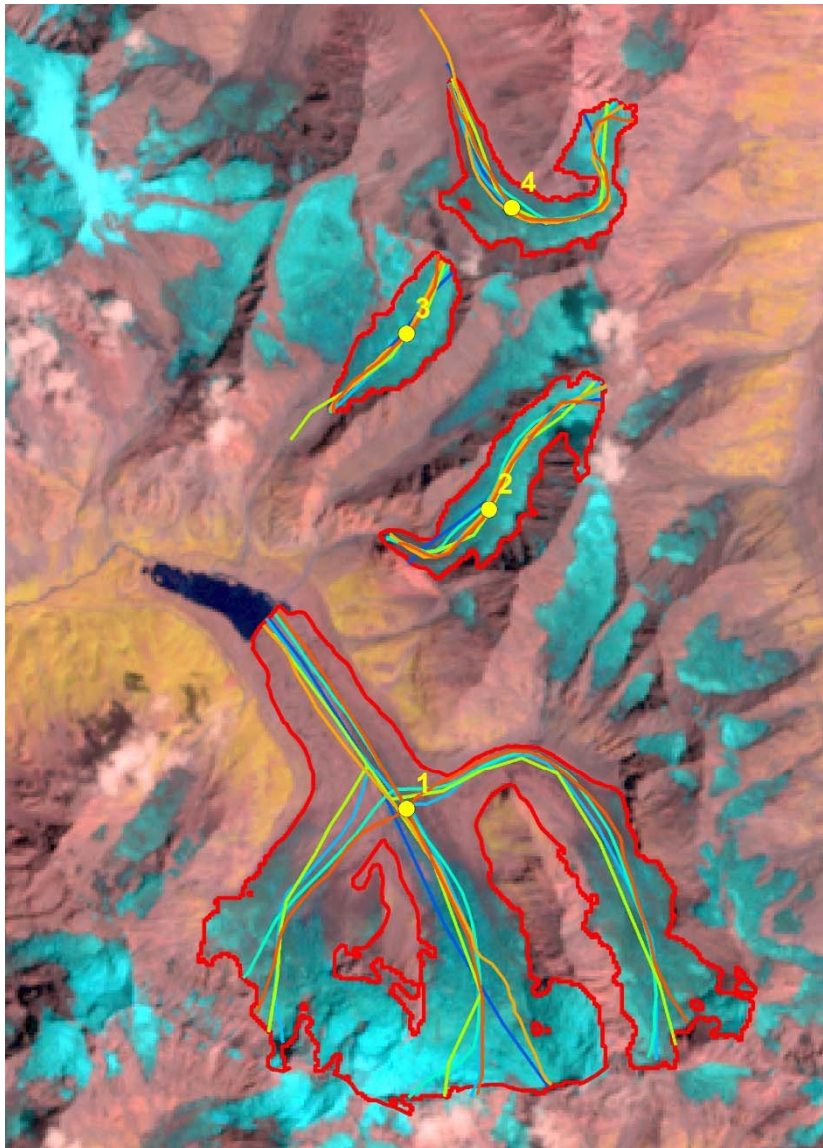
# Comparison of glacier areas

<b>Area</b>	gl1 (km <sup>2</sup> )	gl2 (km <sup>2</sup> )	gl3 (km <sup>2</sup> )	gl4 (km <sup>2</sup> )
Bisma	15.37	1.56	0.97	1.70
Lydia	12.69	1.66	1.01	2.18
Maanya	13.77	1.28	0.97	1.35
Mohd Jawad	12.81	1.39	1.19	2.03
PKG	15.47	1.58	0.97	1.87
Tariq	12.23	1.57	1.57	1.68
Vandana	5.38	1.33	0.99	1.46
Zubair	13.18	1.68	1.12	2.23
<i>mean</i>	<i>12.53</i>	<i>1.48</i>	<i>1.10</i>	<i>1.75</i>
<b>inv_globGlacier</b>	<b>14.01</b>	<b>1.70</b>	<b>1.09</b>	<b>1.80</b>
<b>inv_RGI</b>	<b>13.92</b>	<b>1.61</b>	<b>2.97</b>	<b>1.80</b>



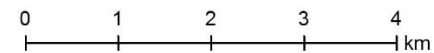


# Comparison of glacier flow lines



## glacier mapping

- central\_flow\_lines\_bisma
- central\_flow\_lines\_LYDIA
- central\_flow\_lines\_maanya
- central\_flow\_lines\_mohd\_jawad
- Central\_flow\_lines\_PKG
- central\_flow\_lines\_Tariq
- central\_flow\_lines\_vandana
- inv\_globgl\_clip\_4gl



Glacier mapping - accuracy

A. Linsbauer, 19.01.2015



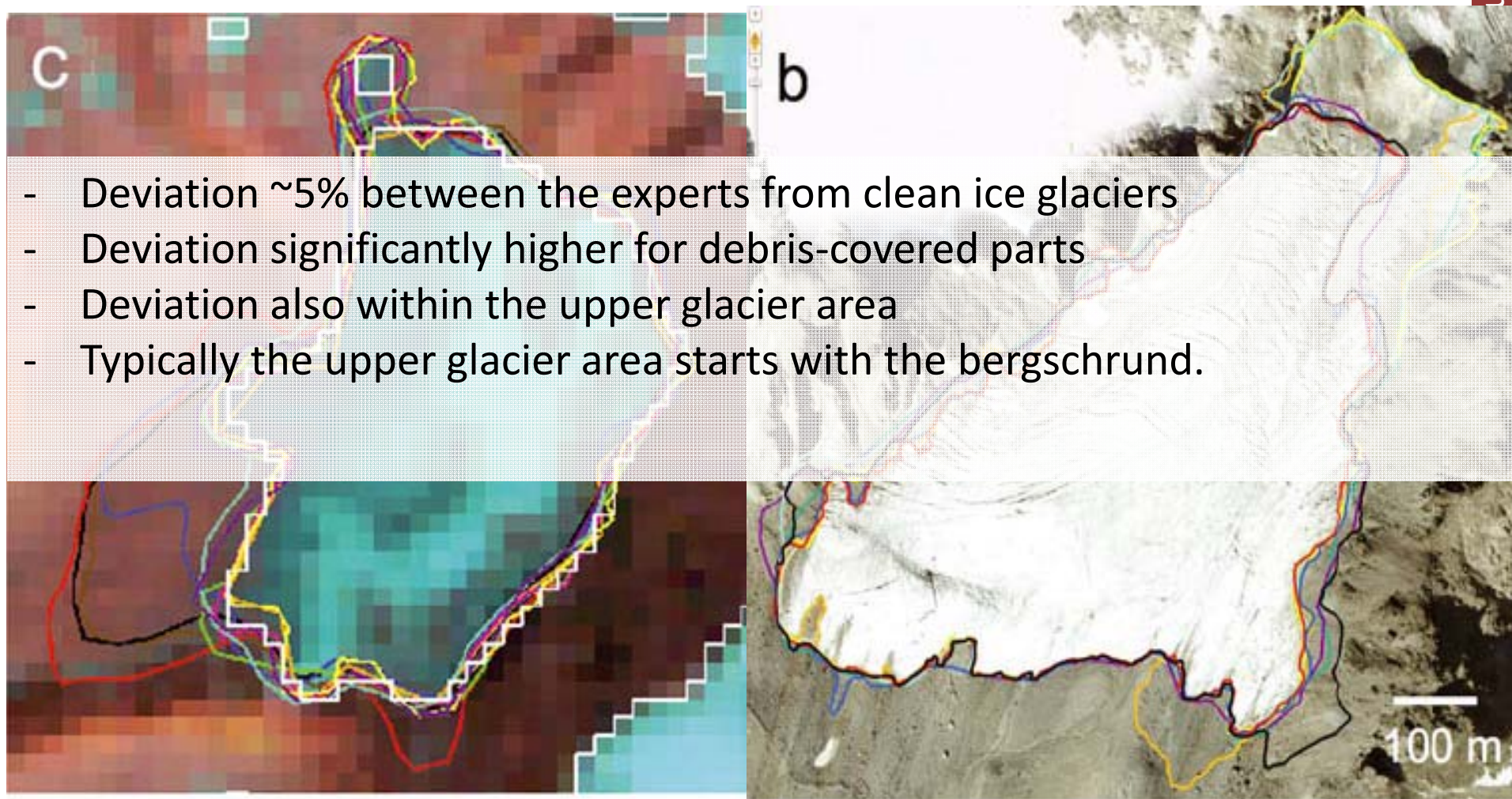
# Digitizing experiment with experts



Paul et al. 2013



# Digitizing experiment with experts



- Deviation  $\sim 5\%$  between the experts from clean ice glaciers
- Deviation significantly higher for debris-covered parts
- Deviation also within the upper glacier area
- Typically the upper glacier area starts with the bergschrund.

Paul et al. 2013