

JUNE 2024. Cambridge Research visit schedule.

Staff: Eustace Barnes (EB), John Forrest (JF), Hugo Lepage (HL), M.Lezama (ML), W.Castro (WC).

Project research areas coloured, as follows:

Green = Biodiversity/microstructures,

Blue = Water,

Brown = Remote sensing,

Red = Logistics/remaining questions.

Nt = Night.

1/ 4 June (Tue).

Arrive Lima. Nt. Lima (EB).

2/ 5 June (Wed).

Natural History Museum. Nt.Lima (EB, WC).

Biodiversity – bird/butterfly collections. Collection of specimen data and morphometrics for *Oreonympha nobilis* nominate and albolombata subspecies, *Coeligena violifer* subspecies, *Asthenes dorbignyi* subspecies, *Leptashenura striata* and *Grallaria capitalis* and *erythroleuca*. Taxonomic revision of species limits and biodiversity in central Peru.

Introduce ourselves and our work. San Marcos National Museum (SMNM).

Visit with Letty Salinas (Head of Ornithology, SMNM).

3/ 6 June (Thur).

Natural History Museum. Nt.Lima (EB, WC).

Biodiversity – bird/butterfly collections. See above. (SMNM).

Visit with Letty Salinas (Head of Ornithology, SMNM).

4/ 7 June (Fri).

Natural History Museum, am. (EB, WC). Transfer to Cusco, pm. Nt.Cusco (EB).

Biodiversity - bird/butterfly collections. See above. (SMNM).

Visit with Letty Salinas (Head of Ornithology, SMNM).

5/ 8 June (Sat).

Depart Cusco. Nt.Quillabamba. (EB, ML).

Biodiversity/Remote Sensing - Fieldwork. Defining geographic limits of subspecies. Collecting field data for the subspecies listed above in dry valleys and foothill forests in the Apurimac valley from 1000-3500m from the Cordillera Vilcabamba and Vilcabamba Norte ridges. Identifying distribution and localities for *Atlapetes terborghi* as well as for those species for which no data exists for the region.

Collecting butterflies, insects and possibly plant specimens for microstructural analysis.

6/ 9 June (Sun).

Travel day. Nt.Lucma. (EB, ML).

Biodiversity/Remote Sensing - Fieldwork. See above.

7/ 10 June (Mon).

Fieldwork. Transfer, depending on state of roads. Nt.Cirialo, or Kimbiri. (EB, ML).

Biodiversity/Remote Sensing - Fieldwork. See above.

8/ 11 June (Tues).

Fieldwork. On site. (or nearby in Apurimac valley). Nt.Kimbiri/Chirquintirca. (EB, ML).

Biodiversity/Remote Sensing - Fieldwork. See above.

9/ 12 June (Wed).

Fieldwork. On site. Nt.Kimbiri/Chirquintirca. (or nearby in Apurimac valley). (EB, ML).
Biodiversity/Remote Sensing - Fieldwork. See above.

10/ 13 June (Thurs).

Fieldwork. On site. Nt.Kimbiri/Chirquintirca. (or nearby in Apurimac valley). (EB, ML).
Biodiversity/Remote Sensing - Fieldwork. See above.

11/ 14 June (Fri).

Fieldwork. On site. Nt.Kimbiri/Chirquintirca. (or nearby in Apurimac valley). (EB, ML).
Biodiversity/Remote Sensing - Fieldwork. See above.

12/ 15 June (Sat).

Fieldwork. On site. Nt Kimbiri/Chirquintirca. (or nearby in Apurimac valley). (EB, ML).
Biodiversity/Remote Sensing - Fieldwork. See above.

13/ 16 June (Sun).

Fieldwork. On site. Transfer to Huanta. Nt.Huanta (EB, ML).
Biodiversity/Remote Sensing - Fieldwork. See above.

14/ 17 June (Mon).

UNAH visit (EB). Nt Huanta. (EB, ML, HL, JF).
Preparatory work. Meetings (WCA). Arranging who will join us on field visits, etc.
JF, HL arrive Huamanga airport, pm. Transfer to Huanta.

15/ 18 June (Tues).

UNAH visit. Nt.Huanta. (EB, ML, HL, JF).
Preparatory work. Calibration of equipment. Organization of new laboratory. Meetings (WCA). Arranging who will join us on field visits, etc.

16 /19 June (Wed).

Fieldwork and field seminars. Nt.Huancayo. (EB, ML, HL).
Biodiversity/Remote Sensing. Dry forests and climate change. (Holdridge vegetation/Koppen-Geiger climate zones). Ice sheet – Cerro Jallacate. Nt Posada Huaytapallana or Huancayo. EB, ML, HL (There is somewhere to stay beneath the icefield).

17/ 20 June (Thurs).

Fieldwork and field seminars. Nt.Huancayo or Posada Huaytapallana. (EB, ML, HL).
Biodiversity/Remote Sensing. Dry forests, intermontane valley. (Holdridge vegetation/Koppen-Geiger climate zones). Possible visit to side valley near Jauja.

18/ 21 June.

Fieldwork and field seminars. Nt.Huancayo or Posada Huaytapallana. (HL, EB, ML).
Biodiversity/Remote Sensing. Dry forests, intermontane valley. (Holdridge vegetation/Koppen-Geiger climate zones). Possible visit to side valley near Jauja.

19/ 22 June.

Fieldwork and field seminars. Nt.Huanta. (HL, EB, ML).
Biodiversity/Remote Sensing. Dry forests, intermontane valley. (Holdridge vegetation/Koppen-Geiger climate zones). Return to Huanta.

20/ 23 June.

Student field visit. Nt.Huanta. (HL, EB, ML).
Student project/s development. Holdridge vegetation/Koppen-Geiger climate zones. Full day Tocococha or Razuhuillca.
Water data review workshop.

21/ 24 June.

Work around Huanta. Nt.Huanta. (HL, EB, ML).

Bioacoustics – Fieldwork. (Dry forest – Viscochongo. Intermontane valleys of Apurimac headwaters).

22/ 25 June.

Work around Huanta. Nt.Huanta. (EB, HL, ML).

Bioacoustics – Fieldwork. (Dry forest – Viscochongo. Intermontane valleys of Apurimac headwaters).

23/ 26 June.

Work around Huanta. Nt.Huanta. (EB, HL, ML).

Bioacoustics – Fieldwork. (Dry forest – Viscochongo. Intermontane valleys of Apurimac headwaters).

RICTA Conference. Talks – EB & HL

24/ 27 June.

RICTA Conference. Talks – JF. Nt.Huanta. (EB, JF, HL, ML).

25/ 28 June.

RICTA Conference.

EB, HL – pm transfer to Huamanga. Flights to Lima. Nt.Lima (EB, HL).

SITES.

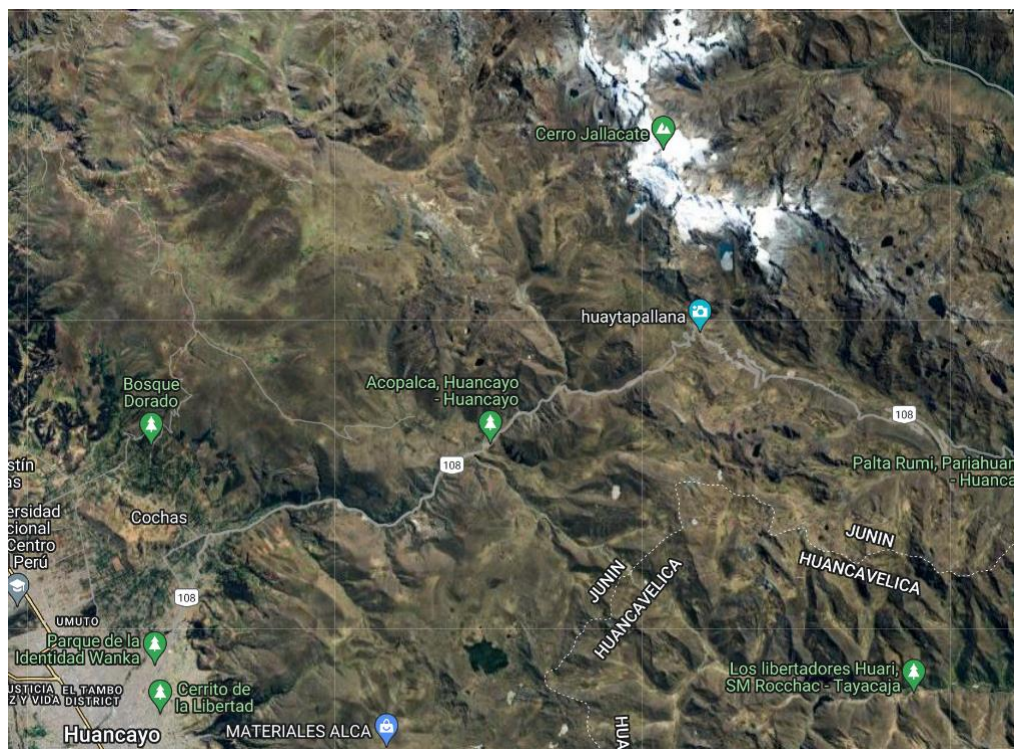


Fig 1. Huancayo and location of Cerro Jallacate. This region being to the north of Huanta and one visited by UNAH with students.



Fig 2. Cerro Jallacata and Nevado Cochas, showing regional context.

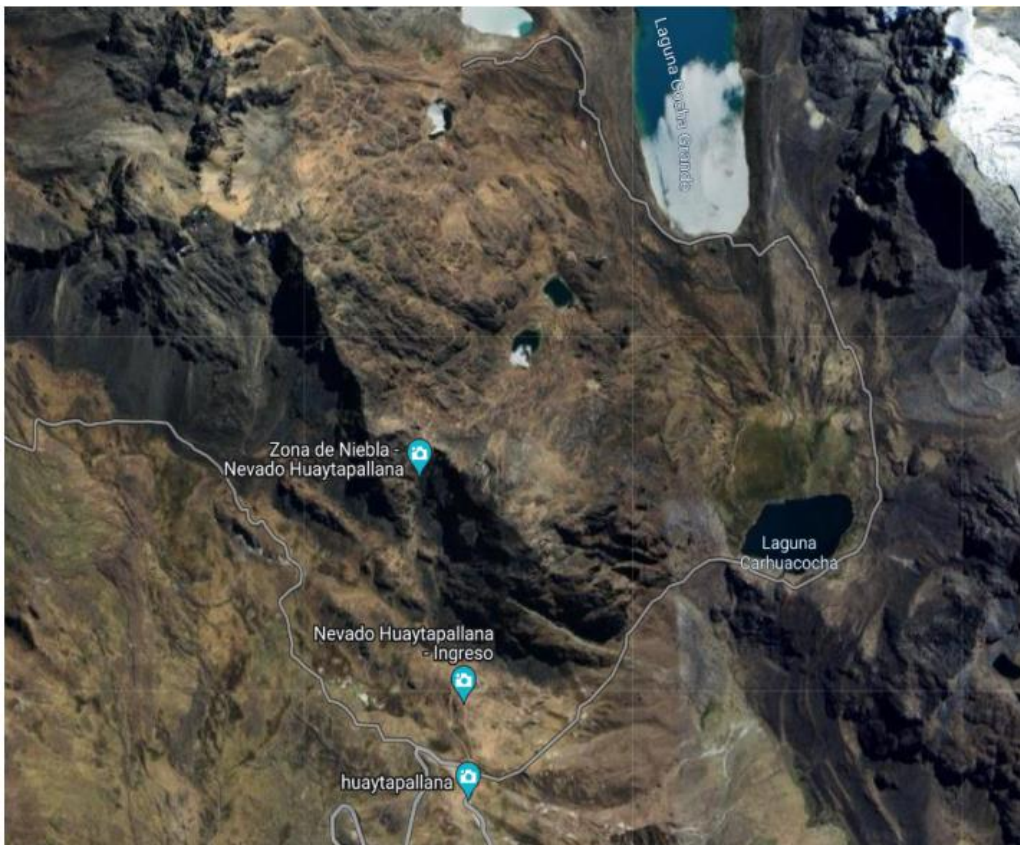


Fig 3. Access to Cerro Jallacate ice sheet, showing access for field logistics.

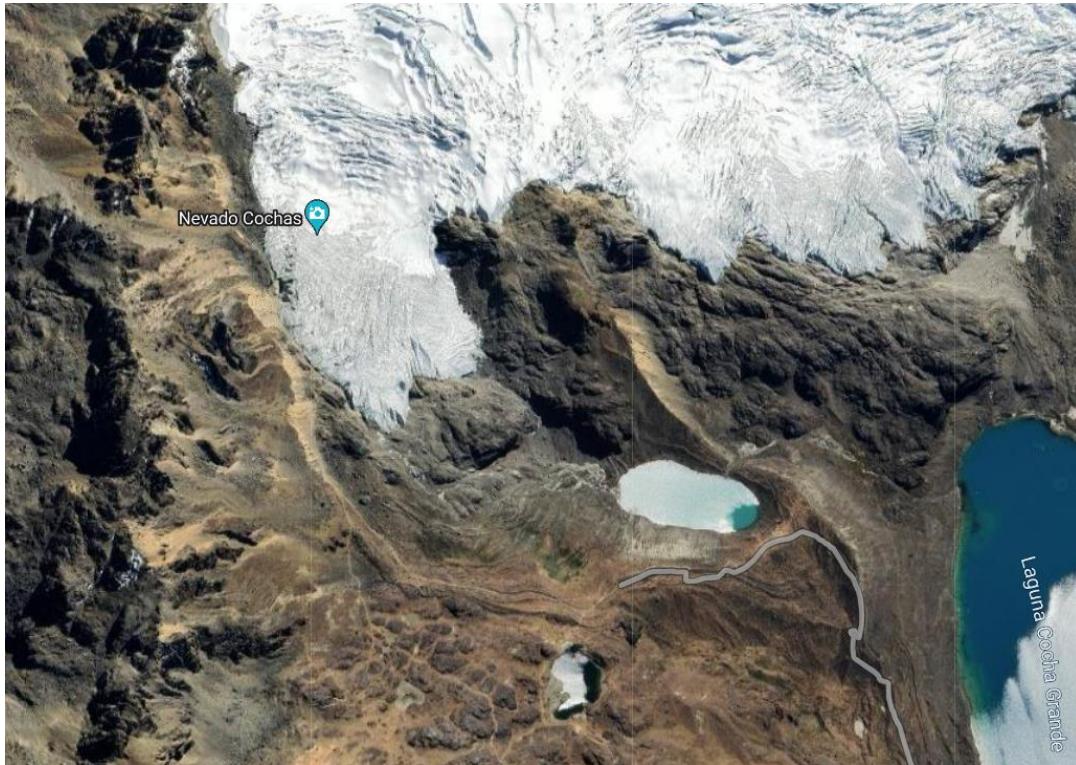


Fig 4. Road to Nevado Cochas and access to glacier. As site to 'ground-truth' greening-browning processes below Nevado Cochas in response to glacial retreat.

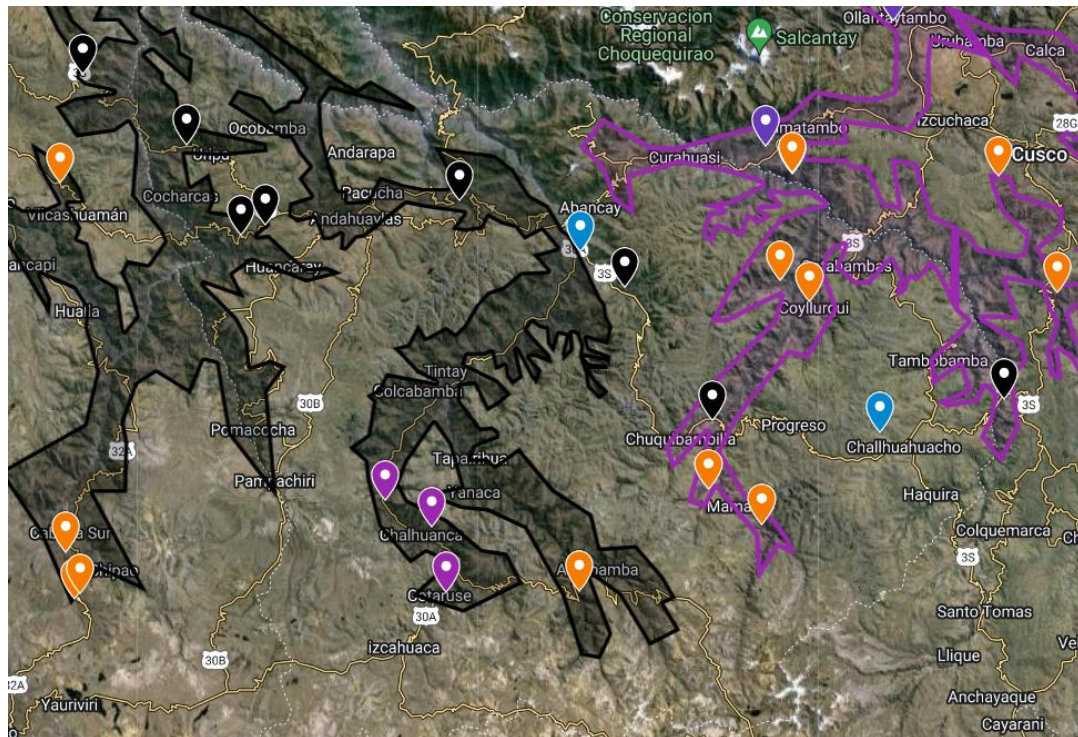


Fig 5. Distribution of *Oreonympha nobilis* nominate (purple) and *albolimbata* (black). Found on UNAH-UCAM project website. Field visit to explore route from Abancay, heading south to Totora, crossing the watershed to Antabamba and Mutca before returning to Abancay and heading to Viscochonga. This to identify actual geographic limit and possible reasons for biological separation.

Natural Systems: [Water, Sediment & Soils sample collection schedule.](#)

The following lists water/sediment sample collection points with the standard schedule. The actual schedule will differ, in accordance with weather conditions.

1/ 17 June. (Mon)

Collect JF, HL from Huamanga airport. Transfer Huanta. Nt.Huanta. (EB, JF, HL, ML).

2/ 18 June. (Tues)

Fieldwork and field seminars. Nt.Huanta. (JF, EB, ML, HL).

[Preparatory work. Calibration of equipment. Organization of new laboratory. Meetings \(WCA\). Arranging who will join us on field visits, etc.](#)

3/ 19 June. (Wed)

Fieldwork and field seminars. Nt.Huanta. (JF)

[Water/Sediments/Soils. Visit site RC01.](#)

4/ 20 June. (Thurs)

Fieldwork and field seminars. Nt.Huanta. (JF)

[Water/Sediments/Soils. Visit site Q1.1.](#)

5/ 21 June. (Fri)

Fieldwork and field seminars. Nt.Huanta. (JF)

[Water/Sediments/Soils. Visit sites Q1.2N & Q1.2S.](#)

6/ 22 June. (Sat)

Fieldwork and field seminars. Nt.Huanta. (JF)

[Water data review workshop.](#)

7/ 23 June. (Sun)

[Water/Sediments/Soils. Visit sites Q1.3N & Q1.3S.](#)

Nt.Huanta. (JF)

8/ 24 June. (Mon)

Fieldwork and field seminars. Nt.Huanta (JF)

[Water/Sediments/Soils. Visit site Q2.1.](#)

9/ 25 June. (Tues)

Fieldwork and field seminars. Nt.Huanta. (JF)

[Water/Sediments/Soils. Visit sites Q3.1 & RC02.](#)

10/ 26 June. (Wed)

Fieldwork and field seminars. Nt.Huanta (JF)

[Water/Sediments/Soils. Visit site Q3.2.](#)

[RICTA Conference.](#)

11/ 27 June. (Thurs)

[RICTA Conference participation.](#) Nt.Huanta. (JF)

12/ 28 June. (Fri)

Fieldwork and field seminars. Nt.Huanta (JF)

[Water/Sediments/Soils. Visit site Q3.3.](#)

[RICTA Conference.](#)

13/ 29 June. (Sat)

Fieldwork and field seminars. Nt.Huanta. (JF)

Water/Sediments/Soils. Visit site Q2.2.

14/ 30 June. (Sun)

Fieldwork and field seminars. Nt.Huanta. (JF)

Water/Sediments/Soils. Visit sites Q2.3 & Q2.4.

15/ 1 July. (Mon)

Water. Clean, store, etc equipment. Stock check. Nt Huanta. (JF)

16/ 2 July. (Tues)

Water. Nt Huanta. (JF)

AM – **Water:** Collate, check, prepare water samples. Meetings.

PM - **Eco-tourism:** Gastronomy activity.

17/ 3 July. (Wed)

Water. Collect and pack samples. Fly to Lima. SGS drop off. Nt.Lima (JF)