



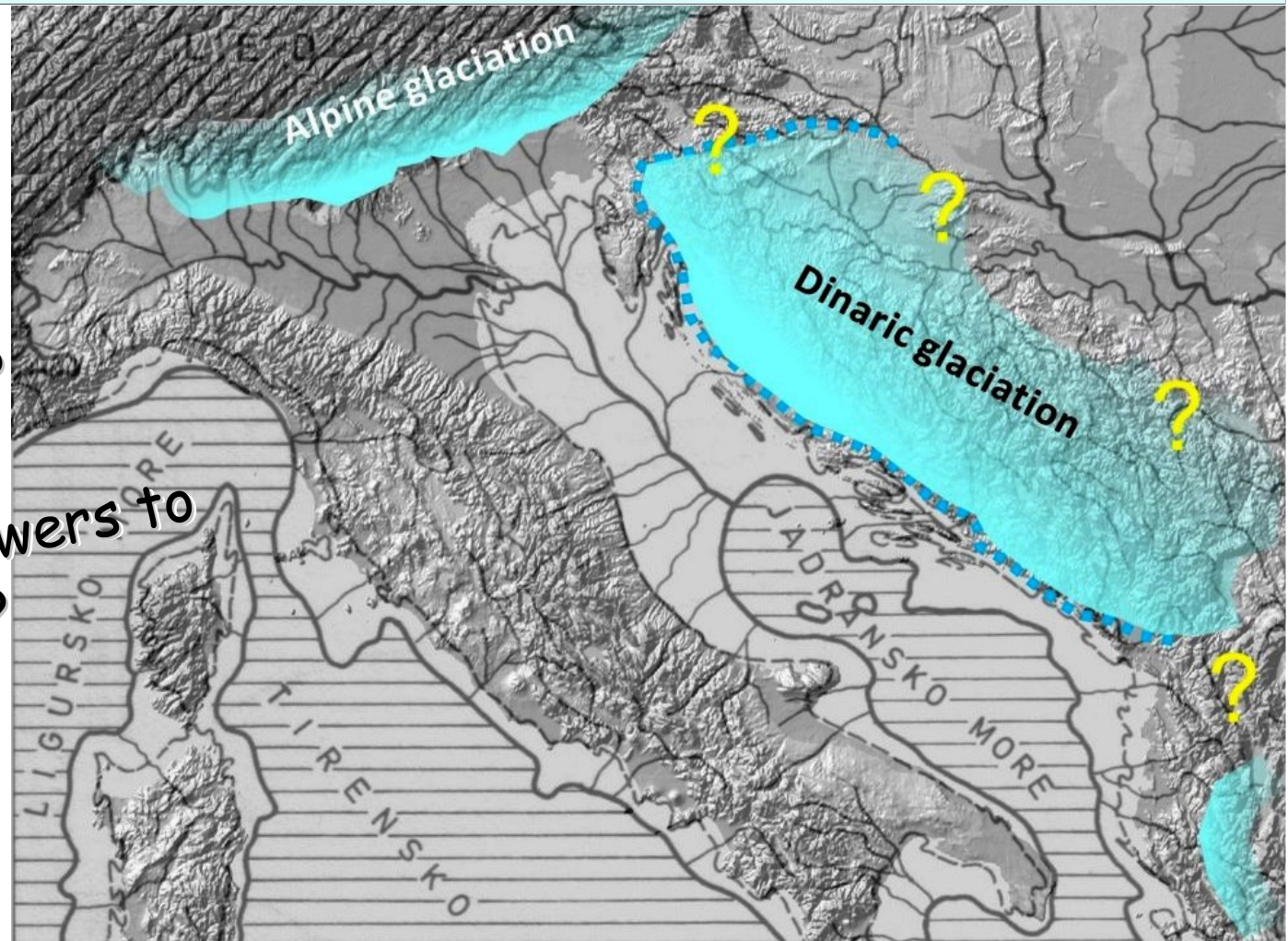
CROATIAN ACADEMY OF SCIENCES AND ARTS  
Department of Natural Sciences  
Institute of Quaternary paleontology and geology  
**Croatian National INQUA Committee**



*DIG - 1st Workshop on DInaric Glaciation: Early/Middle Pleistocene glaciations of NE Mediterranean filling the gaps in reconstructing its geological history and climate change*  
Starigrad - Paklenica, 2 - 5 May 2013, Croatia

Was it like this?

Can we give answers to  
questionmarks?





# VENUE

Starigrad-Paklenica, Croatia

2-5 May 2013



*Velebit Mt.*

*Velika Paklenica*

*Starigrad-Paklenica*

*Velebit Channel*

## ORGANIZER

Croatian National INQUA Committee  
(Croatian Academy of Sciences and Arts)



## WORKSHOP LEADERS

Ljerka MARJANAC, Institute of Quaternary  
Paleontology and Geology, The Croatian Academy  
of Sciences and Arts, Croatia

Tihomir MARJANAC, Department of Geology,  
Faculty of Science, University of Zagreb, Croatia

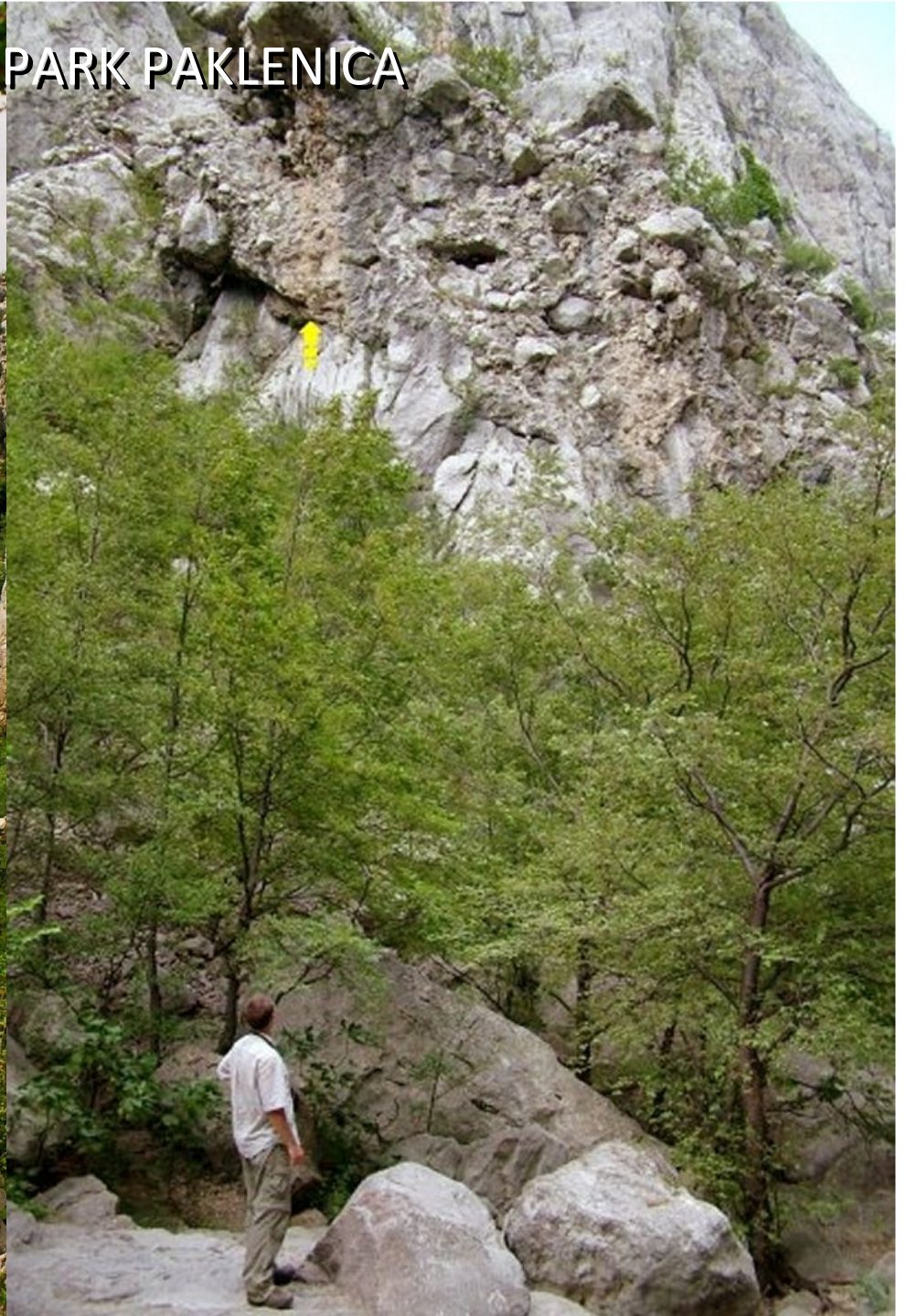


- TOPIC 1: Sedimentology of moraines on carbonate bedrock - problems and perspectives. Deposition of glacially-derived debris on previously karstified carbonate bedrock happened in very specific conditions (processes, hydrology, pre-karstification, subglacial karstification, temperate climate conditions, etc.), which will be discussed at selected key-localities.
- TOPIC 2: Proglacial lacustrine sediments and their response to climate forcing. Section of varved lacustrine sediments with abundant fossil macro-flora indicative of temperate and colder climate (today found only at high latitudes) will be a place of field discussion. The varved sediments, dated to minimum age of 350.000 ka, accumulated in a proglacial lake. Diversity and complexity of those varves reflect cyclic variations conditioned by various changes from seasonal to climatic forcing. Therefore, this sediment succession, about 20 m thick, is yet unexplored source of valuable data which will contribute to climate modelling for the Mediterranean region.
- TOPIC 3: Fossil ice-marginal sedimentary bodies and processes. Sediments accumulated in various ice-marginal environments (glaciofluvial, glacio-lacustrine) during the Early/Middle Pleistocene are well preserved in this region and enable reconstruction of the glacial extent. Sedimentary facies associations, event stratigraphy and chronostratigraphy will be discussed at selected key-localities.

# THE NATIONAL PARK PAKLENICA



# THE NATIONAL PARK PAKLENICA





VELIKA PAKLENICA  
moraine (megabreccia lithofacies)



ŽDRILO glaciolacustrine varved sediments with fossil macroflora



# ŽDRILO





## ŽDRILO

Middle Pleistocene moraine (megabreccia lithofacies)



SELINE gciolacustrine sediments

SELINE (glaciodeltaic sediments)





THE COAST OF NOVIGRAD SEA  
glaciolacustrine sediments with dropstones



THE COAST OF NOVIGRAD SEA moraine



THE COAST OF NOVIGRAD SEA  
sediment wedges (the southern-most located ice-wedge casts)

ice-wedge casts







THE COAST OF NOVIGRAD SEA kettle-like forms



THE COAST OF NOVIGRAD SEA exotic sedimentary features

<b>WORKSHOP PROGRAM</b>	
<b>2.05.2013.</b> <b>ARRIVAL DAY</b>	18:00 <i>Dinner</i> 19:30 T. Marjanac: Introduction to geology of the area Lj. Marjanac: Presentation of key-locations P. Hughes: Presentation of analogue glacial deposits in Montenegro
<b>DAY 1</b> <b>3.05.2013.</b> <b>TOPIC 1</b>	<b>Sedimentology of moraines on carbonate bedrock</b> 09:00 – 18:00 Field work: presentation and discussion at key-locations in Velika Paklenica canyon (lunch in the field included) 19:00 – 20:30 <i>Dinner</i> 21:00 Evening discussion on the topic
<b>DAY 2</b> <b>4.05. 2013.</b> <b>TOPIC 2</b>	<b>Proglacial lacustrine and deltaic sediments and their response to climate forcing</b> 09:00 – 18:00 Field work: presentation and discussion at key-locations at Ždrilo and Seline (lunch in the field included) 19:00 – 20:30 <i>Dinner</i> 21:00 Evening discussion on the topic
<b>DAY 3</b> <b>5.05.2013.</b> <b>TOPIC 3</b>	<b>Fossil ice-marginal sedimentary bodies and processes</b> 09:00 – 16:00 Field work: presentation and discussion at key-locations of the 3 km long coastal section of the Novigrad Sea (lunch in the field included) 17:00 – 19:30 Discussion on the topic, concluding remarks on all topics, and future transnational cooperation towards expected outcomes 19:30 <i>Dinner</i>
<b>6.5.2013.</b> <b>DEPARTURE DAY</b>	

## We hope you will participate and contribute to expected outcome

- Following annual or biannual DIG workshops
- Proposal of a transnational project on Dinaric glaciation.
- Engagement of young scientists to develop their research careers on the topics.
- Skill and networking enhancement.
- Preparation of summer school program on sedimentology of ancient glacigenic sediments related to Dinaric glaciation and glaciation of karst.

THE REGISTRATION FEE OF **250 EUROS** INCLUDES :

- Accommodation from arrival till departure day
- Meals starting with dinner on arrival day and ending with dinner on last day of the workshop
- Local bus/van transfers
- Handouts and field guidebook

PRELIMINARY REGISTRATION DEADLINE : 25<sup>th</sup> February 2013

Please express your interest to participate before 25<sup>th</sup> February 2013  
by e-mail to [ljerka@hazu.hr](mailto:ljerka@hazu.hr) to receive second circular.

NOTE : We shall try to provide financial support for students.



WELCOME TO  
MEDITERRANEAN ICE AGE

! ? !