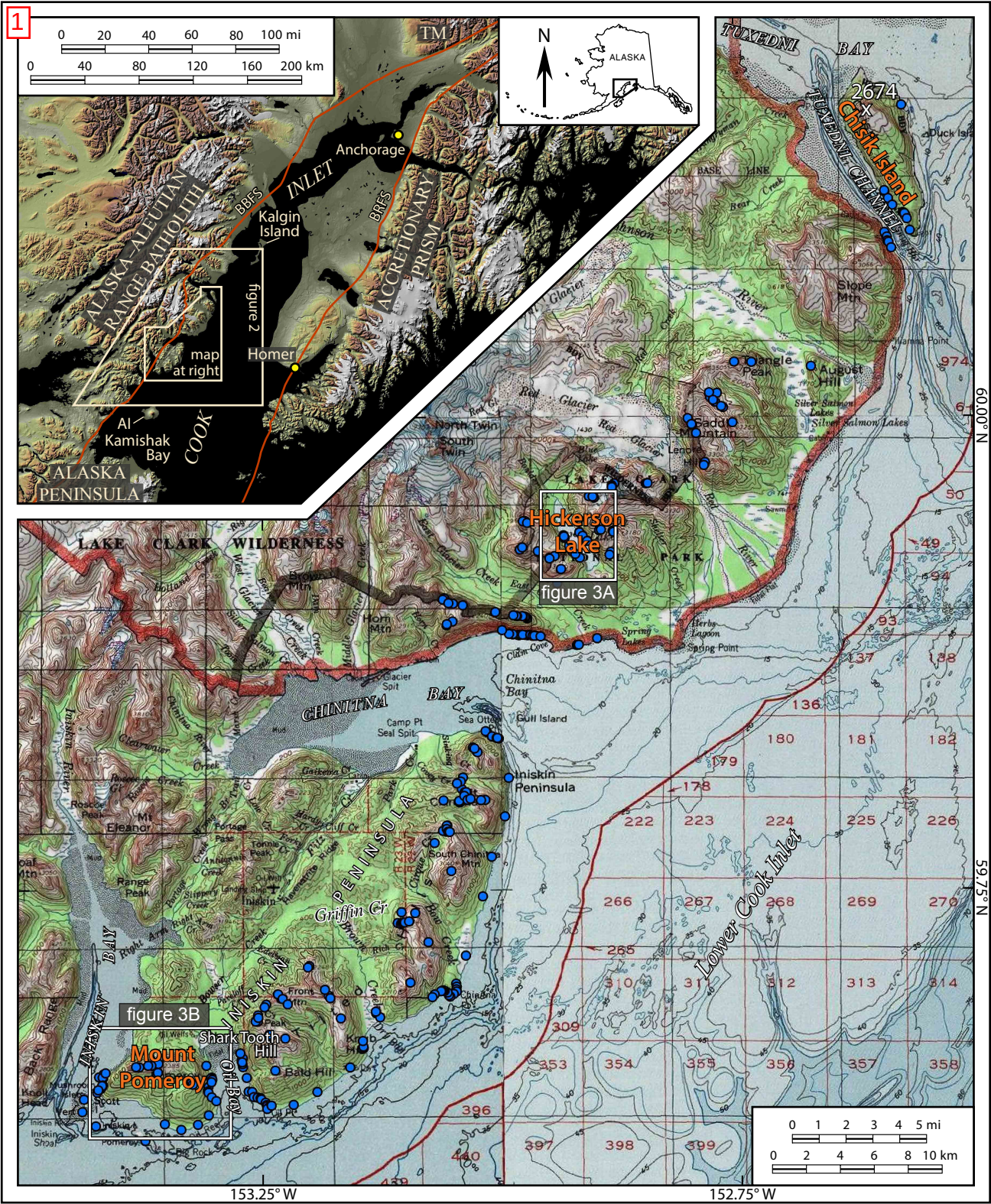
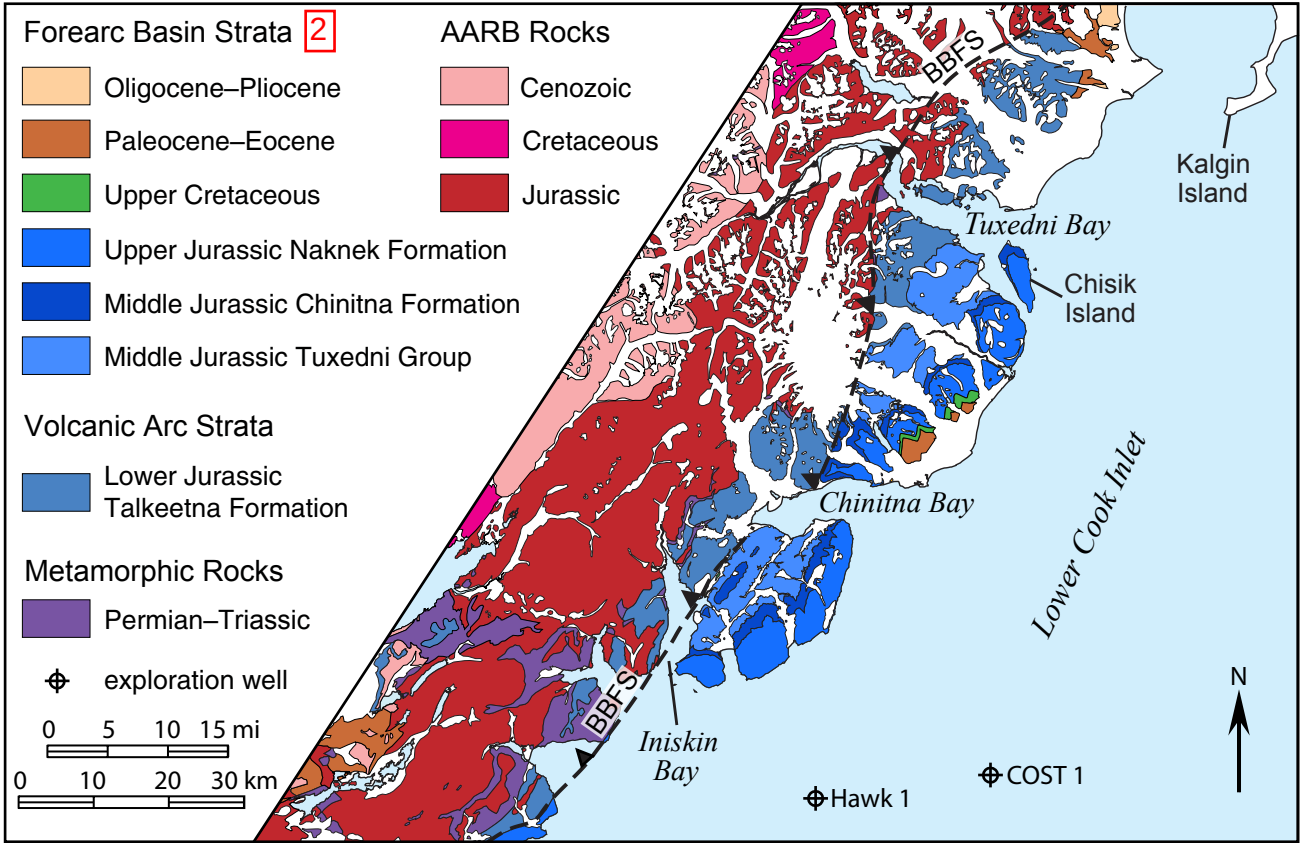
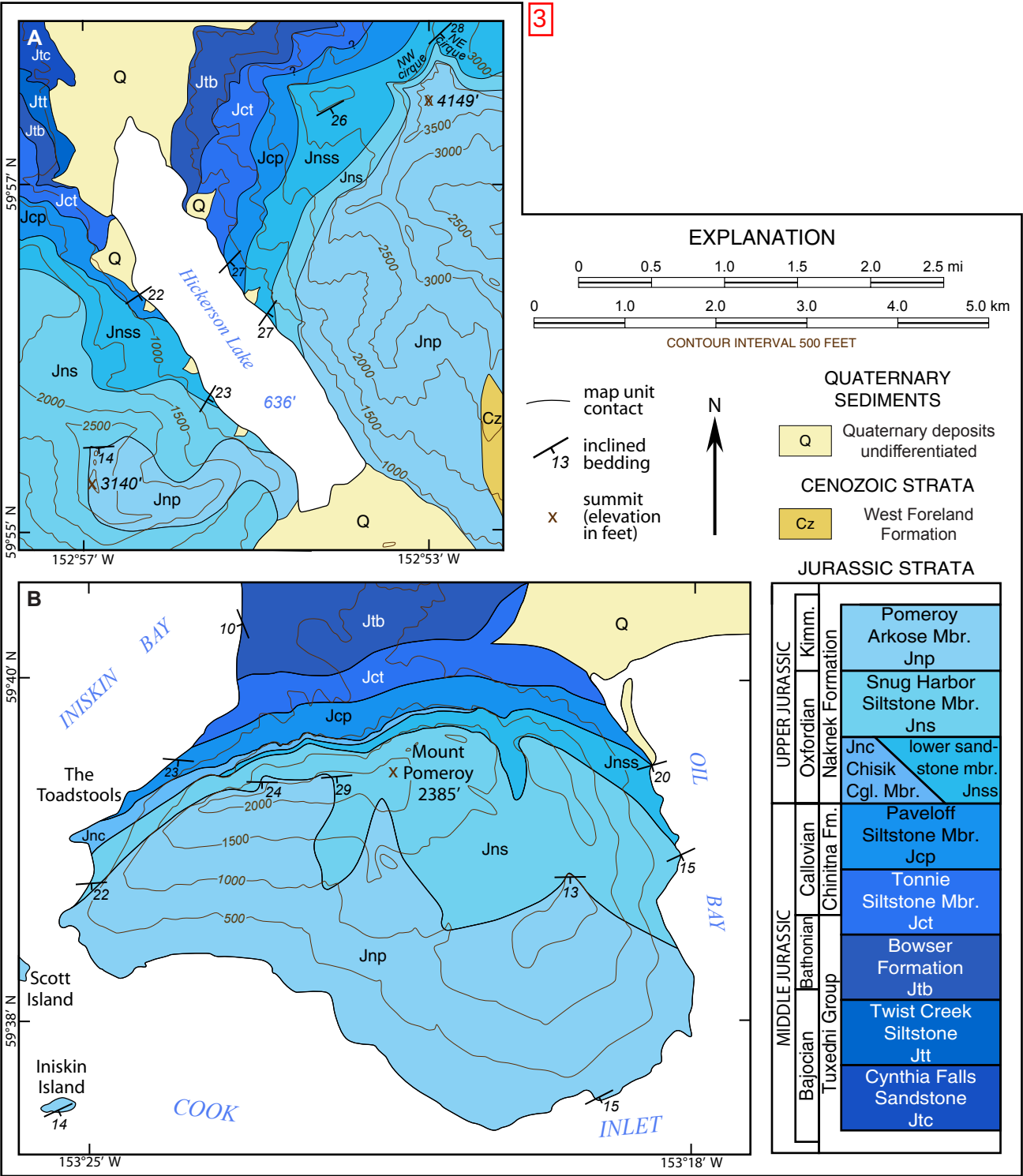
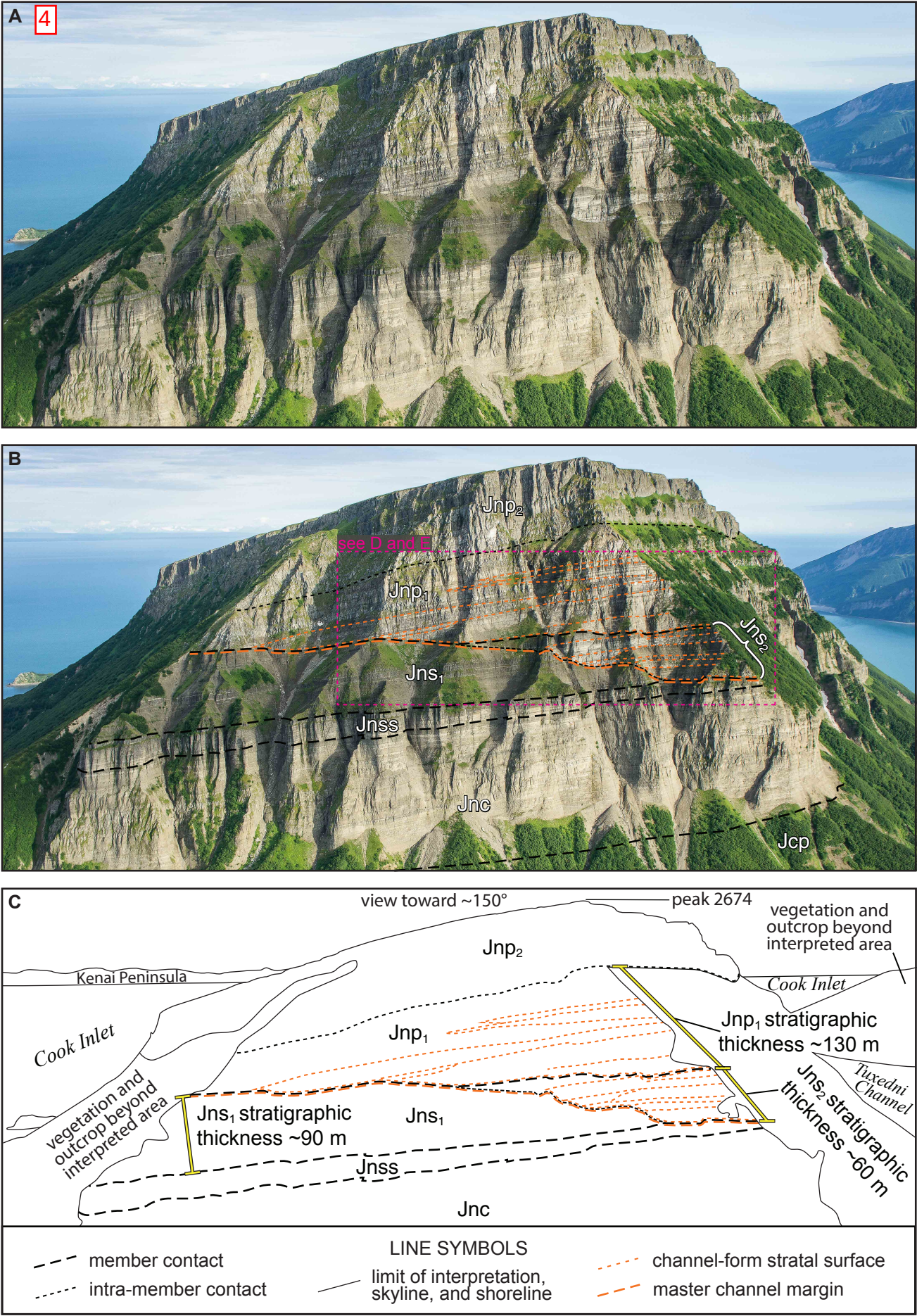
cover


1
0 20 40 60 80 100 mi
0 40 80 120 160 200 km
N
ALASKA
TM
Anchorage
INLET
BBFS
Kalgin Island
BRFS
ACCRETIONARY PRISM
ALASKA-ALEUTIAN RANGE BATHOLITH
figure 2
map at right
Homer
Al Kamishak Bay
COOK
ALASKA PENINSULA
TUXEDNI BAY
2674
Chisik Island
TUXEDNI CHANNEL
Slope Mtn
Triangle Peak
August Hill
Silver Salmon Lakes
Saddle Mountain
Lenore Hill
North Twin
South Twin
Red Glacier
LAKE CLARK
Hickerson Lake
figure 3A
LAKE CLARK WILDERNESS
Brown Mtn
Horn Mtn
Glacier Spit
CHINITNA BAY
Chinitna Bay
Gull Island
Camp Pt
Seal Spit
Sea Otter
Iniskin Peninsula
Spring Point
Herbs Lagoon
Clam Cove
Roscoe Peak
Mt Eleanor
Portage Pass
Tonnie Peak
Range Peak
Iniskin
PENINSULA
South Chinitna Mtn
Griffin Cr
Lower Cook Inlet
INISKIN BAY
figure 3B
Front Mtn
Shark Tooth Hill
Mount Pomeroy
Bald Hill
Oil Bay
Scott
Iniskin Shoal
Big Rock
60.00° N
59.75° N
153.25° W
152.75° W
0 1 2 3 4 5 mi
0 2 4 6 8 10 km


Forearc Basin Strata
2
Oligocene–Pliocene
Paleocene–Eocene
Upper Cretaceous
Upper Jurassic Naknek Formation
Middle Jurassic Chinitna Formation
Middle Jurassic Tuxedni Group
AARB Rocks
Cenozoic
Cretaceous
Jurassic
Volcanic Arc Strata
Lower Jurassic
Talkeetna Formation
Metamorphic Rocks
Permian–Triassic
exploration well
0 5 10 15 mi
0 10 20 30 km
BBFS
BBFS
Kalgin
Island
Tuxedni Bay
Chisik
Island
Chinitna Bay
Lower Cook Inlet
Iniskin
Bay
Hawk 1
COST 1
N

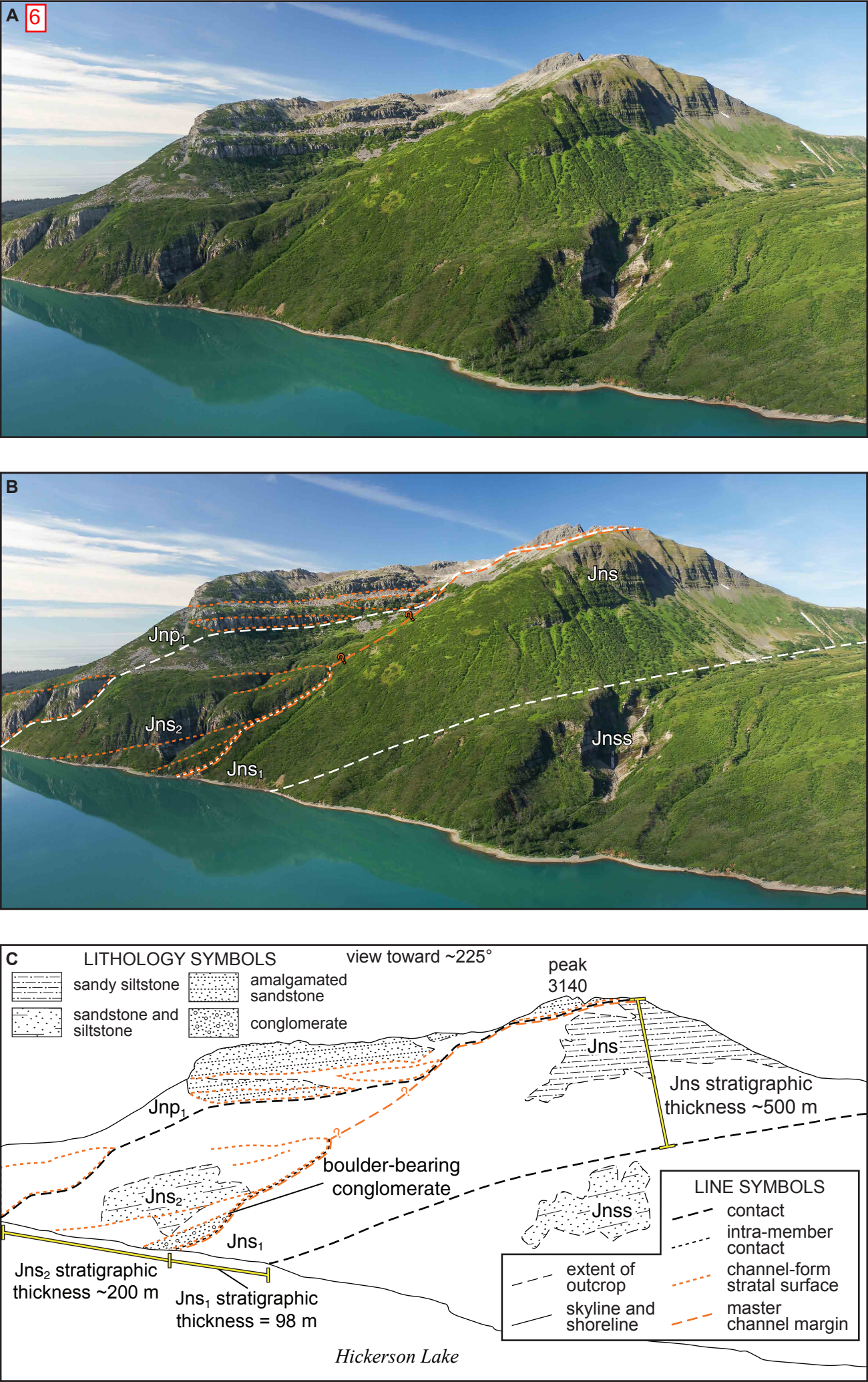

3
A
Jtc
Jtt
Jtb
Q
Jct
Jcp
Jnss
Jns
Jnp
Cz
NW cirque
NE cirque
4149′
3140′
Hickerson Lake
636′
59°57′ N
59°55′ N
152°57′ W
152°53′ W
B
INISKIN BAY
OIL BAY
COOK INLET
The Toadstools
Mount Pomeroy 2385′
Scott Island
Iniskin Island
59°40′ N
59°38′ N
153°25′ W
153°18′ W
EXPLANATION
0 0.5 1.0 1.5 2.0 2.5 mi
0 1.0 2.0 3.0 4.0 5.0 km
CONTOUR INTERVAL 500 FEET
map unit contact
inclined bedding
summit (elevation in feet)
N
QUATERNARY SEDIMENTS
Q Quaternary deposits undifferentiated
CENOZOIC STRATA
Cz West Foreland Formation
JURASSIC STRATA
UPPER JURASSIC
MIDDLE JURASSIC
Kimm.
Oxfordian
Callovian
Bathonian
Bajocian
Naknek Formation
Chinitna Fm.
Tuxedni Group
Pomeroy Arkose Mbr. Jnp
Snug Harbor Siltstone Mbr. Jns
Jnc Chisik Cgl. Mbr.
lower sandstone mbr. Jnss
Paveloff Siltstone Mbr. Jcp
Tonnie Siltstone Mbr. Jct
Bowser Formation Jtb
Twist Creek Siltstone Jtt
Cynthia Falls Sandstone Jtc

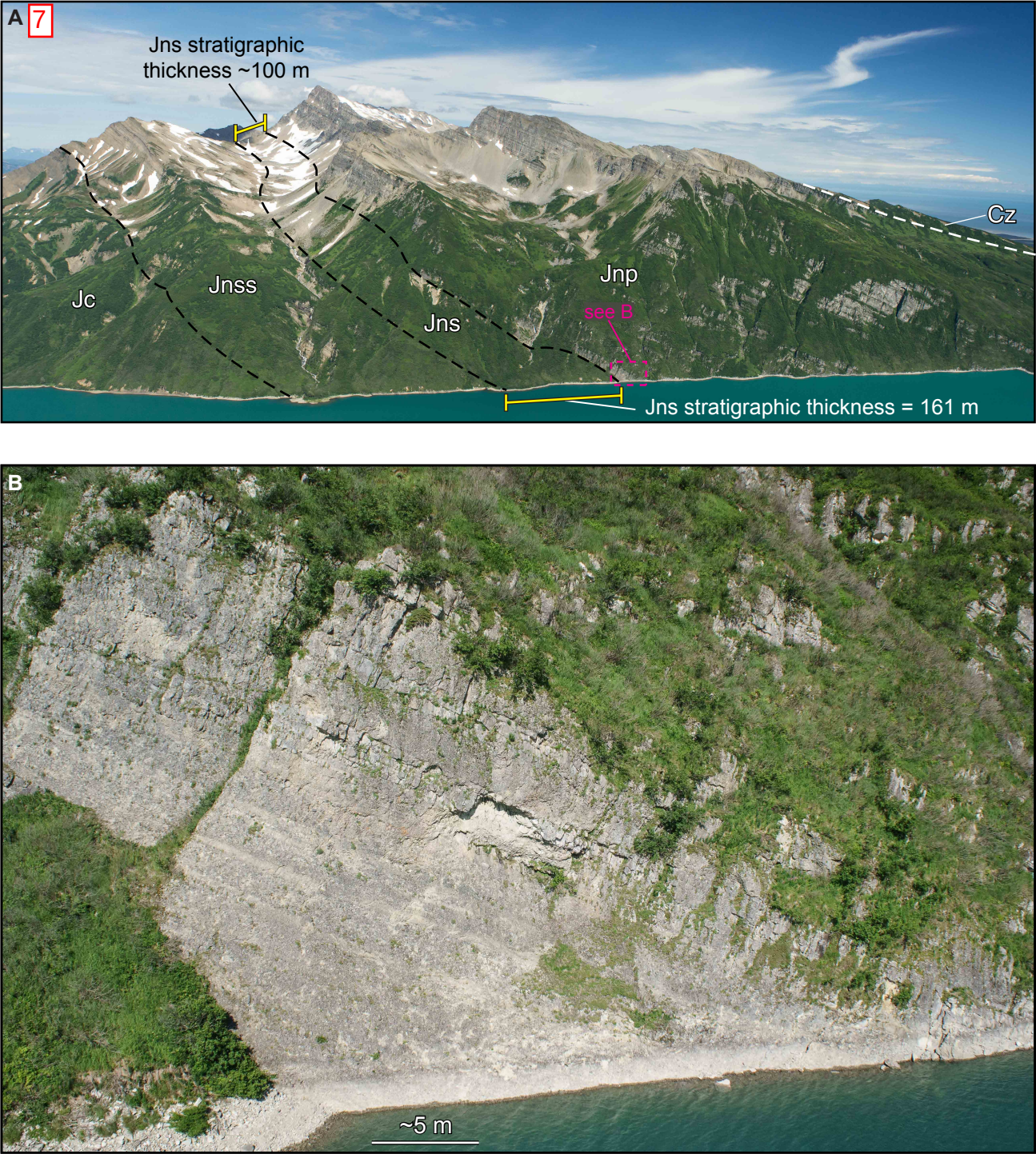

A
4
B
see D and E
Jnp2
Jnp1
Jns2
Jns1
Jnss
Jnc
Jcp
C
view toward ~150°
peak 2674
vegetation and outcrop beyond interpreted area
Kenai Peninsula
Cook Inlet
Jnp2
Jnp1
Jnp1 stratigraphic thickness ~130 m
Tuxedni Channel
Jns2 stratigraphic thickness ~60 m
Jns1 stratigraphic thickness ~90 m
Jns1
Jnss
Jnc
LINE SYMBOLS
member contact
intra-member contact
limit of interpretation, skyline, and shoreline
channel-form stratal surface
master channel margin

D
4
E
Jnp2
Jnp1
Jns2
~50 m
Jns1
Jnss
Jnc

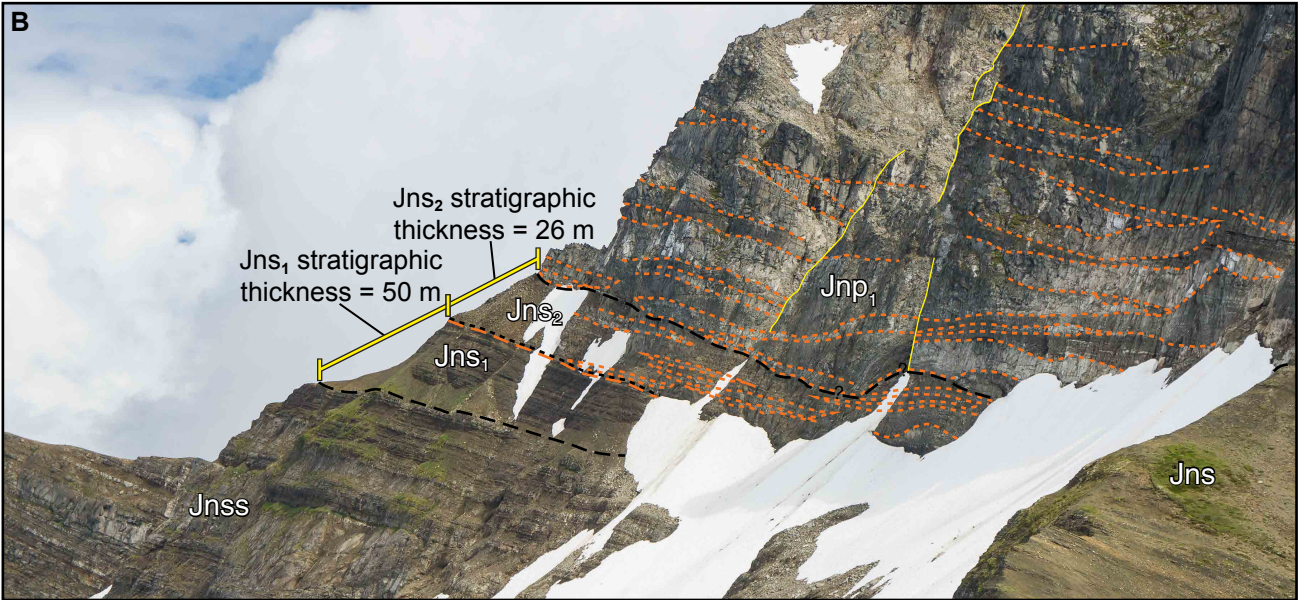
A
5

B
Jns2
Jns1
2014


A
6
B
Jns
Jnp1
Jns2
Jns1
Jnss
C
LITHOLOGY SYMBOLS
sandy siltstone
amalgamated sandstone
sandstone and siltstone
conglomerate
view toward ~225°
peak 3140
Jns
Jns stratigraphic thickness ~500 m
Jnp1
boulder-bearing conglomerate
Jns2
Jns1
Jnss
Jns2 stratigraphic thickness ~200 m
Jns1 stratigraphic thickness = 98 m
LINE SYMBOLS
contact
intra-member contact
extent of outcrop
channel-form stratal surface
skyline and shoreline
master channel margin
Hickerson Lake

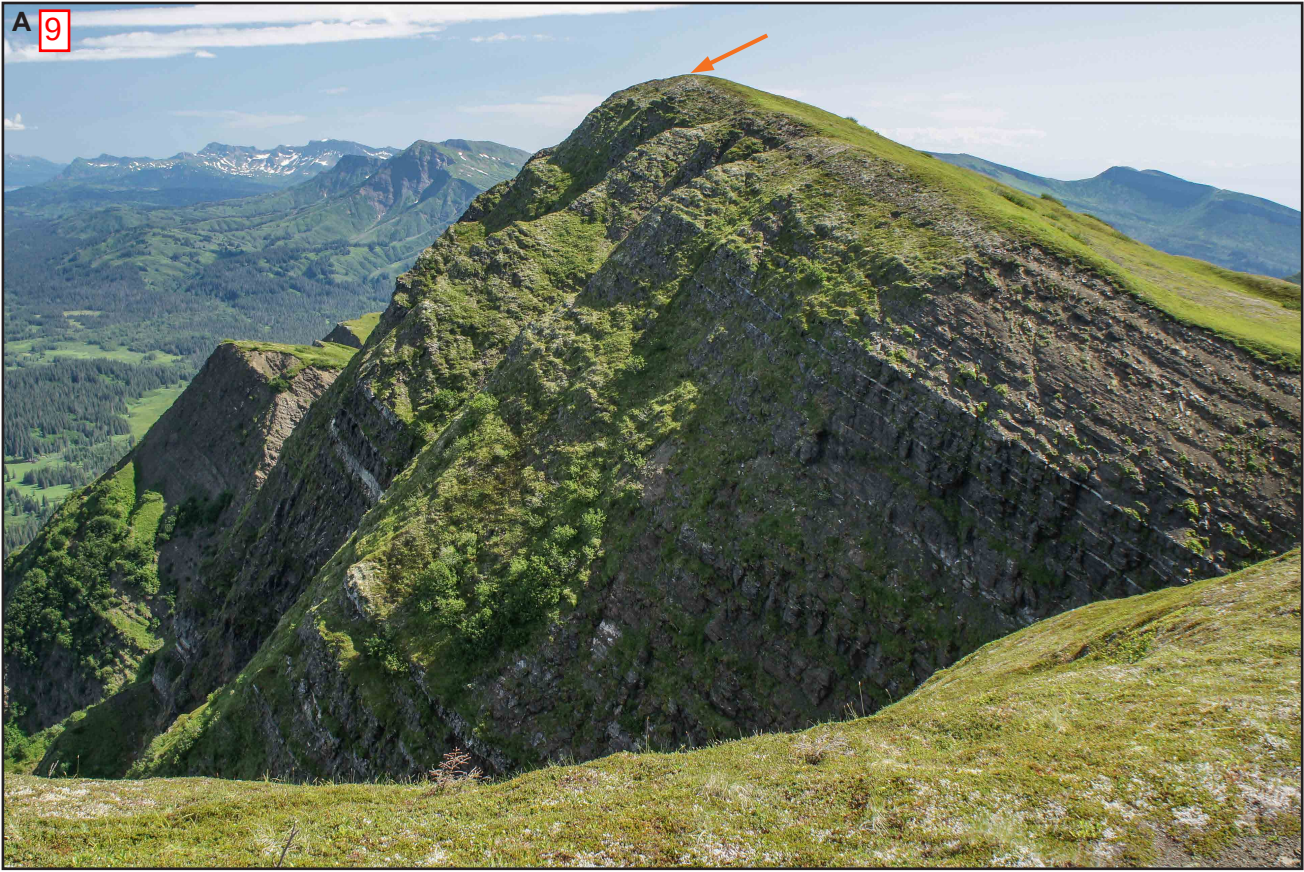

A
7
Jns stratigraphic thickness ~100 m
Cz
Jnp
Jc
Jnss
Jns
see B
Jns stratigraphic thickness = 161 m
B
~5 m

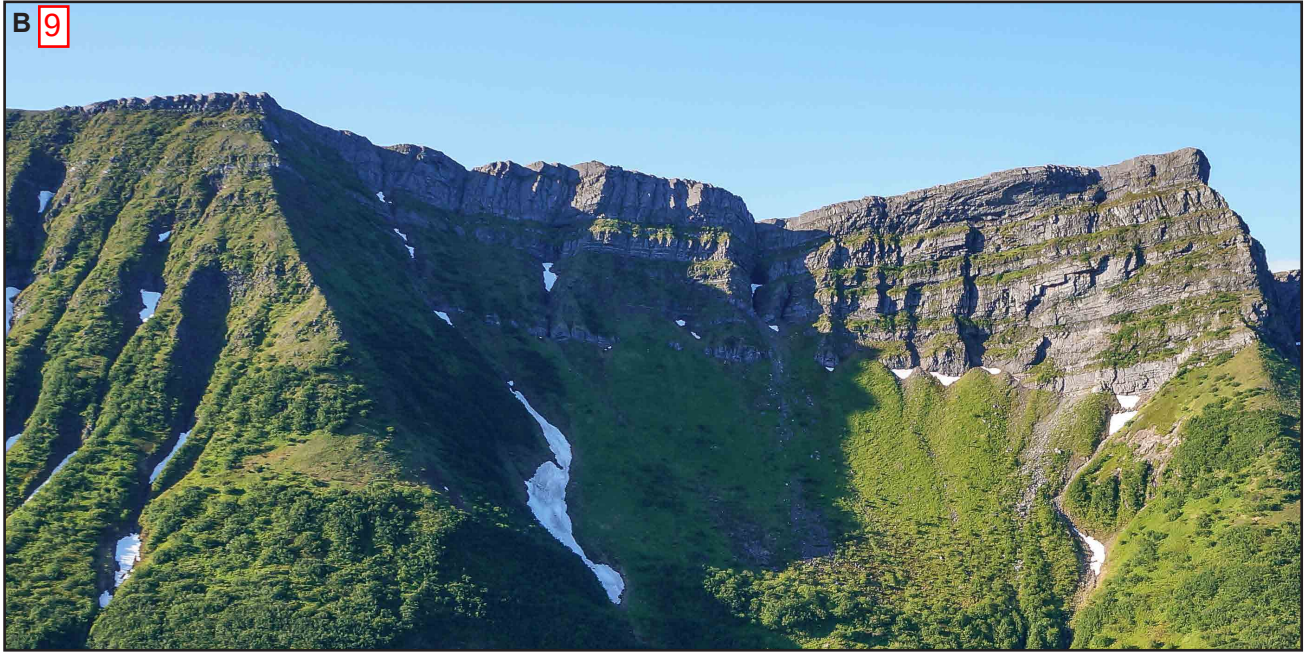
A
8

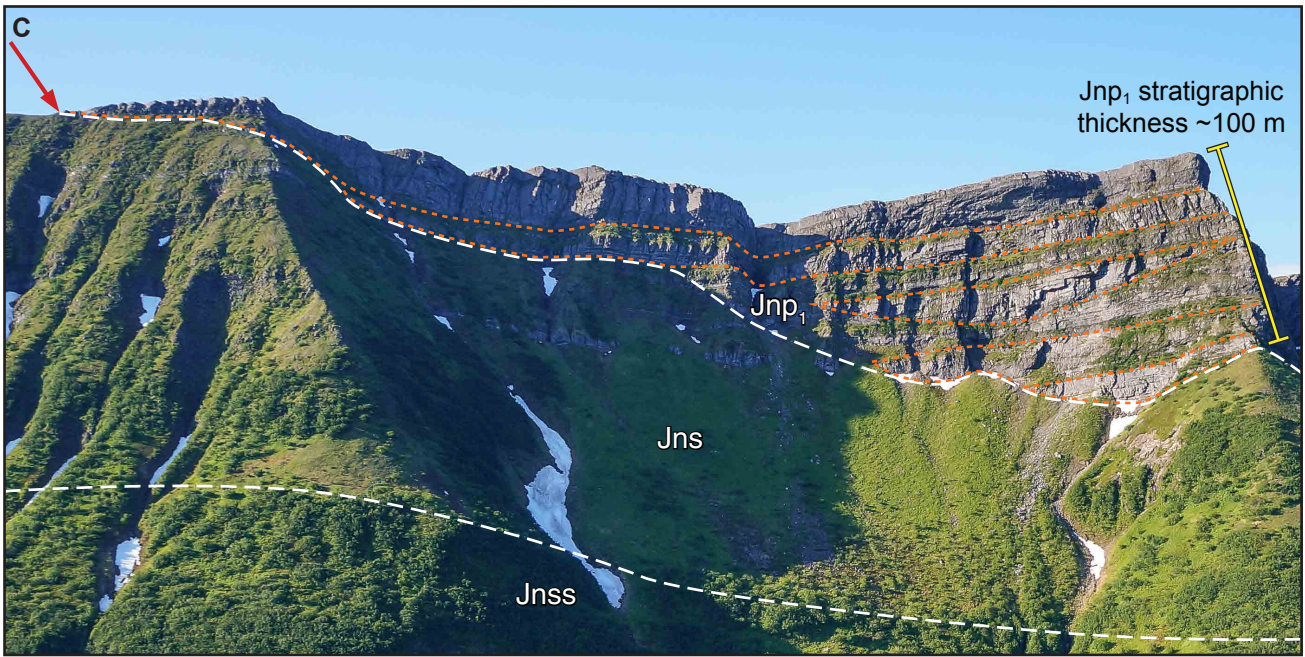

B
Jns2 stratigraphic thickness = 26 m
Jns1 stratigraphic thickness = 50 m
Jns2
Jns1
Jnp1
Jnss
Jns

C
8
Jnp1
Jns2 stratigraphic thickness = 26 m
Jns2
Jns1
Jns2

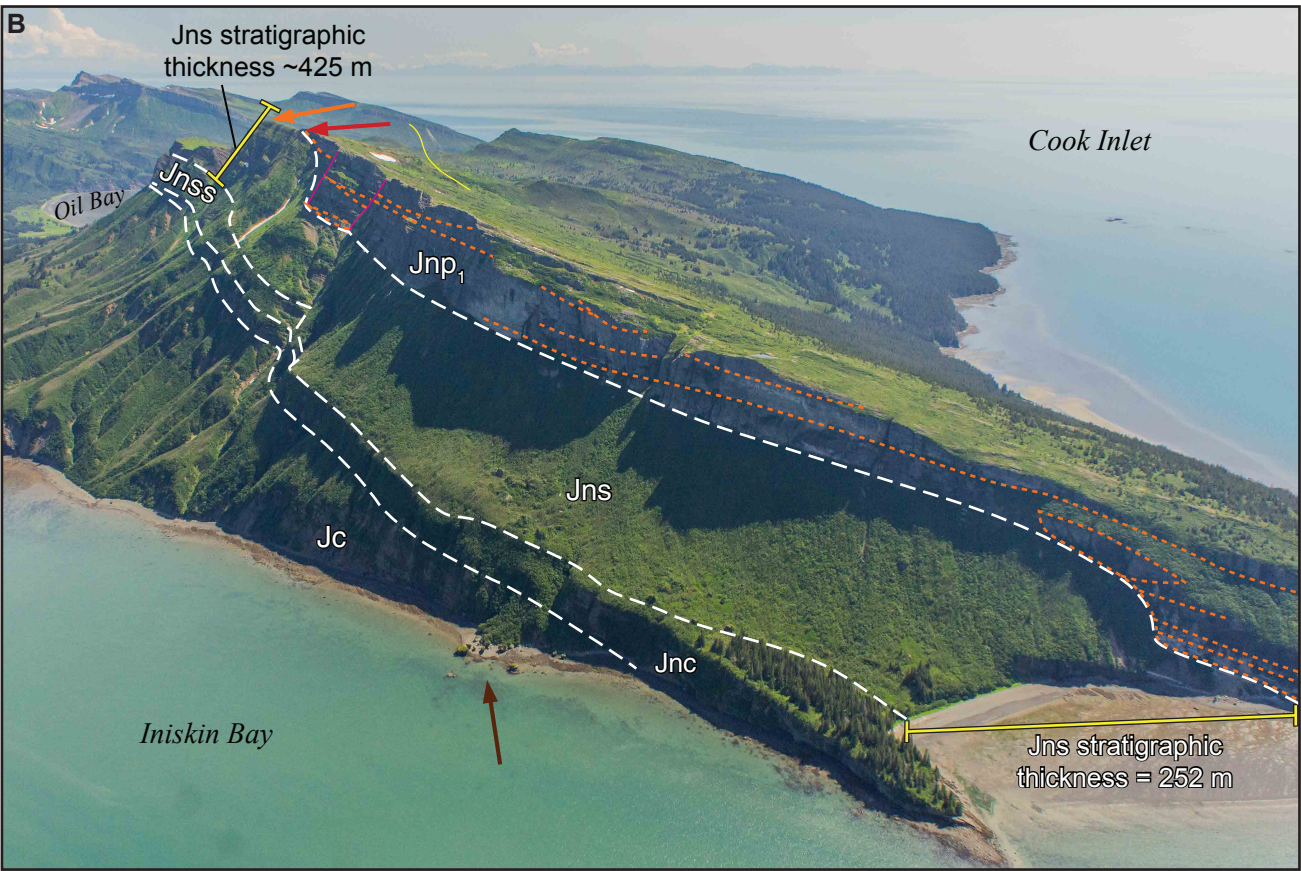
D
Jns2
Jns1

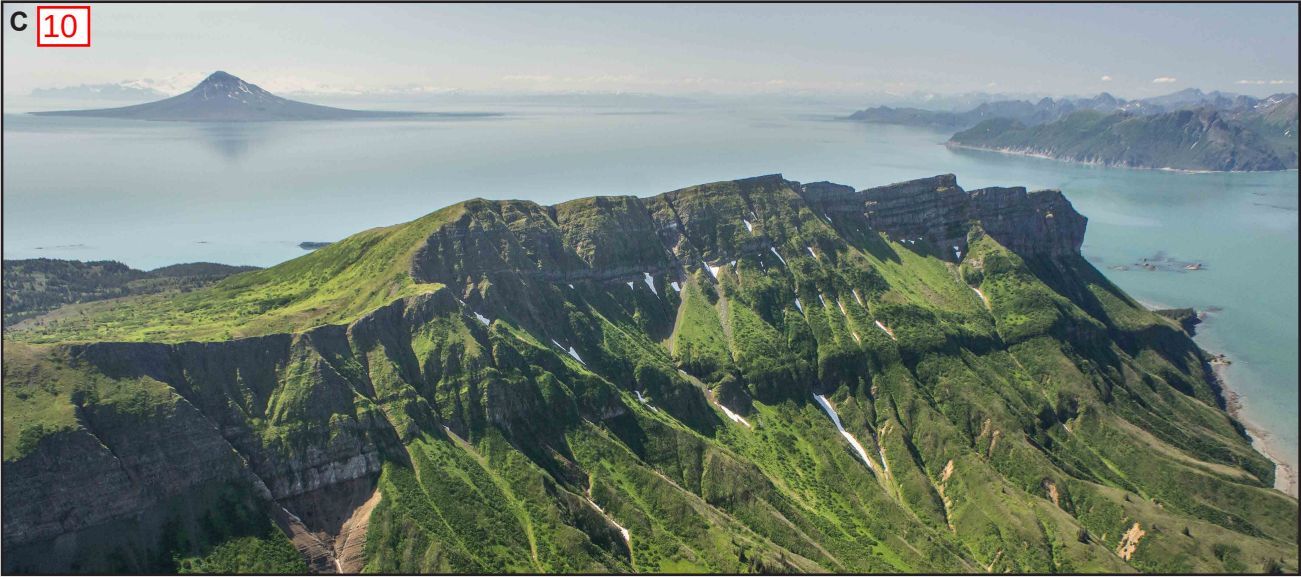

A
9

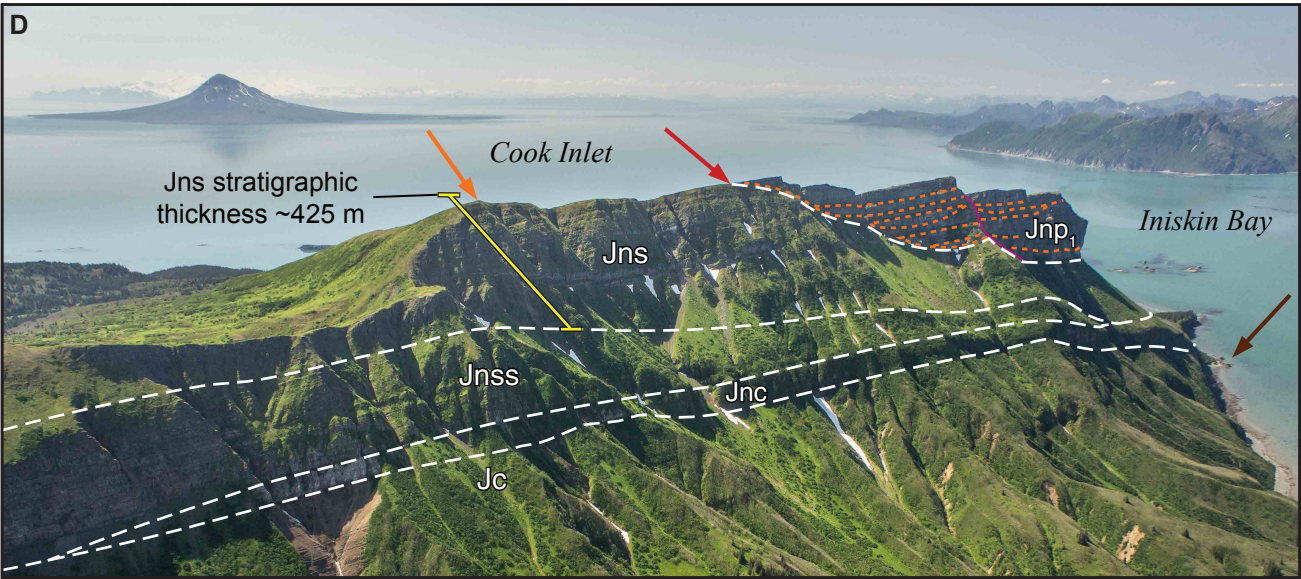

B
9


C
Jnp1 stratigraphic thickness ~100 m
Jnp1
Jns
Jnss

A
10


B
Jns stratigraphic thickness ~425 m
Jnss
Oil Bay
Cook Inlet
Jnp1
Jns
Jc
Jnc
Iniskin Bay
Jns stratigraphic thickness = 252 m

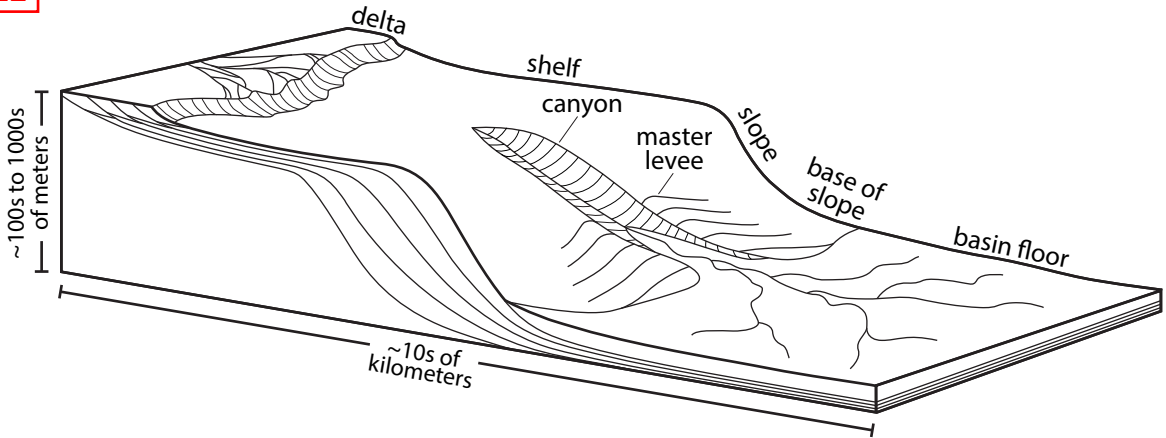

C
10


D
Cook Inlet
Jns stratigraphic
thickness ~425 m
Jns
Jnp1
Iniskin Bay
Jnss
Jnc
Jc

A
11

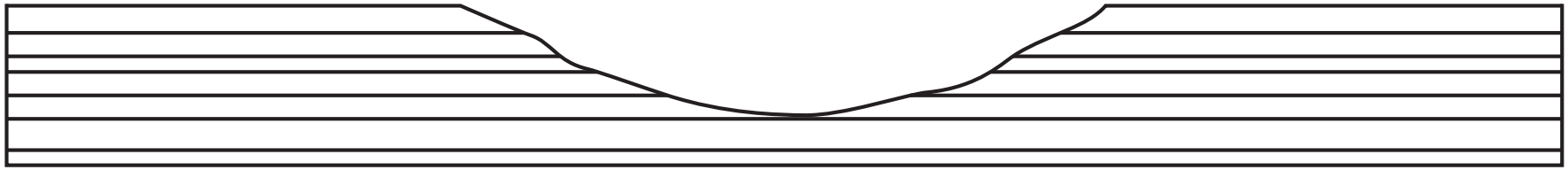
B

C

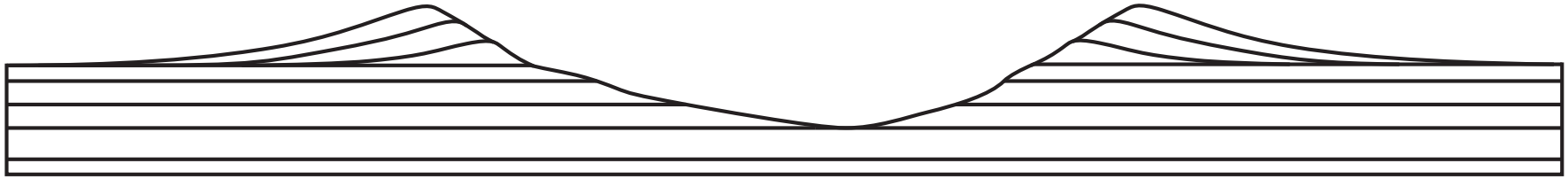

delta
shelf
canyon
master
levee
slope
base of
slope
basin floor
~100s to 1000s
of meters
~10s of
kilometers

13

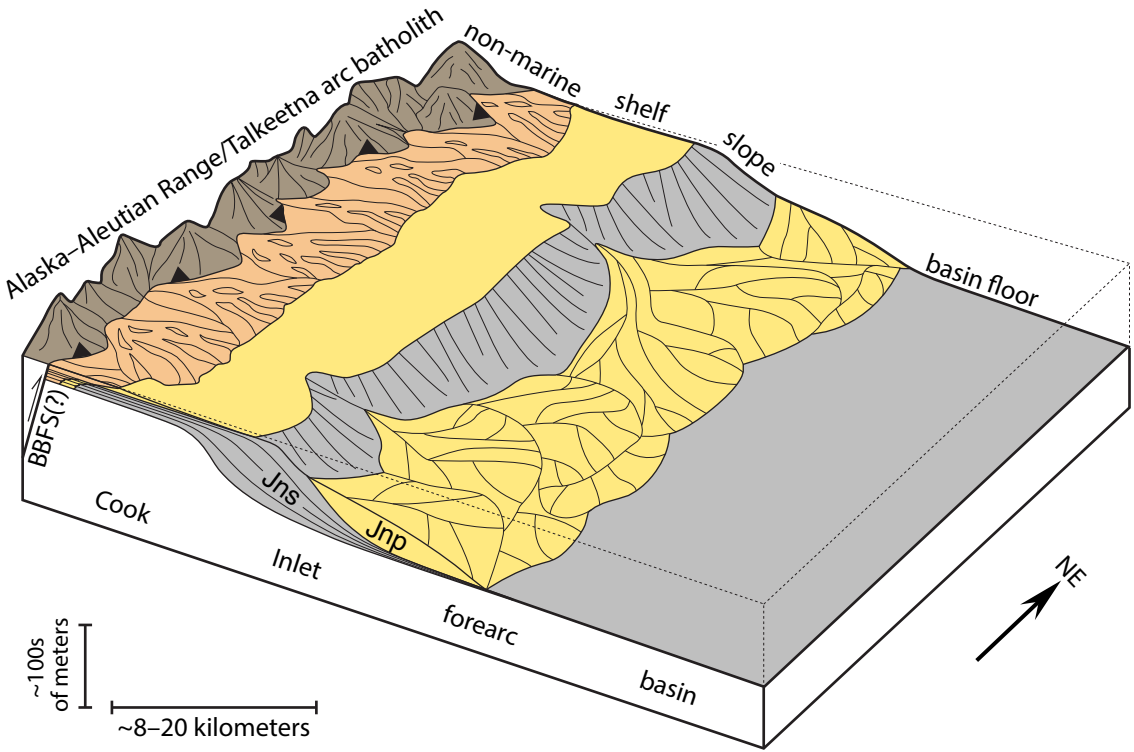
A erosional



B mixed erosional–aggradational



C aggradational


Alaska–Aleutian Range/Talkeetna arc batholith
non-marine
shelf
slope
basin floor
BBFS(?)
Jns
Jnp
Cook
Inlet
forearc
basin
NE
~100s of meters
~8–20 kilometers

15

Basal Surface of Forced Regression (BSFR)

HIGHSTAND SYSTEMS TRACT (HST)

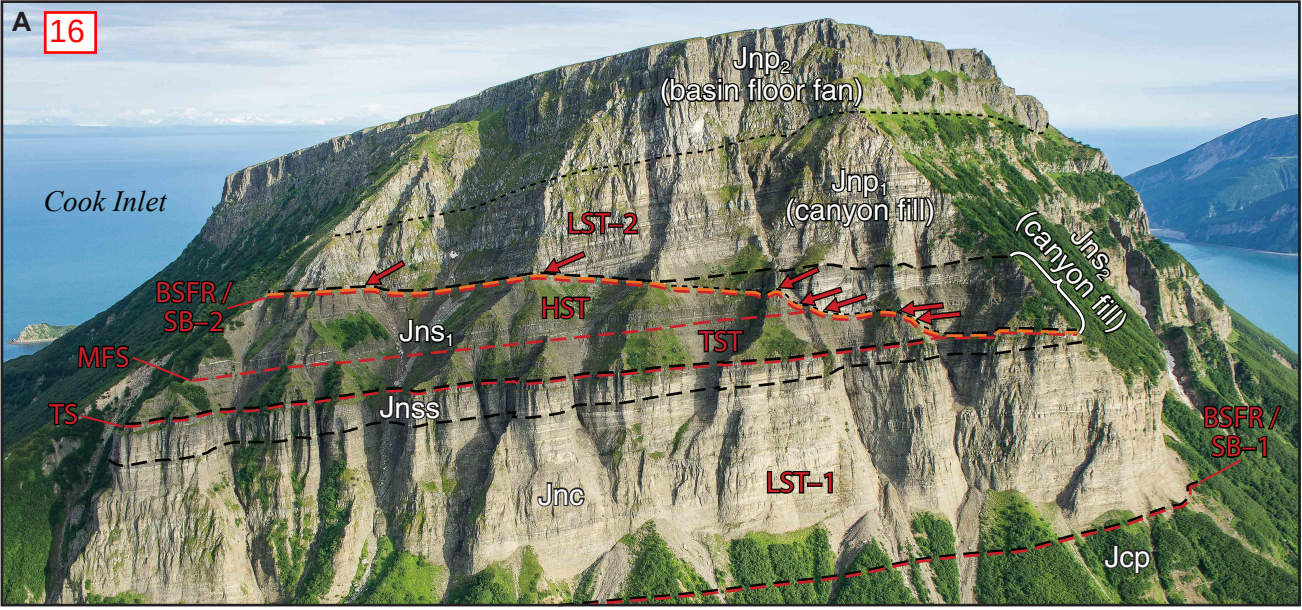
Maximum Flooding Surface (MFS)

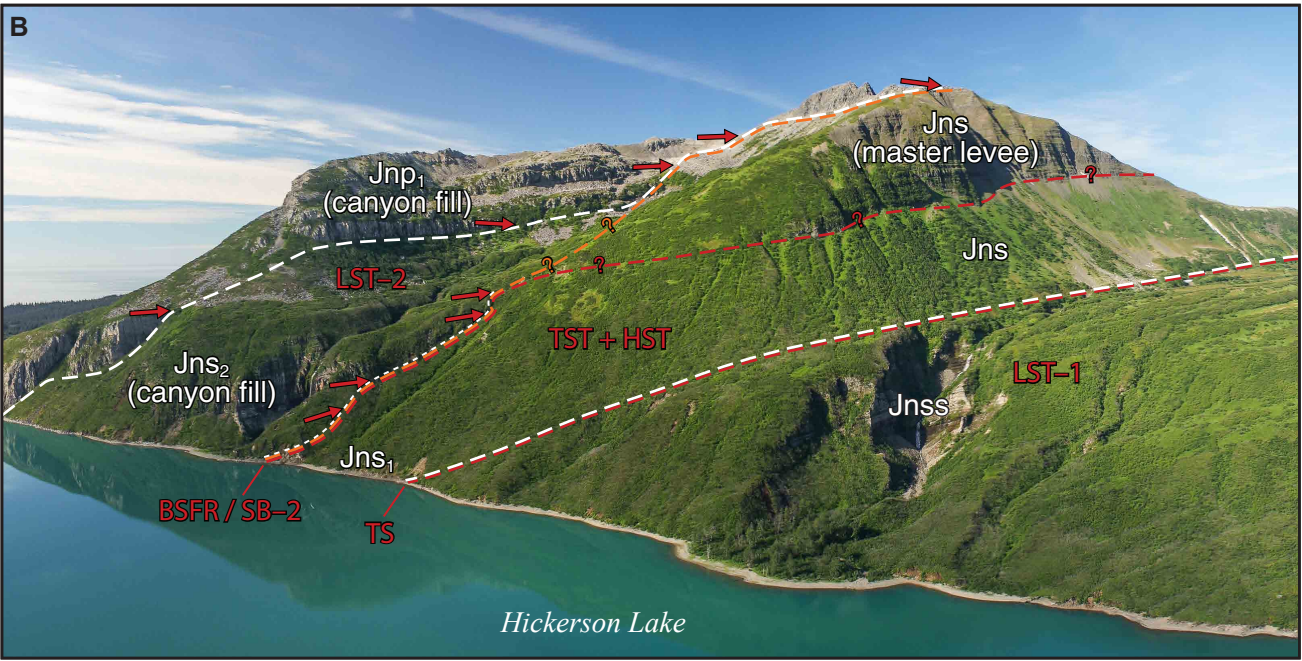
TRANSGRESSIVE SYSTEMS TRACT (TST)

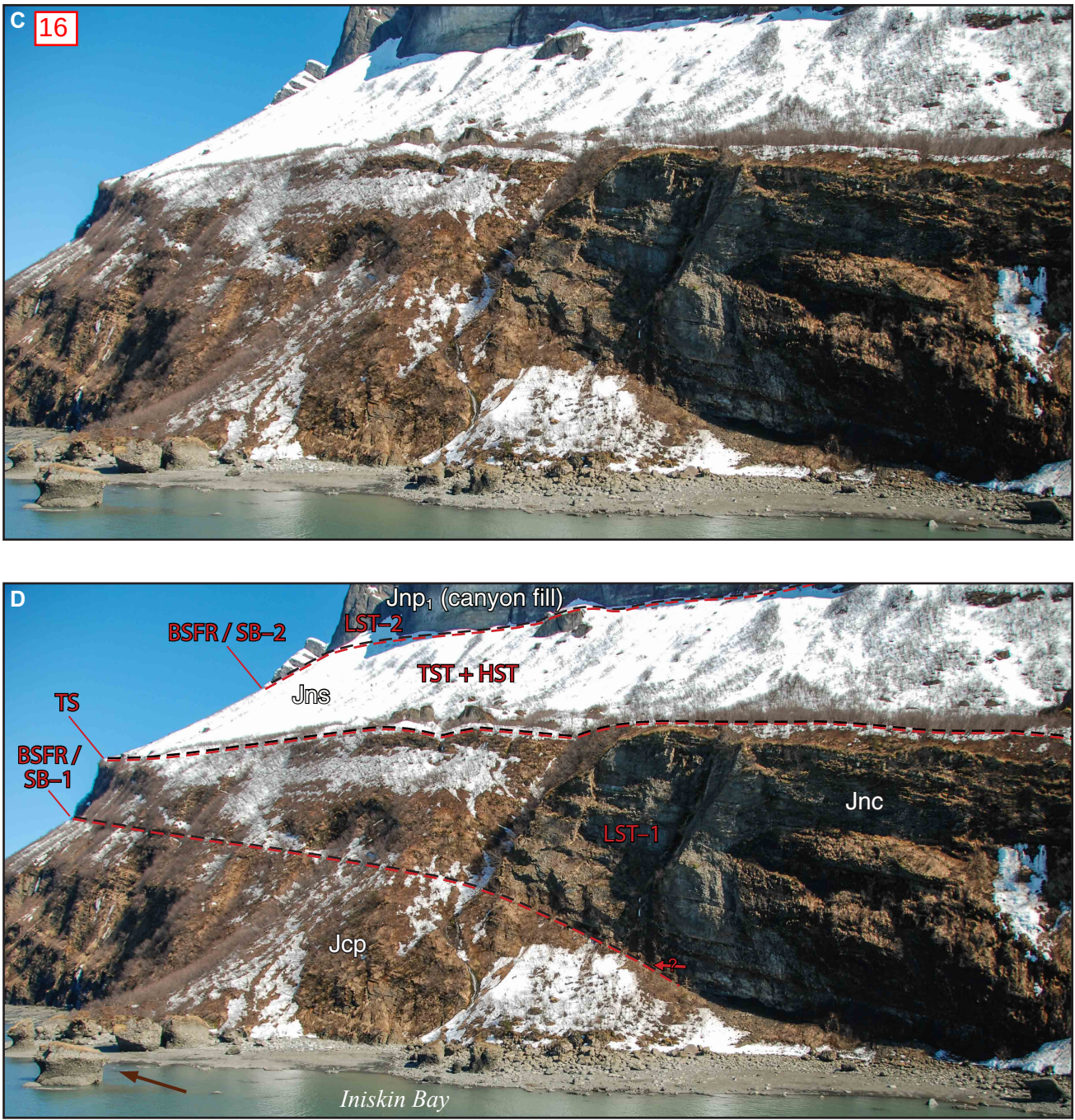
Transgressive Surface (TS)

LOWSTAND SYSTEMS TRACT (LST)

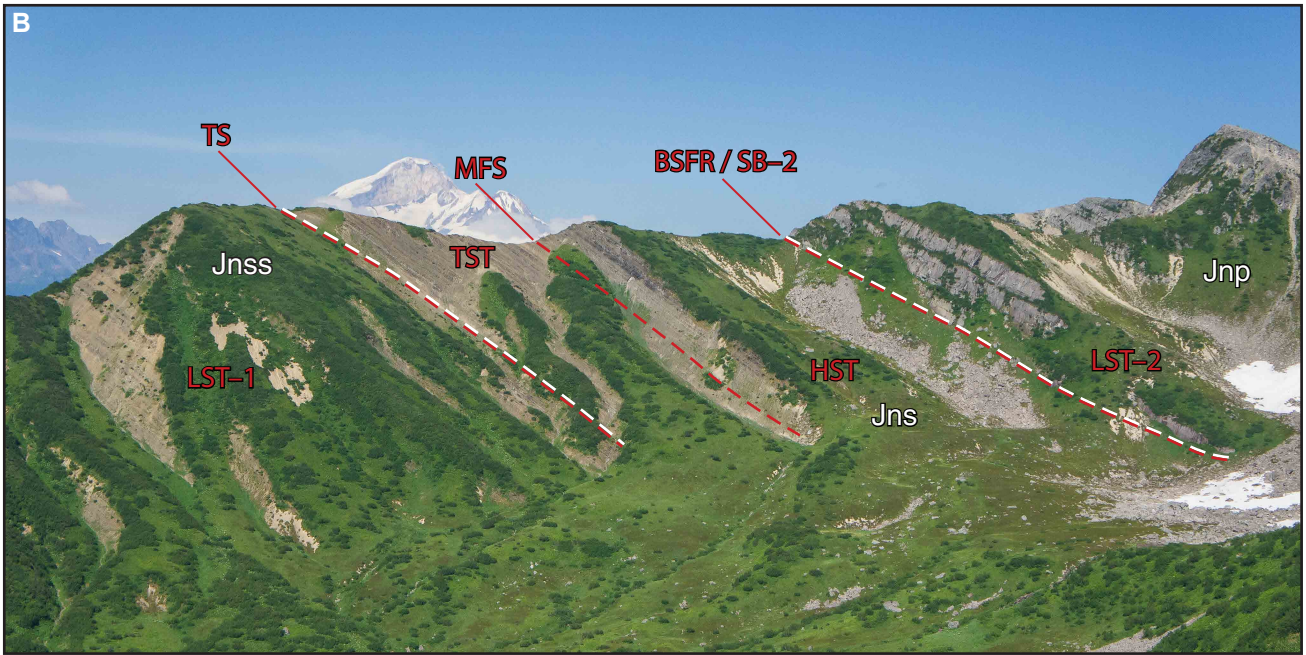
Basal Surface of Forced Regresssion (BSFR)

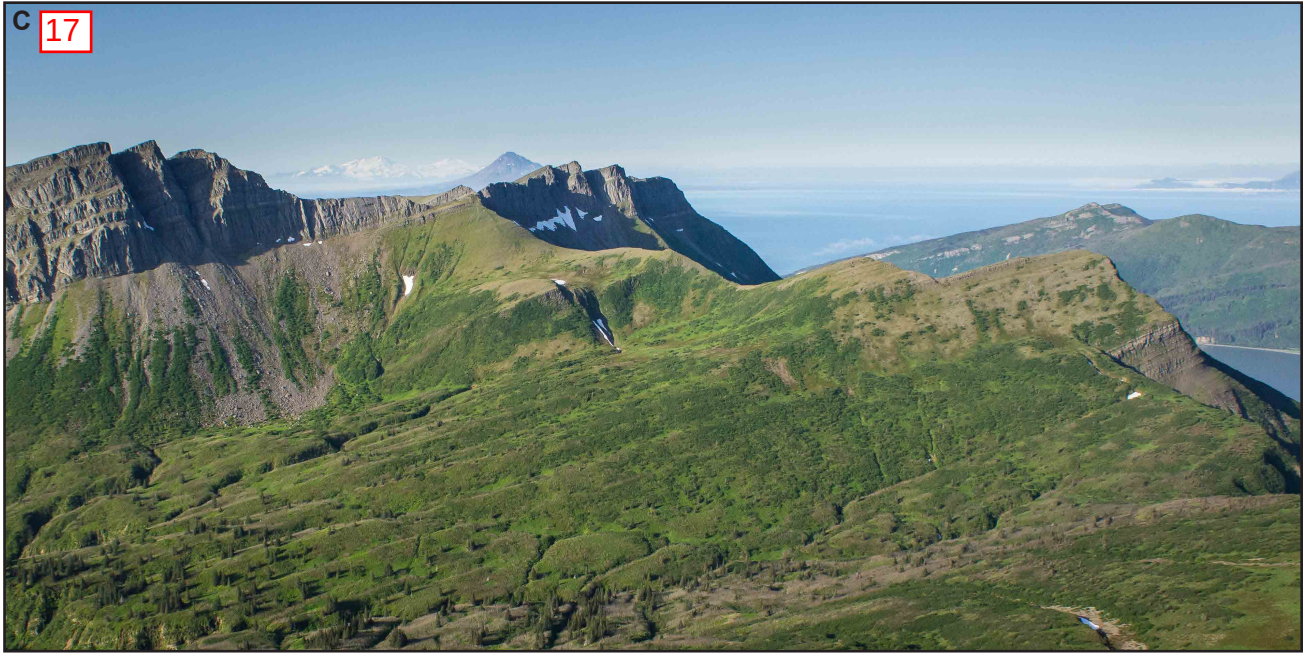

A
16
Jnp2
(basin floor fan)
Jnp1
(canyon fill)
Cook Inlet
LST–2
Jns2
(canyon fill)
BSFR /
SB–2
HST
Jns1
TST
MFS
TS
Jnss
BSFR /
SB–1
Jnc
LST–1
Jcp

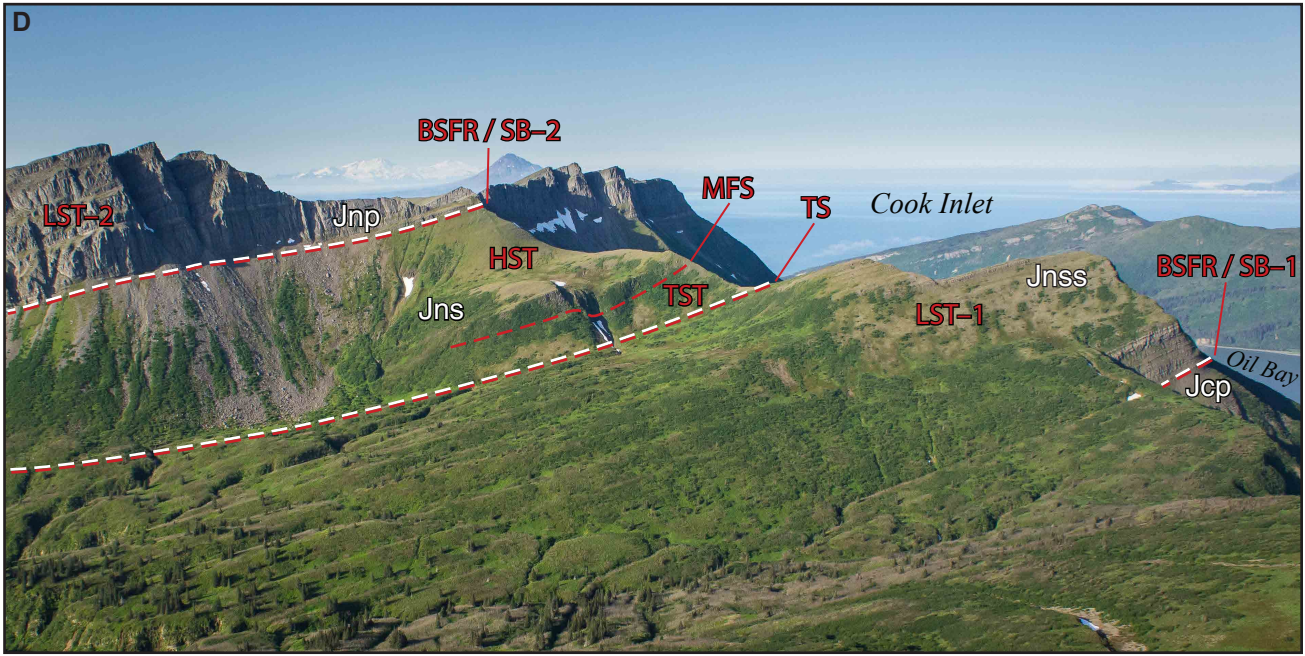

B
Jns
(master levee)
Jnp1
(canyon fill)
Jns
LST–2
TST + HST
Jns2
(canyon fill)
LST–1
Jnss
Jns1
BSFR / SB–2
TS
Hickerson Lake


C
16
D
Jnp1 (canyon fill)
LST–2
BSFR / SB–2
TST + HST
Jns
TS
BSFR / SB–1
Jnc
LST–1
Jcp
?
Iniskin Bay

A
17


B
TS
MFS
BSFR / SB–2
Jnss
TST
Jnp
LST–1
HST
LST–2
Jns


C
17


D
BSFR / SB–2
MFS
TS
Cook Inlet
LST–2
Jnp
HST
TST
Jns
Jnss
BSFR / SB–1
LST–1
Oil Bay
Jcp